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Wage Differentials in São Paulo's Labor Force

EDUCATION IS AN IMPORTANT FACTOR in the income of individuals and the economic growth of nations.[1] In Brazil, where formal education is a scarce good, recent studies by Levy and others, Langoni, and Castro[2] show a high return on investment in formal education—that is, with 50 per cent of the population functionally illiterate, a Brazilian's schooling defines his job and establishes his wage bracket.

Opening new educational opportunities in Brazil, however, could result in decreased importance of formal education as a source of salary differentials, as is now occurring in several developed countries. For example, a recent study on the distribution of income in the U.S. estimated that the inequality of income among men with the same level of schooling is at present only 5 to 10 per cent lower than that in the total male population.[3]

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[1]See Theodore W. Schultz, *The Economic Value of Education* (New York: Columbia University Press, 1963).

[2]Claudio de Moura Castro, "Investimento em educãcao no Brasil: comparação de três estudos," Pesquisa e Planejamento, Rio je Janeiro; Carlos G. Langoni, *Distribuição de Renda e Desenvolvimento Econômico no Brasil* (Rio de Janeiro: Expressão e Cultura, 1973); "A Rentabilidade Social dos Investimentos em Educação no Brasil," in *Ensaios Econômicos: Homenagem a Octavio Goureia de Bulhões* (Rio de Janeiro: APEC Editora, 1972); "Distribuição de Renda e Desenvolvimento Econômico no Brasil," *Estudos Econômicos,* II (1972); Samuel Levy, A. C. Campino, and E. M. Nunes, *Análise Econômica do Sistema Educacional de São Paulo* (São Paulo: Instituto de Pesquisas Econômicas, 1970), 2 vols. (mimeographed).

[3]See Christopher Jencks, *et al., Inequality: A Reassessment of the Effect of Family and Schooling in America* (New York: Basic Books, 1972). Moreover, Spaeth, reviewing U.S. research literature, finds that income variance accounted for by education may be smaller than this; in a standardized regression equation including 13 regressors on income (together accounting for 26.6 per cent of the variance), formal education had a value of only $\beta = .033$. See Joe L. Spaeth, "Characteristics of the Work Setting and the Job as Determinants of Income," in William H. Sewell, Robert M. Hauser, and David L. Featherman, eds., *Schooling and Achievement in American Society* (New York: Academic Press, forthcoming 1975). Significantly, most of the larger β weights described characteristics of the person's job. Among

Clearly simple supply and demand economics is a major factor in determining the different relationships between education and income in developing and developed economies. In addition, we suggest a second set of variables, more sociological in nature, which we believe serves to moderate the relationship between education and income. The purpose of this study is to examine income differentials in São Paulo, taking into account variables which have been shown to be important in developed economies: age, occupational preparation, seniority, job experience, and occupational influence level. Our findings suggest that these variables do operate in Brazil and together explain over 36 per cent of the variance in wages among over 20,000 specialized workers in 688 firms in São Paulo. Moreover, our study lends support to occupational influence level as an important addition to the battery of variables explaining wages in developing economies such as Brazil and in developed economies such as the U.S., where income inequalities are high[4] but where formal schooling does not contribute much to their explanation.[5]

A "Causal" Model for Income Inequalities

Income inequalities are substantial among the specialized workers in São Paulo's industrial labor force, both within specific classes of industry and within groups of similar education. In our data, the university graduates included varied in hourly wage from .93 of a cruzeiro (about 16 cents) to 204.00 cruzeiros (about 35 dollars).[6] Less extreme examples are presented in Table 1, which shows the average hourly wages of the university educated business administrators, including minimum and maximum wages for each age bracket. The wage dispersion is large, even after imposing three controls—education, occupation, and age.

To help explain the variability in income in São Paulo, we have formulated

underdeveloped countries, Gunter's study shows a clear attentuation of inequality between the specialized and nonspecialized labor as a consequence of increases in level of training in the labor force. H. Gunter, "Changes in Occupational Wage Differentials," *International Labor Review*, LXXXIX (January-June, 1964), 136-155. In Brazil, correspondingly, as programs such as law, economics, and teacher training become more available, recent graduates encounter lower salaries. See Jose Pastore and A. M. F. Bianchi, "A Democratização do Ensino Superior em São Paulo," *O Estado de São Paulo* (December, 1972) and Jose Pastore and G. Perosa, *O Estudante Universitario em São Paulo* (São Paulo: Instituto de Pesquisas Econômicas, 1971, mimeographed).

