Ethnicity and Human Capital Accumulation in Urban Mexico

by

Hugo Ñopo
Natalia Winder

Inter-American Development Bank

December 2008

The Research Department (RES) produces a quarterly newsletter, IDEA (Ideas for Development
in the Americas), as well as working papers and books on diverse economic issues. To obtain a
complete list of RES publications, and read or download them please visit our web site at:
http://www.iadb.org/res.

Abstract[*]

This study analyzes social mobility and human capital accumulation among ethnic minorities in Mexican urban areas, exploring changes in educational attainment and labor market status and using panel data from the Mexican Family Life Survey (MFxLS). The results indicate important ethnic differences in human capital accumulation patterns, especially in education, where non-indigenous individuals seem to accumulate human capital more rapidly than individuals of indigenous descent. Also, key socio-demographic characteristics linked to those patterns of human capital accumulation seem to differ between indigenous and non-indigenous individuals. In particular, for indigenous peoples in urban areas, human capital accumulation and wealth accumulation seem to work as substitutes rather than complements in the short run.

Key words: Social mobility, human capital accumulation, education, ethnic minorities, urban areas, Mexico
JEL classifications: D13, J15, O18

1. Introduction

More than half of the Mexican poor live in urban areas and, although the incidence of poverty has been decreasing in recent years, this decrease is happening slowly. Despite increased access to basic services and infrastructure, poor households in urban areas are still coping with limited access to quality sanitation services, unpaved floors and overcrowded housing conditions. Furthermore, although children's height measurements are considerably greater in urban than rural areas, urban children are experiencing increasing problems concerning overweight and unhealthy eating habits. Moreover, in spite of nearly universal primary education enrollment, there remains the important challenge of how to deal with the decline in attendance rates beginning at secondary level, which adds the significant percentage of youth 16-22 years of age who neither work nor study.[1] This poses important policy-making challenges in determining the most efficient and effective ways of planning urban public social expenditures.

The dynamics of urban households, which differ somewhat from those of rural homes, present a correspondingly different pattern of vulnerability. Its most salient features include high dependence on a cash economy and the impact of a cumulative and inter-related set of factors in the social environment (high levels of crime, environmental hazards, and weaker social networks in comparison with those in rural areas) on their ability to generate income and cope with shocks. Even within Mexico's urban population, the different patterns of vulnerability are highly heterogeneous, and they are linked to factors such as gender, household structure, and ethnic background, as this paper will discuss. Their ability to overcome adversities is highly dependent not only on their human and physical capital (education, health, security, social capital, and property), but also on the accumulation patterns of such capital.

Traditional indicators of socio-economic well-being fail to encompass key aspects of the multidimensional nature of urban poverty. This paper will concentrate on the dynamics of perhaps the two most important of those dimensions, education and jobs and, as highlighted above, we will emphasize the role that ethnic background plays in the human capital accumulation processes of Mexican urban families.

---

[1] Sedesol. Urban Poverty Diagnostic. Presentation at working meetings to analyze urban poverty programs in Mexico. Inter-American Development Bank, September 12, 2008.

Mexico is known for having a heterogeneous multicultural population, with more than 65 linguistic groups and ethnicities, mostly living in rural areas.[2] However, as a result of major migratory flows in recent decades, a sizable portion of that population currently lives in the country's urban areas. According to National Population Council (CONAPO), there are 27 urban and 458 mixed (urban and rural) localities with an indigenous population of 40 percent or higher. There are 4.2 million indigenous peoples in the nation, in the National Urban System; 2.6 million of them in metropolitan areas. Depending on the source, almost one out of every 10 individuals currently living in the large urban areas is of indigenous descent.[3] Although there is greater access to social services in comparison with rural areas, there is still a large gap between non-indigenous and indigenous peoples in terms of poverty (25.5 percent) and extreme poverty (36 percent) (Patrinos, Skoufias and Lunde, 2007).

Flores (no date) provides a broad characterization of the economic and social wellbeing of indigenous migrants in urban areas. Based on in-depth reviews of more than 850 indigenous households living in Mexico City (Mazahuas, Otomíes and Triquis), Veracruz (Zapotecos) and Cancun City (Mayas), she outlined a profile of the migrants. Indigenous households tend to be larger than average (5 persons per home, being the Mazahuas at the extreme with an average of 6.3 persons per household); to have a higher percentage of women are in the labor force (46 percent); to work in the informal sector (83 percent), especially those who are first generation migrants; and to lack access to health and other social protection services. Pérez Ruiz (2007) adds to this profile by providing additional statistics showing that one out of every three indigenous women is illiterate and only one out of every five indigenous 16-year old children is attending classes that correspond to her/his age. Molnar, Carrasco and Johns-Swartz (2004), analyzing indicators associated with access to social services, including education and health, show that despite an increase in access vis-à-vis rural areas, problems associated with drop-out rates, child labor and preventive health persist among people of indigenous descent in urban areas.

In sum, the evidence suggests that, while Mexico has experienced notable progress in terms of access and quality of basic social services, and attendance and graduation rates are advancing towards set targets, significant gaps still exist between ethnic minorities and the rest

---

[2] CDI (Comisión Nacional para el Desarrollo Indígena).
[3] That percentage presently ranges between 9 percent and 13 percent, depending on source. INEGI: 8.6 percent; INI-CONAPO: 13 percent; CDI-PNUD: 10.5 percent (Fernández Ham et al., 2006).

of the population (Duryea et al, 2007). This pattern of underachievement in human capital accumulation has, in turn, consequences on individuals' earnings capabilities in the labor market (Chong and Ñopo, 2008). This sequence of linkages constitutes a poverty trap that perpetuates over generations.

In this paper we analyze both short-run and long-run patterns of human capital accumulation among ethnic minorities in Mexican urban areas through the lens of social mobility. For the short run the study will explore the changes in human capital characteristics among individuals (education attainment, and occupational experience) between 2002 and 2005, and for the long run, the differences in human capital characteristics of the same individuals with respect to their parents. For that purpose we will use panel data from the Mexican Family Life Survey, MFxLS (or ENNVIH for its acronym in Spanish).

Following this introduction, the next section will briefly summarize the literature on ethnic capital and its linkages to social mobility and intergenerational transmission of inequality. The third section will then describe the MFxLS data set, providing basic measures of the extent to which human capital accumulation (in terms of education and occupation) differs between indigenous and non-indigenous peoples. The fourth section will present our analysis of social mobility, both intra- and intergenerational, and the final section will summarize the main findings and discuss possible policy recommendations.

