Labor Migration between Developing Countries: The Case of Paraguay and Argentina[1]

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Despite the historical and numerical importance of international migration between Paraguay and Argentina, the socioeconomic forces affecting the dynamics of the flow remain largely unexplored. This article contributes to the understanding of migration movements between the Latin American countries by analyzing patterns of labor migration from two Paraguayan communities to Argentina. The analysis separates the process of migration into four segments representing different migration decisions that Paraguayan men face throughout their life course: first trip, first return, recurrent trips, and duration of additional trips. Results confirm that Paraguayan migration to Argentina is closely related to individual characteristics and wealth, the extent of migrant networks and experience, and changes in macroeconomic conditions. The relative importance of these factors on migration varies depending on the aspect of migration under consideration. More generally, the analysis shows that unlike migration between Mexico and the United States, Paraguayan migrants to Argentina tend to be positively selected with respect to educational attainment and skills. This reflects the higher transferability of skills between the two countries and the absence of large urban centers attracting internal migrants in Paraguay. In addition, results show that migration between Paraguay and Argentina is very responsive to fluctuations in macroeconomic conditions, particularly income differentials and peso over-valuation. Government policies oriented towards the regulation of migration flows in the Southern Cone should pay closer attention to the impact of macroeconomic fluctuations on migration decisions, especially in the context of the Mercosur agreement.

During the past three decades, Latin American countries have experienced a significant internationalization of their labor markets (Lattes *et al.*, 1998;

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Itzigsohn, 1995). Processes of economic growth, globalization, and common market formation have been accompanied by a significant increase in international population movements in the region. Between 1960 and 1990, the proportion of Latin Americans migrating internationally increased from 0.7 to 2.5 percent (CELADE, 2000). Even though the vast majority of the flow has been oriented towards more developed societies, particularly the United States, there has also been sizable migration between countries in the region (Carrón, 1979; Martin and Midgley, 1999). In addition, migration flows became more diverse, encompassing both permanent and circular migrants, a process that is not reflected in estimates of the stock of the migrant population. These issues are particularly salient in the Southern Cone where already longstanding population movements have been affected by the Mercosur agreements, trade liberalization policies, and recurrent financial crises (Franco and Di Filipo, 1999; Mármora, 1994, 1999; Pérez Vichich, 1995). The increased numerical significance and dynamism of these regional flows has raised concerns about the demographic, economic, and social impact of international migration on sending and receiving countries (Pellegrino, 1992; Mármora, 1999; FIEL, 1992).

This article contributes to the understanding of the social and economic forces driving population movements across Latin American countries by analyzing the determinants of Paraguayan migration to Argentina. International migration from Paraguay to Argentina is one of the oldest and most prominent in South America. In 1992, it was estimated that 360,000 Paraguayan migrants were residing in Argentina. This represents over one percent of the total Argentine population and more than one third of the foreign-born population from neighboring countries. This number is also equivalent to more than 8 percent of the total population of Paraguay (Maletta, 1992).[2]

The main objective of this study is to reconstruct the social and economic conditions affecting labor migration from Paraguay to Argentina. Previous studies of migration between the two countries have focused either on estimating the size of the Paraguayan population in Argentina or on assessing migrants' socioeconomic characteristics and potential impact on the Argentine labor market (DeMarco, 1986; Lattes, 1987, 1990, 1997; Maguid, 1995;

[2]The significance of this flow is even more apparent if we compare it to Mexican migration to the United States. According to the 1990 U.S. Census, the foreign-born Mexican population represents 1.7 percent of the total U.S. population and 5 percent of the total Mexican population.

Sana, 1999). While informative, these studies have been unable to identify the forces motivating migration decisions. They also tend to treat migration as a single, permanent event and thus fail to capture the fluid and often circular nature of international migration. Our analysis departs from these relatively static descriptions of population flows between Paraguay and Argentina and builds on the conceptualization of migration as a dynamic social process that evolves over time and is affected by individual and contextual forces.

The data for the study were collected by the authors in two Paraguayan communities and were supplemented by interviews with Paraguayan migrants in Buenos Aires. The retrospective nature of the data allows us to apply multivariate event history methodology to assess the role of human capital, social networks, and macroeconomic conditions on migration dynamics. Our empirical analysis separates the migration process into several facets: first trip, first return, additional trips, and duration of additional trips. This analytical strategy helps explain the generalization of international migration between the two countries and identifies the different forces affecting migration dynamics and the links between migration decisions.

A central contribution of the analysis is the assessment of the role of macroeconomic fluctuations on migrant behavior. Relative to patterns of migration from less- to more-developed societies, income differentials between developing countries are less pronounced and more variable. Our analysis situates migration decisions within these economic fluctuations and postulates implications for the role of economic policies and conditions on migration flows.

THEORETICAL BACKGROUND

There is increasing recognition that international migration, particularly across neighboring countries, is not a single event but rather a dynamic social process that is guided by structural opportunities in sending and receiving societies, the extent of migration networks, and macroeconomic conditions (Lattes, 1983; Massey, 1987; Massey *et al.,* 1987; Thomas and Znaniecki, 1927). Economic motivations are of central importance for understanding migration decisions. Economic models of migration view population movements as a central mechanism for allocating workers between low- and high-wage areas (Sjaastad, 1962; Pessino, 1991). According to these models, individual-level factors associated with higher returns to migration and lower moving costs increase the probability of migration (Harris and Todaro,

1970). As a result, younger people are more likely to move because they can expect a longer period to reap the benefits of migration. Similarly, those with higher levels of education or other transferable skills are also more likely to move to areas where the returns to their education or skills are higher.

The transferability of skills is expected to be of central importance for understanding migration patterns between Paraguay and Argentina. Compared to differences between rich and poor nations, the economies and societies of Paraguay and Argentina are relatively similar. This implies that some educational or occupational groups might find it easier to transfer their skills across countries. These groups may have increased incentives to migrate because their occupational incorporation is more certain. The identification of specific occupational groups for whom skills and credentials are more readily transferable will thus reflect complementarities between the Argentine and Paraguayan labor markets and contribute to the understanding of the occupational opportunities available to migrants at the point of destination.

Moreover, economic fluctuations, particularly in Argentina, are expected to have significant effects on migration dynamics between the two countries. Contrary to the relatively stable income differentials between Latin American countries and more industrialized nations, economic differences between Paraguay and Argentina are highly volatile and subject to periodic financial crises. International migration is expected to be very responsive to variations in macroeconomic conditions. Periods of economic recession, high inflation, or deteriorating employment conditions in Argentina could rapidly reduce the attractiveness of international migration. Moreover, government regulations and economic policies affecting exchange rates directly alter the relative value of local currencies and the expected immediate returns to migration. Just as exchange rate policies affect international trade in the Southern Cone (Baer and Birch, 1987), periods of overvaluation of the Argentine peso may make international migration a more attractive investment.

While substantial empirical evidence has documented the importance of wage differentials for understanding migration decisions in the developing world, they cannot fully account for the circularity of migration nor its generalization over time. New home-economic theories argue that international migration must be considered within the broader context of household survival strategies that seek to reduce economic risks and facilitate capital accumulation (Taylor, 1986; Stark, 1991). Capital market failures and lack of access to credit can make temporary international migration an attractive strategy for capital accumulation. There is consistent evidence that for many migrants an ideal trip to a foreign country is one that does not last very long

and that allows them to return to their home communities in a better economic position (Stark, 1994; Lindstrom, 1996). As a result, the economic resources available to migrants in their sending communities, such as access to housing, land, or businesses, should be closely associated with migration strategies.

