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This study analyzes changes in entrepreneurial formation along the northern border in Mexico between 1987 and 1996. During this period, unprecedented levels of foreign direct investment flowed to Mexico, most notably to this border region. These FDI flows arguably create employment opportunities in the wage and salary sector but they have also altered factor costs leading to changes in the relative large/small firm wage structure. Thus the overall costs associated with starting (and operating) a small business along the border are substantially higher. Utilizing 1987 and 1996 data from Mexico's National Urban Employment Survey, a switching regression framework is employed to analyze individuals' propensity to choose self-employment. The results suggest that entrepreneurial formation decreased between 1987 and 1996 along the U.S.-Mexico border as the overall propensity to choose self-employment fell significantly relative to that in the interior.

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1. Introduction

During the 1970s, Mexico had a closed economy that relied heavily on public-sector expenditures. Following the economic crisis in 1982, however, the Mexican economy turned to international trade and investment to generate needed foreign exchange. After another economic crisis in 1986, the Mexican government made foreign direct investment (FDI) a top priority and granted special incentives for firms undertaking these investments (Haddad and Harrison, 1993). As a result, Mexico has attracted an unprecedented level of FDI (Weintraub, 1996). With the Fox administration's stated objective to continue the industrial development programs already in place, this pattern is likely to continue.

These increases in FDI might not be impacting regions across Mexico equally. The northern border region has been the recipient of a disproportionate amount of FDI that could be differentially impacting this region's economic development (Fleck, 2001). On the one hand, rapid growth in this sector, fueled by FDI flows, should have provided enhanced opportunities for entrepreneurial activity in the region. On the other hand, such growth might have increased factor costs and correspondingly negatively affected small business formation in the northern region relative to this country's interior. Has FDI promoted or retarded small business formation along Mexico's border region?

To provide a better understanding of the impact of FDI on Mexico's northern border development, vis-à-vis this country's interior region, this study analyzes the impact of FDI flows on entrepreneurial formation in the border and interior regions using data from Mexico's National Urban Employment Survey (*Encuesta nacional de empleo urbano*). Specifically, an endogenous switching regression model is employed to analyze

the propensity of individuals to choose self-employment across the two regions for 1987 and 1996, a period where FDI flows grew substantially in Mexico. The findings presented here support the hypothesis that FDI may have led to decreases in entrepreneurial formation along Mexico's northern border relative to this country's interior. Moreover, industrial sector analysis reveals that workers along the border in the manufacturing sector were significantly less likely to choose self-employment in 1996 while those in border service industries showed no change in their propensity for self-employment.

2. Background

During the 1970s, Mexico had a closed economy that was heavily dependent on the on public-sector. As a result of the economic crisis in 1982, however, the Mexican economy turned to international trade and investment to generate needed foreign exchange. After a further economic crisis in 1986, FDI became an important priority for Mexico and the government granted special incentives for firms undertaking these investments (Haddad and Harrison, 1993; Weintraub, 1996). The growth in FDI to Mexico is paralleled by the growth in the *maquiladora* industry.[1] Economic restructuring liberalized the regulations concerning these in-bond industrial plants (Peres Nuñez, 1990). As a result, *maquiladora* industry employment almost tripled between 1987 and 1996.[2] FDI flows presumably parallel *maquiladora* investments and are also heavily concentrated along the border (see Feenstra and Hanson, 1997).

[1] The *maquiladora* program is the in-bond industrial program initiated by the Mexican government in 1965 to promote development along the northern border.
[2] Total maquilaodra employment grew from 274,345 in 987 to 799,347 in 1996 (INEGI, 2000).

