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Does Informality Imply Segmentation in Urban Labor Markets? Evidence from Sectoral Transitions in Mexico

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This article offers an alternative to the traditional dualistic view of the relationship between formal and informal labor markets. For many workers inefficiencies in formal sector protections and low levels of labor productivity may make informal sector employment a desirable alternative to formal sector employment. The analysis offers the first study of worker transitions between sectors using detailed panel data from Mexico and finds little evidence in favor of the dualistic view. Traditional earnings differentials cannot prove or disprove segmentation in the developing-country context. The patterns of worker mobility do not suggest a rigid labor market or one segmented along the formal/informal division.

In developing countries roughly 40 percent of urban workers are not protected by labor legislation and work in small, informal firms.[1] The origins and dynamics of the informal sector have attracted renewed interest for at least two reasons. First, increasing labor market efficiency and flexibility are considered essential complements to the market-based reforms under way throughout the developing world (see, for example, World Bank 1995). To the degree that the informal sector exists because of segmentation driven by government- or union-imposed distortions, its large size stands as a measure of the magnitude of market inefficiencies and required reforms. Second, a related literature with a very different emphasis sees informality as the result of an ongoing effort by large modern enterprises to evade mandated protections through subcontracting to unprotected workers, a process accelerated by heightened global competition in labor-intensive manufactures (see Portes, Castells, and Benton 1989). The existence and behavior of the sector are thus directly relevant to the debate over establish-

1. See, for example, Harris and Todaro (1970), Sabot (1977), Mazumdar (1983), or Fields (1990). See Fields (1990), Tokman (1992), Portes (1994), Rosenzweig (1988), and Thomas (1992) for excellent overviews of the informality literature. See Stiglitz (1974) and Esfahani and Salehi-Isfahani (1989) for efficiency wage models of dualism in developing countries.

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ing common labor standards through free trade agreements. Yet whatever safeguards may be enshrined in labor codes, firms in developing countries can still employ an effectively unprotected workforce to compete with firms in industrial countries (see Portes, Castells, and Benton 1989; Tokman 1992; and U.S. Department of Labor 1992, 1993).

In both cases the informal sector represents the disadvantaged sector in a dualistic labor market—a view shared by much of the literature. For example, a recent World Bank document argues that, "Protected workers in the 'modern' or 'formal' sector . . . enjoy high wages, social security, vacation, pension, and employment security as mandated by legislation. By contrast, those unable to find work in such firms resort to the next best alternative, the so-called 'informal sector,' in small firms or self-employment, engaged in labor-intensive activities, without job security or benefits" (Ozorio de Almeida, Alves, and Graham 1995). According to this view, government or union intervention pushes wages in the formal sector above their market-clearing level; therefore, migrants, young workers, and laid-off workers queue up for good jobs and, in the meantime, subsist in the inferior informal sector.

In this article I argue that the traditional conflation of issues of formality and dualism is probably conceptually inappropriate. The labor market for relatively unskilled workers may be well integrated with both formal and informal sectors, offering desirable jobs with distinct characteristics from which workers may choose, with little queuing. Two factors may deter workers from choosing formal salaried work. First, labor protection laws often levy an implicit tax on workers. In a market with downwardly flexible wages the cost of nonwage benefits reduces wages by an equivalent amount. For several reasons, including the inefficiencies and rigidities that often accompany such protections, workers may prefer to evade these labor taxes by operating in the informal sector. Second, the various modalities of informal work may offer other desirable characteristics, such as greater flexibility or possibilities for training, that suit some workers better than those of a formal salaried job. This article examines three such modalities—self-employment, informal salaried employment, and contract work—and explains how they can exist in unsegmented labor markets.

Self-employed workers own informal firms, with or without additional employees. The literature has long recognized that some self-employed workers prosper as dynamic entrepreneurs and coexist with workers rationed out of the formal sector. The large size of the informal sector in developing countries has often seemed pathological and indicative of distortions. It may be, however, that workers in developing countries who choose to start small firms have the same desire for independence or the same entrepreneurial ambition as their counterparts in industrial countries. In fact, they may have greater incentives to try self-employment, and not just to avoid labor taxes. The low level of formal sector productivity that the mass of poorly educated workers in developing countries face may reduce the opportunity costs of being independently employed. Thus the voluntary "upper tier" of self-employment may in fact be the majority of the sector.

Informal salaried workers are employed by informal firms. The literature views informal salaried workers as the least advantaged group in a segmented urban workforce. They receive neither the benefits of self-employment nor the benefits of formal employment. Yet the unique demographics of the sector suggest that informal salaried workers do not represent a reserve army of mature workers who were rationed out of the formal sector. Instead, informal salaried work may serve as the entry point and perhaps training area for young workers.

Contract workers do not receive a regular wage or salary; they are paid by percentage, by piece, on commission, or by fixed contract, and they are often connected to larger firms. Here, contract work corresponds most closely to the overall definition of informality embraced by Portes, Castells, and Benton (1989). In line with the traditional dualistic view they argue that informal workers fall into the category of "degraded labor," receiving fewer benefits, earning lower wages, and enduring worse working conditions than workers in the formal sector. But contract work may serve as a Pareto-improving arrangement between informal workers and firms in the formal sector. The arrangement enables both to evade not the labor legislation per se, but the inefficiencies and rigidities implicit in it.

Section I describes the data employed by this study. It uses detailed and relatively rare panel data to take a more comprehensive and dynamic approach than has been feasible previously and to weigh the plausibility of these alternative views. The Mexican Urban Employment Survey follows individual workers across 15 months. It thus permits us to examine earnings differentials and mobility patterns as workers transition between formal salaried employment and the three modalities of informal work. This panel analysis has several advantages over traditional cross-sectional work.

Comparisons of sectoral earnings differentials have been the mainstay of segmentation tests to date (see Rosenzweig 1988). However, they suffer from two drawbacks: unobserved individual characteristics may be correlated with both sector choice and earnings, and the value of unobserved job characteristics may not be captured. Section II presents the earnings differentials generated by individuals moving between sectors. These differentials largely ameliorate the correlation problem and constitute more precise and reliable estimates than those previously possible. But because of unobserved job-related characteristics, even these differentials cannot prove or disprove segmentation.

As an alternative approach, I examine patterns of worker mobility. Section III generates what is perhaps the first dynamic overview of movement through a labor market in a developing country. It characterizes the interactions among the four classes of work and compares them with the patterns implicitly predicted by the standard dualistic view. This type of analysis has not been possible with conventional cross-sectional data sets that permit only tabulations of the composition of the workforce and, perhaps, changes in those stocks over time. Although unable to provide conclusive evidence, this dynamic approach offers strong reasons to question the dualistic view as the primary explanation for the existence of and changes within the informal sector.

I. DATA

This study employs two sources of data on men ages 16–65 who have a high school education or less and live in 16 major metropolitan areas in Mexico. The National Urban Employment Survey (*Encuesta Nacional de Empleo Urbano*, ENEU) conducts extensive quarterly interviews and is structured so as to generate panels that track one-fifth of the sample across five quarters. Workers are matched by household, role in the household, gender, level of education, and age to ensure against generating spurious transitions. Although five quarters do not permit a full description of the life cycle of an individual, it is nonetheless possible to sketch patterns of mobility between sectors and to identify worker characteristics that correspond to these patterns. To generate a sufficiently large sample of roughly 15,000 observations, three contiguous ENEU cohorts were combined: 1990:3–1991:3, 1991:1–1992:1, and 1991:2–1992:2.[2]

Another panel was created spanning 1991:1–1992:1 that terminates in the more detailed Micro-Enterprises Survey (*Encuesta Nacional de Microempresas*, ENAMIN). This survey was constructed by identifying 11,000 owners of microenterprises, defined as firms with fewer than six individuals, from the 1990:4 ENEU and interviewing them again in more depth about capital structures, costs, and employment patterns in 1991:1. It specifically asked why they left their previous job and why they started their present business. These questions offer a partial alternative to naive corrections for selectivity bias. Thus the reduced sample provides far more information on both earnings differentials and motivations for moving. The panels in the combined ENEU sample were chosen to include and span either side of the ENAMIN panel.