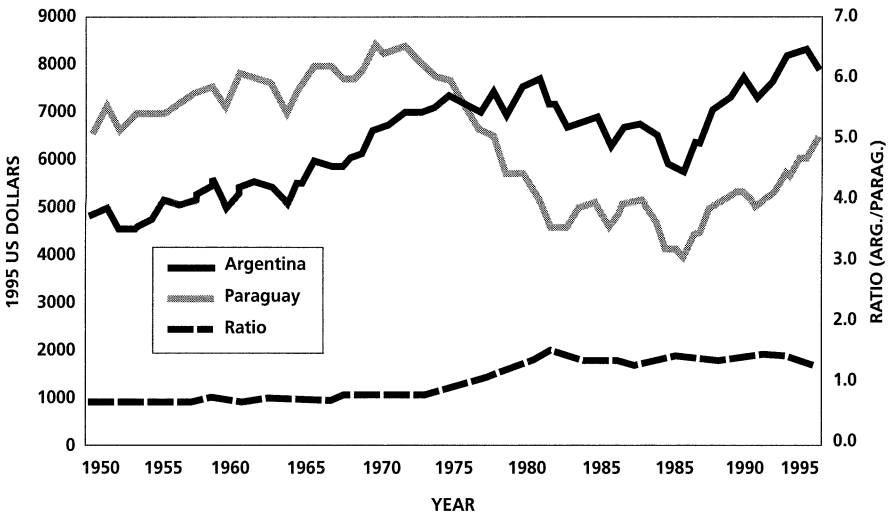
Another central characteristic of population movements across neighboring countries is that, once started, they tend to develop an elaborate mesh of migrant networks and acquire a self-generating dynamism (Massey and Espinosa, 1997; Browning and Rodriguez, 1985). For early migrants, the many uncertainties involved in an international trip make it a very risky and costly event. As international migration becomes more prevalent, having friends and family at the point of destination increases access to information and facilitates migration. Social networks reduce the economic and psychological costs of making a trip and contribute to the development of transnational communities, which are characterized by continuous population movements (Boyd, 1989; Gurak and Caces, 1992). A main source of social networks is the family (Hagan, 1998). The prevalence of migration within the family, such as the migration experience of parents or close family members such as siblings, tends to encourage and facilitate migration.

For analytical purposes, we separate the migration process into four different segments corresponding to different migration decisions: first trip, first return, additional trips, and duration of additional trips. These segments reflect the dynamic nature of international migration and link different migration decisions. First trip and first return are clear indicators of the forces guiding the initiation of the migration stream and the extent of settlement after one migration event. The analysis of additional trips identifies the social factors guiding recurrent migration and its duration. Before turning to the operationalization of the models, the next section describes the evolution of macroeconomic conditions in Paraguay and Argentina to contextualize migration dynamics.

PARAGUAY AND ARGENTINA

Despite similar historical and cultural backgrounds and common borders, Paraguay and Argentina differ considerably in their economic trajectories. Figure I presents trends in per capita GNP for the two countries. Although low, per capita income in Paraguay almost doubled between 1950 and 1999, increasing from 900 to 2,000 U.S. dollars from 1950 to 1981, and then decreasing slightly to $1,600 in 1999.

Figure I. Trends in Per Capita GNP



The economic development of Paraguay can be divided into three stages (Birch, 1993). The first stage, between 1950 and 1974, corresponds to a period of economic consolidation that relied almost exclusively on the exploitation of natural resources, mainly beef and forestry. During this period, Paraguay and Argentina became increasingly integrated economically. In the 1950s, Paraguay's only access to the ocean, and consequently to the international economy, was through a system of rivers that connected the country directly with Buenos Aires. Moreover, during this period, Paraguay was an important source of primary products for Argentina and an important destination for manufactured goods from incipient Argentine industries. Close to 30 percent of all Paraguayan exports and roughly 25 percent of imports were directed to or originated in Argentina. This trade integration was also accompanied by significant direct foreign investment by Argentina in Paraguay. In the 1950s, Argentine investment in tannin production, agriculture, and public services (electricity and streetcars) constituted 45 percent of total foreign investment in Paraguay.

The second stage, between 1974 and 1981, corresponds to a period of rapid economic growth. The boom of the Paraguayan economy during this period was the direct result of the joint enterprise between Brazil and Paraguay to build Itaipú, the largest hydroelectric project in the world. The

Itaipú project provided rural Paraguayan areas with alternative employment sources and attracted significant numbers of rural migrants. The impact on the labor market, however, was smaller than expected because Paraguay lacked the qualified labor force to complete the project.

The third stage of Paraguay's development, after the completion of Itaipú in 1981, was marked by stagnation and recession, similar to that experienced by most other Latin American countries during those years. A new hydroelectric project with Argentina, Yacyretá, was expected to replace the economic benefits of Itaipú. However, economic recessions, political change, and corruption in Argentina undermined the project, which never represented a significant contribution to the economic development of Paraguay.

The economic trajectory of Argentina, on the other hand, is relatively more prosperous but with greater instability in economic conditions (*see* Figure I). The country experienced significant and relatively continuous economic growth between 1950 and 1974. During this period, income per capita increased by almost 50 percent from 5,000 to over 7,000 U.S. dollars. In the second half of the 1970s, economic stagnation negatively affected economic growth, and per capita income leveled-off. This economic stagnation preceded serious economic downturns during the 1980s. Between 1980 and 1990, income per capita in Argentina declined from 7,600 to 5,600 U.S. dollars. During the 1990s, per capita income gained momentum and increased considerably, but this recent economic recovery was not accompanied by improvements in employment conditions. Moreover, the economy became increasingly vulnerable to changes in international economic conditions, as reflected in the decline in per capita income in 1995 that resulted from the Mexican financial crisis.

These divergent economic evolutions are expected to have important effects on migration dynamics between Paraguay and Argentina, as variable income differentials alter the economic returns of migration. A better way to illustrate these trends is by considering the ratio of per capita income between the two countries, plotted on the right axis of Figure I. Results show increasing income differentials between Argentina and Paraguay up until the early 1970s. During the second half of the 1970s and the 1980s, income differentials declined significantly and then regained momentum during the second half of the 1990s. However, this differential is well below the level registered in the 1970s.

Economic differences between Paraguay and Argentina are not limited to income levels. Processes of industrialization and urban growth in Paraguay

have been relatively weak. In 1990, over half of the Paraguayan population was residing in rural communities, and agricultural production represented 29 percent of total GDP, employing close to half of the labor force (Birch, 1993; Gillespie, 1983; Gillespie and Browning, 1979). The *minifundia*, a system of labor-intensive agriculture in which farmers exploit small plots of land (usually less than 10 hectares) mainly for their own consumption, is perhaps the most salient element of Paraguay's rural development (Gillespie, 1983; Palau, 1998; Galeano and Yore, 1994). The productive capacity of this subsistence system is very limited and relies on the intense exploitation of small plots of land with almost no mechanization. The viability of the *minifundia* as a subsistence strategy is often dependent on the constant outmigration of farmworkers to other rural areas (Baer and Birch, 1984; Gillespie, 1983) and Argentina (Carter and Galeano, 1997; Galeano and Yore, 1994).