[4]Lester C. Thurow and Robert E. B. Lucas, *The American Distribution of Income: A Structural Problem*, Report of the Joint Economic Committee of the United States Congress (Washington, D.C.: U.S. Government Printing Office, March 1972).

[5]Jencks, *op. cit.*; Spaeth, *op. cit.*

[6]This is a shorter version of a paper presented at the annual meetings of the American Sociological Association, joint with those of the Rural Sociological Society, in Montreal, Quebec, August 1974. We wish to thank the Institute of Economic Research at the University of São Paulo, the Graduate School, Ibero-American Studies Program (Office of International Studies and Programs), and the College of Agricultural and Life Sciences of the University of Wisconsin, and the Ford Foundation for their support of this project. We also thank T. Michael Carter for his advice regarding the analysis of indirect effects, Tarcizio Rego Quirino and Dalcio Caron for computational assistance, and, finally, Lylas Brown, Carolyn Cline, and Maria Quirino for their typing and clerical assistance.

TABLE 1

HOURLY WAGES OF BUSINESS ADMINISTRATORS BY AGE BRACKETS

Age brackets	N	Mean (Cr$)	Minimum (Cr$)	Maximum (Cr$)
20-24 years	32	7.74	2.79	16.10
25-29	263	9.32	2.70	31.50
30-34	324	12.19	2.88	37.20
35-39	168	15.80	3.79	65.93
40-44	133	17.06	4.15	53.33
45-49	84	17.48	5.00	63.84
50-54	32	20.53	4.95	76.00
55-59	16	16.27	6.54	31.00
60 and over	17	11.59	4.04	20.31
Total	1,069			
Grand mean	13.37			

a model consisting of antecedent-consequent relations among five variables: occupational preparation (E), occupational influence level (I), age (A), job experience or years in the present job (J), and seniority or years with the company (S), as factors hypothetically affecting the worker's hourly wages (W). These were selected to incorporate those most central to traditional income research and were measured and combined to optimize explained variance and interpretability. The last criterion lead us to adopt "path analysis" as the technique, to use only linear regressions, and to avoid dummy variables, transformations, and interaction terms. In our opinion there is no advantage in "accounting" for variance by means of unintelligible variables. In the following paragraphs, we define and discuss the variables employed in this study and the way in which we hypothesize they operate in our causal model.

Variables. The first variable is *occupational preparation* (E), in year-equivalents. We refined the basic measure of years of formal education. The minimum schooling required for enrollment is used as a base. To this the year-equivalents of specialized occupational training are added. The range of scores thus runs from 4 through 17.[7]

Occupational influence level (I) describes the position which the worker holds because of the level of his job within the influence hierarchy of the company. We devote special attention to the concept because it is an unusual

[7]Occupational preparation scores are defined as follows: 4-primary school plus in-service training; 5-*ginasio* ("junior high school") incomplete plus in-service training; 8-*ginasio* completed; 9-*ginasio* plus short technical courses (up to two years); 11-regular academic course of the *segundo grau* (high school) completed; 12-completed training in technical courses approximating high school, in Brazil or abroad; 13-university education incomplete; 14-successfully completed a formal university degree program of three years' duration; 15-same as 14, but of four years' duration; 16-same as 14, but of five years' duration; 17-same as 14, but of six years' duration.

way to treat occupations. At least five different conceptions of occupation might be employed to help explain income differentials.

(1) Some, notably Davis and Moore, believe that the rewards of a position are a consequence of its "functional" importance to society and the scarcity of talent required.[8] To date, this has proven intractable in research because the key variables are hard to measure, especially the first. Additionally, there are factors other than "functional importance" and scarcity of talent which determine the distribution of valued objects or "rewards." Nonetheless, as indicated in the fifth alternative below, it might be possible to recast the concept so that it can be employed as a partial determiner of income.

(2) Others simply assume that occupational prestige or its near surrogate, socioeconomic status, is the appropriate antecedent to income.[9] This variable has become easy to measure. We tested and rejected it because it did not survive a stepwise regression in competition with this model's five variables. Evidently, its known positive zero-order correlation with income reflects other variables, probably education and occupational influence.