Two popular definitions were used to define the informal sector. The first definition focuses specifically on the issue of protection: owners or workers in firms with fewer than 16 employees who do not have social security or medical benefits (see table 1). The second addresses the issue of the role of the small firm or microenterprise, using the Mexican government's definition: firms with fewer than six workers (see table 2). Because only the latter definition is consistent with the sampling of the ENAMIN, it is the one used for the joint ENEU/ENAMIN panel.

Tables 1 and 2 give the mean values for the sample using the unprotected workers and microenterprise definitions, respectively, for age, work experience, level of schooling, and an index of the real wage in the first period for workers who stay in or change sectors. Although the differences in sample means are sometimes statistically significant, they are never large, confirming that there is great overlap in the composition of the two populations. This is largely because among entrepreneurs in firms with fewer than six workers, only 5 percent are

2. The cohort beginning in the fourth quarter of 1990 was not used because it would incorporate the end-of-year bonuses, the *aguinaldo*. This normally amounts to a thirteenth monthly payment but may vary by year and by firm, imparting an undetermined upward bias to the monthly wage reports. Because we are concerned with expected income differentials, the wages of workers who reported normally receiving the *aguinaldo* are multiplied by 13/12.

Table 1. *Summary Statistics for the Sample Using the Unprotected Workers' Definition of the Informal Sector, Mexico, 1991–92*

Workers' transitions between sectors	*Number of observations*	*Mean*			
		Age (years)	*Experience (years)*	*Schooling (years)*	*Initial real wage*[a] *(index)*
To the formal salaried sector from					
Formal salaried	4,168	34.1	20.7	7.36	100.0
		(0.19)	(0.21)	(0.04)	(0.10)
Self-employed	264	37.0	24.6	6.39	124.2
		(0.75)	(0.83)	(0.60)	(0.61)
Informal salaried	315	28.7	16.0	6.66	70.3
		(0.70)	(0.79)	(0.16)	(0.23)
Contract	192	34.2	21.9	6.28	148.2
		(0.80)	(0.90)	(0.21)	(1.46)
To the self-employed sector from					
Formal salaried	270	36.2	23.7	6.56	106.8
		(0.68)	(0.78)	(0.18)	(0.52)
Self-employed	1,793	43.1	31.6	5.52	136.4
		(0.28)	(0.32)	(0.08)	(0.59)
Informal salaried	212	34.7	23.3	5.41	74.6
		(0.89)	(1.01)	(0.21)	(0.28)
Contract	125	39.4	27.5	5.91	121.4
		(1.19)	(1.35)	(0.28)	(0.86)
To the informal salaried sector from					
Formal salaried	308	29.6	17.0	6.62	87.2
		(0.67)	(0.77)	(0.16)	(0.26)
Self-employed	242	37.4	26.1	5.31	94.2
		(0.86)	(0.96)	(0.20)	(0.37)
Informal salaried	529	29.0	16.9	6.11	69.8
		(0.54)	(0.61)	(0.13)	(0.19)
Contract	116	34.3	22.7	5.59	101.8
		(1.23)	(1.38)	(0.28)	(0.92)
To the contract sector from					
Formal salaried	212	31.5	18.7	6.87	111.3
		(0.67)	(0.76)	(0.19)	(0.50)
Self-employed	149	37.3	25.2	6.09	134.6
		(0.96)	(1.08)	(0.24)	(0.74)
Informal salaried	93	29.4	17.2	6.15	104.5
		(1.19)	(1.31)	(0.32)	(1.78)
Contract	439	35.2	23.0	6.18	132.7
		(0.59)	(0.66)	(0.15)	(0.45)

Note: Transitions correspond to initial and final positions across a five-quarter period. The informal sector consists of workers in unprotected firms with fewer than 16 total workers who are not covered by medical or social security benefits. Self-employed workers are owners of informal firms. Salaried informal workers are employed by informal firms. Contract workers are unsalaried workers who do piecework or other contact work. Standard errors are in parentheses.

a. The formal sector wage is the base.

Source: Author's calculations based on the Mexican National Urban Employment Survey.

Table 2. *Summary Statistics for the Sample Using the Microenterprise Definition of the Informal Sector, Mexico, 1991–92*

Workers' transitions between sectors	*Number of observations*	*Mean*			
		Age (years)	*Experience (years)*	*Schooling (years)*	*Initial real wage[a] (index)*
To the formal salaried sector from					
Formal salaried	4,421	33.8	20.4	7.35	101.2
		(0.18)	(0.20)	(0.04)	(0.10)
Self-employed	301	36.3	23.8	6.47	121.7
		(0.66)	(0.73)	(0.17)	(0.57)
Informal salaried	388	29.9	17.2	6.65	77.8
		(0.63)	(0.72)	(0.15)	(0.24)
Contract	241	34.3	22.1	6.17	146.4
		(0.77)	(0.86)	(0.19)	(1.29)
To the self-employed sector from					
Formal salaried	320	36.4	24.1	6.27	106.4
		(0.64)	(0.72)	(0.17)	(0.50)
Self-employed	1,812	43.1	31.6	5.50	131.0
		(0.28)	(0.32)	(0.07)	(0.56)
Informal salaried	209	35.0	23.2	5.75	78.5
		(0.87)	(0.99)	(0.21)	(0.31)
Contract	133	39.1	27.2	5.93	121.0
		(1.15)	(1.30)	(0.27)	(0.81)
To the informal salaried sector from					
Formal salaried	391	29.2	17.3	6.56	85.8
		(0.62)	(0.70)	(0.15)	(0.27)
Self-employed	244	37.7	26.5	5.23	97.6
		(0.88)	(0.99)	(0.20)	(0.46)
Informal salaried	581	30.4	18.1	6.34	68.7
		(0.51)	(0.58)	(0.12)	(0.16)
Contract	94	34.4	22.9	5.51	102.9
		(1.22)	(1.43)	(0.32)	(1.10)
To the contract sector from					
Formal salaried	245	31.7	19.0	6.64	110.2
		(0.65)	(0.72)	(0.18)	(0.49)
Self-employed	146	37.0	24.9	6.15	133.6
		(0.97)	(1.08)	(0.24)	(0.73)
Informal salaried	88	29.2	16.7	6.53	105.7
		(1.12)	(1.30)	(0.34)	(1.84)
Contract	439	35.3	23.0	6.23	131.1
		(0.59)	(0.66)	(0.15)	(0.45)

Note: Transitions correspond to initial and final positions across a five-quarter period. The informal sector consists of workers in microenterprise firms with fewer than six workers. Self-employed workers are owners of informal firms. Salaried informal workers are employed by informal firms. Contract workers are unsalaried workers who do piecework or other contact work. Standard errors are in parentheses.

a. The formal sector wage is the base.

Source: Author's calculations based on the Mexican National Urban Employment Survey.

covered by benefits, and the vast majority of microenterprises have fewer than three workers. Therefore, the results of the analysis are unlikely to be driven by the particular definition chosen. To conserve space, this article presents results only for the microenterprise definition of the informal sector. For complete results for both definitions, see Maloney (1998a).

II. Wage Differentials as Evidence of Segmentation

Traditional efforts to identify segmentation by comparing conditional means between sectors are unsatisfying for two reasons. First, as is well documented in the literature, unobserved worker characteristics that affect productivity—ability to tolerate authority, punctuality, entrepreneurial ability—may also influence an individual's choice of sector in which to work and bias estimates of the sector differential.