In Argentina, on the other hand, over 85 percent of the population resided in urban areas in 1991. This high level of urbanization was accompanied by significant employment in the industrial sector, which currently represents close to 20 percent of total employment. Employment opportunities in Argentina expanded very rapidly during the period of successful import substitution industrialization that culminated in the mid-1970s (Marshall and Orlanski, 1981, 1983). During this period, some studies identified an excess demand for low-skill and manual workers that was mainly satisfied with international migrants from neighboring countries (Llach, 1978; Marshall, 1977). The economic crises and restructuring policies of the 1980s negatively affected employment opportunities. Since the late 1980s, Argentina has experienced a significant increase in rates of open unemployment that climbed to nearly 18 percent in 1995.

Argentine economic development has also been marked by high rates of inflation and extreme exchange rate instability. Table 1 reports yearly rates of inflation and peso devaluation between 1960 and 1999. Inflation rates are relatively high throughout most of the period and were usually followed by significant devaluations of the Argentine peso until it was fixed to the U.S. dollar in 1991. Inflation rates and peso devaluations are expected to be of central importance to Paraguayan migration to Argentina. Inflation provides an indication of the degree of economic instability in receiving countries. Moreover, the combination of inflation and peso devaluation rates can serve as an indicator of the extent of over- or undervaluation of the Argentine currency that can directly affect the returns to migration.

TABLE 1
CHANGES IN CONSUMER PRICE INDEX AND EXCHANGE RATE IN ARGENTINA

Year	Change in Consumer Price Index	Change in Exchange Rate
1960	12.1	2.7
1961	18.8	0.4
1962	31.7	39.5
1963	23.8	19.5
1964	18.2	1.7
1965	38.2	21.7
1966	29.9	22.0
1967	27.3	59.2
1968	9.6	4.9
1969	6.7	0
1970	21.7	8.3
1971	39.1	25
1972	64.1	60
1973	43.7	13
1974	40.1	0
1975	334.9	317
1976	447.8	282
1977	176.6	192
1978	175.3	95.1
1979	159.6	65.5
1980	100.8	39.5
1981	104.5	139.4
1982	210	488.7
1983	434	356.5
1984	383	544.8
1985	385	788.9
1986	82	51.4
1987	175	158.5
1988	388	296.4
1989	4,924	4,135.7
1990	1,344	932.6
1991	84	100.8
1992	17.5	4.7
1993	7.4	0
1994	3.9	0
1995	1.6	0
1996	0.1	0
1997	0.3	0
1998	0.7	0
1999	-1.8	0

Sources: Baer and Birch, 1987; ECLA, Statistical abstract for Latin America, various issues.

Immigration policy is also relevant for international labor flows (Richards, 1996). In Argentina, the continuous flow of international migrants from bordering countries during the second half of the twentieth century was largely unregulated. Border crossings across neighboring countries in the Southern Cone are not subject to visa limitations, and, while the employment of visitors in Argentina is not authorized, actual sanctions against transgressors have rarely been applied. Moreover, regular amnesties that extended for sever-

al years were applied to regularize the legal status of migrants. For the period under consideration, amnesty provisions were passed in 1964, 1974, 1984, and 1992. As a result, legal constraints have not been a significant factor affecting migration decisions (Sassone, 1987; Mármora, 1994).

DATA

The data for the analyses come from two Paraguayan communities located in the Department of Paraguarí, two hours south of the capital city of Asunción. Both communities are in the heart of the *minifundia* region, and their economies are dominated by agricultural activities and small land ownership. The first community is more developed and combines agriculture with a well-established system of commercial craft production ("*artesanías*") that significantly contributes to the family economy. The second community is more exclusively tied to subsistence agriculture. In both communities, a close connection with local cattle-raising activities results in a small but significant portion of the population employed in extensions of agricultural production, such as butcher shops, tanneries, and small leather factories producing shoes, bags, and other leather products.[3]

The communities include both urban and rural populations. The urban population corresponds to the area around the center of the town with higher population density and more commercial activity, as well as better transportation channels. The rural areas are further from downtown and limited in their access by the poor quality of mainly dirt roads. According to the 1991 Paraguayan Census, the communities contained 28,000 and 11,000 inhabitants, respectively.

The research design followed ethnosurvey methodology,[4] and information was collected both at place of migrant origin and destination (Massey,

[3]The communities were selected based on their location in the Department of Paraguarí, which is recognized as a major sending area of Paraguayan migrants to Argentina. The two communities represent different stages of development and different population sizes. We had no prior information about the prevalence of migration within each community. Research in Mexico has shown the importance of community characteristics on migration dynamics (Durand and Massey, 1992). Given our small sample of communities, our analysis concentrates on understanding the individual, household, and macroeconomic contexts affecting migration behaviors in Paraguay and Argentina. Further data collection and inclusion of a larger number of communities will allow us to test for the effect of community-specific characteristics.

[4]This methodology was refined and applied extensively to Mexican migration to the U.S. by Durand, Massey and colleagues. A more thorough description of this technique is provided in Massey *et al.*, 1987.

1986). A random sample of households was interviewed in the two Paraguayan communities in 1999 and was supplemented with nonrandom samples of outmigrants from the communities in Buenos Aires. By surveying both at the place of origin and destination, this design addresses many of the selection problems arising from studying only the Paraguayan population in Argentina. The surveys collected information from all household members and included an event history calendar that registered retrospective information on the migration, employment, and family trajectories of all household heads and their spouses on a yearly basis. The longitudinal nature of the retrospective data is ideal for studying the dynamics of population flows across neighboring countries and provides valuable information for relating migrant behavior to changes in other life course domains.

Additional components of the survey enumerated the economic resources available to the household, such as housing, land, and business ownership, and also the prevalence of migration within the family. The survey collected information about first, last, and temporary migration trips for all members of the household. Migration information and place of residence was also collected for the immediate family of the household heads and spouses, such as parents, siblings, and other relatives. Given that Paraguay is a bilingual society, trained assistants fluent in both Guaraní and Spanish conducted the interviews in Paraguay. Together, a total of 358 households were surveyed – 299 in Paraguay and 59 in Buenos Aires. For the purposes of this analysis, the data is restricted to the 300 male household heads included in the sample.[5] Table 2 reports basic statistics reflecting the socioeconomic characteristics of the communities in 1999.

The Argentine sample was slightly younger than the Paraguayan sample, averaging 45 relative to 51 years of age. The characteristics of the *minifundia* system prevalent in the Paraguarí region are reflected in the sample composition of the two communities. Close to 40 percent of men in Paraguay reported subsistence agriculture as their main occupation, followed by 23 percent employed as sales and 17 percent as construction workers. A sizable proportion of men, close to 5 percent, were employed in tanneries and other craft activities associated with leather, and another 6 percent could be considered skilled (mostly clerical) workers.

[5]Given the paucity of information on migration dynamics between the two countries, we restrict our study to men. However, we recognize that women represent a significant proportion of the migrant flow between Paraguay and Argentina (Richards, 1990) and plan to assess women's migration behavior and gender differences in migration in future work (*see* Hondagneu-Sotelo, 1994).

