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Many analysts distinguish between the formal and the informal sector of the labor market depending on whether workers have a legally valid employment contract. On the basis of this definition, the informal sector includes the self-employed and employees in unregulated work environments.[1] In Brazil, social security coverage is tantamount to legally recognized work.[2] However, the formal and informal sectors are each made up of diverse economic categories. This is particularly problematic when analyzing income where urban informal sector workers sometimes have incomes equal to or higher than those of formal sector workers. Because analysts often rely on these two labor market sectors to analyze Brazil's sizable income inequality, there is a need to reevaluate the simple formal-informal categorization and to understand income attainment within sectors.

In this article I modify the dual labor market typology by introducing four employment categories to better account for the diversity of urban labor markets and the personal characteristics of workers. Specifically, this study (1) investigates income differences among the four employment categories, (2) identifies the characteristics of workers in these employment categories, (3) compares differences in income returns to individual characteristics of workers among employment categories, and (4) assesses the extent to which income differences are sustained across occupations. Data are from Brazil's 1980 census, which provides individual level data for such detailed analysis.

Brazil is an important case because self-employment and unregulated work have consistently constituted a sizable segment of the post–World War II Brazilian labor force. The urban informal sector was large even during the "Brazilian economic miracle" (1968–73), a period of exceptionally rapid industrial growth.[3] Brazil also suffers from a highly unequal distribution of income.[4] Whether the division between

formal and informal sector work captures this income inequality is not clear.

Review of Previous Findings

The analysis of income differences between labor market sectors should be sensitive to variations in the personal attributes of workers.[5] Unlike previous studies which relied on bivariate analysis, this study employs multivariate analysis, which is better able to estimate the extent to which worker characteristics explain income differences. The individual characteristics that this study considers include education, experience, household headship status, migrant status, and race.

Education or years of schooling often serves as the primary criterion for rationing workers into the formal sector,[6] but because informal sector jobs offer greater flexibility and sometimes higher incomes, this relationship is often not altogether clear. Also, the influence of education (and experience) on income is thought to be substantially stronger in the formal sector where rewards for labor are more likely to be based on universalistic (formal) criteria such as education rather than on particularistic (informal) evaluations.[7]

Household headship is believed to reflect a greater commitment to work, which is of greater importance in the formal sector where employers are more willing to train workers who will stay on. Absenteeism by uncommitted workers is viewed as especially disruptive in the formal sector where stable hours are required. Conversely, the informal sector, particularly the unregulated low-wage category, is characterized by its flexibility, making it attractive to non-household heads whose primary responsibilities may be domestic and whose income may be supplementary. Because employment in either sector by household heads is fundamental to household income, their commitment and thus their productivity and income should be greater.

Previous studies do not yield a clear picture of the significance of migrant status on income. The significance of class differences among migrants is hardly known.[8] I hypothesize that migrant status reflects a deficit of urban labor market experience, which is of particular importance in the formal sector. Thus, one might expect the presence of rural migrants to contribute to lower incomes in the formal sector but not in the informal sector. Conversely, a high motivation among rural origin migrants, as demonstrated by their decision to migrate, may make them more productive than natives and higher earners in both sectors.

Several noted scholars have argued that, as modes of production in Brazil become more capitalistic, race becomes less important, and achieved criteria such as education gain importance.[9] Black and mixed-race workers earn less than whites, and they are overly represented in informal sector employment.[10] However, so far there has been no

examination of the effects of race or ethnicity on income differences between the formal and informal sectors. Since the informal sector is less capitalistic, race should be a more important factor in the informal than in the formal sector. Also, in Brazil Asian workers represent an important population whose characteristics in the labor market are hardly known.

Employment Categories
In this study I divide workers into two major employment categories (sectors): formal (salaried) workers and informal workers. The latter is further subdivided into three employment categories of the informal sector: "protected" self-employed, "unprotected" workers (including self-employed and employees), and paid domestic workers. Thus there are four employment categories in all.

Employment and earnings of formal workers are governed by contract and law. The majority of metropolitan area workers in Brazil belong to this group.

The "protected" self-employed, so called because they receive regular profits or earnings, are characterized by their willingness and ability to pay social security. For the self-employed, social security payment may be more prevalent in occupations that are highly organized (e.g., taxi drivers), or among those who do the type of work that is highly visible to authorities, or those who are more successful in the labor market and are able to afford it. Also, the incomes of those informal-sector workers are particularly high. This demonstrates the weakness of treating the self-employed or informal sector workers as if they constituted a single group.