Second, and of greater concern, the specific characteristics of work that pertain to or even define the formal and informal sectors affect the earnings paid in each sector. These characteristics make it unclear what the magnitude or sign of the differential should be, even in an unsegmented market. In a market without distortions wages should move to equalize the utility obtained from working in each sector. Most generally, informal sector earnings should exceed formal sector wages by the expected value of benefits not received, but should fall below them by the amount of taxation that informal workers often evade. More specifically, earnings for both contract and self-employed workers may reflect a premium for risk and a more independent lifestyle. In the case of self-employed workers the premium includes the implicit cost of capital invested and the value of unpaid work by family members. The ENAMIN suggests that unpaid family members make up 34 percent of microenterprise employees. Informal salaried workers are among the youngest workers, and the ENAMIN reveals that roughly 30 percent of informal salaried workers are related to their employer (tables 1 and 2). Their reported earnings may therefore incorporate training costs or unobserved payments in kind, which could imply that they are paid less than they would be in a formal firm, even in the absence of segmentation (see Hemmer and Mannel 1989 and Roberts 1989). The problems that these unobservables pose become apparent in interpreting the earnings differentials.

Estimates of Earnings Differentials

Using the vast but undetailed ENEU, the first columns of table 3 show the percentage change in hourly real earnings generated by individuals moving between sectors. These estimates hold worker characteristics constant and leave the variations in the characteristics of the work itself as the residual explanatory factor. The next columns account for these characteristics more than has been previously possible and present changes in the real wage net of taxes and for the real wage net of taxes per hour. Tax payments are calculated based on the Mexican tax tables, assuming that all informal workers avoid paying taxes and that all formal workers pay taxes.

The non-normality of the distributions makes the sample mean an inadequate measure of the central tendency of the data and its significance. Table 3 presents two alternative measures: the median and the mean, as determined by a robust estimation technique (the robust mean). The median is largely unaffected by the non-normality of the distribution and is robust to outliers. The robust mean

Table 3. *Real Wage Differentials from Transitions between Sectors, Mexico, 1991–92*

		Differential (percent)								
		Real wage			*Real wage net of taxes*		*Net wage per hours worked*		*Hours worked*	
Transition	*Number of observations*	*Mean*[a]	*Robust mean*[b]	*Median*[c]	*Robust mean*[b]	*Median*[c]	*Robust mean*[b]	*Median*[c]	*Robust mean*[b]	*Median*[c]
To the self-employed sector from										
Formal salaried	320	17.66	8.69	3.96	16.63	11.82	27.61	24.51	–3.55	0.00
			(2.41)	(0.74)	(4.36)	(2.36)	(6.48)	(5.95)	(2.27)	(0.00)
Self-employed	1,812	–5.35	–1.31	–4.21	–1.31	–4.21	0.98	–4.09	–1.63	0.00
			(0.91)	(1.60)	(0.91)	(1.60)	(0.60)	(2.04)	(2.26)	(0.00)
Informal salaried	209	27.05	18.87	16.04	18.87	16.04	23.30	22.28	–3.37	–1.64
			(3.92)	(2.93)	(3.92)	(2.93)	(4.66)	(3.88)	(1.78)	(0.57)
Contract	133	17.00	6.95	8.43	6.95	8.43	14.29	11.92	–2.91	0.00
			(1.45)	(1.18)	(1.45)	(1.18)	(2.44)	(1.94)	1.13	(0.00)
To the informal salaried sector from										
Formal salaried	391	–3.92	–1.91	–2.89	5.06	3.87	6.14	1.68	0.99	0.00
			(0.89)	(1.03)	(2.22)	(1.42)	(2.57)	(0.60)	(1.36)	(0.00)
Self-employed	244	–26.41	–20.53	–22.31	–20.53	–22.31	–20.76	–22.31	–0.89	0.00
			(7.41)	(5.31)	(7.41)	(5.31)	(7.05)	(5.01)	(0.56)	(0.00)
Informal salaried	581	–0.13	2.65	2.72	2.65	2.72	1.87	–0.36	0.83	0.00
			(1.64)	(2.01)	(1.64)	(2.01)	(1.15)	(0.16)	(1.27)	(0.00)
Contract	94	–19.69	–12.68	–13.68	–12.68	–13.68	–6.29	–4.95	–1.82	0.00
			(3.37)	(2.76)	(3.37)	(2.76)	(1.24)	(0.88)	(0.88)	(0.00)

To the formal salaried sector from										
Formal salaried	4,421	6.84	5.28	4.02	7.26	6.35	7.53	6.42	0.42	0.00
			(8.95)	(8.32)	(12.44)	(8.64)	(11.31)	(8.60)	(2.54)	(0.00)
Self-employed	301	–13.47	–0.71	–0.90	–6.15	–7.84	–13.59	–13.02	3.77	0.00
			(0.21)	(0.16)	(1.94)	(1.55)	(4.17)	(2.83)	(1.90)	(0.00)
Informal salaried	388	19.25	14.40	11.28	8.78	5.16	8.71	6.75	0.12	0.00
			(5.74)	(3.11)	(3.70)	(1.70)	(3.52)	(1.71)	(0.19)	(0.00)
Contract	241	–18.66	–7.13	–13.68	–12.87	–17.62	–14.07	–14.19	0.07	0.00
			(2.19)	(3.48)	(4.31)	(4.60)	(4.78)	(4.56)	(0.06)	(0.00)
To the contract sector from										
Formal salaried	245	12.89	18.94	15.92	27.84	24.70	22.60	14.90	3.82	1.64
			(4.78)	(4.01)	(6.69)	(6.26)	(5.33)	(3.28)	(3.73)	(1.05)
Self-employed	146	–5.21	–3.63	–7.28	–3.63	–7.28	–7.57	–13.68	2.72	0.00
			(0.77)	(1.56)	(0.77)	(1.56)	(1.64)	(2.02)	1.00	(0.00)
Informal salaried	88	–3.86	15.08	7.90	15.08	7.90	19.61	15.15	1.88	3.28
			(2.46)	(0.87)	(2.46)	(0.87)	(2.81)	(1.35)	(0.95)	(1.59)
Contract	439	3.09	2.50	–0.13	2.50	–0.13	1.29	–0.20	0.17	0.00
			(1.07)	(0.04)	(1.07)	(0.04)	(0.54)	(0.08)	(0.16)	(0.00)

Note: Transitions correspond to initial and final positions across a five-quarter period. The informal salaried sector consists of workers in microenterprise firms with fewer than six workers. See table 2 for summary statistics and definitions of worker types. *t*-statistics are in parentheses.

a. Mean average differential weighted by initial real wage to give differential between sample.

b. The robust mean is calculated using Huber weights to redress non-normality.

c. The median is from a quantile regression using bootstrapped standard errors.

Source: Author's calculations based on the Mexican National Urban Employment Survey.

attempts to recover the information in the tails, while compensating to some extent for outliers and non-normality. All calculations are done in STATA.

Ideally, we might correct for selectivity bias (see, for example, Marcouiller, Ruiz de Castilla, and Woodruff 1997). However, Heckman (1979) argues that the standard two-stage methods depend on having confidence in the underlying model of how workers choose among sectors. A poor first-stage selection specification may actually induce an unknown bias rather than improve the ordinary least squares estimates. This is likely to be the case, since the premise of this work is that we have little knowledge of the role each sector serves. To check for the robustness of the results, the Heckman procedure was run for all transitions, but in most cases it had little effect on the results (see Maloney 1998a).

For all three transitions into self-employment the ENEU/ENAMIN panel allows further adjustment for the imputed return on the value of capital (tools, inventories, and location, if owned) and for hours worked by unpaid workers (table 4).

