Impacts of Economic Remittances on Ethnic Differences in School Attainment in Guatemala

Abstract

The massive international migration due to the civil war and political conflicts during the late 1970s and 1980s dramatically increased the number of Guatemalans living abroad. As a result, many Guatemalan households benefit from economic remittances. While these resources lessen recipient households' economic constraints, it is concerned that they may also exacerbate the socioeconomic inequality between indigenous and non-indigenous people. In this study, using nationally representative survey data, I examine impacts of economic remittances on children's schooling and the gap in school dropout rates between the two groups. Findings indicate that economic remittances help children to remain in school net of households' economic conditions and parents' level of education. At the same time, these resources do not explain the gap in school dropout rates between indigenous and non-indigenous children. Rather, household economic conditions and parents' educational attainment are key elements leading to the significant gap in educational attainment between the two groups today. Therefore, the current study implies that since very poor households are least likely to receive economic remittances and indigenous people are much more likely to be poor, economic remittances are likely to increase the gap in educational attainment and the quality of education that Guatemalan children receive.

Impacts of Economic Remittances on Ethnic Differences in School Attainment in Guatemala

Introduction

For the past few decades, the volume of international migrants has increased considerably resulting in more diverse and complex migration patterns and consequences. One of such diverse consequences is possible changes in ethnic structures and inequalities. While the prosperity brought by economic remittance can easily be seen in poor countries, economic remittances may exacerbate the inequality level if the poorest groups are least likely to migrate and benefit from economic remittances. This is especially the case in a country such as Guatemala where socioeconomic positions are largely defined by individuals' ethnic backgrounds because as previous research on international migration indicates, the propensity of migration is often affected by the individual's socioeconomic background.

During the late 1970s, a large number of Guatemalans started to migrate to the US to escape from political conflicts and the civil war (Hamilton and Chinchilla 1991). As a result, the number of Guatemalans living abroad has increased considerably and the amount of economic remittances sent to Guatemala has notably increased. For example, the amount of official inward remittance flow in 2006 was US\$3.6 billion in Guatemala, which account for 12.2% of GDP in Guatemala (Ratha and Xu 2008).

Acosta et al. (2007) state, economic remittances have a potential to affect the long term welfare of recipients. Indeed, economic remittances may lessen one of Guatemala's major problems—a very low level of educational attainment—since factors related to children's households, such as budget limitations usually explain why children drop out of school in Guatemala (World Bank 2003). Examining whether economic remittances have such long term effects and if such influences differentiate remittance recipient and non-recipient households as

well as across ethnic groups is important in a country like Guatemala that presents an extremely high level of socioeconomic and ethnic inequalities.

Whether or not economic remittances improve or worsen socioeconomic problems in sending communities is yet unclear. Various studies found that remittance can have a positive impact even on non-migrant household members. According to Kanaiaupuni and Donato (2000), although migration is disruptive to community and households in its initial stages, with time and economic remittances, it eases household survival as it becomes part of local institutional and community life. In a similar vein, Taylor (2004) and Orozco (2005) argue that the increase in local consumption and the emergence of new businesses resulting from economic remittances benefits both migrant and non-migrant households.

At the same time, other studies have indicated that economic remittances can lead to a negative consequence. For example, Grasmuck and Pessar (1991) have noted that the impact of emigration differentially affects diverse social classes benefiting migrant households while hurting non-migrant households in the Dominican Republic. The authors argue that migration does not improve economic conditions of sending communities at the aggregate level. In some cases, unemployment has risen and productivity has declined as a result of emigration (Grasmuck and Pessar 1991; Piore 1979). Similarly, Rodriguez and Hagan (2000) argue that in Guatemala, the U.S. migration has produced some economic restrictions including the shortage of workers and the increase in rural wages, slowing down local labor markets since the 1980s.

The relation between economic remittances and children's schooling and how these resources affect the gap in educational attainment is also unclear. If children in remittance recipient households accumulate more years of schooling and acquire more human capital than children in non-recipient households of similar socioeconomic backgrounds, then remittances

can also be expected to positively affect long run growth among recipient households while also increasing the level of inequality between recipient and non-recipient households. Given the large discrepancy in educational attainment that exists between indigenous and non-indigenous people that exit in Guatemala, how economic remittances affect children's educational attainment is an extremely important issue to foresee long-term impacts of international migration on ethnic structures and relations in the country where, according to the 2002 national census, more than 40% of the population identify themselves as indigenous.