TABLE 2
SELECTED COMMUNITY CHARACTERISTICS AT TIME OF SURVEY

Variable	Paraguayan Sample		Argentine Sample	
Human capital and life-cycle Characteristics				
Age (mean)	51.2	(15.5)	45.3	(12.5)
Years of Education (mean)	5.4	(3.1)	6.8	(2.9)
Main Type of Employment (percentage)				
Farm worker	49.6		–	
Construction worker	16.7		38.3	
Sales worker	23.4		12.5	
Leather worker	4.5		43.7	
Other skilled worker	6		6.3	
Rural residence (percentage)	49.2			
Property ownership (percentage)				
Land	37.3		–	
Number of Hectares	7.4	(12.1)	–	
House	90.4		39.5	
Business	24.6		29.1	
Migration characteristics				
Percent ever migrating	39.7		–	
Average Number of trips to Argentina (mean)	3.7	(4.2)	1.6	(1.0)
Percent with multiple trips	54		37.5	
N	252		48	

Note: Standard deviations reported in parentheses.

The rate of property ownership in the Paraguayan communities is relatively high. Close to 40 percent of men own land, with lot sizes averaging 7.4 hectares. In addition, 90 percent of men in the Paraguayan sample own a house, much higher than the 40 percent in Buenos Aires. The rate of small business ownership is similar in the two samples, around 25 percent. The typical businesses owned in Paraguay include grocery stores, *olerías* (small artisan brick factories), and crafts. A central type of business operated by Paraguayan migrants in Buenos Aires is shoe repair and production.

The Paraguayan communities also exhibit significant migration to Argentina. Close to 40 percent of the men in our sample had been to Argentina at least once. The dynamic nature of the migration process is clearly reflected in the number of trips ever made; 54 percent of migrants made multiple trips to Argentina, with the average migrant making 3.7 trips. Among migrants interviewed in Buenos Aires, the migration process is less dynamic; only 37 percent made multiple trips, and the average number of trips was 1.6.

METHODS AND MODEL SPECIFICATION

Based on the retrospective information in the survey, we formulate discrete time event history models to analyze the correlates of first trip, first return,

additional trips, and duration of additional trips. In discrete time event history models, each person-year of exposure is treated as a separate observation, and the dependent variable is whether or not a specific event occurs in a given year (Allison, 1982; Yamaguchi, 1991). The models are estimated using logistic regression where the log odds of experiencing the event (*i.e.*, first trip, first return, additional trips, or returning after additional trips) are:

$$\ln\{\lambda(t|X)/[1-\lambda(t|X)]\} = \beta_{0t} + X'\beta$$

where $\lambda(t|X)$ is the conditional probability of an event occurring at time t, given that the event had not yet occurred, for a given covariate vectorthat includes both time-varying and time-constant variables; β_{0t} equals the log-odds for the baseline group and represents the baseline hazard common to all individuals; and β equals a vector of parameters.

Explanatory variables include time-constant and time-varying covariates. Time-constant variables are those that remain unchanged over all person-years, such as rural origin. Time-varying variables can vary from year to year, such as family status or property ownership. These time-varying covariates are measured in the year previous to the event under consideration to capture the ordering of life-course transitions. Table 3 defines the variables included in the analysis, and the Appendix reports means and standard deviations for the variables in the models. Following our theoretical discussion, the first set of variables includes indicators of general human capital characteristics, including educational attainment, type of employment (*i.e.*, agricultural, construction, sales, leather, or other skilled worker), and rural origin. The next set of variables measures physical capital characteristics, such as property ownership (*i.e.*, land, home, and business ownership) in both Paraguay and Argentina. Marital status, including whether a migrant's wife also resided in Argentina, and the number of children capture the household structure in a given year.

We also estimate the effect of family migration experience on migration dynamics by including variables indicating whether respondents had parents, siblings, or children that ever migrated to Argentina. These variables reflect a person's social capital and network connections affecting migration decisions. The final explanatory variables at the personal level include controls for migrants' past migration experience and characteristics of previous trips. These include the age at previous or current trip and accumulated years of migration experience.

TABLE 3
VARIABLE DEFINITION

Variable	Operational Definition
Duration	Measures of time dependence to capture the baseline hazard affecting migration dynamics
Human capital characteristics	
Years of education (t.v.)	Dummy variables indicating whether a person had less than 5, 6-8 or more than 9 years of education in a given year, 0 otherwise
Type of Employment (t.v.)	Dummy variables indicating whether a person worked in farm, sales, construction, leather, or other skilled employment in a given year, 0 otherwise
Rural origin	Time-constant variable that equals 1 if person is of rural origin, 0 otherwise
Physical capital	
Property owned in Paraguay (t.v.)	Dummy variables indicating land, business, or home ownership in Paraguay in a given year, 0 otherwise
Property owned in Argentina (t.v.)	Dummy variables indicating land, business, or home ownership in Argentina in a given year, 0 otherwise
Household structure	
Marital status (t.v.)	Dummy variable indicating whether a person was single or married with wife in Argentina in a given year, 0 otherwise
Number of children (t.v.)	Total number of children in a given year
Previous family migration	
Migrant relatives (t.v.)	Dummy variable indicating whether parents, siblings, children, and wife have been to Argentina, 0 otherwise
Migration characteristics	
Age at Trip	Age at the initiation of the trip
Accumulated Years of Migration Experience	Accumulated years of migration experience in Argentina at the beginning of the trip
Macroeconomic conditions	
Inflation rate (t.v.)	Rate of inflation in Argentina in any given year
Unemployment (t.v.)	Rate of urban unemployment in Argentina in any given year
Ratio of per capita GNP (t.v.)	Ratio of Argentine/Paraguayan per capita GNP between the two countries in any given year
Overvaluation of Argentine peso (t.v.)	Dummy variable indicating inflation rate higher than rate of exchange rate variation in Argentina, 0 otherwise

Note: (t.v.) indicates time-varying variable.

Finally, macroeconomic indicators are included to capture the effect of economic fluctuations on migration dynamics. The first two variables, inflation rate and rate of urban unemployment, measure the degree of economic stability in Argentina and prospects for migrants' employment. The ratio of Argentine to Paraguayan per capita GNP is a direct measure of income differentials between the two countries at the aggregate level. The final measure, overvaluation of the Argentine peso, is constructed using the data in Table 1. By comparing change in the consumer price index to change in the exchange rate, we can get a sense of the extent of Argentine peso over- or undervaluation in a given year. If the rate of inflation is higher than the rate of peso devaluation, then we can conclude that the peso is overvalued in that year. For instance, there is evidence in Table 1 that the peso is significantly overvalued in 1963–66,

1970–74, 1976–81, and 1992–98. Also, there is evidence of peso undervaluation in 1982–85. These variations in the relative value of the peso are expected to affect migration dynamics, because peso overvaluation amplifies the earnings of Paraguayan migrants relative to their potential earnings in Paraguay.