(3) Still others categorize occupations into "dummy variables"—unordered nominal classes—for statistical analysis. We rejected this possibility because we believe the empirical results, while seemingly impressive, cannot be interpreted.

(4) Klevmarken classed occupations of Swedish engineers into "job levels."[10] This avenue is not open because it seems impossible to determine how the variable was operationalized. It, too, is uninterpretable.

(5) The option employed here treats occupations as generally ordered according to differential power, manifested quite specifically as authority or legitimate power, and a bit less specifically as influence.[11] Dahrendorf says there is a "scalar structure of authority in the enterprise."[12] Yet in addition to the line of authority, he notes, there are also staff personnel who have few or no subordinates. Not all such personnel are uninfluential. Within an enterprise, many roles may be established to provide specialized technical information or support services which take the form of orders only when they are accepted by a line official and reissued as instructions for subordinates.

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[8]Kingsley Davis and Wilbert E. Moore, "Some Principles of Stratification," *American Sociological Review*, XVIII (April, 1945), 387-394.

[9]Otis Dudley Duncan, David L. Featherman, and Beverly Duncan, *Socioeconomic Background and Achievement* (New York: Seminar Press, 1972).

[10]Anders Klevmarken, *Statistical Methods for the Analysis of Earnings Data* (Stockholm, Sweden: Almqvist and Wiksell, 1972).

[11]Ralf Dahrendorf, *Class and Class Conflict in Industrial Society* (Stanford, Calif.: Stanford University Press, 1957).

[12]*Ibid.*, p. 255.

FIGURE 1. RANK-ORDER SCORING SCHEMA FOR OCCUPATIONAL INFLUENCE

SPAN OF INFLUENCE	CLASS OF INFLUENCE	
	AUTHORITY (LINE)	INDIRECT (STAFF)
WIDE	DIRECTORS AND MANAGERS (DIRECTORES E GERENTES) RANK-ORDER SCORE: SIX	EXPERTS: SCIENTISTS, ENGINEERS, ATTORNEYS, ECONOMISTS, ETC. (CONSULTORES) RANK-ORDER SCORE: FIVE
MEDIUM	DEPARTMENT HEADS AND SUPERVISORS (CHEFES E SUPERVISORES) RANK-ORDER SCORE: FOUR	TECHNICIANS (TECNICOS) RANK-ORDER SCORE: THREE
NARROW	FOREMEN (MESTRES) RANK-ORDER SCORE: TWO	AUXILIARY OFFICE PERSONNEL (PESSOAL AUXILIAR) RANK-ORDER SCORE: ONE

↓ : AUTHORITY, LINES OF DIRECT INFLUENCE (ORDERS)

↖---: LINES OF INDIRECT INFLUENCE (ADVICE AND SERVICES)

Figure 1 shows our scoring system for occupational influence. We think this variable captures both of Dahrendorf's dimensions—authority, which he spelled out, and the influence of staff functions, which he left vague. We also believe that it may be a reasonable way to operationalize "functional importance" within industrial firms. In this sense the workers "most functional" to the company need only occupy a position which obligates them to elicit profitable actions from others or to provide administrators with potentially profitable advice.

We also include in our explanatory model variables thought by researchers in the "human capital" tradition to have a notable influence on productivity and, therefore, on salaries. One of these is the *worker's age* (A) in years.[13] It is left untransformed because we found the original metric to be

[13] A. C. Campino and E. M. Nunes, "Análise Econômica do Sistema Educacional da Região Centro-sul," Instituto de Pesquisas Econômicas, São Paulo, 1970 (mimeographed); Andrew C. Gross, "Patterns and Determinants of Income of Canadian Engineering Graduates," *Industrial and Labor Relations Review*, XXIII (October, 1969), 52-64; Langoni, *op. cit.*; Herman P. Miller, *Income Distribution in the United States* (Washington, D.C.: U.S. Department of Commerce, 1966); R. H. Reed and H. P. Miller, "Some Determinants of the Variation in Earnings for College Men," *Human Resources*, V (Spring, 1970),

about as effective in accounting for variance and to be easier to comprehend. The variable, *seniority* (S), or years with the firm, indexes amount of experience within a given company.[14] We use *job experience* (J) or years in the *present job* to index the individual's familiarity with the activities required by his job. It seems possible to suppose that these three factors might improve the individual's performance in the company, tending to compensate for the shortage of systematically trained professional labor in Brazil.