2. Literature Review

This paper attempts to enhance our understanding of well-being disparities between indigenous and non-indigenous peoples in Mexico's urban areas with an analysis of human capital accumulation patterns, with a particular goal of assessing the extent to which ethnicity plays a role in those patterns. For that purpose, it becomes useful to use the concept of ethnicity as a "cultural" value rather than a genetic/racial characteristic (Huntington and Harrison, 2000). This allows us to explain behavioral patterns among indigenous peoples without falling into the traps of determinism or essentialism.

The process of human capital accumulation for indigenous peoples, as explained by De Graaff and De Groot (2004), depends upon individual endowments and the local environment in which an individual develops, as well the characteristics of the national society. In this context, ethnicity is a complex concept that cannot be regarded entirely as an exogenous factor.

Moreover, in a country like Mexico migration patterns cannot be overlooked. De Graaff and De Groot developed a theoretical model to analyze the relationship between migration and human capital accumulation and concluded that externalities associated with immigration and its corresponding effects on human capital accumulation may explain to a large extent poverty and income gaps between indigenous and non-indigenous groups.

Along those lines, Borjas (1991) was one of the first economists to address ethnicity. Analyzing how ethnic characteristics are transmitted across generations in American cities led him to conclude that what he denominates "ethnic capital"—the environment in which a child is raised—determines children's skill levels and future earnings more than parents' skills or educational attainment.

Within Mexico's indigenous peoples living in the urban areas, social networks represent an important asset for economic advancement, especially for migrants in their first weeks or months of arrival from the rural highlands. As Molnar, Carrasco and Johns-Swartz (2004) point out, only 2.3 percent of indigenous peoples live alone, and most reside as groups of families in suburban indigenous towns. The potential problem, following Borjas' argument, is that although these social enclaves may seem to provide a positive service in the short run, they may be contributing to patterns of intergenerational transmission of poverty in the long run. In that respect, the work of Zenteno and Solís (2006) documents the impact of social origin (parents' occupation and whether individuals came from urban or rural areas) on occupational outcomes. Despite apparent improvements in prospects resulting from migration to urban areas, especially during periods of economic expansion, the authors' findings suggest significant inequalities in access to labor market opportunities that leave individuals with rural backgrounds particularly disadvantaged.

These results are in line with those reported by Binder and Woodruff (2002) who have shown lower returns to human capital among indigenous peoples than among non-indigenous peoples. Considering the indigenous population in Mexico's urban areas, Patrinos and Skoufias (2007) find lower returns to schooling for indigenous populations (5 percent) vis-à-vis non-indigenous populations (12 percent). These differences also prevail when exclusively indigenous areas are analyzed.

But the differences in labor markets outcomes and opportunities are actually just signs of differences in other arenas. As it has been extensively documented, there is a plethora of

differences in wellbeing indicators and human capital characteristics along the ethnic divide. In an effort to summarize the differences in a comparative way, Busso, Cicowiez and Gasparini (2004) followed a microeconomic decomposition technique to explain poverty gaps between indigenous and non-indigenous peoples looking at factors such as returns to education, gender wage gap, returns to experience, dispersion of the endowment of unobservable factors, hours of work, and education of active population. The results indicate that education-related factors explain most of the differences in well-being for Mexico and for a broad sample of Latin American countries. Torche and Costa Ribeiro (2007) additionally find a high level of intergenerational transmission of poverty patterns in urban Mexico, as well as the existence of an "educational underclass" that reproduces itself across generations in spite of expansion in education services.

As Torche and Costa Ribeiro highlight, social mobility can become a factor of social cohesion, even in a country with high levels of inequality, if equal opportunities for social upward mobility are provided. In Mexico, studies reviewed by Zenteno and Solís (2006) confirm the continuity of rising structural mobility and the growing inequality of occupational achievements associated with social origins in Mexico (Zenteno and Solís, 2006; Parrado, 2005; Pacheco, 2005; Cortés and Escobar, 2003; Behrman, Gaviria and Szekely, 2001).

While the literature to date has made important contributions on differences between indigenous and non-indigenous peoples, there remains a gap in regard to mobility patterns and dynamics. Such an analysis could help to determine whether specific social protection policies should target urban indigenous populations. The analysis may also help to identify the most relevant issues associated with changes in human accumulation patterns and their linkage to income generation.

3.   The MxFLS Data Set: Descriptive Statistics

The data for this study are drawn from the panel of the Mexican Family Live Survey (MxFLS) for 2002 and 2005. While the project's web site (http://www.radix.uia.mx/ennvih/index.php) contains detailed documentation of the methodology employed, we can highlight that the survey explores multidimensional aspects of the lives and well-being of a representative sample of households at the national, regional and urban-rural levels.

For the purposes of this study we will focus on households living in urban areas (as defined by the survey, an urban community is one that has at least 2,500 inhabitants), distinguishing between those who regard themselves as indigenous from those who do not. This self-description comes from a question in the survey that asks all household member 15 years of age or older "Do you recognize yourself as part of an indigenous ethnic group?"[4] We use the answer that individuals provided in the first (2002) wave of the questionnaire; the answer provided during the second wave (2005) mostly coincides with that of the first wave, although there are some minor differences attributable to idiosyncratic measurement error. According to the survey, 7.5 percent of individuals consider themselves to be indigenous, 7.2 percent of all households consist entirely of persons who consider themselves to be indigenous, and approximately 10 percent of households include a combination of some household members who consider themselves indigenous and some others who do not. In this latter group of households, the differences mostly arise between the household head and the spouse. These percentages are in line with those provided by other sources including CONAPO 2000 (see footnote 3).

Table 1 shows descriptive statistics for a selected set of socio-demographic, human capital, and wellbeing characteristics of the sample, distinguishing between indigenous and non-indigenous individuals. Particularly notable among these differences is that indigenous individuals have, on average, almost one-and-a-half less years of schooling than their non-indigenous counterparts (1.31). Although those differences are not as notable as in rural areas, differences in repetition rates remain substantial. For example, secondary school repetition rates among indigenous students are almost twice that of their non-indigenous peers. Household conditions and ownership represent another dimension where major differences in well-being are seen. These results suggest that indigenous individuals are more likely than the non to have unpaved floors at home, no telephone connection, no water access inside their homes and no sewage than the non-indigenous. The figures highlighted in the tables indicate where the gaps between indigenous and non-indigenous respondents are higher.