The "unprotected" workers include both self-employed and employees who do not pay social security taxes. The importance of this is reported in recent ethnographic fieldwork which showed that lack of social security payment, rather than occupation, industry, or self-employment, was by far the best indicator for differentiating jobs held by *favelados* (slum residents; residents of illegally occupied urban settlements) and other workers.[11] The shared position of the unprotected derives from similar incomes and little job security. The unprotected self-employed are often not truly self-employed but "disguised employees" who work on commissions.[12]

In the past, official estimates tended to undercount the informal sector because they included only the self-employed and domestic workers, and did not consider unprotected employees.[13] These estimates have been improved through a residual technique that includes unprotected employees.[14] Direct evidence about employment protection is still limited, impeding estimates of size as well as giving an accurate portrayal of worker characteristics.

Finally, a third group of the informal sector, domestic workers, is

distinguished here. Their remuneration is mixed (not only wages), and they work for families rather than for productive enterprises. Even the small percentage among them who pay social security do not enjoy secure work arrangements.[15] Much of their income is in kind and goes unreported. Domestic workers were not included with other unprotected workers as this would have deceptively lowered the mean monthly incomes of unprotected workers as a whole. Also, domestic workers in Brazil generally do not compete for other types of work.[16]

Data and Methods
The data for this study come from the 3% public use sample of the 1980 census of Brazil. For reasons of processing space and memory, I randomly subsampled one of every 10 cases. The workers in the sample represent almost 90% of the paid labor force in the nine largest Brazilian metropolitan areas.[17] They include employees and self-employed persons 10–64 years old in Brazilian metropolitan areas, who had a positive income in the previous month and had less than 12 years of education. Since this study focuses on the working class, I excluded those with postsecondary education who roughly correspond to employers and professional-administrative workers.[18]

The four employment categories are based on the variables payment of social security (protected/unprotected), position in occupation (employer/employee/self-employed), and occupation (for the case of domestic workers).[19] The central variable, income, refers to all fixed and variable monthly income from a worker's main occupation plus the value of all goods and services given in exchange for labor in the same occupation.[20]

In addition to bivariate tables, this study uses a multivariate income determination model which assesses income determinants separately for males and females in the four employment categories.[21] This equation regresses log monthly income on a vector of characteristics representing years of schooling, experience, household headship, migration status, race, economic sector, metropolitan area, and hours worked. Continuous variables represent log monthly income, years of schooling, and experience, while dummy variables represent all of the remaining characteristics.[22]

A well-known six-industry categorization represents the economic sector.[23] It is particularly appropriate because it makes important distinctions within the heterogeneous service sector, which is characterized by widely varying levels of productivity. Since wages and costs of living vary widely by metropolitan area, dummy variables were constructed to capture their effect. Finally, a set of five dummy variables represents hours worked in the week before the census. Unfortunately, no information about weeks worked in the month was available.

Findings
The mean monthly incomes shown in table 1 demonstrate that total protected employee incomes ($172) are about 20% greater than those of the informal sector ($145). Formal sector female employees earn about twice as much as informal sector female workers. However, males, on average, earn more in the informal sector.

The disaggregation of the informal sector reveals that the protected self-employed earn by far the greatest mean monthly income ($261), followed by protected employees ($172), then unprotected workers ($112), and finally domestic workers ($59). Such a pattern is sustained for both men and women separately, although the incomes for women are substantially lower. Also, the distributions of males and females within the informal sector are quite dissimilar. Females are almost entirely among the worse-off groups in the informal sector while the majority of informal sector males are protected self-employed workers (data shown in the bottom three rows of table 2 and discussed later). The above findings suggest that there is no clear relation between dual labor market status and income. Further disaggregation by gender and socioeconomic characteristics is essential.

The distribution of incomes by the number of minimum salaries better illustrates the advantages enjoyed by the protected self-employed. Figure 1 illustrates this distribution for the four employment categories. Only about 10% of protected employees and an equal proportion of the protected self-employed earn less than one minimum salary, but over 40% of unprotected workers and 70% of domestic workers earn less than the monthly minimum salary, underscoring the importance of social security protection. The model wage for protected employees is 1–2 minimum salaries, suggesting that formal sector employers tend to pay employees at or just above the minimum salary level. The greater the income category, the lower is the proportion of

TABLE 1

MEAN MONTHLY EARNINGS (Weighted) OF VARIOUS EMPLOYMENT FORMS
IN BRAZILIAN METROPOLITAN AREAS: WORKING POPULATION WITH LESS THAN
11 YEARS OF EDUCATION, 1980

Monthly Earnings	Males	Females	Total
Formal:			
Protected employees	186	136	172
Informal	217	69	145
Protected self-employed	281	153	261
Unprotected workers	135	63	112
Domestic workers	. . .	59	59

SOURCE.—1980 Brazilian Census.
NOTE.—Income expressed in U.S. dollar equivalents based on the September 1980 exchange rate of 1 cruzeiro = US$.0177.