The dependent variable is the *worker's salary,* standardized to cruzeiros per hour, here called "wages" (W). The variable includes all fringe benefits and bonuses.

Occupational influence level (I) was conceived as an intervening variable in the explanation of wages. We posit that it directly affects the dependent variable and that it may transmit part or all of the effects of education, age, and seniority. This presupposes that the influence level of specialized workers such as these is determined by a combination of factors. Presumably, formal occupational preparation provides the trained competency required by modern plants. Seniority may provide the worker with additional competency in company operations, partially supplementing education. Age, too, may increase one's useful knowledge, thus his competency and credibility.

Job experience (J) is also conceived as intervening between training, age, and seniority of the specialized worker. This variable might well affect wages, especially if there is not much upward mobility within and among the companies. In such a case the more experienced would do the better work and much of the effect of seniority on wages would be transmitted via job experience. Occupational preparation and age might also influence job experience. On the other hand, there seems to be no justification for positing a link between occupational influence (as defined here) and time on the present job, and we have not done so.

We anticipated that any of the five variables may exert direct effects on wages. In particular, we hypothesized that education would have a large direct effect. There is, as we have seen, justification in the literature for hypothesizing that each of the others may do so, too.

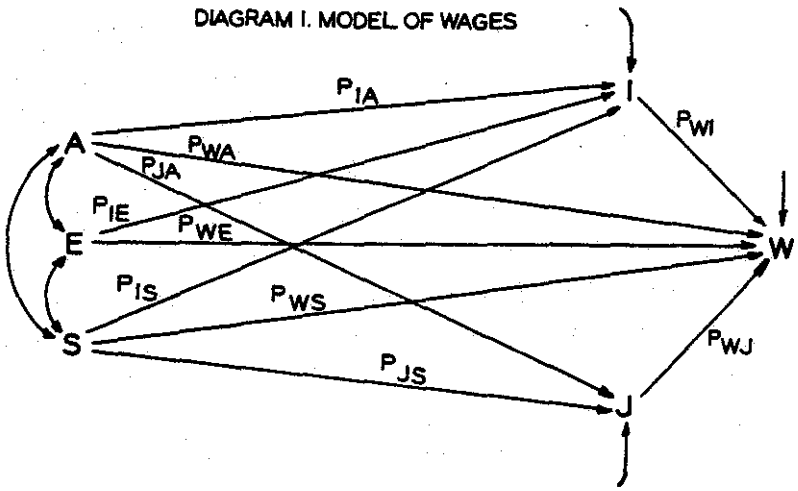
Path Analysis

The model is presented in Diagram 1. It corresponds to the discussion just sketched. This model is over identified. We have left out the path

177-190; Lloyd G. Reynolds, *Labor Economics and Labor Relations* (Englewood Cliffs, N.J.: Prentice-Hall, 1964).

[14]Melville Dalton, "Informal Factors in Career Achievement," *American Journal of Sociology,* LVI (March, 1951), 407-415; A. Rees and G. P. Shultz, *Workers and Wages in an Urban Labor Market* (Chicago: University of Chicago Press, 1970).

DIAGRAM I. MODEL OF WAGES



W: WAGES (CRUZEIROS PER HOUR)
I: OCCUPATIONAL INFLUENCE LEVEL
J: JOB EXPERIENCE (YEARS IN THE JOB)
A: AGE (IN YEARS)
E: OCCUPATIONAL PREPARATION OR EDUCATION (IN YEAR-EQUIVALENTS)
S: SENIORITY (YEARS WITH THE FIRM)

to job experience (J) from preparation (E). We see no theoretical reason to include it, and in fact it makes no difference empirically ($\beta_{JE.AS} = .019$). Also, we have no reason, theoretical or empirical, to posit a connection between occupational influence (I) and job experience (J): $r_{IJ.EAS} = .074$.