---

[4] Some household members could not be interviewed in person, either because they were absent during the time of the fieldwork or because they suffered from a health condition. In these cases a proxy respondent was asked to provide the information of the missing member.

Table 1. Descriptive Statistics by Indigenous Condition

a. Education

	Non-Indigenous	Indigenous	Total
Age	35.10	37.01	35.23
Males (%)	0.45	0.50	0.46
Years of Schooling completed	8.08	6.77	7.99
Educational Attainment (%)			
Elementary or less	34.71	46.29	35.52
Secondary to Open High School	50.84	42.64	50.26
Basic Normal or more	14.46	11.08	14.22
Other Schooling Indicators			
Age at which began Elementary School	6.57	6.80	6.59
Repeated in Elementary School (%)	28%	35%	28%
Repeated in Secondary School (%)	5%	9%	5%
Repeated in High School (%)	6%	12%	7%
Attended a Public Elementary (%)	95%	98%	95%
Attended a Public Secondary (%)	92%	94%	93%
Attended a Public High School (%)	81%	84%	82%
Attended a Public University (%)	79%	86%	79%
Time to get to school (hrs)	1.10	0.68	1.07
Class size	37.17	36.64	37.13
N	1215.00	88.00	1313.00

Reason to quit school			
01. Worked or developed an activity that hel	17.76	19.49	17.88
02. Couldn't afford the school expenses	23.45	31.23	23.99
11. Didn't want to go back to school	15.93	18.41	16.1
14. Graduated/finished	25.16	15.7	24.51
16. Expeled/Failed	0.3	0.72	0.33

Table 1., continued

b. Household Conditions

Household conditions (%)			
Own a House	83%	83%	83%
Telephone	53%	34%	52%
Electricity	99%	99%	99%
Water connection inside home	95%	89%	95%
Sewage	92%	82%	91%
Unpaved floors	5%	11%	6%
Relationship to the Houhesold Head (%)			
HH head	31.89	37.78	32.30
Spouse/couple	25.30	23.87	25.20
Son/Daughter	34.64	30.71	34.37
Other	8.16	7.65	8.13
Marital status (%)			
Married	56.35	62.46	56.78
Separated/Divorced/Widowed	8.88	7.39	8.78
Single	34.77	30.15	34.45
Ever worked	38%	31%	37%
Has a Credit Card	6%	3%	5%
Access to Informal Credit	18%	18%	18%
Has Savings	17%	16%	17%
Number of Observations	11,546	863	12,409

Interesting differences also arise in labor and financial markets. On the one hand, the percentage of indigenous individuals who has ever worked is statistically lower than the same percentage for non-indigenous individuals. Likewise, although MxFLS data show that financial markets penetration is low across the population, credit card access among non-indigenous individuals doubles that of the indigenous peoples. However, there are almost no differences in access to informal sources of credit and savings. The statistics seem to suggest ethnic differences in attachment to formal markets (in this case, labor and financial markets) as well as informal ways of operating within them.

The ethnic differences shown in Table 1, which are both interesting and suggestive, call for further exploration in at least two complementary areas. The first involves possible linkages among those differences, such as between human capital characteristics and labor market

outcomes, to cite one of the most common examples of analysis, or between human capital and attachment to labor and financial markets. A second area of analysis involves the dynamics of those differences. One of the most helpful approaches for analyzing those dynamics is mobility, the approach taken by this paper.

4. A Preliminary Exploration of Mobility Patterns

A first look at mobility can be obtained by comparing of the schooling attainment of individuals in the MxFLS sample with that of their parents, as reported by survey respondents (regardless of whether parents are household members or whether they are still living). In this case, a situation with total mobility would be one in which individuals' schooling attainment has no linkages to that of their parents. In this regard, it is interesting to note that the simple correlation coefficient of individuals' schooling attainment with that of their parents is significantly lower among non-indigenous individuals than among their indigenous counterparts (0.4 versus 0.55).[5] This indicator, which can be regarded as prima facie evidence of differences in mobility patterns by ethnicity, will be more thoroughly explored in the next section. Meanwhile, let us present some other descriptive statistics that help us to depict the picture of patterns of mobility by ethnicity in urban Mexico.

As simple and straightforward as correlations coefficients may be in describing mobility differences by ethnicity, they are nonetheless limited in scope, being merely summary measures of a plethora of (parent-child) dynamics that deserve further exploration. As transition matrices have been traditionally used for that purpose, Table 2 presents parent-child transition matrices for schooling attainment by ethnicity. First, the transition matrices are clearly "diagonal-dominant" (that is, the percentages in the diagonal are higher than those out of it), meaning that the most likely outcome for an individual is the one achieved by her/his parent; this provides prima facie (if noisy) evidence of lack of mobility. Additionally, the diagonal elements on the transition matrix for indigenous individuals are higher than those in the matrix for non-indigenous individuals; again, such prima facie evidence of lack of mobility is more pronounced among indigenous individuals.

---

[5] A comparison of rank correlations (Spearman) delivers the same result: the father-son correlation among the non-indigenous (0.2907) is notably smaller than for the indigenous individuals (0.3282), and the difference is statistically significant at any conventional level. These correlations and those analyzed in the text are not presented in the tables but are available upon request.

The patterns of immobility shown in the diagonal-dominant matrices additionally reveal interesting differences in mobility patterns at the extremes of the distributions of education. While almost 60 percent of those with a higher-educated non-indigenous parent end up acquiring higher education as well, that figure is 75 percent for indigenous children with a higher-educated parent. That is, the patterns of upward mobility on the upper side of the distribution of schooling are more marked for indigenous individuals. At the other extreme, the opposite situation prevails in a comparison of the outcomes of the sons of indigenous and non-indigenous fathers with low levels of educational attainment. While 46 percent of children of a lower-educated non-indigenous parent remain lower-educated, more than half (58 percent) of children of a lower-educated indigenous parent ends up with only completed elementary school or less education. In other words, the patterns of downward mobility are more marked for indigenous individuals at this low extreme of the schooling distribution.

These transition matrices complement the basic idea that the schooling mobility of indigenous individuals is lower than that of their non-indigenous pairs, as judged by the higher correlation coefficient of parent-children schooling. The transition matrices further depict a picture of divergence in schooling achievement among indigenous individuals as children of higher-educated indigenous show a prevalence of upward mobility and children of lower-educated indigenous show downward mobility. A perpetuation of the patterns of transition in these matrices would imply, in the long run, very heterogeneous schooling achievement among indigenous individuals, higher than that seen among the non-indigenous population.