Percent
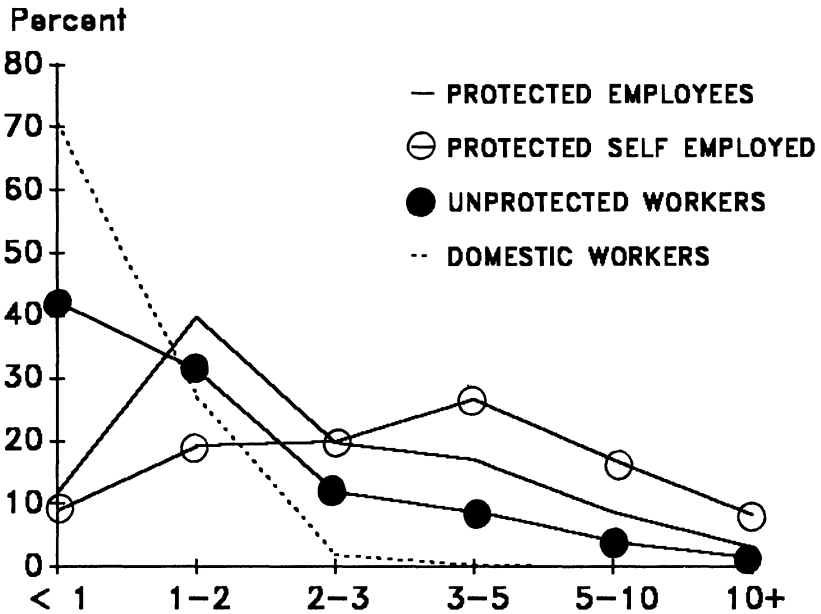
Fig. 1.—Distribution of employment categories by number of minimum salaries.

protected employees and unprotected workers. The decline is particularly precipitous for unprotected employees. Rarely do domestic workers earn 2 minimum salaries or more.

Unlike other workers, whose incomes are concentrated below 2 minimum salaries, the protected self-employed are relatively evenly distributed throughout the entire range of income categories. Twenty-five percent of them earn 3–5 minimum salaries, approximately 20% are in each of the 1–2, 2–3, and 5–10 minimum salary ranges, and almost 10% earn more than 10 minimum salaries. They represent the largest group among the highest-earning income bracket.

Characteristics of Workers by Employment Category

Table 2 describes average characteristics of workers in each employment category. Mean years of schooling is highest among protected employees (5.1 and 6.5 years for males and females, respectively), followed by the protected self-employed (4.6 and 5.0 years), then unprotected workers (3.4 and 3.6 years), and finally, domestic workers (2.7 years). This indicates that education is an especially important selection criterion for entrance into the formal sector. Although they have relatively high levels of education, formal sector workers have, on average, less work experience. Only slight differences in the pro-

portion of household heads exist between protected employment and unprotected work for both males and females. However, the protected self-employed are predominantly white male household heads and tend to be much more experienced than other workers. Primary worker status and full-time work are also characteristic of protected self-employment.

The data indicate that rural migrants are not concentrated in informal sector employment. The proportion of rural migrants varies little among employment-gender groups. Rural origin migrants are in all forms of employment. The case of domestic workers is the exception; fully a third of them are rural origin migrants.

As expected, blacks and *pardos* (persons of mixed race) disproportionately occupy the lower remunerated employment categories. The proportion of black and *pardo* ranges from 5% and 24%, respectively, among male protected self-employed to fully 19% and 41% of domestic workers. Blacks and *pardos* are about as likely as whites to be formal sector workers but are underrepresented among the better-remunerated self-employed. It is interesting to note that Asians make up a relatively large proportion of the protected self-employed.

Metropolitan areas with relatively underdeveloped economies, that is, those located in the northeast (Belem, Fortaleza, and Recife), have relatively high proportions of informal sector workers. For example, while Fortaleza, the poorest metropolitan area in Brazil, constitutes only 1.8% of male and female protected employees in this sample, its unprotected work force makes up 5.2% of all male unprotected workers in the sample and 10.2% of the total female unprotected work force. Similar results apply for Recife and to a lesser extent for Belem, while the obverse holds for São Paulo and Porto Alegre, metropolitan areas in the more developed southeast and south.

Table 2 shows that manufacturing employs 41% of male and 36% of female protected employees, while male or female informal sector workers are rarely represented. The male protected self-employed are concentrated in distributive services (42%) in which there are presumably many merchants. The majority of unprotected workers, both male (65%) and female (74%), are in the least productive sector, personal services. Domestic workers are in personal services, by definition.