As noted, disproportionate FDI flows to industrial development along Mexico's northern border could be differentially impacting this region's economic development. Forward and backward linkages resulting from FDI might create industrial development that serves to foster entrepreneurial activity. For example, Wilson (1990) finds that FDI creates backward linkages with the local economy through network transactions with local firms such as purchasing local services and subcontracting with local firms. Other than direct employment, Rivera-Batiz and Rivera-Batiz (1991) attribute the use of local services (most often provided in Mexico by *micronegocios* or small proprietorship businesses) as the major linkage established by foreign-owned firms, especially foreign assembly plants. Furthermore, Roberts (1993) observes that it is this entrepreneurial activity, particularly in developing countries, that seems to be intrinsically connected to the demand from the large-scale sector and from workers in that sector. Arguably, entrepreneurs may provide the linkages between the export manufacturing industry and the domestic economy. If so, growth of large-scale industry along the northern border in Mexico should be accompanied by increases in entrepreneurial activity.

Weisskoff and Wolff (1977) find, however, that highly promoted manufacturing sectors, especially in developing countries, often acquire the characteristics of self-contained enclaves. This type of industrial development often follows a series of unrelated, export-oriented activities rather than broad-based domestic industrialization (Wilson, 1990; Rodríguez-Clare, 1996). For example, Rodríguez-Clare finds that the linkage effect is the most favorable for the host economy when multinational companies use local intermediate goods intensively. He postulates then that U.S. owned *maquiladora*s in Mexico generate fewer linkages than ones coming from other

industrialized countries and that *maquiladora*s located in the interior generate greater linkages than those along the border.[3] Thus, FDI flowing to the border region may not generate linkages into the domestic economy that would presumably be provided by entrepreneurial activity.

Alternatively, FDI flows to the northern border of Mexico may have generated unbalanced growth between business sectors. Baumol (1967) describes a process in which advancement of the technologically progressive sector of the economy inevitably increases the costs (i.e., wages) of the technologically unchanging sector, forcing this latter sector out of the market. A similar process could have restructured labor market demand in the border region of Mexico. Demand for labor from large export-based industrial firms along the border might have increased wages in this region's labor markets, leading to higher costs and lower profits for the *micronegocios*, making this type of activity less attractive.

More recently, Rauch (1997) proposes an unbalanced growth model to help explain uneven growth patterns between economic sectors, describing sectoral growth rates as being linked through product, labor and capital markets. With an integrated labor force and a balanced growth path, high growth in one sector can "pull along" the growth in the other sector. However, under the conditions of an unbalanced growth path, the high growth in one sector can "put a drag" on the growth in another by raising wages and lowering profitability. Rauch's unbalanced growth model as applied to Mexico indicates

[3] In fact, government reports show that currently less than eight percent of *maquiladora* inputs are of local origin [INEGI, 1996b], an indication that perhaps the desired linkages with the domestic economy are not being created.

that the high growth in the large industrial sector along the border may be hindering entrepreneurial activity.

Finally, employment opportunities in the wage and salary sector created by FDI may be influencing the potential entrepreneur. To illustrate, consider the interior alternative: large-scale employment opportunities may not be as plentiful, creating a greater need for employment alternatives such as entrepreneurial jobs. This logic suggests that if a large share of FDI flows to the border region (with increased employment opportunities in the large-scale industrial sector), then the rate of entrepreneurial formation along the border would fall.

Clearly, these explanations predict regional differentials in entrepreneurial activity in Mexico as a result of FDI flows. On the one hand, rapid growth in this sector, fueled by FDI flows, should provide enhanced opportunities for entrepreneurial activity in the region. On the other hand, such growth might have increased factor costs and correspondingly negatively affected small business formation in the northern region relative to this country's interior. Thus, the question remains, has FDI promoted or hindered entrepreneurial initiative in Mexico's northern border region?