In this study, using the 2000 Guatemalan Living Standard Measurement Survey (Encuesta Nacional sobre Condiciones de Vida, ENCOVI) data and the Bayesian Cox proportional hazard model, I will estimate the effects of economic remittances on children's schooling. Regarding economic remittances as income that are often uncorrelated with individuals' educational attainment, especially in the case of international remittances, I will analyze whether economic remittances significantly decrease the hazard of dropping out of school among children while taking into account other factors such as their household head's educational level and household economic status.

Since there is a significant difference in school dropout rates across ethnic groups, I will also decompose school dropout differentials between the two groups using piecewise constant exponential models to further examine what factors lead to such difference and whether economic remittances affect children's schooling differently between indigenous and non-indigenous children. The decomposition analysis will serve to highlight major problems that in today's educational system and predict possible patterns in the gap of educational attainment to design an effective policy to shrink the gap between indigenous and non-indigenous children.

Educational Attainment in Guatemala

Guatemala is one of the most unequal countries in Latin America (World Bank 2007). This is in part due to the large proportion of the indigenous population in the country. Guatemalan indigenous people are much more likely to encounter severe socioeconomic problems than their non-indigenous counterparts (Hall et al. 2006). Indigenous peoples' disadvantaged socioeconomic situation is a consequence of the repression of and discrimination against them since the onset of the colonial period (Booth et al. 2006; Davis 2002; Jonas 2000; Sieder 2002). Nevertheless, ethnic differences did not usually reflect the region's politics or legal and administrative arrangements (Hall et al. 2006) because problems such as poverty and inequality were regarded as a class-based issue.

Since the signing of the Peace Accords in 1996, there were several notable improvements in circumstances that surround indigenous people. For instance, in Guatemala, the 1996 peace accords guaranteed the rights of indigenous people to freely show and practice their cultures such as languages and religion (Montejo 2005). Additionally, to preserve indigenous languages and to shrink the gap in educational attainment between indigenous and non-indigenous populations, several Latin American countries today including Guatemala offer bilingual education in Spanish and indigenous languages (Hall et al. 2006; Shapiro 2006). As of 2000, about 37% of indigenous students in rural areas enroll in bilingual education in first grade (Shapiro 2006).

However, Guatemalan children show one of the lowest educational attainment levels among Latin American countries (World Bank 2007). The average year of schooling for those aged 14 and up is mere 4.3 years. Although primary education is compulsory for children of ages 7-12 today, many of them do not enroll or attend school (World Bank 2003). And a very small portion of total public expenditure is spent on education—2.6% of GDP while the mean of all countries in Latin America and the Caribbean is 4.5% (Shapiro 2006; World Bank 2003). In

addition, there is a clear gap in educational attainment between various groups such as indigenous and non-indigenous children, boys and girls and also, poor and non-poor children. According to the World Bank (2003), the gap in schooling across groups and the general low level of educational attainment in Guatemala can be explained by factors related to children and their households such as the budget constraints rather than a lack of schools.

Hence, economic remittances may promote children to remain in school if these resources relax the economic limitations. Yet, as noted earlier, these additional resources may exacerbate one of the most serious current problems of Guatemala—ethnic inequality. Economic remittances can exacerbate such problem in Guatemala if the poorest groups are least likely to migrate due to the shortage of resources and in the case of many indigenous people, because of the inability to speak Spanish. Therefore, it is concerned that the level of inequality in educational attainment between indigenous and non-indigenous children exacerbates if economic remittances positively affect children's schooling net of other factors.

Economic Remittances and Educational Attainment

At the same time, as Acosta et al. (2007) argue, the net impact of migration and remittances on human capital accumulation is not very unclear. It is possible that migrant remittances help overcome economic limitations and lead to more human capital investments among poor households. However, it is equally possible that migration of household members that precedes the receipt of remittances can have disruptive impacts on household life including potentially negative consequences on the educational attainment of children. Furthermore, since most migrants from Guatemala and other Central American countries work in occupations that require little schooling, children of migrant households who also aim to migrate may not value education lowering the educational attainment of children of migrant households. Such case may be more

relevant among indigenous children if they feel little opportunity in their country due to the high level of inequality and a severe discrimination against them.