RESULTS

First Trip

Departure represents the first step in the migration process. Table 4 reports estimates from discrete time logit models predicting the likelihood of making a first

TABLE 4
ESTIMATES FROM DISCRETE-TIME LOGIT MODELS PREDICTING LIKELIHOOD OF FIRST TRIP TO ARGENTINA

Constant	-12.377[b]	(1.539)	-9.675[b]	(1.299)	-12.361[b]	(1.539)
Age	0.467[b]	(0.093)	0.440[b]	(0.092)	0.468[b]	(0.093)
Age squared	-0.009[b]	(0.002)	-0.009[b]	(0.002)	(0.009[b]	(0.002)
Human capital characteristics						
Years of education (ref. less than primary)						
6-8	0.504[b]	(0.244)	0.355	(0.240)	0.501[b]	(0.244)
9+	0.905[b]	(0.336)	0.618[b]	(0.323)	0.902[b]	(0.336)
Type of Employment (ref. farm worker)						
Not working	0.668[b]	(0.319)	0.718[b]	(0.319)	0.671[b]	(0.319)
Construction worker	0.009	(0.351)	-0.092	(0.349)	0.009	(0.351)
Sales employee	-0.180	(0.333)	-0.235	(0.328)	-0.181	(0.333)
Worker in leather	1.547[b]	(0.36)	1.510[b]	(0.357)	1.548[b]	(0.360)
Other skilled worker	-1.717[a]	(1.046)	-1.592[a]	(1.043)	-1.721[a]	(1.047)
Rural origin	-0.213	(0.235)	-0.132	(0.232)	-0.213	(0.235)
Physical capital						
Property owned in Paraguay						
Land	-0.822[a]	(0.542)	-0.915[a]	(0.552)	-0.822[a]	(0.574)
Business	0.730	(0.512)	0.716	(0.504)	0.731	(0.512)
House	-0.313	(0.384)	-0.312	(0.382)	-0.314	(0.384)
Household structure						
Marital status						
Single (ref. Married)	-0.020	(0.503)	-0.003	(0.496)	-0.016	(0.503)
Number of children	-0.136	(0.513)	-0.193	(0.509)	-0.133	(0.513)
Previous family migration						
Migrant parents	-0.08	(0.629)	0.243	(0.611)	-0.076	(0.629)
Migrant siblings	0.453[b]	(0.072)	0.454[b]	(0.072)	0.453[b]	(0.072)
Migrant children	0.441	(0.395)	0.226	(0.388)	0.438	(0.395)
Macroeconomic conditions						
Inflation rate	-0.005	(0.020)	-0.036	(0.024)	-0.006	(0.021)
Unemployment	0.045	(0.037)	0.039	(0.036)	0.039	(0.038)
Ratio of Arg/Py per capita GNP	0.453[b]	(0.119)			0.427[b]	(0.127)
Overvaluation			0.525[a]	(0.284)	0.175	(0.304)
Person(Years	5,144		5,144		5,144	
Chi(square	127.4[b]		115.9[b]		127.7[b]	
Degrees of freedom	21		21		22	

Notes: [a]Coefficient significant at p<.1
[b]Coefficient significant at p<.05

trip to Argentina. Given the close association between macroeconomic indicators, the table reports three models that include different combinations of indicators of income differentials and periods of overvaluation of the Argentine peso.

The initiation of the migration process is closely associated with human capital characteristics and the structure of economic opportunities in Paraguay. Results from Model 3 show that the likelihood of making a first trip peaks at age 26 and then decreases. Moreover, contrary to the image of Paraguayan migrants as low skilled and uneducated, our results show that migrants are actually recruited from the upper end of the educational distribution. Model 3 shows that the likelihood of migration increases with years of education, and men with six to eight and more than nine years of education are 1.7 (exp(.501)) and 2.5 (exp(.902)) times more likely to migrate, respectively, than men who have not completed primary schooling.

The initiation of migration also reflects the effect of labor market opportunities and structures. For many men in Paraguay, migration to Argentina is closely associated with the lack of employment opportunities in their communities of origin. Men who are not working are significantly more likely to migrate than men employed in agriculture. More importantly, certain occupational skills are also associated with migration, particularly those related to leather production. According to our results, men employed in leather industries in Paraguay are 4.6 (exp(1.548)) times more likely to migrate to Argentina than are agricultural workers. The close association between employment in leather and migration reflects the well developed communication channels between the leather industries in Paraguay and Argentina and the relatively high degree of transferability of leather production skills across countries.[6] For skilled workers employed in clerical or professional occupations, on the other hand, migration to Argentina is not an attractive investment. The likelihood of migration for skilled workers is 5.6 (1/exp(-1.721)), lower than for agricultural workers.

The fact that Paraguayan migrants tend to be positively selected with respect to their educational and skill credentials runs counter to other international migration flows, particularly the Mexican-U.S. case (Portes and Bach, 1985). In Mexico, migrants tend to come from the lower rungs of the

[6]This connection was confirmed by the authors' fieldwork experience. A long craftsman tradition of leather production, particularly in one of the Paraguayan communities, often includes international migration to Argentina as a kind of training experience as well as a channel for capital accumulation.

stratification ladder (Massey and Espinosa, 1997). The similarities between the Argentine and Paraguayan societies appear to facilitate the transferability of skills and thus encourage migration from the upper segments of the population in the two Paraguayan communities.

In addition to educational and employment credentials, the physical capital available for household subsistence also directly affects the initiation of migration, especially land tenure. This result confirms new home-economics predictions about the association between migration and family resources. Men who own land are 2.3 (exp(-.822)) times less likely to migrate than are landless men. In the two Paraguayan communities, land tenure is arguably the most important source of family maintenance and subsistence. The inability of the *minifundia* system to incorporate a growing population and provide access to land to a significant portion of men in the communities is thus a central source of international migration.

Family status characteristics exert surprisingly little influence on first migration. Neither marital status nor number of children significantly predicts first migration. This result runs counter to findings from other developing countries that show a tendency for single men to migrate at a higher rate than married men (Massey, 1987). A plausible explanation for this difference is that the absence of legal constraints on border crossings in the Paraguay-Argentina case facilitates the migration of entire families and results in a much weaker association between the initiation of migration and men's family status.

Social networks, particularly in the form of family migration experience, are also closely linked to migration to Argentina. The presence of siblings with migration experience increases the likelihood of making a first trip 1.6 (exp(.453)) times. The same applies to men with migrant children, although the effect is not significant. Many families in Paraguay have close relatives living in Argentina, and these networks within the family encourage migratory movements over and above economic considerations.

Finally, macroeconomic fluctuations are central to understanding the initiation of migration. Model 1 in Table 4 shows that, as expected, the returns to migration significantly affect the likelihood of making a first trip. As income differentials between Argentina and Paraguay rise, so too does the likelihood of migrating for the first time. Model 2, which includes an indicator of whether the peso was overvalued in a given year, also shows that the likelihood of initiating the migration process increases in years of peso overvaluation by 68 (exp(.519)) percent. Model 3 shows that these two measures are closely associated and that the effect of income differentials tends to pre-

dominate over the effect of peso overvaluation. Together, these results confirm our expectation that migrant departure is highly responsive to economic conditions and that macroeconomic policies affecting patterns of development and rates of exchange have a significant impact on migration trends.

First Return

The second aspect of migration dynamics under consideration is the duration of the first Argentine trip. This transition is of central importance because it helps explain the characteristics that promote settlement in Argentina and also identifies groups likely to return to Paraguay who will be at risk of making additional trips. Table 5 reports estimates of discrete time logit models predicting the likelihood of returning to Paraguay after a trip to Argentina. The unit of analysis is person-years in Argentina after a first trip, and the dependent variable equals one if a person returns in a given year, 0 otherwise. The model adds as covariates whether a married migrant was accompanied by his wife in Argentina and age at first trip. Duration dependence is captured by a variable measuring time in Argentina. As in the previous analysis, we run three separate models to test for the separate effect of different macroeconomic conditions.

The underlying baseline hazard capturing the dependence of return to Paraguay on time in Argentina shows that the likelihood of return is lower during the first several years but starts increasing after eleven years of Argentine residence. Migrants' human capital characteristics are again very important predictors of duration of stay. Highly skilled and better educated migrants are less likely to return to Paraguay than their less skilled, less educated counterparts, though only the former effect attains statistical significance. Type of employment is clearly related to the permanency of migration, as migrants employed in leather activities in Argentina are 2.4 (1/exp(-.891)) times less likely to return to Paraguay than are construction workers. This result is consistent with the higher probability of migration among leather workers in Paraguay and confirms the high degree of transferability of leather skills between the two countries.