3. Changes in Propensity to Choose Self-Employment

Data from Mexico's 1987 and 1996 *Encuesta nacional de empleo urbano* (ENEU) are employed to empirically estimate the regional impact of FDI on entrepreneurial activity. The ENEU is particularly suited for this purpose because it provides basic socio-economic information on the Mexican urban population. The survey is conducted with the objective of obtaining data on employment, unemployment, and underemployment as well as basic information on the country's labor market outcomes

(i.e., wages, occupation, and industry) (INEGI, 1996). Nine of the major metropolitan areas included in ENEU are major recipients of *maquiladora* investments and these are the regions utilized in this study. The metropolitan areas included in the border region are Tijuana, Ciudad Juárez, Nuevo Laredo and Matamoros. The interior areas include Mexico City, Guadalajara, Monterrey, Torreón and Chihuahua. The sample consists of individuals between the ages of 16 and 65 surveyed during the months of July-September in 1987 and 1996.

Table 1 defines the variables used in the empirical analysis and Tables 2 and 3 present the descriptive statistics. Note that the 1987 self-employment rate along the border was 20.5 percent higher than in the interior. However, by 1996 the self-employment rate differential had fallen to 6.5 percent. As anticipated by high growth in the *maquiladora* industry, the share of manufacturing-sector wage and salaried employment along the border increased from 37.3 percent of total employment in the sample in 1987 to 40.2 percent in 1996. Simultaneously, the data shows that the share of self-employment in the border's manufacturing sector fell from 11.5 to 8.2 percent. The corresponding interior employment patterns in the interior region present a different picture. The share of manufacturing-sector employment fell by 2.5 percentage points during the period (from 30.3 to 27.8 percent of total employment) while the self-employment manufacturing employment share increased from 10.0 to 10.8 percent. Thus, on the surface it appears that FDI may have had a relatively negative effect on entrepreneurial initiative along Mexico's northern border but a more thorough analysis of these differences is needed.

Table 1
Definition of Variables

Variable		
BORDER	=	1 if residence on border; 0 otherwise
DU_96	=	1 if year 1996; 0 otherwise
BORDU_96	=	1 if resident on border and year 1996; 0 otherwise
EXPER	=	age minus years of schooling minus 6
EXPER2	=	EXPER squared divided by 100
SCHOOL	=	number of years of formal education
FEMALE	=	1 if female; 0 otherwise
MARRIED	=	1 if married; 0 otherwise
MANUFG	=	1 if industry manufacturing; 0 otherwise
CONSTR	=	1 if industry construction; 0 otherwise
TRNSPCOM	=	1 if industry transportation, communication, utilities; 0 otherwise
COMMERCE	=	1 if industry commerce; 0 otherwise
SERVICE	=	1 if industry service; 0 otherwise
PROF	=	1 if occupation professional; 0 otherwise
MANAGER	=	1 if occupation manager; 0 otherwise
TECH	=	1 if occupation technical; 0 otherwise
PRECPROD	=	1 if occupation production, maintenance, repair; 0 otherwise
OPERATOR	=	1 of occupation operator; 0 otherwise
SALES	=	1 if occupation sales; 0 otherwise
LABORER	=	1 if occupation laborer; 0 otherwise

Table 2

Border Self/Salaried Employment
Descriptive Statistics: Means (standard deviation in parentheses)
Table 3