Previous research on remittances and children's schooling presents mixed findings. In Mexico, Lopez-Cordova (2005) has found that higher remittance flows are associated with lower illiteracy rates in Mexican municipalities. Yet, in terms of schooling, the effect is positive only for 5-year old children, insignificant among 6-14 years old and even negative for children of ages 15 to 17. In the case of El Salvador, Cox Edwards and Ureta (2003) show that children from remittance recipient households are less likely to drop out of school, which, according to the authors, is because remittances relax budget constraints affecting poor recipient households. Using data from 11 countries, Acosta et al. (2007) have studied the impact of economic remittances on accumulated schooling among children of ages 10-15. They have found that in 6 out of these 11 countries, economic remittances are significantly related to a higher educational attainment including Guatemala.

While Acosta et al. (2007) have shown that in Guatemala, children of remittance recipient households do better in terms of educational attainment, how economic remittances affect ethnic differentials in educational attainment continues to be unclear. This is an important point to examine in Guatemala given the large discrepancy in educational attainment between indigenous and non-indigenous groups. If indigenous children of migrant households receive significantly higher years of schooling than those in non-recipient households, and the impact of remittances differ across ethnic groups, then, it is possible that ethnic structures and relations change due to international migration.

Data and Method

To estimate the relation between economic remittances and children's school dropout, I use the 2000 ENCOVI data. The data set is nationally representative. In this study, I estimate the above noted relation using the Bayesian Cox proportional hazard model. The use of Cox model in the study of educational attainment using frequentist (or classical) statistics has been previously done by Cox Edwards and Ureta (2003).

The sample is a cross-section of 10,800 individuals aged 7–20. I exclude children who were six years old and younger at the time of the survey because in Guatemala, the official age of entry for primary school is age seven, which is one year later than in most countries in Latin America. The data contain information of the sex, age and school attainment of the individual, household characteristics and the place of residence. About 1% of respondents in the sample present missing information. I impute the missing information simultaneously when I estimate the regression model.

I use information of households' access to properties such as electricity, running water, and toilet to construct an asset index. In this study, I use the asset index as the indicator of household wealth instead of household income because the asset index tends to be more stable and reliable indicator of household economic status than income that can differ significantly depending on the time of the survey especially for indigenous people who are more likely to engage in agricultural work.

Following Cox Edwards and Ureta (2003), in this study, I regard children of school age who are not enrolled in school as those who have dropped out of school. The current sample also includes individuals who have never attended school. Therefore, I regard "never enrolled" as the first stage of the schooling process in this study. As the authors argue, using the Cox proportional hazard model, I can make use of all the available information in observations that

are right-censored (i.e., children who were still enrolled in school at the time of survey). In addition, using the Cox regression, I can include those individuals who have completed more than 12 years of schooling. Since the main interest of the study is school attainment in primary and secondary school, I focus on grades 1 through 12 by truncating an individual's completed schooling at 12 years if one has more than 12 years of completed schooling, treating him or her as right censored.

Using the proportional hazard model, the observed fraction of the population that dropped out after grade *t* relative to children who have completed grade *t* can be expressed as:

$$h_t = h_0(t) \exp(\mathbf{x'b})$$

where $h_0(t)$ is the baseline hazard of leaving school after grade *t*, which is left unspecified. **x'** is a vector of covariates, and **b** is the vector of parameters to be estimated. Note that in the Cox proportional hazard model, the effect of the covariates is assumed to be proportional over the baseline hazard

As discussed in Cox Edwards and Ureta (2003), there are at least a few weaknesses of the use of cross-sectional data to study impacts of remittances on children's schooling. First, although it is reasonable to expect that decisions of parents on the schooling of older children depends on their school experience including whether they repeat a grade, the current data set does not offer such information. In addition, the composition of the household such as the number of siblings and household budgets are likely to play a key role in parental decisions on children's schooling. Using the cross-sectional data, such information is not available.