Table 2. Parent-Child Transition Matrices for Education

Non-Indigenous

Parents	Child			Total
	Elementary or less	Secondary to Open High School	Basic Normal or more	
Elementary or less	46.35	43.36	10.29	100
Secondary to Open High School	6.01	60.71	33.28	100
Basic Normal or more	2.19	38.16	59.65	100
Total	38.69	45.98	15.33	100

Indigenous

Parents	Child			Total
	Elementary or less	Secondary to Open High School	Basic Normal or more	
Elementary or less	57.55	33.39	9.06	100
Secondary to Open High School	8.62	58.62	32.76	100
Basic Normal or more	0	25	75	100
Total	52.89	35.56	11.55	100

Total

Parents	Child			Total
	Elementary or less	Secondary to Open High School	Basic Normal or more	
Elementary or less	47.28	42.54	10.19	100
Secondary to Open High School	6.12	60.62	33.26	100
Basic Normal or more	2.16	37.93	59.91	100
Total	39.75	45.2	15.05	100

Source: MxFLS

We explore patterns of occupational mobility in a similar way, comparing current occupations of parents and children in the households surveyed. The questionnaire item used in this case is: "What is the name of the occupation, or profession that you perform?"[6] In contrast to the discussion of educational mobility above, in this instance we restrict our attention to households in which at least one parent and at least one child are currently working. We classify the occupations as White-collar and Blue-collar in order to compute the 2x2 transition matrices shown in Table 3. Overall, around 26 percent of individuals in the sample work in White-collar

---

[6] The working categories available were: (i) for White Collars: professionals; individual with technical expertise; private, public and social sector permanent personnel (management and professional); supervisors, chiefs and others in charge of oversight of crafts and industrial works; and maintenance and repair, chiefs of departments; coordinators and supervisors in service and administrative activities; support personal in administrative activities; (ii) for Blue Collars: education workers; art, sports and show-business workers; workers in agricultural, cattle-ranching, hunting, fishing, forestry sectors; artisans, factory and repair and maintenance workers; machinery operators; apprentices at factories and industrial activities; conductors and aids from any form of transportation or machinery; salesmen, workers in service or sales agents; ambulatory vendors in service sector; workers in personal services; domestic workers; law enforcement (military) and protection and security workers; other.

occupations, but 40 percent of the offspring of White-collar workers are likely to work in White-collar occupations. This differs greatly by ethnicity, as only 20 percent of the offspring of White-collar indigenous peoples are themselves likely to work in White-collar occupations. In short, indigenous individuals have less occupational mobility than their non-indigenous peers. For non-indigenous individuals, the chances of being a formal worker seem to be independent of the type of work that their parents had; the offspring of both formal and informal workers are approximately 40 percent likely to have an informal job. The situation is clearly different for the offspring of indigenous individual, for whom there seems to exist a great deal of formal-informal mobility.

Table 3. Father-Son Transition Matrices for Occupations

Non-Indigenous

	Child		
Parents	Blue Collar	White Collar	Total
Blue Collar	75.26	24.74	100
White Collar	59.09	40.91	100
Total	73.58	26.42	100

Indigenous

	Child		
Parents	Blue Collar	White Collar	Total
Blue Collar	86.21	13.79	100
White Collar	80	20	100
Total	85.87	14.13	100

Total

	Child		
Parents	Blue Collar	White Collar	Total
Blue Collar	76.04	23.96	100
White Collar	59.85	40.15	100
Total	74.41	25.59	100

Table 4. Parent-Child Transition Matrices for Formality[7]

Non-Indigenous

Parents	Child		
	Informal	Formal	Total
Informal	40.21	59.79	100
Formal	40.91	59.09	100
Total	40.58	59.42	100

Indigenous

Parents	Child		
	Informal	Formal	Total
Informal	25	75	100
Formal	66.67	33.33	100
Total	42.86	57.14	100

Total

Parents	Child		
	Informal	Formal	Total
Informal	39.6	60.4	100
Formal	41.59	58.41	100
Total	40.65	59.35	100

Source: MxFLS.

The results introduced as of this point of the paper have explored the linkages between human capital characteristics of two generations (parents and children), either in occupations or schooling. The literature refers to this as the inter-generational mobility approach. We now turn to patterns of human capital accumulation within one generation (the intra-generational approach), taking advantage of MxFLS panel data and presenting changes in schooling and occupations among surveyed individuals between 2002 and 2005.

Starting with schooling, in Table 5 we report the gains in schooling attainment among surveyed individuals from 2002 to 2005, by ethnicity and different age groups. The most notable (if somewhat unsurprising) regularity that arises from the table is that younger individuals accumulated more human capital than their older peers during this three-year period. In regard to ethnic differences, it is interesting to note that on average indigenous individuals accumulated fewer years of schooling than their non-indigenous counterparts among all age groups, with the

---

[7] A worker is categorized as part of the formal sector if he/she contributes to the Social Security System (IMSS).

exception of the 31-40 age group (where the difference is almost null) during that time. These ethnic differences in incremental schooling achievements, however, are higher among the younger individuals.

Table 5. Schooling Accumulation between 2002 and 2005

Age groups	Non-Indigenous	Indigenous	Total
<20	2.105	2.031	2.100
20-25	0.676	0.449	0.663
26-30	0.534	0.279	0.516
31-40	0.598	0.567	0.595
41 or more	0.643	0.433	0.625
Total	0.968	0.762	0.953

Source: MxFLS.

Table 6 shows a set of schooling indicators. Besides the indicator of attendance, the table shows a significant lag between indigenous children and their non-indigenous peers. Although some improvement is seen within the thee-year period of the panel, the gaps persist and in some cases even widen. The existence and persistence of these gaps could be linked to the difference in schooling accumulation shown in Table 5.

Table 6. Changes in Schooling Indicators 2002-2005

Indicators	Non-Indigenous			Indigenous		
	2002	2005	Progress	2002	2005	Progress
Percentage of households with at least one kid <15 who is not attending school	8%	7%	-1%	9%	6%	-3%
Percentage of kids attending school who are over-age (only for households with kids attending school)	27%	7%	-20%	24%	12%	-12%
Percentage of households with at least one member repeating Elementary School	40%	13%	-27%	52%	21%	-31%
Percentage of households with at least one member repeating Secondary or high School School	9%	4%	-6%	10%	6%	-3%

Source: MxFLS.