Women work part-time much more frequently than men do both because their income is more likely to supplement that of the household head and because their domestic responsibilities are greater. Table 2 shows that only 14% of females in protected employment worked part-time during the week before the census as compared with 5% of males. However, unprotected work allows far greater flexibility: 19% of the male and 56% of the female unprotected workers were part-timers. It is interesting that only 16% of domestic workers worked part-time. Almost half (48%) of male protected self-employed and 31%

TABLE 2

MEANS OF VARIABLES FOR REGRESSION MODEL PREDICTING LOG EARNINGS IN BRAZILIAN METROPOLITAN AREAS BY EMPLOYMENT CATEGORY AND GENDER, 1980

	FORMAL				INFORMAL		
	Protected Employees		Protected Self-employed		Unprotected Workers		Domestic Workers—Female
	Male	Female	Male	Female	Male	Female	
Independent variable:							
Log earnings	5.14	4.82	5.54	4.93	4.81	4.05	3.99
Dependent variables:							
Education	5.09	6.51	4.59	4.98	3.42	3.63	2.74
Experience	16.61	14.63	24.56	27.21	20.65	22.77	14.71
Experience squared	402.83	330.68	728.74	851.34	607.74	654.22	368.15
Household head	.66	.15	.88	.30	.68	.22	.12
Race:							
White	.59	.65	.68	.67	.51	.49	.40
Black	.08	.07	.05	.06	.08	.11	.19
Asian	.01	.01	.03	.03	.01	.02	.00
Pardo	.32	.27	.24	.24	.40	.38	.41
Rural migrant	.26	.20	.26	.22	.25	.27	.33
Industry sector:							
Construction	.12	.01	.19	.00	.27	. . .	. . .
Manufacturing	.41	.36	.06	.03	.06	.04	. . .

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Producer services	.07	.11	.06	.06	.04	.02	...
Social services	.10	.26	.01	.05	.00	.02	...
Distributive services	.19	.17	.42	.27	.28	.17	...
Personal services	**.11**	**.09**	**.26**	**.41**	**.65**	**.74**	**1.00**
Hours:							
0–14	**.00**	**.01**	**.02**	**.07**	**.03**	**.11**	**.03**
15–29	.01	.05	.02	.15	.04	.23	.05
30–39	.04	.08	.05	.13	.11	.22	.08
40–48	.66	.71	.43	.34	.47	.26	.43
49+	.29	.15	.48	.31	.35	.18	.41
Metropolitan area:							
Belem	.012	.011	.014	.018	.033	.021	.010
Fortaleza	**.018**	**.018**	**.032**	**.054**	**.052**	**.104**	**.026**
Recife	.054	.049	.041	.057	.101	.124	.068
Salvador	.047	.054	.060	.072	.063	.084	.066
Belo Horizonte	.052	.036	.048	.037	.047	.041	.042
Rio de Janeiro	.285	.262	.279	.331	.251	.302	.349
São Paulo	.411	.441	.381	.314	.320	.242	.346
Curitiba	.043	.036	.051	.023	.082	.026	.040
Porto Alegre	.078	.093	.094	.094	.051	.056	.053
N	33,714	12,729	4,074	735	3,154	1,495	5,338
Within category distribution	72.6	27.4	84.7	15.3	67.8	32.2	100.0
Total distribution	55.1	20.8	6.7	1.2	5.2	2.4	8.7

SOURCE.—1980 Brazilian Census.

NOTE.—**Bold** indicates reference categories for sets of dummy variables.

of the few female protected self-employed worked more than 48 hours. The huge difference between sectors in the proportion of women who work part-time helps to explain the large income differences but also demonstrates the greater flexibility of informal work.

The *N*'s (last row of table 2) show that the great majority of men are in the formal sector while only a minority of women are. Furthermore, females are rarely in protected self-employment while this category is the largest one among males in the informal sector. By contrast, women are concentrated in unprotected work and paid domestic service.

Effects of Individual and Work Characteristics

These characteristics indicate considerable differences in income returns within the informal sector, even greater than differences between the formal and informal sector. Table 3 shows relatively high returns to education and experience in both protected and unprotected employment and their lesser importance for the protected self-employed. Household headship, an indicator of job commitment and productivity, means substantially higher incomes for men. Its effect is relatively weak for female incomes.[24] In Brazil, female headship implies being a sole parent with its accompanying handicaps in the labor market.

Rural origin migrant status significantly reduces the incomes of protected employees. For informal sector workers, the effects of rural origin are negative only for the male protected self-employed and female unprotected workers. For the other three gender-employment categories, the effects are negligible (although slightly positive).

The other social variable, race, demonstrates that being *pardo* (mixed race) means a loss and being black a greater loss of income compared with whites in all gender-employment categories. The income difference with whites does not appear to vary by employment category. Asians, on the other hand, earn substantially more than whites and fare particularly well in the informal sector, suggesting a high level of entrepreneurship.

Returns to industry sector vary widely between protected and unprotected workers. Generally, the former are favored with the highest rewards in producer services followed by manufacturing, but female unprotected workers in manufacturing are rewarded significantly less than in all other industry sectors, including personal services.