In addition to the Cox proportional hazard model, I will carry out a decomposition analysis of piecewise constant exponential models to closely examine the gap in educational attainment between indigenous and non-indigenous groups. To decompose differentials in

dropout rates, the baseline hazard needs to be specified, which is why the Cox proportional hazard model cannot be used. In this study, the baseline hazard is specified using a piecewise constant exponential model, which leads to convenient estimation based on a Poisson regression model fit to person-period data. More specifically, in the decomposition analysis, I aim to examine closely the difference in school dropout rates between indigenous and non-indigenous children, which can be expressed as:

$$r_I - r_N = \overline{F(\mathbf{x}'_{iI}\mathbf{b}_I)} - \overline{F(\mathbf{x}'_{iN}\mathbf{b}_N)}$$

where the indices *I* and *N* denote the higher-risk (indigenous children) and lower-risk (non-indigenous children) group, respectively. $\overline{F(\mathbf{x}'_{ij}\mathbf{b}_j)}$, is computed as

$$r_{j} = \overline{F(\mathbf{x}'_{ij}\mathbf{b}_{j})} = \frac{\sum_{i=1}^{N_{j}} \sum_{l=1}^{n_{ij}} F(\mathbf{x}'_{ilj}\mathbf{b}_{j})}{\sum_{i=1}^{N_{j}} \sum_{l=1}^{n_{ij}} \Delta t_{ilj}}$$

where

$$F(\mathbf{x}'_{ilj}\mathbf{b}_j) = \Lambda_{ilj} = \Lambda_{0lj} \exp(\mathbf{x}'_{ilj}\mathbf{b}_j) \quad j \in \{I, N\}, \quad (l = 1, \dots, n_{ij})$$

is the estimated cumulative, or integrated, hazard associated with the *i*th individual in the *l*th time interval from a piecewise constant exponential hazard rate model.¹

Results

Table 1 presents descriptive statistics of factors used in the study. The table shows that there are various notable differences between indigenous and non-indigenous groups. For example, indigenous people are less likely to live in urban areas. In addition, the table indicates that non-indigenous people are more likely to receive both internal and international remittances. The mean years of schooling among indigenous heads of household is only 2.07 while on-indigenous heads of household have receive more than twice of their indigenous counterparts (4.3 years). Also, there is a clear gap in economic status of indigenous and non-indigenous households. While about 55% of indigenous children are considered to be poor in the sample, only about 37% of non-indigenous children belong to the same category.

Figure 1 presents estimates of survivor functions from Kaplan-Meier analysis for indigenous and non-indigenous children. Indigenous children are significantly more likely to drop out of school at earlier grades than non-indigenous children. The largest gap between the two groups is found at 5th and 6th grades. Although the gap shrinks after these grades, the difference in the hazard of dropping out of school remains statistically significant at the 95% level.

Bayesian Cox-Proportional Hazard Regression

Table 2 presents estimates from the Bayesian Cox proportional hazard model. The model shows that children who live in urban areas are significantly less likely to drop out of school than those in rural areas. The model indicates that parental education significantly negatively relates to children's risk of dropping out of school, especially among children at higher grades. This indicates that while the majority of children attend earlier grades in primary education today, children with fewer years of education are less likely to send their children to school after completing a few grades.

¹ For more information, refer to Powers and Yun (Forthcoming).

In addition, households' economic status is strongly related to children's schooling. For example, children of whose households are classified as middle in the asset index is only 58% as likely as poor children to drop out of school. In a similar vein, children from rich households are significantly less likely to drop out of school. The hazard of dropping out of school among children from rich households is only about 36% of the rate among poor children. And female children are much more likely to drop out of school than their male counterparts.

The model also indicates that both international and internal remittances significantly lower children's risk of dropping out of school even though the model takes into account the household head's level of education and households' economic status. International remittances have especially strong effects to keep children in school.

Finally, the model shows that even when controlling for the factors discussed above, indigenous children face a much higher hazard of dropping out of school than non-indigenous children. Overall, the hazard of indigenous children to drop out of school is about 29% more than that of non-indigenous children. Since the model takes into account children's household heads' level of education, their households' wealth and economic remittances, the result indicates that these factors alone cannot explain why indigenous children lag behind non-indigenous children in schooling.

Decomposition of Ethnic Differences in School Dropout Rates

To further examine the gap in school dropout rates between indigenous and non-indigenous children and whether economic remittances increase the gap in school dropout rates between indigenous and non-indigenous children, I decompose results from piecewise constant exponential models. I decompose these models instead of the Cox proportional hazard model shown earlier because decomposing the results from the Cox proportional hazard model is difficult since the baseline hazard is left unspecified.