Exploring intra-generational mobility in occupations (or more precisely, in the individuals' role at their main jobs) we obtain results that are qualitatively similar to those found exploring parent-child mobility. Namely, there are active patterns of mobility, especially among

those who were workers without remuneration in the first wave of the survey, but no noticeable ethnic differences in those patterns. Indigenous and non-indigenous individuals are equally mobile in their roles at their main job within the 3-year period comprised between the two waves of the MxFLS.

Table 7. Changes in Position/Role at Main Job between 2002 and 2005

Non-Indigenous

2002	2005				
	Peasant on your plot or Agricultural Worker	Family worker or Worker without remuneration	Non-agricultural worker or employee	Boss, employer, business propietor, self employed	Total
Peasant on your plot/ Agricultural Worker	58.28	4.29	27.61	9.82	100
Family worker/Worker without remuneration	3.95	20.34	39.55	36.16	100
Non-agricultural worker or employee	1.69	4.84	83.45	10.02	100
Boss, employer, business propietor, self employed	2.77	8.74	32.30	56.19	100
Total	4.25	6.33	68.20	21.22	100

Indigenous

2002	2005				
	Peasant on your plot or Agricultural Worker	Family worker or Worker without remuneration	Non-agricultural worker or employee	Boss, employer, business propietor, self employed	Total
Peasant on your plot/ Agricultural Worker	65.71	0.00	20.00	14.29	100
Family worker/Worker without remuneration	15.38	38.46	7.69	38.46	100
Non-agricultural worker or employee	0.91	5.94	82.19	10.96	100
Boss, employer, business propietor, self employed	6.38	13.83	29.79	50.00	100
Total	9.14	8.59	59.83	22.44	100

Total

2002	2005				
	Peasant on your plot or Agricultural Worker	Family worker or Worker without remuneration	Non-agricultural worker or employee	Boss, employer, business propietor, self employed	Total
Peasant on your plot/ Agricultural Worker	59.60	3.54	26.26	10.61	100
Family worker/Worker without remuneration	4.74	21.58	37.37	36.32	100
Non-agricultural worker or employee	1.64	4.91	83.36	10.09	100
Boss, employer, business propietor, self employed	3.11	9.22	32.06	55.61	100
Total	4.65	6.51	67.53	21.32	100

Source: MxFLS.

Summarizing, we find some important ethnic differences in the patterns of human capital accumulation, especially in the educational domain, both with the inter-generational and the intra-generational approach. On the other hand, we find only weak evidence of ethnic differences in occupational mobility patterns. Next we turn to explore deeper the determinants of those different patterns of human capital accumulation.

5. What Underlies Mobility Patterns?

As outlined above, there are two domains of human capital for which we detect important ethnic differences in the accumulation or mobility patterns. In this section we turn to explore the set of socio-demographic characteristics that are linked to mobility in these two domains, trying to

identify the differences between indigenous and non-indigenous peoples. The order in which we present the next regressions follows the same order in which we explored the basic ethnic differences in mobility patterns in Section 3. In education we first explore inter-generational mobility first and then turn to intra-generational mobility.

As shown in Table 2 above, we have found that parent-child educational mobility for people of indigenous descent is lower than mobility for their non-indigenous peers. Here we try to explain why this is the case (or, at least, find links with other socio-demographic characteristics). For that purpose, we perform regressions in which the dependant variable is a dummy that takes a value of 1 if the son had an improvement over his father's schooling achievement and 0 otherwise; the independent variables that we use in the regressions are sons' socio-demographic characteristics.[8] In this sense, we are looking for socio-demographic characteristics of the offspring that are linked to their upward mobility in schooling (in comparison with their parents' achievement).[9] We perform the regressions for indigenous and non-indigenous individuals separately. Following the standard for this type of variables, we run probit models, and the reported coefficients are the marginal effects.

The results, presented in Table 8, suggest interesting ethnic similarities and differences in the characteristics that are linked to upward mobility in schooling. Regarding similarities, it should be noted that occupational categories, having a telephone and water connection inside the home are all positively linked to upward mobility for both indigenous and non-indigenous peoples. In addition, mobility patterns are less pronounced for older offspring of both the indigenous and non-indigenous origin. Regarding differences, the most salient is that non-indigenous males are the group most likely to experience upward mobility in education. For the indigenous there are no gender differences.

---

[8] The ideal variables to use as regressors would be the socio-demographic characteristics of the parents, but their availability is only limited in the survey.

[9] It is important to clarify as well that the coefficients should not be interpreted as estimations of causal effects of the regressors on the outcome, as there are many potential sources of endogeneity. The regressions here are performed on the spirit of searching for patterns of multiple correlations among the different covariates and upward mobility.

Table 8. Inter-Generational Mobility in Education
Dependent Variable: 1 if Improvement in Educational Status Parents/Children;
Explanatory Variables: Socio-Demographic Characteristics of Children
(Marginal effects after Probit)

	No Indigenous b/se	Indigenous b/se	Total b/se
Gender (Male) (d)	0.0241*	0.0310	0.0251**
	(0.0125)	(0.0382)	(0.0121)
Age	-0.00919***	-0.0112***	-0.00939***
	(0.000640)	(0.00123)	(0.000615)
Number of children less 17 years old	-0.0259***	-0.0324	-0.0279***
	(0.00654)	(0.0202)	(0.00648)
Own a House (d)	0.0189	-0.00367	0.0164
	(0.0132)	(0.0570)	(0.0136)
Telephone (d)	0.0897***	0.144***	0.0975***
	(0.0158)	(0.0368)	(0.0132)
Electricity (d)	-0.0732	-0.181	-0.0862
	(0.0831)	(0.198)	(0.0693)
Water connection inside home (d)	0.163***	0.143*	0.164***
	(0.0374)	(0.0760)	(0.0363)
Sewage (d)	0.0516***	0.0611	0.0578***
	(0.0167)	(0.0831)	(0.0202)
Unpaved floors (d)	-0.0886***	-0.149	-0.0955***
	(0.0189)	(0.0932)	(0.0186)
Married (d)	0.0447*	0.0316	0.0441*
	(0.0269)	(0.0361)	(0.0255)
Divorced/Separated (d)	0.0142	-0.0939	0.0172
	(0.0371)	(0.161)	(0.0360)
Widowed (d)	-0.0476	0.0232	-0.0458
	(0.0306)	(0.138)	(0.0319)
White Collar (d)	0.200***	0.192***	0.199***
	(0.0164)	(0.0490)	(0.0161)
Family worker/Worker without remuneration (d)	0.125***	0.186**	0.142***
	(0.0284)	(0.0804)	(0.0317)
Non-agricultural worker or employee (d)	0.170***	0.216***	0.192***
	(0.0416)	(0.0781)	(0.0434)
Boss, employer, business propietor, self employed (d)	0.137***	0.131**	0.150***
	(0.0299)	(0.0638)	(0.0286)
BMI: Underweight	-0.0399	-0.0843	-0.0417
	(0.0472)	(0.162)	(0.0467)
BMI: Overweight	0.0206	0.00844	0.0202
	(0.0196)	(0.0527)	(0.0174)
BMI: Obese	-0.00162	-0.0291	-0.00213
	(0.0181)	(0.0501)	(0.0167)
N	6049	511	6561
Pseudo R-squared	0.116	0.322	0.128
(d) for discrete change of dummy variable from 0 to 1			
* $p<0.05$, ** $p<0.01$, *** $p<0.001$			
Include fixed effects and clustered standard errors by state			

Source: MxFLS.