The dynamics of temporary migration to Argentina are also closely associated with ownership of physical capital in Paraguay. Property ownership in Paraguay, particularly land and housing, reduces the duration of first trip, although the effect is significant only among homeowners. This result suggests that property-owning migrants use temporary labor migration to Argentina as a strategy for short-term capital and financial accumulation,

TABLE 5
ESTIMATES FROM DISCRETE-TIME LOGIT MODELS PREDICTING FIRST RETURN TO PARAGUAY

Constant	-0.227	(1.431)	-1.443	(1.090)	-0.207	(1.434)
Trip Duration	-0.396[b]	(0.074)	-0.377[b]	(0.072)	-0.396[b]	(0.074)
Trip Duration Square	0.018[b]	(0.003)	0.018[b]	(0.003)	0.018[b]	(0.003)
Human capital characteristics						
Years of education (ref. less than primary)						
6-8	-0.137	(0.318)	-0.100	-0.318	-0.136	(0.318)
9+	-0.437	(0.465)	-0.406	-0.464	-0.442	(0.466)
Type of Employment (ref. construction worker)						
Farm worker	0.587	(0.498)	0.556	(0.494)	0.585	(0.498)
Sales and other skilled workers	-0.171	(0.404)	-0.249	(0.400)	-0.165	(0.405)
Leather worker	-0.897[b]	(0.409)	-0.820[b]	(0.404)	-0.891[b]	(0.410)
Rural origin	-1.080[b]	(0.345)	-1.160[b]	(0.340)	-1.081[b]	(0.345)
Physical capital						
Property owned in Paraguay						
Land	1.424	(1.285)	1.377	(1.290)	1.415	(1.286)
Business	-0.121	(0.619)	-0.121	(0.611)	-0.118	(0.618)
House	2.195[b]	(0.535)	2.301[b]	(0.537)	2.205[b]	(0.538)
Property owned in Argentina						
Business	0.836	(0.942)	0.929	(0.941)	0.837	(0.943)
House	-0.050	(0.570)	-0.050	(0.570)	-0.054	(0.570)
Household structure						
Marital status (ref. Married with wife in Paraguay)						
Single	0.468	(0.513)	0.407	(0.510)	0.467	(0.513)
Married with wife in Argentina	-1.006[b]	(0.520)	-0.977[b]	(0.516)	-1.007[b]	(0.520)
Number of children	-0.098	(0.137)	-0.099	(0.135)	-0.097	(0.137)
Previous family migration						
Migrant parents	-0.160	(0.663)	-0.235	(0.663	-0.165	(0.663)
Migrant siblings	-0.139[b]	(0.069)	-0.121[b]	(0.068	-0.139[b]	(0.069)
Migrant children	-1.210[a]	(0.701)	-0.951	(0.840	-1.212[a]	(0.698)
Trip characteristics						
Age at first trip	0.085[b]	(0.032)	0.086[b]	(0.032)	0.084[b]	(0.032)
Macroeconomic conditions						
Inflation rate	0.020	(0.017)	0.027[a]	(0.016)	0.019	(0.017)
Unemployment	-0.023	(0.053)	-0.014	(0.054)	-0.025	(0.054)
Ratio of Arg/Py per capita GNP	-0.228[a]	(0.120)			-0.240[a]	(0.132)
Overvaluation			-0.097	(0.348)	0.073	(0.368)
Person-Years	809		809		809	
Chi-square	190.4[b]		188.7[b]		190.5[b]	
Degrees of freedom	23		23		24	

Notes: [a]Coefficient significant at p<.1
[b]Coefficient significant at p<.05

while property-less migrants are more likely to use migration and settlement as a more permanent means for improving their socioeconomic status.

Family structure, while not salient in the decision to make a first migration trip, nevertheless has a large impact on first trip duration. Married men who migrated with their wives average far longer stays in Argentina and are much more likely to settle permanently there than men who migrated without their wives. This is hardly surprising given the close association between immigrant adaptation and family migration.

Migration experience within the family also impacts patterns of return migration. Having siblings or children who have been to Argentina reduces the likelihood of returning to Paraguay 1.4 (1/exp(-.139)) and 3.4 (1/exp (-1.212)) times, respectively. At the same time, men who migrated at older ages are significantly more likely to return to Paraguay than are younger migrants. These results confirm the expected association between family networks and lifecycle stage on migration decisions.

Macroeconomic conditions are also of central importance to duration of first trip. Model 1 shows that the length of stay of first trip increases significantly with income differentials. For every unit increase in the ratio of per capita GNP, the likelihood of returning to Paraguay decreases 1.25 (1/exp (-.228)) times. On the other hand, Model 2 illustrates the importance of Argentine economic stability for first trip duration. When considered without income differentials in the model, high rates of inflation clearly encourage return to Paraguay. When considered simultaneously in Model 3 we again see the predominance of income differentials over other indicators. Thus, in addition to influencing the initiation of migration, macroeconomic conditions have an important impact on the dynamics of the migrant flow. A deterioration of the returns to migration impacts migrant behavior even after the investment in migration has been made by hastening return to Paraguay. Again, these findings confirm the importance of economic policies and development trajectories for understanding migration dynamics between Paraguay and Argentina.

Recurrent Migration

For those migrants who return to Paraguay, migration can become a recurrent phenomenon. The likelihood of making additional trips reflects the social forces driving the generalization of temporary migration to Argentina as an economic strategy within Paraguayan communities. Table 6 reports the results from discrete-time logit models estimating the effects of covariates on the risk of making additional trips to Argentina. The analysis is based on men who returned to Paraguay after an initial trip. We selected all person-years that an individual was in Paraguay after his first return and estimated the likelihood of migrating again. In this framework, migration is considered a repeatable event that can occur at any time after a person returns to Paraguay. The covariates in the model follow the variables included in previous models, with the addition of previous migration characteristics, which allow us to assess the effect of migration experience on the likelihood of subsequent trips.