The results in table 3 appear to invert the conventional view of the relationship between the formal and informal sectors. Movement from self-employment or contract work into formal salaried employment is associated with a significant decline in remuneration, and movement from formal salaried employment to self-employment or contract work leads to a significant increase. By contrast, movement from informal salaried to formal salaried work increases remuneration, and movement from formal salaried to informal salaried work leads to no significant change.

But here we immediately fall afoul of our inability to capture the value of unmeasured characteristics of different kinds of work, such as benefits, compensation for risk, independence, in-kind payments, or implicit training costs. The magnitude of the distortion-free differential cannot be known ex ante, and hence there is no benchmark against which to compare segmentation. For example, workers might fully value benefits in the formal sector, which are roughly 40 percent of the wage, and other unobservables might be negligible (see Dávila-Capalleja 1994). In this case the differential in total remuneration for movement out of formal employment would be negative for all transitions; for the reverse movement it would be positive, as would be the case in a segmented market. Unfortunately, the analysis cannot assume that workers fully value benefits or that the other unobservables are negligible. For example, the value of not having a boss is difficult to measure. In sum, neither these nor any previously reported sectoral differentials are reliable measures of segmentation.[3]

Presumably, the differentials between informal sectors are less affected by unobservables, such as the loss of formal sector benefits. Table 3 shows that movement into self-employment from every other sector is always associated

3. Table 4 suggests that those who move voluntarily into self-employment do far better than those who move involuntarily. However, the asymmetries in the differentials in table 3 do not necessarily indicate that there is a larger component of voluntary movement into the formal salaried sector. Involuntary separations due to the closure of formal sector firms imply the loss of well-paying jobs and a large differential. The analogous failure of a microenterprise may imply low earnings prior to the transition and a smaller differential.

Table 4. *Real Wage Differentials for Workers Moving into Self-Employment in the ENEU/ENAMIN Panel, Mexico, 1991–92*

Indicator	Number of observations	Real wage		Real wage net of taxes		Real wage net of capital costs[a]		Adjusted for worker hours[b]		Hours[c]	
		Robust mean[d]	Median[e]	Robust mean[d]	Median[e]	Robust mean[d]	Median[e]	Robust mean[d]	Median[e]	Robust mean[d]	Median[e]
Sector of origin											
Formal salaried	139	33.17	25.60	30.26	25.60	25.36	22.09	18.30	10.63	5.52	8.33
		(4.54)	(3.59)	(4.27)	(4.15)	(3.57)	(2.70)	(2.58)	(2.26)	(1.43)	(2.78)
Informal salaried	125	9.83	–0.77	7.76	–0.77	–0.77	–10.45	–3.74	–7.63	–0.04	2.27
		(1.57)	(0.08)	(1.27)	(0.06)	(0.13)	(1.13)	(0.60)	(0.70)	(0.00)	(0.66)
Contract	192	10.97	5.35	17.21	11.36	14.85	10.73	12.63	10.01	–1.91	2.00
		(2.20)	(1.34)	(3.31)	(1.51)	(2.86)	(2.15)	(2.16)	(1.96)	(0.52)	(0.88)
Reason for leaving previous formal salaried job (single response)											
More independence	67	20.16	12.88	27.14	17.80	24.57	16.05	21.59	19.64	–4.61	0.00
		(2.22)	(1.60)	(2.90)	(7.14)	(2.66)	(1.65)	(2.16)	(1.66)	(0.88)	(0.00)
Higher pay	62	19.25	13.48	25.54	18.94	24.50	18.92	16.74	12.09	6.15	12.00
		(2.19)	(0.79)	(2.82)	(1.34)	(2.73)	(0.91)	(1.57)	(1.25)	(0.96)	(1.82)
Involuntary	55	–8.76	–5.42	–2.64	0.07	–5.08	–3.83	–2.59	–14.66	–4.09	9.09
		(1.13)	(0.44)	(0.32)	(0.00)	(0.60)	(0.34)	(0.24)	(0.95)	(0.51)	(1.17)
Reason for starting microenterprise (multiple response)											
Independence	120	8.94	8.66	14.61	14.66	14.04	13.89	3.61	12.85	–3.57	2.00
		(1.40)	(3.27)	(2.19)	(3.00)	(2.13)	(1.90)	(0.51)	(1.36)	(0.75)	(0.38)
Higher pay	63	22.45	17.68	30.94	28.11	28.17	27.80	21.25	18.82	3.53	5.00
		(3.06)	(1.65)	(4.10)	(2.88)	(3.79)	(3.70)	(2.82)	(2.53)	(0.66)	(1.53)
Fired or unable to find other work	38	–11.93	–8.83	–6.88	–3.73	–7.72	–7.35	–18.15	–19.94	9.44	11.11
		(1.51)	(0.94)	(0.83)	(0.28)	(0.96)	(0.72)	(1.78)	(1.82)	(1.32)	(1.59)
Tradition	12	32.45	22.50	28.32	24.32	22.21	24.14	9.48	–8.64	18.27	24.07
		(1.40)	(0.56)	(1.42)	(0.62)	(0.82)	(0.49)	(0.28)	(0.22)	(2.11)	(1.82)

Note: Transitions correspond to initial and final positions across a five-quarter period. The informal salaried sector consists of workers in microenterprise firms with fewer than six workers. See table 2 for summary statistics and definitions of worker type. *t*-statistics are in parentheses.

a. The tax-adjusted differential net of capital costs imputed at 10 percent of the sum of the value of tools, inventories, and location if owned.

b. The capital cost and tax-adjusted differential adjusted for total hours worked by all workers including unpaid workers.

c. The differential in hours worked by the principal worker.

d. The robust mean using Huber weights to redress non-normality.

e. The median from a quantile regression using bootstrapped standard errors.

Source: Author's calculations based on the joint ENEU/ENAMIN sample.

with a substantial and significant rise in per-hour after-tax remuneration. The increases reach more than 15 percent for movement from the formal and informal salaried sectors.[4]

In table 3 movement from formal salaried and informal salaried work into self-employment is associated with a substantial and significant increase in wage. However, in moving from contract work to self-employment, the differential is insignificant. Thus contract work appears similar to self-employment and may therefore share the same composition of voluntary and involuntary entrants.

For movements into and out of formal salaried work, salaried informal employment suffers a discount relative to self-employment and contract work. After adjusting the differentials for standard firm size effects observed in the United States, moving to an informal sector firm from a comparably sized formal sector firm yields a 12–15 percent increase in remuneration. The large asymmetries suggest that informal salaried workers may gain far more by entering formal salaried work than they lose by leaving it, as would be predicted if workers were queuing for formal salaried jobs.

But, again, just as the premium earned from entering self-employment or contract work does not imply that these sectors are superior to the others or that workers queue to enter them, the discount in the informal salaried sector cannot be seen as evidence of the generally assumed inferiority of this type of work. The analysis suggests that the composition of the premium in the absence of distortions is distinct for the informal salaried sector. This sector may have a lower premium for risk because the workers are not entrepreneurs, the value of in-kind benefits for the 30 percent of informal salaried workers who are related to the owner may be large, or the implicit training costs may be substantial. Any of these factors could easily account for a 15 percent differential. Further, if deductions for training costs were a substantial fraction of the wage, the asymmetry seen entering and leaving the formal sector would be expected because returning workers might not work as apprentices and hence would not pay for training. The negative premium for informal salaried work reveals little about the relative desirability of the sector.

Are the Differentials Consistent with an Integrated Labor Market?