The second finding we highlighted in Section 3 was intra-generational mobility in schooling, as measured by the difference in years of schooling between the 2005 wave and the 2002 wave. In that regard we found that non-indigenous individuals were able to accumulate more schooling during the three-year span than indigenous ones (see Table 5). Now we turn to explore the socio-demographic characteristics that are linked to these different patterns. In order to maintain similarities with the regressions presented above in this section, we also create a dummy variable that, in this case, takes a value of 1 if the individual attended more years of schooling during the three-year span and 0 otherwise. We additionally perform probit regressions, with individuals' socio-demographic characteristics (as measured in the 2002 wave) at the right-hand side of the equations. The results are presented in Table 9.

First, the regressions results capture the finding also presented in Table 5 that schooling accumulation is less pronounced among older individuals. However, having children at home (17 years old or younger) is positively linked to schooling accumulation during the three-year span, both for the indigenous and the non-indigenous. There are also three important differences in the characteristics that are linked to schooling accumulation. First, telephone access plays a positive role in accumulation for the non-indigenous but a negative role among the indigenous. Second, occupational characteristics play a positive role in patterns of schooling accumulation for the indigenous but no role for the non-indigenous. And third, poor health status, as measured by body mass index (BMI), is positively linked to schooling accumulation among the indigenous but not among the non-indigenous.

Another way of exploring the linkages of intra-generational schooling accumulation and socio-demographic characteristics involves exploiting the panel nature of the data. For that purpose we perform a variation of the previous probit regressions with the same dummy variable of upward schooling accumulation as the dependent variable. The variation arises at the right-hand side of the equation, as we now use *changes* between 2005 and 2002 in the same socio-demographic characteristics. The results are presented in Table 10. The results suggest, again, different pictures of indigenous and non-indigenous in the (changes of) characteristics that are linked to the patterns of upward schooling accumulation. For non-indigenous individuals we find that those who changed access to sewage at home and those who move from having paved to unpaved floors are expected to be less likely to improve their schooling accumulation. Also,

21

those who improved their health status, as measured by BMI, are less likely to have accumulated extra schooling during the three-year span.

For indigenous individuals, installing a water connection inside the house and gaining access to sewage are negatively linked to chances of schooling accumulation. The picture seems to suggest, at least for the case of indigenous individuals, that even though efforts to improve living conditions and the efforts to accumulate human capital can be regarded as complementary efforts in the long run, in the short run they seem to operate as competitors.

Table 9. Intra-Generational Mobility in Education
Dependent Variable: 1 if Improvement in Educational Status 2005-2002;
Explanatory Variables: Socio-Demographic Characteristics of Individuals
(Marginal effects after Probit)

	No Indigenous b/se	Indigenous b/se	Total b/se
Gender (Male) (d)	0.00224	0.00726	0.00218
	(0.00795)	(0.0234)	(0.00810)
Age	-0.00115***	-0.00187***	-0.00112***
	(0.000443)	(0.000649)	(0.000406)
Number of children less 17 years old	0.00868**	0.0271*	0.00992***
	(0.00352)	(0.0143)	(0.00333)
Own a House (d)	-0.0108	0.0108	-0.0111
	(0.00961)	(0.0484)	(0.00785)
Telephone (d)	0.0127*	-0.0422***	0.0111*
	(0.00732)	(0.0155)	(0.00658)
Electricity	0.0455		0.0453
	(0.0587)		(0.0568)
Water connection inside home (d)	-0.00504		0.00434
	(0.0250)		(0.0237)
Sewage (d)	0.0287*	-0.0128	0.0260*
	(0.0170)	(0.0290)	(0.0149)
Unpaved floors (d)	-0.0200	0.0382	-0.0165
	(0.0141)	(0.0833)	(0.0154)
Married (d)	-0.0111	-0.00781	-0.0106
	(0.00885)	(0.0284)	(0.00815)
Divorced/Separated (d)	-0.00102		-0.00155
	(0.0146)		(0.0135)
Widowed (d)	-0.00594		-0.00727
	(0.0266)		(0.0247)
White Collar (d)	0.0135	-0.00546	0.0134
	(0.00984)	(0.0291)	(0.00916)
Family worker/Worker without remuneration (d)	0.0590	0.847***	0.0691*
	(0.0358)	(0.0205)	(0.0354)
Non-agricultural worker or employee (d)	0.0313	0.290***	0.0382
	(0.0264)	(0.0439)	(0.0243)
Boss, employer, business propietor, self employed (d)	0.0534	0.672***	0.0605
	(0.0404)	(0.0163)	(0.0377)
BMI: Underweight	-0.0234		-0.0157
	(0.0164)		(0.0167)
BMI: Overweight	-0.0115***	0.0912**	-0.00801**
	(0.00421)	(0.0433)	(0.00405)
BMI: Obese	-0.0134**	0.103***	-0.00988**
	(0.00548)	(0.0367)	(0.00504)
N	6516	308	7047
Pseudo R-squared	0.0303	0.189	0.0333
(d) for discrete change of dummy variable from 0 to 1			
* p<0.05, ** p<0.01, *** p<0.001			
Include fixed effects and clustered standard errors by state			

Source: MxFLS.