It is quite natural to expect monthly income to increase with the number of hours worked per week. Table 3 confirms this, but the amount gained by working more hours is clearly greater in all categories of the informal sector than for protected employees who are generally paid a fixed monthly salary or wage. Informal sector income is particularly sensitive to hours worked because it is often based on commissions, piecework, or exact time worked.

The intercepts most clearly demonstrate the net effect of being in a certain employment category, presumably for "persons" with scores of zero on all independent variables. They mirror bivariate findings, showing that formal sector employment offers rewards intermediate to those of the better- and worse-off categories of the informal sector.

The explanatory power of the model as indicated by R^2 is greatest among male protected employees (.44) and weakest among male protected self-employed (.25), while the other categories lie closer to the male protected employee category. The poor performance of the model in explaining variation in incomes of the protected self-employed may be due to such factors as individual motivations, accumulated capital, and family ascriptive connections. Information on these aspects is limited. The strong statistical fit of the model for protected male employees reflects the strength of the human capital variables.

Occupational Differences

The prior analysis focused on the four employment categories. At times, occupation may better represent productivity, job skills, and labor market demands than human capital variables. Consequently, the occupational mix of various employment categories may account for differences in individual income. Accordingly, this section focuses on mean monthly incomes among employment categories within the same occupation.

Table 4 compares mean monthly income and respective worker characteristics across employment categories in three common occupations: tailors and dressmakers, bricklayers, and motor vehicle drivers. Table 4 shows that the category of protected self-employed earns far greater incomes than other workers in these occupations, lending further support to the importance of making distinctions within the informal sector. The large differences between the protected self-employed and the other two categories seem to outweigh the advantages conferred on this category by older age and its almost entirely full-time work force. However, older age and greater hours worked support previous findings that these workers possess more experience and, possibly, motivation or commitment. In the case of tailor and dressmaker, which is primarily female, the protected self-employed category contains a relatively high number of males—fully 15% compared with 5% for protected employees and 6% for unprotected workers.

The directions of income differences between protected employees and unprotected workers, though, are mixed and need to be further evaluated across a longer list of occupations. In Table 5, I list the 22 most common occupations that are held by unprotected workers and compare the monthly incomes of unprotected workers with those of protected employees in the same occupations. Aside from representing

TABLE 3

Regression Coefficients and Standard Errors (in Parentheses) of Variables Affecting Log Monthly Income in Brazilian Metropolitan Areas by Employment Category and Gender, 1980

| | Formal | | Informal | | | | Domestic Workers |
| | Protected Employees | | Protected Self-employed | | Unprotected Workers | | |
	Male	Female	Male	Female	Male	Female	Female
Education	.091*	.086*	.061*	.082*	.081*	.106*	.034*
	(.001)	(.002)	(.004)	(.010)	(.005)	(.008)	(.003)
Experience	.063*	.041*	.036*	.025***	.052*	.039*	.050*
	(.001)	(.001)	(.005)	(.013)	(.004)	(.007)	(.002)
Experience squared	-.001*	-.001*	-.001*	-.001***	-.001*	-.001*	-.001*
	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)	(.000)
Household head	.243*	.047*	.264*	.115	.251*	.152**	.029
	(.008)	(.012)	(.036)	(.063)	(.032)	(.053)	(.022)
Race:							
Black	-.199*	-.169*	-.249*	-.190	-.178*	-.173***	.016
	(.011)	(.018)	(.055)	(.135)	(.045)	(.074)	(.019)
Asian	.081**	.044	.340*	.362***	.396*	.212	-.146
	(.036)	(.045)	(.065)	(.173)	(.101)	(.173)	(.215)
Pardo	-.108*	-.136*	-.123*	.059	-.094*	-.100***	-.004
	(.007)	(.011)	(.031)	(.080)	(.028)	(.050)	(.015)
Rural migrant	-.044*	-.044*	-.040	.021	.004	-.058	.014
	(.006)	(.011)	(.025)	(.070)	(.028)	(.050)	(.014)