Actually, almost all arrows in the diagram are unidirectional, indicating asymmetric relationships among variables. The three exceptions are the exogenous variables, age, occupational preparation, and seniority. These are correlated variables among which causal priorities could not be established. As is conventional, curved lines stand for such unanalyzed correlations. Straight lines stand for standardized partial regression coefficients or "β" weights." Path analysis is an extension of multiple regression analysis, yet its theoretical point of departure is quite different.[15] Ordinary linear multiple regression provides an estimate of unique and combined effects of the independent variables on the dependent variable. Within the assumptions of a specific causal model, path analysis permits assessment of the direct, indirect, and total effects of any given antecedent variable. The method appears appropriate, despite some evidence of a significant interaction effect of education and age on wages.[16]

[15]Sewall Wright, "Path Coefficients and Path Regressions: Alternative or Complementary Concepts," *Biometrics,* XVI (June, 1960), 189-202; "The Method of Path Coefficients," *Annals of Mathematical Statistics,* V (September, 1934), 161-215; "Correlation and Causation," *Journal of Agricultural Research,* XX (January, 1921), 557-585.

[16]Martin Carnoy, "Earnings and Schooling in Mexico," *Economic Development and Cultural Change,* XV (July, 1967), 408-419.

The calculation procedures are extensions of those worked out by Duncan and Finney.[17] The total effect of an antecedent (independent or intervening) variable on a dependent variable is taken to be the sum of its indirect and direct effects. The direct effect is taken to be the highest order partial beta (β). The indirect effect is taken to be the effects of the antecedent variable which are due to its effects on intervening variables. We present one example, the effects of age (A) on wages (w) in the total sample, given the causal specifications in the diagram. The others may be calculated analogously. The direct effect is the path to wages from age (p_{WA}): $\beta_{WA.IESJ} = .258$. There are two indirect effects, the paths to W from A via I and via J. The formula is:

$$p_{IA} \times p_{WI}, \text{ or } \beta_{IA.ES} \times \beta_{WI.AESJ}.$$

Since $p_{IA} = .200$ and $p_{WI} = .323$, it follows that the effect via this route is $p_{IA} \times p_{WI} = .200 \times .323 = .065$. The second route is via J and is $p_{JA} \times p_{WJ}$. Since $p_{JA} = \beta_{JA.ES} = .154$, and since $p_{WJ} = \beta_{WJ.AESI} = -.059$, then the effect of A on W via J is $.154 \times -.059 = -.009$. The total indirect effect is the sum of the indirect effects or $(.065) + (-.009) = .056$. Thus $(p_{IA} \times p_{WI}) + (p_{JA} \times p_{WJ}) = .056$. Here let π mean "total effect," and use subscripts to denote the dependent and independent variables. That is, π_{WA} means the total effect of age on wages as expressed through all paths available. Again the total effect of age on wages is the direct effect plus the indirect effect or:

$$\pi_{WA} = p_{WA} + [(p_{IA} \times p_{WI}) + (p_{JA} \times p_{WJ})] = .258 + .056 = .314$$

It should be noted that this procedure for assessing total effects makes no allowance for possible reciprocal influences or feedback effects. That is, it assumes that the causal lines in the diagram are the only causes which operate. We take this to be a heuristic assumption only approximated in the real world. The main consequence of this assumption in these data is probably to underestimate slightly the "real world" effects of certain variables—most likely occupational influence—which might actually exist.

The Sample

Data were collected in 1970-1971 on all of the 22,587 specialized workers in 688 private industrial firms. The sample of firms was drawn from a survey made by the São Paulo State Department of Statistics from among those that had more than 20 employees and which were in the 11 branches of industry responsible for about 80 per cent of the state's industrial

[17] Otis D. Duncan, "Path Analysis: Sociological Examples," in Hubert M. Blalock, ed., *Causal Models in the Social Sciences* (Chicago: Aldine-Atherton, 1971), pp. 115-138; John M. Finney, "Indirect Effects in Path Analysis," *Sociological Methods and Research*, I (November, 1972), 175-186.

production. These are food, clothing and shoes, textiles, glass and cement, paper products, electrical equipment, mechanical equipment, chemicals, pharmaceuticals, metals, and motor vehicles. The selection followed two criteria of stratification, by branches and by the total number of employees. The larger and more important industrial sectors are overrepresented—motor vehicle manufacturing, for example. Nonetheless, it is extremely unlikely that this influences the conclusions. Although, because of space limitations, the results are not presented here, the "model" or system of causal hypotheses was retested and found satisfactory in each industrial sector. Thus, though the scores on the model's six variables vary considerably among sectors, oversampling by sector has little effect on the results.[18] The firm's size was found to be practically uncorrelated with any of these variables and was, therefore, not controlled in the regression analyses.