TABLE 6
ESTIMATES FROM DISCRETE-TIME LOGIT MODELS PREDICTING ADDITIONAL TRIPS TO ARGENTINA

Constant	-0.959	(0.983)	0.986	(0.644)	-0.902	(0.987)
Duration in Paraguay	-0.696[b]	(0.063)	-0.704[b]	(0.064)	-0.699[b]	(0.063)
Duration in Paraguay square	0.025[b]	(0.003)	0.025[b]	(0.003)	0.025[b]	(0.003)
Human capital characteristics						
Years of education (ref. less than primary)						
6-8	-0.370	(0.234)	-0.550[b]	(0.225)	-0.381	(0.234)
9+	-0.266	(0.392)	-0.562	(0.380)	-0.289	(0.392)
Type of Employment (ref. farm worker)						
Construction worker	-0.419	(0.280)	-0.378	(0.279)	-0.417	(0.281)
Sales	-0.205	(0.268)	-0.185	(0.266)	-0.199	(0.268)
Worker in leather	-0.167	(0.361)	-0.130	(0.355)	-0.181	(0.361)
Other skilled	-0.547	(0.679)	-0.659	(0.678)	-0.564	(0.681)
Rural origin	0.265	(0.227)	0.184	(0.224)	0.272	(0.227)
Physical capital						
Property owned in Paraguay						
Land	0.478	(0.312)	0.533	(0.323)	0.521	(0.342)
Business	-0.728	(0.578)	-0.881	(0.577)	-0.740	(0.578)
House	-0.345	(0.272)	-0.349	(0.269)	-0.358	(0.272)
Property owned in Argentina						
House	0.384	(1.098)	0.372	(1.088)	0.418	(1.089)
Household structure						
Marital status (ref. Married)						
Single	-0.697[b]	(0.277)	-0.556[b]	(0.268)	-0.701[b]	(0.277)
Number of children	-0.204[b]	(0.078)	-0.226[b]	(0.077)	-0.205[b]	(0.078)
Previous family migration						
Migrant siblings	-0.103[a]	(0.065)	-0.122[a]	(0.070)	-0.105	(0.070)
Migrant children	0.468	(0.596)	0.283	(0.582)	0.450	(0.596)
Migrant wife	1.309[b]	(0.405)	1.194[b]	(0.399)	1.294[b]	(0.404)
Previous trip characteristics						
Age at return	-0.024	(0.020)	-0.029	(0.020)	-0.023	(0.020)
Acc. migration experience	0.114[b]	(0.024)	0.112[b]	(0.024)	0.113[b]	(0.024)
Macroeconomic conditions						
Inflation rate	-0.014	(0.020)	-0.036[a]	(0.021)	-0.017	(0.020)
Unemployment	0.005	(0.035)	-0.017	(0.035)	-0.003	(0.035)
Ratio of Arg/Py per capita GNP	0.371[b]	(0.123)			0.329[b]	(0.130)
Overvaluation			0.475[b]	(0.246)	0.266	(0.262)
Person-Years	1,505		1,505		1,505	
Chi-square	476.5[b]		471.1[b]		477.5[b]	
Degrees of freedom	23		23		24	

Notes: [a]Coefficient significant at p<.1
[b]coefficient significant at p<.05

When we consider individuals who migrated once and returned to Paraguay, continued participation in the migration process appears to be driven more by household characteristics and past migration experience than by human capital considerations. The likelihood of making additional trips decreases with duration in Paraguay, but increases slightly after a number of years. Recurrent migration is particularly prevalent among married men with smaller families. Single men are 2 (1/exp(-.701) times less likely to migrate repeatedly than are married men, and the risk of migration also decreases with

number of children. These results suggest that for married men who are not willing or able to move their families to Argentina, recurrent migration can be an important economic strategy for family subsistence.

More significantly, recurrent migration is closely linked to previous migration experience and the extent of migrant networks within the family. Having siblings or a wife with migration experience to Argentina reduces the length of men's stay in Paraguay. These networks reinforce the connections between migrants and the communities of destination, thus facilitating migration. Moreover, as accumulated years of migration experience increase, so does the likelihood of migrating again. This self-feeding mechanism embedded in migrant behavior is a central force spurring recurrent migration from Paraguay to Argentina. These findings support network theories of migrant behavior that argue that as migration evolves, it becomes more dependent on migrant connections and experiences and less dependent on economic considerations. (Massey and Espinosa, 1997).

Once again, macroeconomic conditions are of central importance for understanding recurrent migration. For men already involved in the migration process, the likelihood of making an additional trip is significantly affected by period conditions. Model 1 shows that the odds of migrating increase significantly with income differentials between Paraguay and Argentina. Model 2 also shows that years of peso overvaluation increase the returns of migration and accelerate the likelihood of making additional trips. Interestingly, Model 2 also shows that economic instability (*i.e.*, high unemployment and inflation) in Argentina has the opposite effect of discouraging additional trips. As before, Model 3 illustrates that the positive effect of income differentials on migrant decisions tends to dominate other macroeconomic conditions. Nonetheless, in addition to their effect on the initiation of the migration process, economic fluctuations and exchange rate variations exert a direct and immediate effect on the recurrence of migration.

Duration of Additional Trips

The final stage in the process of migration between Paraguay and Argentina involves an assessment of the forces driving the duration of additional trips. This analysis complements our understanding of the settlement process among migrants who have returned to Paraguay at least once and have migrated a second time to Argentina. Table 7 reports the estimates from additional discrete-time models predicting the likelihood of returning to Paraguay after a second trip. The units of analysis are the years in which a recurrent

TABLE 7
ESTIMATES FROM DISCRETE-TIME LOGIT MODELS PREDICTING RETURN TO PARAGUAY AFTER ADDITIONAL TRIPS

Constant	-1.620	(1.362)	-0.980	(0.991)	-1.648	(1.368)
Trip Duration	-0.746[b]	(0.083)	-0.753[b]	(0.083)	-0.747[b]	(0.083)
Trip Duration Square	0.032[b]	(0.004)	0.032[b]	(0.004)	0.032[b]	(0.004)
Human capital characteristics						
Years of education (ref. less than primary)						
6-8	-0.195	(0.343)	-0.253	(0.332)	-0.191	(0.343)
9+	-0.391	(0.515)	-0.510	(0.485)	-0.385	(0.515)
Type of Employment (ref. construction worker)						
Farm worker	0.434	(0.373)	0.452	(0.373)	0.439	(0.374)
Sales and other skilled workers	0.025	(0.459)	0.047	(0.458)	0.026	(0.459)
Leather worker	-0.021	(0.482)	-0.027	(0.482)	-0.014	(0.483)
Rural origin	-0.457	(0.347)	-0.454	(0.346)	-0.455	(0.347)
Physical capital						
Property owned in Paraguay						
Land	-0.140	(0.516)	-0.127	(0.513)	-0.142	(0.516)
House	0.473	(0.483)	0.455	(0.481)	0.475	(0.484)
Property owned in Argentina						
Business	-2.059	(1.811)	-1.993	(1.795)	-2.065	(1.814)
House	-1.635[a]	(0.936)	-1.659[a]	(0.939)	-1.636[a]	(0.937)
Household structure						
Marital status (ref. Married with wife in Paraguay)						
Single	0.124	(0.418)	0.185	(0.407)	0.120	(0.419)
Married with wife in Argentina	-1.606[b]	(0.545)	-1.675[b]	(0.537)	-1.602[b]	(0.545)
Number of children	-0.314[b]	(0.115)	-0.301[b]	(0.113)	-0.314[b]	(0.115)
Previous family migration						
Migrant parents	-1.143[b]	(0.584)	-1.146[b]	(0.589)	-1.139[b]	(0.584)
Migrant siblings	-0.054	(0.088)	-0.055	(0.089)	-0.053	(0.088)
Migrant children	-2.178[b]	(0.789)	-2.239[b]	(0.786)	-2.174[b]	(0.790)
Trip characteristics						
Age at initiation of the trip	0.105[b]	(0.032)	0.102[b]	(0.031)	0.105[b]	(0.032)
Accumulated migration experience at initiation of trip	-0.085[b]	(0.044)	-0.085[b]	(0.044)	-0.085[b]	(0.044)
Macroeconomic conditions						
Inflation rate	0.046[b]	(0.020)	0.043[b]	(0.019)	0.047[b]	(0.020)
Unemployment	0.234[b]	(0.065)	0.237[b]	(0.066)	0.236[b]	(0.066)
Ratio of Arg/Py per capita GNP	0.109	(0.162)			0.123	(0.174)
Overvaluation			0.012	(0.318)	-0.076	(0.342)
Person-Years	557		557		557	
Chi-square	316.9[b]		316.5[b]		317[b]	
Degrees of freedom	23		23		24	

Notes: [a]coefficient significant at p<.1
[b]coefficient significant at p<.05

migrant was in Argentina, and the dependent variable is the likelihood of returning in a given year. In this context, return migration is treated as a repeatable event that can occur at any given point while the migrant is in Argentina.