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Industry:							
Construction	.122*	.169*	−.112*	.433	.129*	⋯	⋯
	(.011)	(.046)	(.033)	(.758)	(.031)		
Manufacturing	.205*	.131*	.010	.063	.162**	−.419*	⋯
	(.010)	(.005)	(.049)	(.165)	(.052)	(.119)	
Producer services	.223*	.203*	.422*	.750	.366*	.656*	⋯
	(.015)	(.021)	(.054)	(.131)	(.066)	(.143)	
Social services	.023	.041***	.419**	.239	.080	.097	⋯
	(.013)	(.016)	(.127)	(.136)	(.191)	(.119)	
Distributive services	.135*	.084*	.187*	.259*	.123*	.471*	⋯
	(.011)	(.017)	(.026)	(.066)	(.030)	(.059)	
Hours:							
15–29	.019	−.080	.029	.071	.235**	.294*	.106***
	(.045)	(.048)	(.120)	(.129)	(.090)	(.074)	(.049)
30–39	.082***	.121**	−.031	.168	.347*	.593*	.361*
	(.038)	(.047)	(.107)	(.131)	(.080)	(.074)	(.046)
40–48	.114**	.148**	.177	.521*	.581*	.828*	.540*
	(.035)	(.045)	(.098)	(.117)	(.074)	(.072)	(.042)
49 +	.116**	.117***	.297***	.610*	.669*	.904*	.560*
	(.035)	(.046)	(.098)	(.118)	(.075)	(.078)	(.042)
Constant	3.314	3.166	4.105	3.177	2.951	2.236	2.306
R^2	.440	.388	.254	.360	.378	.411	.396
Adjusted R^2	.440	.386	.249	.337	.373	.401	.394

SOURCE.—1980 Brazilian Census.
NOTE.—Controls for metropolitan areas not shown.
* $P < .05$.
** $P < .01$.
*** $P < .001$.

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TABLE 4

DESCRIPTIVE STATISTICS OF THREE COMMON OCCUPATIONS
BY LABOR MARKET SECTOR AND CLASS

	MEAN			PERCENT		
SECTOR AND CLASS	Monthly Income	Years School	Age	Male	Part-time	Distribution
Tailors and dressmakers:						
Formal:						
Protected employee	113	4.7	29	5	2.6	47
Informal:						
Protected self-employed	160	4.7	45	15	37.4	16
Unprotected worker	91	4.1	38	6	40.5	37
Bricklayers and bricklayers' assistants:						
Formal:						
Protected employee	124	2.5	35	100	1.9	46
Informal:						
Protected self-employed	178	3.0	40	100	3.7	22
Unprotected worker	124	2.6	36	100	6.7	32
Motor vehicle drivers:						
Formal:						
Protected employee	215	4.5	35	100	2.9	69
Informal:						
Protected self-employed	406	4.9	35	100	2.9	69
Unprotected worker	220	4.7	37	99	9.3	11

SOURCE.—1980 Brazilian Census.

67% of all unprotected workers, these 22 occupations (of a total of 365 in the 1980 census) are held by about 20% of protected employees. Most of the other unlisted protected employee occupations are teaching, clerical, and skilled blue-collar occupations, which scarcely figure among unprotected workers.

Although the number of unprotected workers is about one-tenth that of the protected employees in the sample, some occupations are nevertheless dominated by unprotected workers. The final column of table 5 shows that street vendors are 10 times, open air market sellers 6.1 times, manicurists 3.5 times, and washers-ironers 2.3 times more likely to be unprotected workers than protected employees. On the other hand, occupations like salesperson, driver, handyman, office assistant, and carpenter are almost entirely protected occupations.

Protected employees earn greater incomes than unprotected workers in 21 of the 22 occupations. The only exception is motor vehicle driver. The extent of variation around the mean is not consistently greater or smaller around either of the two categories, suggesting that greater incomes for protected employees are generally sustained, although there may be substantial variations due mostly to the individual factors discussed previously. Also, the magnitude of the gap between

TABLE 5

Occupational Distribution and Monthly Income (Mean and Standard Deviation) of Protected Employees and Unprotected Workers: Selected Occupations in Brazilian Metropolitan Areas, 1980

| Occupation | Unprotected Workers (1) | | | Protected Employees (2) | | | Population Ratio of (1):(2) |
| | Percent in Occupation | Monthly Income | | Percent in Occupation | Monthly Income | | |
		Mean	SD		Mean	SD	
Bricklayer	8.7	148	85	2.4	149	74	.67:1
Tailor and dressmaker	7.6	91	70	1.8	113	58	.72:1
Bricklayer's assistant	5.5	85	65	2.2	96	37	.47:1
Salesperson	5.2	104	119	5.0	171	160	.18:1
Street vendor, n.e.c.	4.9	140	166	.1	187	186	10.11:1
Motor vehicle driver	4.1	220	178	4.9	215	123	.15:1
Merchant*	4.0	240	262	.0	...	...	...
Washer, ironer	3.9	34	30	.3	72	56	2.33:1
Painter	3.0	149	81	.5	151	66	1.22:1
Manual worker, n.e.c.	2.8	87	72	1.6	116	54	.33:1
Helper/handyman	2.5	72	45	4.4	96	57	.11:1
Seller at open air market	2.5	130	122	.1	161	144	6.14:1
Auto mechanic	2.1	126	128	1.1	197	128	.33:1
Office assistant	1.6	114	86	7.3	180	129	.04:1
Manicurist/pedicurist	1.3	62	48	.1	156	72	3.54:1
Luncheonette/bartender	1.2	85	81	1.1	119	121	.23:1
Carpenter	1.2	122	73	1.3	155	87	.15:1
Cabinetmaker	1.0	171	117	.7	176	89	.28:1
Hairdresser	1.0	137	100	.2	199	165	1.00:1
Spray painter	1.0	146	129	.5	197	103	.33:1
Office boy	.9	61	35	1.4	98	53	.16:1
Cook	.9	73	49	1.4	119	71	.14:1
Plumber and pipefitter	.8	170	137	.6	186	96	.25:1

Source.—1980 Brazilian Census.