Table 3 presents results from the piecewise constant exponential models and event percentages. The table shows that indigenous children are much more likely to drop out of school than non-indigenous. For every 100 children, the difference in the school dropout rates is 5.4. The estimates from piecewise constant exponential models for each groups are also shown in the table. The models indicate that for both groups, economic remittances significantly reduces the hazard of dropping out of school at the p<.05 level for both indigenous and non-indigenous children. Estimates of other variables for each group are also close to each other. However, the table indicates that parental education has stronger impacts to retain children in school among indigenous children than non-indigenous children. It seems this is in part because the proportion of indigenous parents with higher years of education is very small, as Table 1 has shown.

Table 4 presents results from the decomposition analysis. We can see that the majority of the difference in school dropout rates derives from differences in characteristics (79.56%) rather than differences in coefficient (20.44%). The 95% confidential intervals for both components indicate that both characteristics and coefficients components significantly contribute to the higher school dropout rate among indigenous children.

Among children's household characteristics, the household head's educational level and their wealth are the most influential and statistically significant. While most of coefficients components do not show significant differences in school dropout rates between indigenous and non-indigenous children, the table shows that for children attending 4th grade and higher, a higher level of head's education prevents non-indigenous children from dropping out of school more than their indigenous counterparts.

While both international and internal remittances were found to have significant impacts on school dropout rates, these factors do not explain the difference in school dropout rates

between indigenous and non-indigenous children. In addition, the proportion of international and internal remittances to explain the gap in educational attainment between indigenous and non-indigenous children is very low.

Discussion

The current study has indicated that children of remittance recipient households, whether or not remittances are sent internationally or within Guatemala, are significantly more likely to remain in school than children in non-recipient households. And international remittances have a stronger impact than internal remittances to retain children in school. These effects are present even when controlling for households' economic status and household head's level of education. Therefore, the results imply that economic remittances encourage children to remain in school not only because these resources relax the economic constraints that many households face, but also possible changes in behaviors and attitudes toward education. The study has also found that parental education is a very important factor in explaining children's school dropout rates, especially for children at higher grades.

While economic remittances have significant impacts on school dropout rates, in the decomposition analysis, I have found that economic remittances do not explain the gap in educational attainment between indigenous and non-indigenous children very much. These findings suggest that the impacts of economic remittances—regardless of internal or international ones—do not affect children's schooling differently between indigenous and non-indigenous children, economic remittances encourage children to remain in school. At the same time, the results also indicate that the inequality level in school attainment increase among Guatemalan children given the fact that economically advantageous households are more likely to receive economic remittances

than poor households. Since the majority of indigenous households are poor and those indigenous households that receive remittances are relatively advantaged, it is expected that the gap in schooling across and within ethnic groups increase, leaving the most disadvantage group in a more vulnerable situation. As the most disadvantaged group tend to be rural indigenous people, unless an appropriate action is taken, the gap between educational attainment between urban and rural areas, poor and non-poor and indigenous and non-indigenous children would increase.

Finally, although I did not discuss it in this study, it is also important to look at if economic remittances also influence the quality of education that children receive. Children of migrant households may be more likely to attend private schools than other non-migrant household children. Since state does not have enough capabilities, which also reflects the small proportion of the national budget spent on education, the private sector has invested in the health and education sectors. As a consequence of this investment, there are two-tier systems of social welfare. While the upper and upper middle classes can afford private schools and health services, the poor, many of who are indigenous in Guatemala, can rely only on under-funded and low-quality public service.

Therefore, although the gap in years of schooling continue to exist, since more and more children attend school at least at primary level today, especially since the primary education has become free at public schools in 2009. Therefore, the gap in the quality of education offered across schools may become a more important factor to define children's human capital. It is also important to examine if economic remittances reduce the probability of repeating grade and also, encourage children who left school to return in future research.



Figure 1. Kaplan-Meier Estimates of Survival Functions by Ethnic Groups

	Total	on-indigenous	
Urban	39.82	31.65	46.35
Indigenous	44.41		
International Remittance	8.51	6.77	9.91
Internal Remittance	11.92	9.90	13.53
Head's Years of Schooling (mean)	3.31	2.07	4.30
Asset Index			
Poor	43.23	55.23	33.64
Middle	41.87	38.71	44.38
Rich	14.91	6.05	21.98
Female Head	14.68	13.11	15.94
Female Child	47.17	47.88	46.60