These data cover a broad range of specialized personnel, including primarily: (1) those trained in universities and (2) those who occupy middle positions in various sectors of industry such as production, maintenance, administration, planning, and auxiliary services. The middle level thus includes many individuals who had not attended high school or technical schools (about the level of high school), yet whose employers judged them sufficiently well prepared to exercise specialized technical and administrative positions or even positions of authority. Many in our sample had acquired their basic qualifications in professional courses, of short or medium duration, provided by the government or had taken in-service training programs provided by the firms themselves. Such courses are valuable in the preparation of human resources. Note that in many middle level positions in São Paulo's industry are people with no more than an elementary school, often only a primary school, education. These individuals evidently use the rudimentary concepts they acquired in school to execute specific functions within industry. In some occupational families these "practicos" ("self-made men") represent a great majority of those here studied.

Results

A summary of the path analyses and other statistics is presented in Table 2. The table presents the total, direct, and indirect effect estimates for each of the five variables included in the model as applied to the total sample. In terms of direct effect, occupational influence level (I) has the greatest impact on wages: $p_{WI} = .323$. This variable alone ex-

[18]Jose Pastore, Archibald O. Haller, Hernando Gomez-Buendia, "Determinants of Wage Differentials in São Paulo's Industrial Labor Force," paper presented at the meetings of the American Sociological Association and the Rural Sociological Society, Montreal, August 1974 (mimeographed).

TABLE 2

PARTITIONED LINEAR EFFECTS OF INDEPENDENT AND INTERVENING VARIABLES ON WAGES
($N = 22{,}587$; $R^2_{W.IJAPE} = .363$)

Variable	Total effect of the ith variable: π_{Wi}	Direct effect of the ith variable: p_{Wi}[a]	Indirect effects of the ith independent variable: $(p_{Ii} \times p_{WI}) + (p_{Ji} \times p_{WJ})$	Total indirect	Means	Standard deviation
W	—	—	—	—	8.514	6.159
I	.323	(.323)	—	—	3.196	1.488
J	−.059	(−.059)	—	—	3.173	4.022
A	.314	.258	.200 .323 .154 −.059	.056	35.541	9.728
E	.459	.329	.401 .323 — —	.130	11.048	3.586
S	.047	.069	.033 .323 .552 −.059	−.022	6.509	6.763

W = Wages (cruzeiros per hour)
I = Occupational influence level
J = Job experience (years in the job)
A = Age (in years)
E = Occupational preparation or education (in year-equivalents)
S = Seniority (years with the firm)

[a] Coefficients in this column are the β coefficients corresponding to those of the standardized multiple regression of wages on the five other variables.

plains about 23 per cent of the variance in the wages of specialized personnel. (The zero-order correlation, not presented here, is $r_{WI} = .483$. Thus, $r^2_{WI} = .23$.) In terms of total effect occupational preparation is the most influential: $\pi_{WE} = .459$. Its direct effect is also substantial, $p_{WE} = .329$, almost equaling that of the occupational variable. Third place falls to age, with a total effect of $\pi_{WA} = .314$, and a direct effect of $p_{WA} = .258$, again not much lower than those mentioned. Finally, seniority in the company and job experience have an impact which is quite small (though $p < .05$ for each). The latter is actually negative. They are $\pi_{WS} = .047$ and $\pi_{WJ} = -.059$.

Thus, occupational influence within the company, education, and age are powerful partial determinants of wage levels current in São Paulo's firms. Of these, occupational preparation is the more influential because in addition to its direct effect on wages (W), it also influences W through its impact on the occupation variable: $\pi_{WE(I)} = .130$.