Note.—Listed are most frequent occupations declared by unprotected workers. These constitute 67.5% of all unprotected workers and 19.5% of protected employees. N.e.c. stands for "not elsewhere classified."

* Merchants do not include salaried workers and therefore only include unprotected workers.

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the monthly incomes of these two groups does not appear to differ by any type of larger occupational grouping.

Summary and Discussion

This study has shown that the disaggregation of the informal sector clarifies the relationship between labor market segmentation and income. Informal sector income is lower than formal sector income when comparable categories are contrasted. Women are more likely than men to be in the informal sector and are almost entirely in the worse-off catetgories of that sector. A distinct group of self-employed, dominated by males, enjoys the benefits of state protection and earns substantially greater incomes than even formal sector workers do. Their indiscriminate inclusion in the informal sector is misleading as it brings the average income for this group to a par with the incomes of formal sector employees.

Returns to human capital variables (education, experience, and migrant status) are not always in the direction and of the magnitude expected. Education and experience are important for the income of formal sector and unprotected workers, while they are less important for the protected self-employed. Rural origin migrant status tends to be negative in the formal sector while it is insignificant throughout the informal sector, suggesting that urban labor market experience is important only to formal sector income. For domestic workers, experience exerts a strong influence on income while education has only a slight effect. Thus, while human capital is particularly important for understanding income in the formal sector of metropolitan labor markets in Brazil, its explanatory power is relatively limited when applied to informal sector jobs. Also, the model as specified poorly predicts the incomes of the protected self-employed. This supports the view that the urban informal labor market emphasizes such intangibles as labor market connections, motivations, or personality to a greater extent than formal sector employment does.

In addition to gender, another social capital variable whose income effect can be assessed is race. There are substantial costs associated with being black and *pardo* in all employment categories. Racial differences are magnified by the greater likelihood that black and *pardo* workers are in the lower-remunerated employment categories. Asians earn higher incomes in all categories net of other factors. This positive effect for Asians is lowest among formal sector workers and highest among the protected self-employed. The effect of race for blacks and *pardos* suggests that racial discrimination is pervasive in Brazil. In the case of Asians, labor market outcomes suggest the operation of a high level of entrepreneurship and the possible existence of an ethnic economy. These findings for Asians, blacks, and *pardos* indicate that race

and ethnicity are salient to understanding labor market outcomes in Brazil.

Formal sector workers earn monthly incomes that are substantially lower than those of the protected self-employed. With rare exception, they also earn incomes that are somewhat higher than those of unprotected workers, the extent of which varies by occupation. Notably, there is substantial income variation among occupations by employment category, suggesting that individual factors must be considered in addition to labor market sector and class.

Policy solutions about what to do with the large and growing informal sector vary widely. These include a growing conservative faction in Latin America that favors labor deregulation and removing government interventions in small-scale entrepreneurial activity.[25] Others favor innovative styles of state intervention in support of such entrepreneurship.[26] The data in this article show a mixed pattern—success, for some of the self-employed, and very low incomes in informal sector economic activities which are not covered by government regulation. The differential sources of success may be attributable to factors such as race and gender as well as state policies which favor the successful self-employed. State policies must be aimed at overcoming barriers faced by the former and diminishing the impact of the latter.

Notes

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1. Keith Hart, "Informal Income Opportunities and Urban Employment in Ghana," *Journal of Modern African Studies* 11 (1973): 61–89; Bryan Roberts, *Cities of Peasants: The Political Economy of Urbanization in the Third World* (Beverly Hills, Calif.: Sage, 1978); Programa Regional del Empleo para America Latina y el Caribe (PREALC), *Planificación del Empleo* (Planning employment) (Santiago de Chile: Organización Internacional del Trabajo, 1982); Alejandro Portes and Lauren Benton, "Industrial Development and Labor Absorption: A Reinterpretation," *Population and Development Review* 10, no. 4 (1984): 589–611.

2. Thomas W. Merrick, "Employment and Earnings in the Informal Sector in Brazil: The Case of Belo Horizonte," *Journal of Developing Areas* 10, no. 3 (1976): 337–53; Portes and Benton. See Alejandro Portes, Manuel Castells, and Lauren Benton, eds., *The Informal Economy: Studies in Advanced and Less Developed Countries* (Baltimore: Johns Hopkins University Press, 1989). Social security is meant to indicate the presence or absence of legal protections on the job and by itself is not necessarily the result or cause of success in the labor market.