Table 1. Percentage Distribution of Variables Used in Analysis

Urban-0.3300.044(-0.415-0.241)Indigenous0.2530.035(0.1850.320)International Remittance-0.2910.071(-0.430-0.152)
Indigenous 0.253 0.035 (0.185 0.320 (International Remittance -0.291 0.071 (-0.430 -0.152 (
International Remittance -0.291 0.071 (-0.430-0.152)
Internal Remittance -0.140 0.056(-0.253-0.038)
P.S.; <3rd Grade -0.038 0.009(-0.055-0.018)
P.S.: 4-6 Grade -0.173 0.012(-0.199-0.152)
P.S.: 7th+ -0.397 0.019(-0.434-0.362)
(Poor)
Middle -0.537 0.038(-0.615-0.465)
Rich -1.021 0.096(-1.207-0.844)
Female Head -0.027 0.048 (-0.121 0.069)
Female Child 0.228 0.034(0.163 0.294)

Table 2. Result from Cox Proportional Hazard Regression

	Ind	Indigenous			Non-Indigenous		
Independent Variables	Means	b	Z	Means	b	Z	
Urban	0.317	-0.191	-3.194	0.463	-0.417	-6.434	
International Remittance	0.068	-0.307	-2.963	0.099	-0.295	-3.044	
Internal Remittance	0.099	-0.047	-0.585	0.135	-0.219	-2.879	
P.S.; <3rd Grade	1.204	-0.069	-4.684	1.807	-0.017	-1.334	
P.S.: 4-6 Grade	0.466	-0.243	-10.544	1.164	-0.147	-10.503	
P.S.: 7th+	0.404	-0.437	-11.410	1.330	-0.322	-16.069	
Asset Index							
(Poor)	0.550			0.340			
Middle	0.387	-0.501	-9.148	0.444	-0.500	-8.923	
Rich	0.061	-0.680	-4.319	0.220	-1.055	-8.755	
Female Head	0.131	-0.047	-0.666	0.159	-0.021	-0.302	
Female Child	0.479	0.315	6.786	0.466	0.090	1.818	
Baseline Hazard School Year Intervals	% Events	b	Z	% Events	b	Z	
Never Enrolled	19.819	-1.337	-28.813	8.547	-1.728	-29.613	
1st-3rd	9.983	-2.316	-40.876	6.364	-2.558	-39.768	
4th-6th	8.344	-1.264	-20.147	10.344	-1.112	-19.200	
7th-9th	1.198	-1.321	-9.169	2.133	-1.027	-9.950	
10th+	0.105	-2.426	-5.384	0.554	-1.065	-5.860	
Event Percentage	39.449			27.943			
Crude Rate * 100	11.094			5.677			
Indigenous-Non Indigenous Difference in Rate		5.417					

Table 3. Means, Effects (hazard ratios and baseline hazards), and Event Percentages

Independent Variables	E * 100	95%	C.I.	% of Total	<i>C</i> * 100	95% (C.I.	% of Total
Urban	0.146	-0.028	0.319	2.687	0.709	-0.431	1.849	13.087
International Remittance	0.050	-0.030	0.130	0.921	-0.008	-1.076	1.060	-0.153
Internal Remittance	0.009	-0.104	0.122	0.163	0.158	-0.818	1.133	2.914
P.S.; <3rd Grade	0.215	0.027	0.403	3.960	-0.634	-4.775	3.506	-11.712
P.S.: 4-6 Grade	0.878	0.579	1.176	16.203	-0.755	-4.804	3.293	-13.944
P.S.: 7th+	2.093	1.787	2.398	38.631	-1.035	-9.708	7.639	-19.098
Asset Index								
(Poor)								
Middle	0.147	-0.019	0.313	2.711	-0.001	-2.606	2.603	-0.025
Rich	0.560	0.155	0.965	10.346	0.559	-1.143	2.260	10.313
Female Head	0.007	-0.066	0.080	0.127	-0.028	-1.238	1.181	-0.524
Female Child	0.021	-0.008	0.050	0.385	0.712	-0.215	1.638	13.136
Baseline Hazard School Year Intervals								
Never Enrolled	-0.794	-0.932	-0.655	-14.649	1.300	0.727	1.873	23.999
1st-3rd	0.357	0.318	0.397	6.598	0.506	-0.576	1.589	9.345
4th-6th	0.327	0.182	0.472	6.036	-0.143	-1.155	0.868	-2.644
7th-9th	0.172	0.053	0.290	3.170	-0.091	-0.765	0.583	-1.685
10th+	0.123	0.056	0.189	2.267	-0.139	-0.793	0.515	-2.566
	$\sum E_k$				$\sum C_k$			
		=	4.310			=	1.107	
		95%					95%	20 444
Overall Contributions		C.	I.	/9.556	(U.I.	1 5 5 2 3	20.444
		(4.051	4.568)		(0.663	1.552)	

Table 4. Decomposition into Characteristics (E) and Coefficients (C) Components

Note: % of total is the percentage share of the differential in crude rates of 5.417 between indigenous people (11.094 per 100) and non-indigenous people (5.677 per 100). Results are the average of two decompositions.