Age substantially affects wages within the total sample. Besides its direct effect, it has an indirect effect of .056. The components are broken down in Table 2. The main indirect effect of age on wages is passed by way of occupational influence level, but the effect of age on wages by way of job experience is low and negative. The effect of age, though substantial, seems smaller than is suggested by studies of the industrial labor force as a whole.[19] In the present sample many young people earn high salaries and occupy influential positions. Brazil has recently expanded its technical and professional educational system. To some extent, this tends to benefit the younger workers who find it easier to take advantage of increased educational opportunities. This may explain the negative, if small, zero-order correlation between occupational preparation and age: $r = -.139$.

The pattern observed runs contrary to the notion that seniority is highly regarded in Brazil's "traditional" society. On the contrary, a modern business ethos prevails in São Paulo's manufacturing firms. Further, rational criteria, based on education and job level, are more influential than age. Seniority counts for almost nothing, and many years of experience in the present job are, if anything, a handicap. Note, too, that preparation and seniority are negatively correlated ($r = -.243$). Apparently the more highly qualified workers find it easy to change employment. Seniority and occupational influence level are practically uncorrelated ($r = .025$). Strategic positions are evidently allocated with little regard for time in the firm.

[19] J. C. Lopes and Jose Pastore, *A Mão-de-obra Especializada na Indústria Paulista* (São Paulo: Instituto de Pesquisas Econômicas, 1973).

Summary

To explain the variation in the salaries of specialized workers in São Paulo's industries of transformation, we have used a model made up of five variables: the person's occupational preparation, the influence he may exert within the company because of his occupation, his age, his seniority in the company, and his time on the job.

The data obtained for the total sample show clearly that the status of the worker within the company (occupational influence) as well as his occupational preparation and age, are powerful partial determinants of salary levels in São Paulo. On the whole, training is the most powerful of these variables because it has a strong direct effect on wages and because it has an indirect effect on wages through its impact on occupational influence level. Variables indicating experience in the company (seniority) and in the present job are almost negligible. The results suggest the presence of a modern industrial structure where one's technical preparation and position in the company are closely related and where these factors weigh far more heavily than experience on the job and in the company.

Except for age, the viable variables used here are special cases of major status dimension: wealth (wages); power (occupational influence); informational status (occupational preparation or education).[20] Occupational prestige was also investigated and, in a stepwise regression, was found useless as a determinant of wages. In this research we explore, possibly for the first time, the use of a power variable, occupational influence, as a determinant of a reward variable, hourly wages. Though theoretically promising, power has previously been remarkably resistant to empirical analysis. Although our use of occupational influence has been successful, the introduction of new variables is always risky. We hope that others will conduct studies leading either to refinements in the use of this and similar indicators or to their rejection.

Also, recent publications report only a small effect of most known variables on individual income differentials in the United States.[21] Perhaps adding occupational influence might help. It is worth repeating that in the present data-set, this variable alone explains just about as much variance in hourly wages (23 per cent) as a set of 13 regressors does on job income (27 per cent) in data analyzed by Spaeth.[22] The whole set of five variables

[20]Otis D. Duncan, "Trends in Social Stratification and Mobility," in Eleanor Bernert Sheldon and Wilbert E. Moore, eds., *Indicators of Social Change* (New York: Russell Sage, 1968), pp. 675-719; Archibald O. Haller, "Changes in the Structure of Status Systems," *Rural Sociology*, XXXV (December, 1970), 469-487.

[21]Jencks, *op. cit.*; Spaeth, *op. cit.*

[22]Spaeth, *op. cit.*

is, of course, more effective here, with 36 per cent of the variance explained. These differences may be due to many factors. It would seem that education may be more influential in Brazil—or at least in this sample—than in the United States. Clearly, educated personnel are in shorter supply than in the United States, and the relative rewards may be greater. If this is true, the rewards for education should decrease as Brazil's education system improves.

In any case, by its clear elimination of job experience and seniority, and its strong support for occupational training, occupational influence level, and age, we hope the present work may add to the growing body of evidence regarding the determinants of wage differentials, especially in Brazil and perhaps in other dynamic third world sectors.

ERRATUM

José Pastore, A. O. Haller, H. Gomez-Buendia
"Wage Differentials in São Paulo's Labor Force," Industrial Relations 14(October, 1975):345-357.

The last line of the text on page 353 should read:

(I) and occupational preparation (E) have the

greatest impact on wages: $P_{WI} = .323$ and $P_{WE} = .329$.

Indeed, I alone ex-