3. Vilmar E. Faria, "Mudanças na composição do emprego e na estrutura das occupações" (Changes in employment composition and occupational structure), in *A transição incompleta* (The incomplete transition), ed. Edmar Bacha and Herbert S. Klein (Rio de Janeiro: Paz e Terra, 1986); PREALC.

4. Guy Pierre Pfefferman and Richard Webb, "The Distribution of Income in Brazil," World Bank Staff Working Papers, no. 356 (World Bank, Washington, D.C., 1979).

5. Subbiah Kannappan, "Income Distribution and Urban Labor Markets in Brazil," *Luso-Brazilian Review* 18, no. 1 (Summer 1981): 29–40.

6. Michael P. Todaro, *Economic Development in the Third World* (New York: Longman, 1985).

7. Subbiah Kannappan, *Employment Problems and the Urban Labor Market in Developing Nations* (Ann Arbor: University of Michigan Graduate School of Business Administration, 1983).

8. Joan M. Nelson, *Access to Power: Politics and the Urban Poor in Developing Nations* (Princeton, N.J.: Princeton University Press, 1979); Kannappan, *Employment Problems and the Urban Labor Market in Developing Nations.*

9. See, e.g., Florestan Fernandes, *A integração do Negro na sociedade de classes* (The integration of the negro in class society) (São Paulo: Dominus, 1965); Fernando Henrique Cardoso, *Capitalismo e escravidao no Brasil meridional* (Capitalism and slavery in southern Brazil) (São Paulo: Diffusão Europeía do Livro, 1962).

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11. Luiz Antonio Machado da Silva, "Mercados metropolitanos de trabalho manual e marginalidade" (Metropolitan labor markets and marginality) (M.A. thesis, National Museum Postgraduate Program in Social Anthropology, Rio de Janeiro, 1971).

12. Alejandro Portes, "Latin American Class Structures," *Latin American Research Review* 20, no. 3 (1985): 7–39.

13. Portes and Benton; PREALC.

14. Portes.

15. Merrick.

16. Elizabeth Jelin, "A Baiana na força de trabalho: Actividade Domestica, produção simples e trabalho assalariado em Salvador" (The Bahian woman in the labor force: Simple production and salaried work in Salvador), in *Bahia de todos os probres,* ed. Guaraci Adeodato A. de Souza and Vilmar Faria (Petrópolis, Brazil: Editora Vozes, 1980); Heleith Iara Bongiovani Saffioti, *Emprego domestico e capitalismo* (Domestic employment and capitalism) (Petrópolis: Editora Vozes, 1978).

17. These are the nine metropolitan areas defined as such by the Instituto Brasileiro de Geografia e Estatistica. They represent 44% of the entire urban population of Brazil.

18. Additionally, the 12-year education ceiling is used to control for the substantially increased income returns to additional years of schooling for those with 12 or more years of education. Also, see Portes for further definition of the dominant and bureaucratic-technical classes in Latin America.

19. All other employment categories exclude the occupation of domestic worker.

20. Monthly earnings are translated from Brazilian cruzeiros to U.S. dol-

lars when 1 cruzeiro was the equivalent of $.0177 in 1980 U.S. dollars (the year of the census).

21. Note that because the category of "domestic worker" consists almost entirely of females, a "male domestic worker" category is not created.

22. "Experience" is at best a rough indicator of time spent in the labor market because of time spent out of the labor force (especially for females) or unemployment. Incidentally, I do not count experience accumulated prior to age 15, for work as a child does not constitute effective labor market experience. For information on this, see Jere Behrman and Nancy Birdsall, "The Quality of Schooling: Quantity Alone Is Misleading," *American Economic Review* 73, no. 5 (December 1983): 926–46. For an alternative formulation, see David Lam and Deborah Levinson, "Age, Experience and Schooling: Decomposing Earnings Inequalities in the U.S. and Brazil," Research Report no. 87–112 (University of Michigan, Population Studies Center, 1987).

23. Harley Browning and Joachim Singelmann, *The Emergence of a Service Society* (Springfield, Va.: National Information Service, 1979).

24. Household headship is a poor indicator for the case of domestic workers. Domestic workers may in fact be heads of households, but if they were living with their employer family at the time of the census they would be counted as non-household heads.

25. Hernando de Soto, *The Other Path: The Invisible Revolution in the Third World* (New York: Harper & Row, 1979).

26. Alejandro Portes, Manuel Castells, and Lauren Benton, "Conclusion: The Policy Implications of Informality," in Portes, Castells, and Benton, eds. (n. 2 above).