	1987		1996	
Variable	**Self-Employed**	**Salaried**	**Self-Employed**	**Salaried**
EXPER	27.9855	15.4323	26.1010	15.2914
	(14.228)	(12.384)	(13.600)	(11.869)
EXPER2	9,8552	3.9151	8.6615	3.7468
	(8.579)	95.764)	(7.823)	(5.364)
SCHOOL	5.8032	7.8183	8.1642	9.0164
	(4.276)	(3.933)	(4.874)	(4.230)
FEMALE	0.1608	0.3647	0.2171	0.3719
	(0.367)	(0.481)	(0.412)	(0.483)
MARRIED	0.6752	0.4335	0.6399	0.4419
	(0.468)	(0.495)	(0.480)	(0.496)
MANUFG	0.1151	0.3728	0.0823	0.4023
	(0.319)	(0.483)	(0.274)	(0.490)
CONSTR	0.1414	0.0679	0.1209	0.0443
	(0.348)	(0.251)	(0.326)	(0.205)
TRNSPCOM	0.0536	0.0609	0.0585	0.0700
	(0.225)	(0.239)	(0.234)	(0.255)
COMMERCE	0.3584	0.2020	0.3605	0.1981
	(0.479)	(0.401)	(0.480)	(0.398)
SERVICE	0.3295	0.2718	0.3774	0.2690
	(0.470)	(0.444)	(0.484)	(0.443)
PROF	0.0531	0.0546	0.0815	0.0668
	(0.224)	(0.227)	(0.273)	(0.249)
MANAGER	0.0016	0.1997	0.0810	0.1273
	(0.039)	(0.399)	(0.272)	(0.333)
TECH	0.0137	0.0317	0.0264	0.0492
	(0.116)	(0.175)	(0.160)	(0.216)
PRECPROD	0.4036	0.3347	0.3146	0.1005
	(0.490)	(0.471)	(0.464)	(0.300)
OPERATOR	0.0184	0.0807	0.0572	0.3077
	(0.134)	(0.272)	(0.232)	(0.461)
SALES	0.3221	0.0876	0.3072	0.0986
	(0.467)	(0.282)	(0.461)	(0.298)
LABORER	0.1524	0.1623	0.1321	0.2499
	(0.3595	(0.368)	(0.338)	(0.433)
N	1,903	6,556	2,308	7,375

Interior Self/Salaried Employment
Descriptive Statistics: Means (standard deviation in parentheses)

Variable	1987 Self-Employed	1987 Salaried	1996 Self-Employed	1996 Salaried
EXPER	27.2832	16.4338	25.4851	16.1616
	(14.432)	(12.923)	(13.903)	(12.469)
EXPER2	9.5258	4.3707	8.4274	4.1668
	(8.419)	(6.165)	(7.850)	(5.712)
SCHOOL	6.9330	8.6891	8.6848	9.7017
	(5.039)	(4.391)	(4.951)	(4.255)
FEMALE	0.2957	0.3320	0.2894	0.3923
	(0.452)	(0.471)	(0.453)	(0.488)
MARRIED	0.6934	0.4912	0.6771	0.4910
	(0.461)	(0.499)	(0.467)	(0.499)
MANUFG	0.0996	0.3026	0.1080	0.2778
	(0.299)	(0.459)	(0.310)	(0.447)
CONSTR	0.0520	0.0609	0.0603	0.0425
	(0.222)	(0.239)	(0.238)	(0.201)
TRNSPCOM	0.0625	0.0715	0.0619	0.0630
	(0.242)	(0.257)	(0.241)	(0.243)
COMMERCE	0.4538	0.1733	0.3937	0.2059
	(0.498)	(0.378)	(0.488)	(0.404)
SERVICE	0.3259	0.3808	0.3706	0.4025
	(0.468)	(0.485)	(0.483)	(0.490)
PROF	0.0819	0.0778	0.0869	0.0848
	(0.274)	(0.267)	(0.281)	(0.278)
MANAGER	0.0024	0.2379	0.0840	0.1117
	(0.049)	(0.425)	(0.277)	(0.314)
TECH	0.0177	0.0455	0.0274	0.0551
	(0.132)	(0.208)	(0.163)	(0.228)
PRECPROD	0.2441	0.2513	0.2655	0.1183
	(0.429)	(0.433)	(0.441)	(0.322)
OPERATOR	0.0153	0.0575	0.0614	0.2020
	(0.122)	(0.232)	(0.240)	(0.401)
SALES	0.3852	0.0998	0.3392	0.1204
	(0.486)	(0.299)	(0.473)	(0.325)
LABORER	0.1884	0.1827	0.1356	0.3078
	(0.391)	(0.386)	(0.342)	(0.461)
N	2,479	10,809	3,797	13,166

What factors might help explain the fall in the self-employment rate along the border compared to the interior? That is, a methodology is required that allows for the simultaneous evaluation of the impact of factors of interest upon the two sectors (Yuengert, 1994; Zweimmuler and Winter-Ebmer, 1995; Basch and Paredes-Molina, 1996). Although alternative methodological approaches on how to model this choice have been developed, the switching regression model is appealing for its simplicity and ability to capture the sectoral decision.