Although the analysis cannot credibly prove or disprove segmentation based on these differentials, it can ask whether the differentials seem consistent with an

4. Table 4 shows the joint ENEU/ENAMIN panel with modest adjustments for capital costs and much larger ones for unpaid labor. For capital costs a return of 10 percent is imputed. Most microenterprises that save in commercial accounts, or *cajas de ahorro*, receive a real rate of interest of 3 percent. This analysis assumes a rate of 7 percent for depreciation. The low level of capital employed results in the overall differential being relatively insensitive to the cost of capital chosen.

The more detailed treatment of taxation in the ENAMIN allows us to drop the previous assumption of complete avoidance by self-employed workers and slightly moderates the after-tax differential. The adjustment for unpaid labor may be overstated if the unpaid labor is in training or if Balán, Browning, and Jelin (1973: 218) are correct that, "Since in most cases these family members would not otherwise be employed outside the household, their contribution to family finances is a 'net' one."

absence of segmentation. If the responses of those reporting voluntary moves into self-employment are reliable, does the 15–20 percent differential seem large enough to cover the value of benefits, some return to risk, and whatever value is placed on one style of work compared with another? The breakdown by motivation in table 4 could, in theory, offer some measure of the value of different styles of work. But the differential for "independence" does not vary significantly from that for "higher pay"; depending on the question, it implies contradictory signs on the premium. This ambiguity could mean that independence has a small effect. If the risk premium is positive, the value of benefits may be even smaller—half or even a quarter of those on paper.

Three factors make this plausible and suggest why the attraction of formal sector employment may be overstated. First, because the medical benefits program covers a worker's entire family, the marginal value of benefits to the second formal sector worker in a family is zero. This would seem particularly important for informally employed workers in households whose principal breadwinner may be formally employed: there is no reason to pay again the implicit tax for benefits already received. Second, administrative overhead costs are high, and the benefits may have a low value given their cost. In his interviews with workers in Guadalajara, Roberts (1989: 50) finds that, "Many informants cited the deduction made for welfare as a disadvantage of formal employment, particularly since the services they received were poor." Third, rapid rates of turnover mean that leaving does not necessarily imply the loss of nominally generous separation benefits and pensions, since Balán, Browning, and Jelin (1973: 212) find in their extensive surveys of worker career trajectories in Monterrey that, "Many change enterprises quite often, and thus they cannot benefit from the seniority accumulated in each of them." In each case the value of formal sector benefits to workers is below their value on paper and, in a market with reasonably flexible wages, below the taxes workers implicitly pay (see Bell 1997).

In sum, earnings differentials do not offer compelling evidence in favor of the segmentation hypothesis, and given the difficulty of quantifying the unobservables, earnings differentials are unlikely ever to be convincing tests.

III. Patterns of Mobility

By contrast, the patterns of worker transitions can offer additional information on the validity of the dualistic view. Ideally, a model of the behavior of each of the four sectors and workers' choices to enter them would be postulated and held up against the evidence. However, this is a vast research agenda in itself. This article seeks to develop only a few provocative stylized facts about the dynamics of the market and to characterize the natures of and the interactions among the sectors.

The dualistic view predicts that some general patterns should emerge. If formal sector work is preferred to informal work, then workers will queue up for formal sector jobs and relinquish them only under the limited conditions permit-

ted by the constitution—egregious conduct or "acts of god" that induce firms to downsize. (Mexico's constitution conceives of the employment relationship as a lifetime contract, and workers may only be fired under extreme circumstances and at great cost.) This situation should imply the following:

- Very low rates of formal sector turnover.
- A largely unidirectional flow of workers who graduate from the informal sector to the formal sector, where they stay until retirement. Flows in the other direction should be largely involuntary and, in relatively prosperous times, far less. When this survey was conducted, the Mexican economy was growing, and the unemployment rate was at its lowest since 1989, at around 2.6 percent.
- Given a constant probability of being selected from the queue in each time period, the probability of entry into formal salaried work is an increasing function of experience.

This section tests for the presence of these patterns in two ways. First, table 5 provides summary data on transitions between sectors by tabulating the conditional probability of finding a worker in sector j at the end of the period given that the worker began in sector i, P_{ij}.[5]

The row percentages in panel 1 of table 5 sum to 100 percent, and the totals at the bottom represent the share of workers in each category at the end of the period, $P_{.j}$. The first three columns and rows represent individuals who are not working: those out of the labor force, not currently working, and not searching for work; those studying; and those looking for work (the unemployed). The bold rectangle encloses five categories of work, beginning with unpaid labor, and the shaded area includes all paid jobs. Panel 1 describes raw tendencies among sectors, including the percentage of any given group that will move to another sector by the end of a 15-month period. The diagonals reflect the share of workers who do not move. From this number the mean time spent in the sector can be calculated as $1.25/(1 - P_{ii})$. If 50 percent of workers leave the sector in 15 months, then the mean time spent in the sector is 2.5 years.

Panel 1 cannot provide any measure of whether flows into a particular sector are especially high or low. In a random shuffling of workers, P_{ij} would clearly increase with $P_{.j}$, the size of the terminal sector; therefore, panel 2 of table 5 standardizes the transition probabilities by size of the terminal sector, $P_{ij}/P_{.j}$. From any given sector, reading along the row gives a feel for whether flows into any j are high compared with a purely chance distribution. Looking for symmetry in the flows between any two sectors—for example, movement from school to formal work compared with movement from formal work to school—may suggest whether flows tend to be unidirectional or bidirectional.

5. In a spirit similar to this work, Sedlacek, Paes de Barros, and Varandas (1990) study the mobility of Brazilian workers with and without signed work cards, and hence worker protections. They find little evidence of strong barriers to mobility.

Table 5. *Worker Transitions among Sectors of the Labor Market across Five Quarters, Mexico, 1991–92*

	Terminal sector								
Initial sector	*Out of labor force*	*In school*	*Unemployed*	*Unpaid*	*Self-employed*	*Informal salaried*	*Formal salaried*	*Contract*	*Other*
Panel 1. Probability of moving from initial to terminal sector, P_{ij} (percent)									
Out of labor force	73	1	6	1	10	3	5	1	0
In school	2	49	3	6	3	9	25	3	0
Unemployed	20	4	22	3	11	11	24	5	0
Unpaid	3	11	5	27	16	18	13	6	0
Self-employed	2	0	2	1	69	9	10	5	1
Informal salaried	2	2	1	3	16	41	29	7	0
Formal salaried	1	1	1	0	6	7	78	5	0
Contract	1	0	1	0	15	10	26	45	1
Other	0	0	2	0	26	6	34	6	27
Total (*P.j*)	5	4	2	2	22	12	45	8	1
Panel 2. Probability standardized by size of the terminal sector $\frac{P_{ij}}{P_{.j}}$ (percent)									
Out of labor force		24	321	45	43	23	12	13	15
In school	31		155	389	11	77	55	41	13
Unemployed	385	113		161	51	91	53	60	0
Unpaid	61	306	259		72	159	30	77	0
Self-employed	41	9	91	71		77	23	70	128
Informal salaried	31	54	60	180	71		64	83	38
Formal salaried	26	26	38	30	27	63		58	50
Contract	25	12	36	17	68	86	59		72
Other	9	0	97	0	115	49	75	73	

(Table continues on following page.)

Table 5. *(continued)*

Initial sector	Terminal sector: Out of labor force	In school	Unemployed	Unpaid	Self-employed	Informal salaried	Formal salaried	Contract	Other
Panel 3. Disposition to move to a sector, V_{ij}									
Out of labor force		180	1,551	229	517	145	201	89	79
In school	230		394	1,050	71	257	498	146	36
Unemployed	1,856	287		283	209	199	313	140	0
Unpaid	311	825	454		314	369	185	190	0
Self-employed	487	57	374	309		415	335	406	556
Informal salaried	199	182	130	418	383		491	257	88
Formal salaried	449	234	224	187	397	483		483	312
Contract	172	45	85	41	393	266	488		180
Other	45	0	171	0	500	114	468	182	

Note: The sample aggregates three panels—1990:3–91:3, 1991:1–1992:1, 1991:2–92:2—generating roughly 15,000 observations. The sample includes male workers, ages 16–65, with a high school education or less, in 16 metropolitan areas. Informal workers are workers in firms with fewer than six employees.