Table 10. Intra-Generational Mobility in Education

Dependent Variable: 1 if Improvement in Educational Status 2005-2002; Explanatory Variables: Changes 2005-2002 in Socio-Demographic Characteristics of the Individuals

(Marginal effects after Probit)

	No Indigenous b/se	Indigenous b/se	Total b/se
Became House Owner	0.00344		-0.00121
	(0.0113)		(0.0109)
Lost House Possession	-0.00581		-0.00782
	(0.0147)		(0.0142)
Became Telephone Owner	-0.00703	-0.00896	-0.00702
	(0.00775)	(0.0141)	(0.00706)
Lost Telephone Line	0.0175	-0.0310	0.0167
	(0.0115)	(0.0336)	(0.0104)
Gain Access to Electricity Service	-0.0261	0.489	-0.0102
	(0.0287)	(0.347)	(0.0235)
Lost Access to Electricity Service	-0.0144		-0.0147
	(0.0328)		(0.0308)
Installed Water Connection Inside the House	0.00179	-0.0558***	-0.00354
	(0.0196)	(0.0214)	(0.0185)
Lost Water Connection Inside the House	0.0147	-0.00959	0.0110
	(0.0215)	(0.0495)	(0.0212)
Gain Access to Sewage	-0.0360***	-0.0667***	-0.0381***
	(0.0126)	(0.0114)	(0.0113)
Lost Access to Sewage	-0.0394**		-0.0438***
	(0.0179)		(0.0148)
From Unpaved to Paved Floors	0.0109	0.101	0.0157
	(0.0167)	(0.0883)	(0.0178)
From Paved to Unpaved Floors	-0.0282***	-0.00924	-0.0291**
	(0.0104)	(0.0669)	(0.0115)
Got Married	-0.00672	-0.00185	-0.00576
	(0.0109)	(0.0360)	(0.00956)
Got Divorced	-0.00975	0.0251	-0.00860
	(0.00956)	(0.0287)	(0.00929)
From Agricultural Worker to Employer/Self Employed	0.00754		0.00709
	(0.0259)		(0.0252)
From Family Worker to Employee	-0.0131		-0.0143
	(0.0387)		(0.0369)
From Non-Agricultural to Agricultural	-0.0276	0.0453	-0.0228
	(0.0219)	(0.106)	(0.0219)
From Employee to Family Worker/No Remuneration	-0.00517		-0.00993
	(0.0121)		(0.0109)
From Employee to Employer	-0.0526		-0.0549*
	(0.0385)		(0.0330)
From Employer to Agricultural Worker	-0.0388		-0.0441**
	(0.0248)		(0.0215)
From Employer to Family Worker/No Remuneration	0.00329		-0.00224
	(0.0251)		(0.0223)
Improved BMI Status	-0.0169**	-0.0177	-0.0175***
	(0.00679)	(0.0250)	(0.00620)
N	10734	597	11541
Pseudo R-squared	0.00995	0.0919	0.0124
(d) for discrete change of dummy variable from 0 to 1 * p<0.05, ** p<0.01, *** p<0.001 Include fixed effects and clustered standard errors by state			

Source: MxFLS.

6. Conclusions

The results indicate important differences in the patterns of human capital accumulation between indigenous and non-indigenous groups living in urban areas. In education, although individuals living in urban areas have greater access to basic social services, the quality of those services remains a challenge for social protection and education policies. Although gaps are closing in terms of education attainment between indigenous and non-indigenous groups, a closer comparison between repetition rates and incremental schooling achievements among non-indigenous and indigenous groups continues to raise questions regarding the pertinence and quality of education services in urban areas. The results from the parent-child transition matrices in education, showing lower mobility for people of indigenous descent than for their non-indigenous peers, suggest that policymakers have an opportunity to identify specific and targeted interventions to enhance the development of indigenous peoples in urban areas.

The results from the regression exercises suggest that non-indigenous individuals have been able to accumulate more schooling during the three-year span than indigenous individuals. As shown, specific household conditions may play a positive role in accumulation for the non-indigenous but a negative role among the indigenous. However, occupational characteristics and poor health status, as measured by body mass index (BMI) are positively linked to schooling accumulation among the indigenous, as opposed to the non-indigenous.

The picture seems to suggest, at least for the case of indigenous individuals, that even though efforts to improve living conditions and the efforts to accumulate human capital can be regarded as complementary efforts in the long run, in the short run they seem to operate as competitors.

References

Bando, R., and L. López-Calva. 2006. "Conditional Cash Transfers and Indigenous People's Health: Is There a Differential Impact of Progresa Between Indigenous and Non-Indigenous Households?" EGAP Working Paper 2006-02. Mexico City, Mexico: Instituto Tecnológico de Monterrey, Campus Ciudad de México.

Behrman, J.R., A. Gaviria and M. Székely. 2001. "Intergenerational Mobility in Latin America." Research Department Working Paper 452. Washington, DC, United States: Inter-American Development Bank.

Bernal, R., and M. Cárdenas. 2005. "Race and Ethnic Inequality in Health and Health Care in Colombia." Working Paper 003413. Bogota, Colombia: Fedesarrollo.

Binder, M., and C. Woodruff. 2002. "Inequality and Intergenerational Mobility in Schooling: The Case of Mexico." *Economic Development and Cultural Change* 50(2): 249-267.

Borjas, G. 1991. "Ethnic Capital and Intergenerational Mobility." NBER Working Paper 3788. Cambridge, United States: National Bureau of Economic Research.

----. 1995. "Ethnicity, Neighborhoods and Human-Capital Expenditures." *American Economic Review* 85(3): 365-390.

Busso, M., M. Cicowiez and L. Gasparini. 2004. "Ethnicity and MDGs in Latin America." La Plata, Argentina: Universidad Nacional de la Plata, Centro de Estudios Distributivos, Laborales y Sociales (CEDLAS).

Casey, T., and C. Dustmann. 2007. "Intergenerational Transmission of Language Capital and Economic Outcomes." IZA Discussion Paper 3074. Bonn, Germany: Insitute for the Study of Labor (IZA).

Chong, A., and H. Ñopo. 2008. "The Mystery of Discrimination in Latin America." *Economía* 8(2): 79-107.

Comisión de Desarrollo Indígena (CDI). *Programa Nacional para el Desarrollo de los Pueblos Indígenas 2001-2006*. Mexico City, Mexico: CDI.

Consejo Nacional de la Población (CONAPO). *Proyecciones Indígenas 2000-2010*. Mexico City, Mexico: CONAPO.

Cortés, F., and A. Escobar Latapí. 2005. Intergenerational Social Mobility in Urban Mexico. *Cepal Review* 85: 143-60.

D'Addio, A.C. 2007. "Intergenerational Transmission of Disadvantage: Mobility or Immobility across Generations? A Review of Evidence for OECD Countries." OECD Social, Employment and Migration Working Paper 52. Paris, France: Organisation for Economic Co-operation and Development.