To analyze the simultaneous decisions, an index function (I_i^*) determines the self-employment/salaried income sector choice of individual *i*:

(1) $$I_i^* = Z_i\delta - \eta_i$$

where $I^* > 0$ indicates that the individual is self-employed and $I^* \leq 0$ indicates employment in the salaried sector. Z_i is a vector of explanatory variables posited to impact the sectoral employment decision; and δ is a vector of parameters showing the impact of the explanatory variables on the index function. The individual's earnings (measured as log of hourly wage) in each sector (*S* for self-employment and *W* for salaried employment) is given by the standard human capital earnings functions (2)

$$Y_{Si} = X_i\beta_S + \varepsilon_{Si}$$

(3) $$Y_{Wi} = X_i\beta_W + \varepsilon_{Wi}$$

where X_i is a vector of human capital variables that determines earnings with parameters β_S and β_W. The disturbance terms, η_i, ε_{S_i}, ε_{W_i}, are jointly normally distributed with the variances σ^2_S and σ^2_W and correlation coefficients $\rho_{\eta\varepsilon(S)}$ and $\rho_{\eta\varepsilon(W)}$. The model is estimated using maximum likelihood (Greene, 2000).

Table 4

Switching Regression Index Function Parameter Estimates
(standard error in parentheses)

	Overall	**Manufacturing**	**Service**
Constant	-1.7030*** (0.030)	-3.1519*** (0.089)	-1.2311*** (0.049)
BORDER	0.1463*** (0.021)	0.2771*** (0.053)	0.2369*** (0.037)
DU_96	0.1035*** (0.017)	0.2241*** (0.045)	0.1468*** (0.028)
BORDU_96	-0.0699** (0.028)	-0.4468*** (0.073)	0.0069 (0.048)
EXPER	0.0471*** (0.002)	0.0659*** (0.005)	0.0377*** (0.003)
EXPER2	-0.0322*** (0.003)	-0.0442*** (0.009)	-0.0349*** (0.006)
SCHOOL	0.0069*** (0.002)	0.0484*** (0.005)	-0.0094*** (0.003)
FEMALE	-0.2142*** (0.015)	0.0597 (0.040)	-0.5586*** (0.024)
MARRIED	0.1179*** (0.015)	0.2065*** (0.039)	0.0552** (0.025)
σ^2_S	0.5879*** (0.002)	0.4602*** (0.002)	0.6548*** (0.004)
σ^2_W	1.1059*** (0.014)	1.0646*** (0.064)	1.1020*** (0.022)
$\rho_{\eta\varepsilon(S)}$	0.6652*** (0.008)	0.0107 (0.217)	0.6608*** (0.015)
$\rho_{\eta\varepsilon(W)}$	0.8145*** (0.009)	0.8267*** (0.035)	0.8318*** (0.011)
Log-likelihood	-64,996.81	-12,230.07	-24,148.66
N	48,393	13,406	16,894

Note: ** and *** indicate significance at the 5 and 1 percent level, respectively, using two-tailed tests. Standard error in parentheses.

The empirical analysis combines the 1987 and 1996 ENEU data sets for the border and interior regions. Variables included in Z and X represent human capital characteristics such as potential experience (and its square), years of schooling, marital status, and gender. Working for one's own account or owning a business determines self-employment for this analysis.[4] Statistical significance of the covariance of the index function and each wage function, $\rho_{\eta\varepsilon(S)}$ and $\rho_{\eta\varepsilon(W)}$, suggests statistical evidence of self-selection in the sample.