Source: Author's calculations based on the Mexico National Urban Employment Survey, 1991–92.

This standardized index is still an imperfect measure of fluidity between sectors. Although transitions between any pair of initial and terminal sectors can be compared, it is not possible to compare more generally across the table because there are differences in separation rates from the initial sector and differences in the likelihood that, given the size of the terminal sector, a position will actually open up. A weak desire to leave the initial sector will yield a low value in panel 2, as will a distortion-induced low level of turnover in the terminal sector:

$$P_{ij} / P_{.j} = (1 - P_{ii})V_{ij}(1 - P_{jj}). \quad (1)$$

$V_{ij,}$ tabulated in panel 3 of table 5, captures the disposition or economic or institutional logic that compels a worker leaving the initial sector to enter an open position in *j*. For example, although both third- and fourth-grade elementary school classes may fully turn over every year, *V* would be large for transitions in the ascending direction and zero in the reverse. In the present case the disposition to enter paid employment from school is two to three times that of the reverse transition, as would be expected if workers generally graduate from school to employment. If the dualism hypothesis that workers graduate from informal to formal employment is correct, similar asymmetric *V*s would occur between the sectors.

Finally, the appendix presents the multinomial logit analysis of the determinants of transitions between sectors. Table A-1 reports the results of four sets of regressions that correspond to the four initial sectors in the first period of the panel. Although no particular theoretical model of transition is offered, the logits offer a more statistically rigorous way of asking if, given the initial sector, a worker is more or less likely to move to another sector if he has more experience, has more education, or has lost employment. In this way we can crudely trace out possible patterns of movement, including those across the life cycle. Together, the analysis in table 5 and the multinomial logit analysis offer a view of overall labor force dynamics and how the four sectors interact.

Overview of the Labor Market

Three important general findings are immediately apparent. First, table 5 reveals high levels of mobility, with turnover rates (and implicitly the length of tenure at 5.2–5.7 years) in the formal sector similar to those in the United States (5.1 years).[6] In fact, since we cannot observe transitions within a sector, the turnover rate in Mexico is far higher.

Second, the symmetry of *V*s across directions of movement in all sectors of paid work seems more consistent with a well-integrated market in which work-

6. The median tenure for all U.S. workers more than 16 years old in 1991 was 5.1 years (U.S. Department of Labor 1992).The implicit tenure based on the July/August 1994 median separation rate of 1.1 percent a month was 7.6 years (U.S. Bureau of National Affairs 1994). The mean tenure is calculated as (span of panel) / $(1 - P_{ii})$. Krebs and Maloney (1999) and Maloney (1999) discuss how turnover rates might vary across the development process and hence not be strictly comparable. There appears to be little evidence of the rigidities that would be expected, given the incentives in the Mexican labor code.

ers search for job opportunities across sectors than with one in which informal workers seek permanent status in the formal sector and stay until they retire. Third, and most striking, the logit results show that in no sector does the probability of moving into the formal sector relative to staying raise overall experience, as would be expected if workers were queuing to enter the sector. This result suggests relatively easy access to formal employment and is consistent with earlier findings on Mexican migrants. Gregory (1986: 267) argues that, "The empirical evidence . . . represents the antithesis of the Todaro [dualist] model. Rather than flowing into a queue to await the opening of improved employment opportunities, migrants moved quickly and easily into employment opportunities in both the formal and informal sectors." Overall, the data suggest an urban labor market that is at once very fluid and integrated.

Finally, every movement out of formal salaried work decreases with education. This is consistent with unskilled workers facing a lower opportunity cost of becoming informal.

Self-Employment as an Alternative to Employment in the Formal Sector

Self-employment constitutes the largest source of employment (25 percent) after formal salaried employment (50 percent). Although it may play the traditionally postulated role of a holding pattern or safety net, the data are consistent with self-employment being a desirable sector in itself. As a first approximation, it may be more correct to assume that small-scale firms in developing countries have origins and dynamics similar to their counterparts in industrial countries, rather than being a distinct phenomenon (see Levenson and Maloney 1998).

The motivational responses from the joint ENEU/ENAMIN panel discussed in table 4 show that at least two-thirds of those entering self-employment from formal salaried employment report moving voluntarily, citing a desire for greater independence or higher pay as the principal motive. This percentage remains relatively unchanged even when the sample is restricted to those previously working in firms with more than 50 employees. The results support Balán, Browning, and Jelin's (1973) finding that being one's own boss is well regarded and that movements into self-employment from salaried positions often represent an improvement in job status. Of the moves from formal positions into self-employment they studied, 57 percent were upward moves in job quality, 30 percent were horizontal (which the authors argue is welfare improving because of the greater independence), and only 11 percent were downward.

These results are also very close to those of Gottschalk and Maloney (1985), who find that roughly 70 percent of U.S. job changes are voluntary. Put differently, if self-employment and contract work, given their common earnings differentials, are close substitutes for formal salaried work, the implied rates of involuntary entry would be normal by the standards of a flexible labor market in an industrial country.

The transitional evidence corroborates the motivational reports. Turnover rates in the self-employment sector (and implicit tenure at 3.7 years) are far closer to

those in the formal sector than to those in the other two informal sectors. As in industrial countries, self-employment is not an entry occupation from school (Aronson 1991), and there is little evidence that the self-employment sector serves as a holding pattern for young workers. The *V* values from school are only one-fifth, and from unemployment about one-half, of those entering formal salaried employment. Transitions into self-employment from the other paid sectors occur four to six years later than transitions into the other alternatives, including formal salaried work (tables 1 and 2). The mean age of workers in the self-employment sector is eight years higher than in the next closest sector. From every paid sector the logit results reveal that the probability of moving into self-employment is associated with greater experience (see table A-1).[7]

These patterns support the recent literature on liquidity constraints in industrial countries, which dictates that there is a threshold level of financial and human capital necessary to start a business. This capital can be accumulated only with time and work as a salaried employee (see Evans and Jovanovic 1989; Aronson 1991; and Aroca and Maloney 1998). This situation is exacerbated in developing countries. Balán, Browning, and Jelin (1973: 217) argue that, "First, the man must accumulate capital. This is no easy matter when he has a manual job and must provide for a large family, so it generally takes years to accumulate enough capital. There must be sufficient funds not only to set up the business, but also to keep it going during the months or years while it runs at a deficit . . . these kinds of capital requirements are modest enough, but the capital is not easy to come by for the working classes of Monterrey or elsewhere in Mexico."

As with Evans and Leighton (1989), Balán, Browning, and Jelin find that the percentage of workers who enter self-employment is roughly constant across age cohorts. Maloney (1998b) finds, again counter to the standard dualistic view, that the share of the working population in self-employment behaves procyclically, suggesting that entrepreneurs wait until better times before opening their businesses. The fact that, regardless of destination, the less experienced are more likely to leave self-employment is in line with the mainstream literature on firm dynamics, which shows that younger firms (and, on average, less experienced workers) have higher failure rates (see Jovanovic 1982 and Evans and Leighton 1989).