References

- Acosta, Pablo. 2007. "Entrepreneurship, Labor Markets, and International Remittances: Evidence from El Salvador." Pp. 141-159 in *International Migration, Economic Development & Policy*, edited by Ç. Özden and M. Schiff. Houndmills, Basingstoke, Hampshire and New York: Palgrave Macmillan.
- Acosta, Pablo, Pablo Fajnzylber, and J. Humberto Lopez. 2007. "The Impact of Remittances on Poverty and Human Capital: Evidence from Latin American Household Surveys." Pp. 59-98 in *International Migration, Economic Development & Policy*, edited by Ç. Özden and M. Schiff. Houndmills, Basingstoke, Hampshire and New York: Palgrave Macmillan.
- Cox Edwards, Alejandra and Manuelita Ureta. 2003. "International Migration, Remittances, and Schooling: Evidence from El Salvador." *Journal of Development Economics* 72:429-461.
- Grasmuck, Sherri and Patricia R. Pessar. 1991. *Between Two Islands: Dominican International Migration*. Berkeley: University of California Press.
- Hall, Gillette, Heather Marie Layton, and Joseph Shapiro. 2006. "Introduction: The Indigenous People's Decade in Latin America." Pp. 1-24 in *Indigenous Peoples, Poverty and Human Development in Latin America: 1994-2004*, edited by G. Hall and H. A. Patrinos. Houndmills, Basingstoke, Hampshire, New York: Palgrave Macmillan.
- Hamilton, Nora and Norma Stoltz Chinchilla. 1991. "Central American Migration: A Framework for Analysis." *Latin American Research Review* 26:75-110.
- Kanaiaupuni, Shawn Malia. 2000. "Reframing the Migration Question: An Analysis of Men, Women, and Gender in Mexico." *Social Forces* 78:1311-1347.
- López-Córdova, Ernesto. 2005. "Globalization, Migration, and Development: The Role of Mexican Migrant Remittances." *Economia* 6:217-256.
- Orozco, Manuel. 2005. "Transnationalism and Development: Trends and Opportunities in Latin America." Pp. 307-329 in *Remittances: Development Impact and Future Prospects*, edited by S. M. Maimbo and D. Ratha. Washington, D.C.: World Bank.
- Piore, Michael J. 1979. *Birds of Passage: Migrant Labor in Industrial Societies*. New York: Cambridge University Press.
- Powers, Daniel A. and M.-S. Yun. Forthcoming. "Multivariate Decomposition for Hazard Rate Models." *Sociological Methodology*.
- Ratha, Dilip and Zhimei Xu. 2008. *Migration and Remittances Factbook 2008*. Washington, D.C.: World Bank.
- Rodriguez, Nestor P. and Jacqueline Maria Hagan. 2000. "Maya Urban Villagers in Houston: The Formation of a Migrant Community from San Cristóbal Totonicapán." in *The Maya Diaspora: Guatemalan Roots, New American Lives*, edited by J. Loucky and M. M. Moors. Philadelphia: Temple University Press.
- Shapiro, Joseph. 2006. "Guatemala." Pp. 106-149 in *Indigenous Peoples, Poverty and Human Development in Latin America: 1994-2004*, edited by G. Hall and H. A. Patrinos. Houndmills, Basingstoke, Hampshire, New York: Palgrave Macmillan.
- Taylor, J. Edward. 2004. "Remittances, Savings, and Development in Migrant-Sending Areas."
 Pp. 157-173 in *International Migration: Prospects and Policies in a Global Market*, edited by D. S. Massey and J. E. Taylor. Oxford and New York: Oxford University Press.
- World Bank. 2003. Poverty in Guatemala. Report No. 24221-GU.

—. 2007. World Development Indicators. Retrieved from http://devdata.worldbank.org/data-query/.