Table 4 reports results of estimating the index function (see equation [1]), for all industrial sectors in the sample (hereafter referred to as "overall") as well as the manufacturing and service sectors individually. First, several preliminary points should be made. The positive and statistically significant coefficient for *BORDER* in the overall index function indicates that workers along the border are more likely to choose self-employment than interior workers. Perhaps we observe this effect owing to the proximity to the United States that generates a regional demand for entrepreneurial-type activities. For example, small retailers and professional service providers such as dentists cater to cross-border clientele. Second, the *DU_96* coefficient shows that in 1996 workers opted more often for self-employment than in 1987. This increased propensity to choose self-employment could reflect a decrease in employment opportunities in the private sector between 1987 and 1996 that led individuals into entrepreneurial activities. Consider that the percentage of workers out of the labor force in Mexico, determined from the weighted data in this sample, decreased from 50.2 percent in 1987 to 32.4 percent in 1996.

[4] Ownership of large or small businesses is not differentiated. However, less than 0.1% of the self-employed sample owned a business with more than 100 employees.

The highlight of estimating the switching regression for the primary objective of this study can be found in the *BORDU_96* variable. The negative and statistically significant *BORDU_96* parameter suggests that entrepreneurial formation fell for border workers between 1987 and 1996, relative to their interior counterparts, giving credence to the notion that increased FDI to the border region might have created barriers such as increased costs (wages), possibly discouraging the potential entrepreneur along the border.

To pursue this line of inquiry, the foregoing work is replicated by partitioning the data into industrial sectors. That is, if increased costs displace small entrepreneurs, then this displacement should be more pronounced in the manufacturing sector. In contrast, linkages with small service businesses might be created by the purchase of local services by large-scale industrial development as well as by demand from the workers in these large firms (F. Rivera-Batiz and L. Rivera-Batiz, 1991; Roberts, 1993). However, it must be noted that subcontracting and purchase of input goods could create similar linkages with the manufacturing sector (Wilson, 1990). Rauch's model that suggests high growth in one sector puts a drag on growth in another could provide a different explanation. In this particular case, presumably high growth in the large-scale manufacturing sector, driven by FDI, could be assumed to have impacted the corresponding small manufacturing sector differently than the small services sector.

Table 5

Switching Regression Index Function Parameter Estimates
(standard error in parentheses)

	Border		**Interior**	
Constant	-1.8461***	(0.047)	-1.6364***	(0.036)
DU_96	0.0567**	(0.023)	0.1015***	(0.017)
EXPER	0.0626***	(0.003)	0.0414***	(0.002)
EXPER2	-0.0482***	(0.006)	-0.0262***	(0.004)
SCHOOL	0.0182***	(0.003)	0.0047**	(0.002)
FEMALE	-0.4187***	(0.026)	-0.1131***	(0.018)
MARRIED	0.1201***	(0.023)	0.1339***	(0.018)
σ^2_S	0.4915***	(0.002)	0.6160***	(0.003)
σ^2_W	0.9249***	(0.019)	1.2071***	(0.019)
$\rho_{\eta\varepsilon(S)}$	0.0204	(0.207)	0.6818***	(0.010)
$\rho_{\eta\varepsilon(W)}$	0.6866***	(0.026)	0.8535***	(0.008)
Log-likelihood	-23,058.83		-41,613.30	
N	18,142		30,251	

Note: **, and *** indicate significance at the 5 and 1 percent level, respectively, using two-tailed tests.

To test this proposition, the switching regression model is estimated using the separate samples of manufacturing and service workers for 1987 and 1996. Table 4 also presents the results of estimating the switching regression for these industrial sectors. Border manufacturing and service workers each showed an increased propensity for self-employment, as did workers in both regions in 1996 (see the coefficients for *BORDER* and *DU_96*). Yet, when the differential impact along the border in 1996 is considered, the propensity for self-employment fell among manufacturing workers (the *BORDU_96* coefficient is negative and statistically significant). In particular, the large-scale manufacturing industry along the border appears to have negatively impacted the cost structure for small manufacturing firms and may explain the significant employment decrease in this sector.