But what would compel workers to give up the ostensibly large benefits of the formal sector? First, it may be that the decision process of the self-employed is not fundamentally different from that of their counterparts in industrial countries, who also take on responsibility for medical insurance or saving for retire-

7. The negative quadratic term on experience in table A-1 (with the exception of the contract sector for which it was never significant) is consistent with the findings of Brock, Evans, and Phillips (1986) for the United States and makes transitions into self-employment negative in experience after 28 years. This suggests that the sector is not primarily a haven for older workers who lose their jobs in the formal sector. The likelihood ratios on the transition between the formal sector and self-employment indicate that those who involuntarily left their previous job are more likely to end up self-employed than to stay in the formal sector. The reverse dynamic appears to be just as strong: the significant likelihood and *Z*-statistics on the involuntary interactive terms on the transition between self-employment and formal sector work suggest that the formal sector acts as a safety net for failed entrepreneurs.

ment that was previously covered by their employers. Second, because the cost of benefits to employers reduces the wage component of remuneration in the formal sector, a perceived value below that cost, as suggested in section II, would lead workers to seek out jobs in the unregulated sector where remuneration is entirely monetary. Third, Balán, Browning, and Jelin's (1973) interviews suggest that the very legislation that is thought to induce rigidities into the labor market in fact stimulates such turnover and encourages workers to leave salaried employment. The paucity of openings for promotion on the rigid *escalafón* (career ladder) as well as the ceiling on mobility opportunities for manual workers make self-employment the remaining outlet for further advancement. These last two issues suggest that, in contrast to the usual view, extant labor protections may make formal sector work less desirable rather than less attainable.

This logic, which applies to all three informal sectors, is most compelling where small-scale firms can offer remuneration that is comparable to that earned in the formal sector—among workers with little education who are unlikely to generate much firm-specific capital. The logit results show that workers become less likely to leave formal employment for self-employment, or any other informal sector work, as their level of education increases. The available macro-level evidence suggests that as the opportunity cost of being one's own boss rises with labor productivity in the formal sector, the share of the labor force in self-employment may decline from its present level. Employing cross-sectional data from industrial countries and Latin America, Maloney (1999) finds a strong negative relationship between the share of the workforce in self-employment and industrial productivity.

Contract Work

The data cannot approach the level of institutional detail that many case studies offer on the contract sector, nor can the brief period examined establish whether contract work is the result of a process of "deprotecting" workers who were previously protected. However, contract work accounts for a relatively small share of informal production (20 percent), suggesting that it is probably incorrect to generalize subcontracting relations to the informal sector as a whole. Further, the similarities between contract work and self-employment, in particular the common earnings differentials, suggest that common motivations may underlie a worker's decision to engage in contract work and that the sector may not represent inferior work.

There is no characteristic that raises the probability of leaving contract work for salaried formal work as opposed to staying, and the *V*s are symmetrical: there seems to be little evidence of unidirectional graduation from contract work to formal salaried work.[8] Given that those who move to contract work from formal

8. The logit results do not provide evidence of involuntary entrance. The fact that the joint impact of the experience terms is negative for workers coming from formal salaried employment but is positive for workers entering self-employment may suggest that the accumulation of capital is less necessary where the subcontracting firm provides needed inputs.

salaried employment are those with less education, it is possible that the low-skilled laborer who prefers more independence or who might do better on commission than in a factory would voluntarily move to contract work. The differentials between the cost of benefits to firms and the value to workers offer a benign interpretation of informal subcontracting as a way of reducing firms' costs: it becomes a Pareto-improving trade in which contract workers gain the value of benefits, while firms' costs of nonwage labor fall.

Roberts's (1989) interviews of workers in Guadalajara suggest that, given very weak unions and low wages, informalization is not primarily a strategy for reducing remuneration and worker control over production. "Market uncertainty and the large number of income opportunities in the city mean that it is useful for *both* employees and employers to have flexibility in allocating labor" (Roberts 1989: 48, emphasis added). The probabilities in table 5 suggest that contract workers are less likely than other workers to become unemployed, leave the labor force, go to school, or become unpaid workers. Therefore, turnover seems unrelated to instability in employment itself. Instead, it may occur as workers redefine themselves with rapid shifts in clientele: a self-employed worker who takes on a short-term contract may suddenly appear to shift sectors.

More generally, it is possible that subcontracting may not so much avoid labor legislation as it avoids inefficiencies in the law. Given the political difficulties of taking on the anachronisms in the 70-year-old labor code, contract work may represent less a threat to worker protections than a means to induce the flexibility necessary in a modern open economy that the data suggest is not obviously detrimental to the workers involved.

Informal Salaried Employment and Entry into Work

Even if the self-employed benefit from being their own boss, the mainstream view is that those who work for them are the worst off of the urban workforce: salaried, yet without benefits. However, rather than being a stagnant group of disadvantaged workers, the sector appears to serve primarily as the principal, although not exclusive, port of entry for young, poorly educated workers moving into paid employment. The mean age of 29 is 5 years below that of formal and contract workers, and 14 years below that of the self-employed. Table 5 shows a cluster of high mobility among school attendance, unpaid work, and, to a lesser extent, unemployment, suggesting a pool of workers not yet tracked into regular employment. Those leaving school and those who are unemployed show disproportionate movement into unpaid labor (and, to a lesser extent, informal salaried work). The extremely high *V*s between school and unpaid work suggest intermittent work at home or perhaps an apprenticeship before schooling is completed.

Subsequently, unpaid workers move disproportionately into the informal salaried sector. This suggests that while in school and just after completing school, many individuals help out at the family business and eventually get paid. They spend on average only two years doing this before moving onto other paid work.

The brevity of tenure is the same as that found in Brazil by Sedlacek, Paes de Barros, and Varandas (1995) and similar to the tenure of young workers in the United States, where the median is only 1.4 years for workers 16 to 24 years old and 3.4 years for workers 25 to 34 years old (U.S. Department of Labor 1992). Even if this pattern of graduation from school to unpaid work to informal salaried work to other modes of work represents the queuing that the dualistic literature might predict, the time spent in informal salaried work is not long.

If Hemmer and Mannel (1989) are correct that in many countries small informal enterprises train more apprentices and workers than the formal education system and the mostly government job-training schemes together, these years to a large degree may constitute continued schooling. Further, the symmetry of the flows back into informal salaried employment from all three of the other sectors suggests that the opportunities there are not considered uniformly worse than those in the other sectors, nor is the likelihood on involuntary terms in the logit regressions significant, implying that the sector is not primarily a safety net. The logit results suggest that from every sector workers entering informal salaried employment have less experience and schooling than other workers (see table A-1). Balán, Browning, and Jelin (1973: 132) provide one possible explanation: "The first years in the labor force are ones for learning skills, 'shopping around,' exploring alternatives . . . Very few men . . . held at age 25 the same job they had ten years earlier."

The concentration among the very poor and uneducated again suggests the low opportunity cost of leaving formal sector employment. The better-educated workers push up the mean for schooling and wages in the formal sector (tables 1 and 2) and, from the logit results, are more likely to enter formal sector employment. They may not consider salaried employment in the informal sector comparable, but those working menial or assembly-line jobs at less-well-paying formal sector firms may.

IV. Conclusion

This article offers an alternative to the traditional dualistic view of the interaction between the formal and informal sectors and some supportive evidence from observed patterns of transition between sectors. It argues that good reasons for workers to prefer informal employment arise from the desirable characteristics of the various subsectors, the inefficiencies in present labor codes, and the relatively low levels of formal sector productivity in developing countries. It must be stressed that the last two factors may be arguments for labor market reform to the degree that they are affected by poorly designed institutions. However, the frequent inferences of rigidities, segmentation, and distortion in the labor market because of a large informal sector should probably be reconsidered. Both earnings differentials and patterns of mobility indicate that much of the informal sector is a desirable destination and that the distinct modalities of work are relatively well integrated.