De Graaff, T., and H.L.F. de Groot. 2004. "Ethnic Concentration and Human Capital Formation." Tinbergen Institute Discussion Paper TI 04-081/3. Amsterdam, The Netherlands: Tinbergen Institute.

Del Popolo, F. et al. *Indigenous Peoples and Urban Settlements: Spatial Distribution, Internal Migration and Living Conditions.* Santiago, Chile: United Nations Economic Commission for Latin America and the Caribbean, Latin American & Caribbean Demographic Centre.

Duryea, S. et al. 2007. "The Educational Gender Gap in Latin America and the Caribbean." Research Department Working Paper 600. Washington, DC, United States: Inter-American Development Bank.

Ermisch, J., M. Francesconi and T. Siedler. 2006. "Intergenerational Mobility and Marital Sorting." *Economic Journal* 116: 659-679.

Fernández Ham, P. et al. 2006. *Informe de Desarrollo Humano Indígena.* Mexico City, Mexico. Comisión Nacional para el Desarrollo de los Pueblos Indígenas (CDI) y Programa de las Naciones Unidas para el Desarrollo (PNUD).

Ferreira, F., and J. Gignoux. 2008. The Measurement of Inequality of Opportunity: Theory and an Application to Latin America. Policy Research Working Paper 4659. Washington, DC, United States: World Bank.

Flores, J.I. No date. *Perfiles de los Pueblos Indígenas en Ciudades de México*. Mexico, City, Mexico: Universidad Nacional Autónoma de México, Instituto de Investigaciones Sociales.

Flórez, C.E., R. Ribero and B. Samper. 2003. "Health, Nutrition, Human Capital and Economic Growth in Colombia 1995-2000." Documento CEDE 002785. Bogota, Colombia: Universidad de los Andes, Centro de Estudios sobre el Desarrollo Económico.

Granados Alcantar, J.A. 2005. "Las Nuevas Zonas de Atracción de Migrantes Indígenas en México." *Investigaciones Geográficas, Boletín del Instituto de Geografía, UNAM* 58: 140-147.

Gutiérrez, J.P., S. Bertozzi and P. Gertler. 2003. "Evaluación de la Identificación de familias beneficiarias en el medio urbano: Evaluación de Resultados de Impacto del Programa de Desarrollo Humano Oportunidades. Mexico City, Mexico: Instituto Nacional de Salud Pública.

Huntington, S., and L. Harrison, editors. 2000. *Culture Matters: How Values Shape Human Progress.* New York, United States: Basic Books.

Inter-American Development Bank. 2007. "Social Mobility and Exclusion." In: *Outsiders? The Changing Patterns of Exclusion in Latin America and the Caribbean.* Washington, DC, United States: Inter-American Development Bank.

Mayer, D. 2000. "Long-Term Reciprocal Impact of Health and Growth in Mexico." In: D. Mayer et al., editors. *Health, Growth and Income Distribution in Latin America and the Caribbean: A Study of Determinants and Regional and Local Behavior.* Research in Public Health Technical Papers. Washington, DC, United States: Pan American Health Organization.

Molnar, A., T. Carrasco and K. Johns-Swartz. 2004. Pueblos Indígenas, Identidad y Pobreza en las Ciudades de México, Cancún y Caotzacoalcos-Minatitlán." In: H. Patrinos and G. Hall, editors. *Pueblos Iindígenas, Pobreza y Desarrollo Humano en América Latina*: *1994-2004.* Washington, DC, United States: World Bank.

Orozco, M., and C. Hubert. 2005. "La Focalización en el Programa de Desarrollo Humano Oportunidades de México." Social Protection Discussion Paper 531. Washington, DC, United States: World Bank.

Pacheco, E. 2005. "La Movilidad Ocupacional de los Hijos frente a los Padres." In: M-L. Coubés, M.E. Zavala and R. Zenteno, coordinators. *Cambio Demográfico y Social en México en el Siglo XX: Una Perspectiva de Historias de Vida.* Mexico City, Mexico: Miguel Ángel Porrúa.

Parrado, E.A. 2005. "Economic Restructuring and Intra-generational Class Mobility in Mexico." *Social Forces* 84(2): 733-757.

Patrinos, H. E. Skoufias and T. Lunde. 2007. "Indigenous Peoples in Latin America: Economic Opportunities and Social Networks." World Bank Policy Research Working Paper 4227. Washington, DC, United States: World Bank.

Pérez Ruiz, M.L. 2007. "Metropolitanismo, Globalización y Migración Indígena en las Ciudades de México." *Cuadernos de Estudios Sociales Urbanos* 1: 68-94.

Platt, L. 2003. "The Intergenerational Social Mobility of Minority Ethnic Groups." ISER Working Paper 2003-24.   Essex, United Kingdom: Essex University, Institute for Social and Economic Research.

Romer, M. "Los Hijos de Inmigrantes Indígenas en la Ciudad de México: Una Propuesta de Topología de Identidades Étnicas." *Actas Latinoamericanas de Varsovia* 28: 53-66.

Sánchez Gómez, M.J. 2005. "Algunos Aportes de la Literatura sobre Migración Indígena y la Importancia de la Comunidad." CMD Working Paper 372. Princeton, United States: Princeton University, Woodrow Wilson School of Public and International Affairs, Center for Migration and Development.

Torche, F. 2007. *Movilidad Intergeneracional y Cohesión Social: Análisis Comparado de Chile y México.* Preliminary draft for Proyecto Nacsal Cieplan-iFHC. Available at: http://homepages.nyu.edu/~ft237/torche_movilidad_chile&mexico.pdf.

Torche, F. and C. Costa Ribeiro. 2007. "Educational Expansion and Decline in the 'Mobility Returns' of Higher Education: The Case of Mexico and Brazil." Paper presented at the RC28 Meeting "Social Inequality and Mobility in the Process of Social Transformation," Brno, Czech Republic May 24-27.

Torche, C., and S. Spilerman. 2007. "Intergenerational Influences of Wealth in Mexico." Paper presented at the RC28 Meeting "Social Inequality and Mobility in the Process of Social Transformation." Brno,Czech Republic May 24-27.

Zenteno, R., and P. Solís. 2006. "Continuidades y Discontinuidades de la Movilidad Ocupacional en México." *Estudios Demográficos y Urbanos* 21(3): 515-546.

Zimmer, M. 1996. "Assortative Mating and Ethnicity in the Low Wage Population: An Examination of Spouses' Earnings." *Applied Economics Letters* 3(5): 311-135.