Finally, recall that Rauch's (1997) model of unbalanced growth, led by the export-based manufacturing sector, predicts that the impact on manufacturing entrepreneurial activity should be more severe than on service. The *BORDU_96* coefficient in the service industry's index function suggests that the propensity to choose self-employment by individuals in the service sector along the border did not change between 1987 and 1996 (the positive coefficient points to an increase but it is not statistically significant). Perhaps the manufacturing sector created some linkages with small service firms during this period as suggested by Rivera-Batiz and Rivera-Batiz (1991) and Roberts (1990).

Admittedly, the relative negative effect from 1996 border residency on entrepreneurial formation could be the result of increases in the propensity of individuals in the interior to choose self-employment rather than an actual decrease along the border. To analyze each region's change between 1987 and 1996, the switching regression is

estimated again, partitioning the data into two samples of workers from the border and interior regions. Table 5 reports the index function parameter estimates for each region. *DU_96* captures the change in likelihood of an individual choosing self-employment in 1996 relative to 1987 and this parameter estimate for each region is positive and statistically significant. Nonetheless, comparison of the coefficients hints that entrepreneurial formation along the border was not as strong. Employment opportunities in the wage and salary sector in the interior may not have been as plentiful, making entrepreneurial activities increasingly more attractive there between 1987 and 1996. In contrast, FDI-created employment along the border may be diverting potential entrepreneurs and thus slowing the growth of entrepreneurial activities in the region.

4. Discussion

Entrepreneurial initiative apparently decreased between 1987 and 1996 along the U.S.-Mexico border as the overall propensity to choose self-employment fell significantly relative to the interior. The propensity to choose self-employment increased over the 1987-1996 period for workers in the interior where arguably wage and salary employment opportunities were not augmented by comparable foreign investment development. Although individuals along the border also increasingly opted for self-employment during this period, they did not do so at the same rate as those in the interior. Possibly, FDI flows to large-scale industry along the border created alternative employment opportunities in the wage and salary sector leading border workers to be less likely than those in the interior to choose self-employment in 1996. Alternatively, the costs associated with starting and operating a small business along the border might be higher because of factor demand from the FDI-led industrial sector.

Industrial sector analysis reveals that manufacturing workers along the border were significantly less likely to choose self-employment in 1996 giving credence to unbalanced growth occurring in the region. That is, self-employment in this sector may not have been as attractive an option if the small business cost structure has increased for prospective entrepreneurs. On the other hand, border service industry workers in 1996 showed no change in their propensity for self-employment relative to 1987. The small service industry appears unaffected by the unbalanced growth presumably occurring in the manufacturing sector and may even have experienced some increased entrepreneurial opportunities from FDI-created linkages.

5. Concluding Remarks

High levels of FDI have gone to the northern border region of Mexico to help underwrite the region's industrialization program. However, the impact of these investments on entrepreneurial initiatives in the region had not been previously studied. Employing interaction variables to capture the impact across time and regions, this study indicates that individuals along the border were significantly less likely to choose self-employment in 1996 than in 1987. FDI flowing to large-scale industry during the period seemingly created sufficient wage and salary jobs to attract the more able border workers (Brown, 2002; Fleck, 2001). Increased demand apparently increased factor costs for potential entrepreneurs, lessening their initiative to undertake such endeavors. This theory is supported by the findings of the manufacturing and service sectoral analysis. Border manufacturing workers were significantly less likely to choose self-employment in 1996 than their interior counterparts. In contrast, the propensity of service workers in 1996 to choose self-employment remained unchanged from 1987.

A more thorough understanding of the relationship between FDI and entrepreneurial activity could enhance the formulation of policy aiming to foster the economic development by means of FDI. If FDI flows to underwrite large-scale industry disrupt small business formation, as suggested by the empirical results, policymakers should take note of these effects. Clearly, understanding the interrelationship between FDI and entrepreneurial activity could help policymakers to integrate the role of the small enterprise into national economic development plans. Focusing programs to the specific needs of different regions and industrial sectors could lead to a more complete domestic economic integration and a more balanced and fruitful economic development agenda.