Institutional rigidities may account for some fraction of the informal sector, particularly during cyclical downturns. The period examined was a relatively prosperous one in which minimum wages were not binding and union power was weak. Efficiency wage arguments may accurately describe a subsegment of the formal workforce. It is possible that the market is dualistic; however, the good job/bad job division cuts across lines of formality. This article does not deny the possibility of exploitive relations arising from subcontracting, despite its plausible benefits for both parties. However, the informal sector is likely to persist even in the absence of these effects.

Appendix. The Multinomial Logit Analysis of Movements Between Sectors

The second through sixth columns in table A-1 present the results of the multinomial logit analysis in the standard exponential form

$$\frac{P_{ij}}{P_{ii}} = e^{X\beta_j}$$

where the vector β_j measures the degree to which an increase in worker characteristic X (listed across the top of the table) increases the probability of a worker going to sector j relative to the probability of staying in sector i. The worker characteristics include experience, experience squared, and schooling. Because these are often the factors included in Mincerian earnings equations, the real wage in the initial period is included to ensure that the results do not reflect just the wage effect. The interpretation of the coefficients of the first three variables is therefore the impact of a rise in education or experience for a given level of income. By the same logic, the wage term must be interpreted as the wage given the first three variables, that is, earnings above or below what would be predicted by human capital, rather than as absolute income. Although the impact of this measure of unobserved individual characteristics may have interesting interpretations, the variable is included primarily to isolate the school and experience effects. Because these regressions condition on the initial sector, which is likely to result from a self-selection process on the part of the workers, they must be interpreted as such.

For workers who experience a spell of unemployment during the transition between sectors across the five quarters, the survey tabulates whether they left their previous jobs voluntarily. The binary variable takes the value 1 in the relatively infrequent event of involuntary movement into unemployment and 0 otherwise. This variable is included as well as the involuntary variable multiplied by each of the four explanatory variables in the logit regressions. Columns 7 to 11 in table A-1 present the coefficients on these dummy and interactive effects of involuntary separation. The signs and significance of these interactive coefficients, both individually and as a block, show whether workers who were fired have statistically different patterns of transition. In only four cases does the likelihood

Table A1. *Multinomial Logit Analysis of Worker Characteristics Affecting Transitions between Sectors, Mexico, 1991–92*

Workers' transitions between sectors	*Constant*	*Experience*[a]	*Experience*^{2}	*Schooling*	*Real wage*	*Involuntary interactive terms*[b]					*Likelihood ratio* $\chi^2(5)$
						Involuntary job loss	*Experience*	*Experience*^{2}	*Schooling*	*Real wage*	
From self-employment to[c]											
Informal salaried	1.27	–0.12	1.34E–03	–0.13	–12.44	628	9.54	–1.24E+00	–115	5,869	24.11
	(3.45)	(6.36)	(4.40)	(4.45)	(3.31)	(0.00)	(0.00)	(0.00)	(0.00)	(0.00)	[0.00]
Formal salaried	–0.77	–0.03	–1.91E–04	0.00	–1.68	7.18	–0.23	2.01E–03	–0.40	–0.98	21.62
	(2.13)	(1.47)	(0.54)	(0.07)	(0.79)	(2.38)	(2.00)	(1.01)	(1.71)	(0.04)	[0.00]
Contract	–0.97	–0.05	1.49E–04	–0.04	–0.09	–0.92	–0.17	3.39E–03	0.20	9.21	1.55
	(2.06)	(1.96)	(0.33)	(1.12)	(0.08)	(0.08)	(0.97)	(1.10)	(0.47)	(0.21)	[0.91]
From informal salaried to[d]											
Self-employed	–2.19	0.06	–6.42E–04	0.01	17.77	–4.82	0.28	–3.56E–03	0.25	–11.83	4.80
	(5.45)	(2.48)	(1.59)	(0.15)	(2.39)	(1.58)	(1.55)	(1.07)	(1.06)	(0.27)	[0.44]
Formal salaried	–0.70	–0.04	6.87E–04	0.02	23.53	5.04	–0.04	–7.97E–05	–0.39	–166	10.51
	(2.18)	(2.11)	(2.07)	(0.73)	(3.77)	(1.54)	(0.25)	(0.03)	(1.42)	(1.67)	[0.62]
Contract	–2.39	0.01	–5.00E–04	–0.01	34.48	6.24	–0.16	6.26E–04	–0.33	–114	5.25
	(4.63)	(0.38)	(0.74)	(0.18)	(4.49)	(1.75)	(0.75)	(0.10)	(1.06)	(1.25)	[0.39]
From formal salaried to[e]											
Self-employed	–2.66	0.07	–1.27E–03	–0.12	5.10	1.52	–0.02	1.28E–03	0.02	–21.23	29.15
	(8.64)	(3.79)	(3.84)	(4.90)	(1.89)	(1.20)	(0.37)	(1.09)	(0.16)	(0.98)	[0.00]
Informal salaried	0.44	–0.09	9.29E–04	–0.22	–6.34	–0.46	0.05	–4.75E–04	0.05	5.91	8.86
	1.70	(6.21)	(3.48)	(8.92)	(1.51)	(0.37)	(0.75)	(0.33)	(0.37)	(0.30)	[0.12]
Contract	–1.66	0.02	–1.22E–03	–0.19	8.98	–1.48	0.20	–2.85E–03	0.12	–56.78	1.86
	(5.14)	(1.11)	(2.86)	(6.53)	(3.46)	(0.68)	(1.49)	(0.95)	(0.65)	(1.22)	[0.87]

From contract to[f]									
Self-employed	–1.97	0.02	0.05	–5.05	–6.03	0.17	0.54	–29.37	8.29
	(1.47)	(2.78)	(1.29)	(1.17)	(1.29)	(1.90)	(1.39)	(0.62)	[.08]
Informal salaried	–0.01	–0.01	–0.10	–19.34	–6.23	0.16	0.57	–17.49	4.84
	(0.01)	(1.43)	(2.05)	(2.63)	(1.28)	(1.75)	(1.39)	(0.34)	[.30]
Formal salaried	–0.33	–0.01	–0.03	2.77	–0.32	0.05	0.23	–72.01	3.72
	(0.97)	(1.21)	(0.92)	(1.36)	(0.09)	(0.71)	(0.71)	(1.52)	[.44]

Note: The coefficients reflect how experience, experience^2, schooling, and the initial real wage affect the probability of moving from the initial sector to the terminal sector relative to the probability of staying in the initial sector. Columns 7 to 11 present the dummy and interactive effect of involuntary separation from the previous job (tabulated only if unemployed between jobs). The informal sector consists of workers in microenterprises with fewer than six workers. See table 2 for summary statistics and definitions of the four sectors. *Z*-statistics are in parentheses. *P*-values are in square brackets.

a. Sign of the value of $\beta_{exp} + 2\beta_{exp^2}\overline{EXP}$ is that of experience with the exception of the transition from formal salaried to contract work.

b. Involuntary interactive dummies = 1 if involuntarily separated and unemployed. The likelihood ratio tests joint significance of interactive effects.

c. Number of observations is 2,503, pseudo R^2 is 0.0540, χ^2 (27) is 238.341[00], and log likelihood is 2,086.

d. Number of observations is 1,266, pseudo R^2 is 0.0296, χ^2 (27) is 90.26[00], and log likelihood is 1,477.

e. Number of observations is 5,377, pseudo R^2 is 0.0397, χ^2 (27) is 281.92[00], and log likelihood is 3,409.

f. Experience^2 is never significant (at 10 percent) in the contract worker regressions and is dropped. Number of observations is 907, pseudo R^2 is 0.0219, χ^2 (27) is 48.42[00], and log likelihood is 1,082.

Source: Author's calculations based on the Mexican National Urban Employment Survey.

ratio confirm the significance of these terms as a block (at the 10 percent level), but in no case does their inclusion substantially alter the initial parameters.

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