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APPENDIX

Table A1

Switching Regression Earnings Functions Parameter Estimates: Overall (standard error in parentheses)

	Self-Employed		Salaried	
	β_S	Std. Error	β_W	Std. Error
Constant	-0.3420***	(0.058)	1.0792***	(0.011)
BORDER	0.4208***	(0.030)	0.2031***	(0.010)
DU_96	-0.2082***	(0.023)	-0.2638***	(0.007)
BORDU_96	0.0086	(0.038)	-0.0054	(0.013)
EXPER	0.0478***	(0.002)	0.0182***	(0.001)
EXPER2	-0.0424***	(0.004)	-0.0274***	(0.002)
SCHOOL	0.0784***	(0.002)	0.0872***	(0.001)
FEMALE	-0.3246***	(0.020)	0.0039	(0.006)
MARRIED	0.2215***	(0.019)	0.1294***	(0.007)
σ^2_S	0.5879***	(0.002)	1.1059***	(0.014)
$\rho_{\eta\varepsilon(S)}$	0.6652***	(0.008)	0.8145***	(0.009)

Note: *** indicates significance at the 1 percent level, using two-tailed tests. Standard error in parentheses.

Table A2

Switching Regression Earnings Functions Parameter Estimates: Manufacturing Industry (standard error in parentheses)

	Self-Employed		Salaried	
	β_S	Std. Error	β_W	Std. Error
Constant	-1.2817***	(0.311)	1.1244***	(0.021)
BORDER	0.4304***	(0.089)	0.2406***	(0.015)
DU_96	-0.1915***	(0.068)	-0.3056***	(0.012)
BORDU_96	-0.0562	(0.115)	-0.0054	(0.020)
EXPER	0.0612***	(0.009)	0.0261***	(0.001)
EXPER2	-0.0516***	(0.013)	-0.0292***	(0.002)
SCHOOL	0.1032***	(0.007)	0.0884***	(0.001)
FEMALE	-0.1626***	(0.055)	-0.0572***	(0.009)
MARRIED	0.3508***	(0.060)	0.1165***	(0.010)
σ^2_S, σ^2_W	0.4602***	(0.002)	1.0646***	(0.064)
$\rho_{\eta\varepsilon(S)}$, $\rho_{\eta\varepsilon(W)}$	0.0107	(0.217)	0.8267***	(0.035)

Note: *** indicates significance 1 percent level, using two-tailed tests. Standard error in parentheses.

Table A3

Switching Regression Earnings Functions Parameter Estimates:
Service Industry
(standard error in parentheses)

	Self-Employed		Salaried	
	β_S	**Std. Error**	β_W	**Std. Error**
Constant	-0.12421*	(0.083)	0.8944***	(0.021)
BORDER	0.5058***	(0.051)	0.2156***	(0.019)
DU_96	-0.0934**	(0.039)	-0.1657***	(0.014)
BORDU_96	-0.0507	(0.064)	-0.0797***	(0.025)
EXPER	0.0404***	(0.004)	0.0172***	(0.001)
EXPER2	-0.0394***	(0.007)	-0.0238***	(0.003)
SCHOOL	0.0795***	(0.003)	0.0984***	(0.001)
FEMALE	-0.5607***	(0.037)	0.0924***	(0.012)
MARRIED	0.1578***	(0.032)	0.1535***	(0.012)
σ^2_S, σ^2_W	0.6548***	(0.004)	1.1020***	(0.022)
$\rho_{\eta\varepsilon(S)}$, $\rho_{\eta\varepsilon(W)}$	0.6608***	(0.015)	0.8318***	(0.011)

Note: *, **, and *** indicate significance at the 10, 5, and 1 percent level, respectively, using two-tailed tests. Standard error in parentheses.