Again, this process is mainly guided by household structure and past migration experience rather than by human capital characteristics. As in the preceding analysis, the likelihood of returning decreases during the initial

years in Argentina and then tends to increase. Not surprisingly, factors that signal intention to settle abroad, such as home or business in Argentina, are associated with significantly lower likelihood of return to Paraguay.

Migrant networks and experience also discourage the return to Paraguay. While an older age at migration accelerates the return process, having family with migrant experience in Argentina, including parents and children, and being accompanied by one's wife promote settlement and significantly reduce the likelihood of return to Paraguay. Moreover, past migration experience also decreases the probability of return. As migration experience builds, migrants accumulate connections in Argentina and build migration-specific human capital that increases the costs of returning home. As a result, for every additional year of migration experience among recurrent migrants, the likelihood of returning to Paraguay decreases 1.1 (1/exp(-.085)) times.

As in previous analyses, the likelihood of returning after additional trips is highly responsive to macroeconomic conditions. Interestingly, the forces driving this process differ somewhat from previous models. The three models show that the central forces pushing migrants back to their home communities are the deterioration of economic conditions in Argentina, particularly employment opportunities. Increases in inflation and urban unemployment indicate unstable economic conditions and motivate return migration. For instance, for every unit change in the rate of urban unemployment, the likelihood of returning to Paraguay increases 1.3 (exp(.234)) times. While urban unemployment did not affect previous stages of the migration process, it certainly affects the duration of trips for migrants involved in cyclical temporary migration. Previous studies have shown that migrants from neighboring countries are more vulnerable than natives to economic downturns. Our analysis shows that these studies may actually underestimate the prevalence of unemployment among the Paraguayan population in Argentina because a significant proportion of migrants return to their home communities when employment opportunities deteriorate.

DISCUSSION

Despite the historical and numerical importance of international migration between Paraguay and Argentina, systematic analyses of the socioeconomic forces affecting the dynamics of the flow remain relatively sparse. This article contributes to the understanding of migration movements between the two countries by analyzing patterns of labor migration from two Paraguayan communities. The analysis separates the process of migration into four segments,

representing different migration decisions that Paraguayan men face throughout their lives. The results obtained from the event-history models of first trip, first return, recurrent trips, and duration of additional trips confirm the expectation that Paraguayan migration to Argentina is closely related to individual characteristics and wealth, the extent of migrant networks and experience, and changes in macroeconomic conditions.

However, the relative importance of these various sets of factors differs across stages of the migration process. Individual human capital characteristics are of central importance in explaining the initiation of migration and settlement in Argentina after a first trip. Paraguayan men with better educational and skill credentials, who can expect higher returns to their migration investments, are more likely to engage in the migration process and more likely to have longer first trips. However, human capital characteristics are relatively insignificant determinants of recurrent migration among those migrants that return to Paraguay.

Migration dynamics are also closely associated with access to physical capital and the structure of economic opportunities in Paraguay. In particular, the limited access to land inherent in Paraguay's *minifundia* system and a general lack of access to credit and financial capital encourages migration. Moreover, the acquisition of physical capital in both Paraguay and Argentina is closely associated with migration dynamics and the process of settlement. Migrants who maintain houses in their home communities are more likely to return to Paraguay, while those who own property in Argentina are less likely to return.

Our findings also show that the extent of migration within the family is a central facilitator of migration at all stages of the migration process. Having close relatives with migration experience facilitates the initiation of migration and maintains the circularity of the movement. Past migration experiences also fuel subsequent migration. As migrants participate more frequently in the migration process and accumulate experience abroad, the likelihood of making additional trips or remaining in Argentina increases. These results confirm the self-feeding dynamism that migration processes acquire and support the argument that networks are a significant contributor to the generalization of Paraguay-Argentina migration over time.

Another central dimension explaining migrant behavior is macroeconomic conditions. Unlike the relatively stable economic differences between developing and developed countries, economic differentials between neighboring developing countries often fluctuate considerably. These fluctuations,

particularly in income differentials, have a profound impact on local international migration. As economic disparities between Paraguay and Argentina increase, so does the likelihood of migrating for the first time, staying in Argentina after a first trip, and making additional trips. In addition, our results show that exchange rate policies have an important effect on migration flows. Periods of Argentine peso overvaluation increase the economic returns to migration and encourage population movements. Our analysis also shows that economic instability, in the form of high inflation and rising unemployment, also impacts regional migration flows. While these factors do not significantly affect the initiation of migration or first return, they are crucial determinants of recurrent migration. Migrants who rely on cyclical temporary migration as a survival strategy appear to be particularly vulnerable to deteriorating economic conditions in Argentina. This finding has important implications for assessing the selectivity of the migrant population in Argentina and suggests that migrants' vulnerability to economic instability is underestimated in studies that focus exclusively on the settled population.

In general, two main implications can be drawn from our analysis. First, the positive selectivity of Paraguayan migrants with respect to education and skills runs counter to evidence from other migration flows, especially Mexican migration to the United States. Highly educated and skilled Mexicans tend to remain in their home communities or migrate internally rather than migrating to the United States. In the case of Paraguay and Argentina, on the other hand, the highly qualified are more likely to migrate internationally.

Several factors contribute to this difference in the selectivity of migration. For those seeking higher returns to their human capital, rural-urban migration within Paraguay is not a viable option. The lack of large urban centers attracting rural population in Paraguay limits the possibilities of retaining highly skilled workers within its borders. In addition, the similarities between Paraguay and Argentina with respect to cultural background, employment conditions, ethnic composition, and language reduce the costs of international migration and facilitate the transferability of skills. Moreover, the practical absence of legal restrictions and sanctions regulating population flows between the two countries reduces the costs and risks of international migration.

Thus, the selectivity of the migrant flow between Paraguay and Argentina more closely resembles patterns of rural-urban migration in the developing world than patterns of Mexico-U.S. migration. In the absence of

competition from urban centers in Paraguay, Buenos Aires and other cities in Argentina attract highly skilled Paraguayan migrants. One negative implication of this process is that local Paraguayan communities are often depleted of relatively scarce human capital resources that ultimately benefit the economy and society of a foreign country.

The second main implication from our analysis is that government policies oriented towards the regulation of migration flows in the Southern Cone should pay closer attention to the impact of macroeconomic fluctuations on migration decisions. Compared to population movements between rich and poor nations, income differentials between Paraguay and Argentina are not as pronounced and more subject to economic instability. Our results demonstrate that migration dynamics are very responsive to changing macroeconomic conditions. This finding bears directly on the likely impact of the Mercosur agreements on international labor flows in the region. Given the already generalized and highly dynamic nature of Paraguayan migration to Argentina, open labor market agreements in and of themselves are not likely to have a significant effect on migration flows. On the other hand, economic integration and common market formation can have important effects on the broader economic conditions that influence migration decisions. Unequal patterns of development that increase income differentials among countries in the Southern Cone or arbitrary exchange rate policies that over- or undervalue local currencies have direct and almost immediate impacts on migration flows. Countries concerned about the costs of high levels of immigration should consider the impact of these policies on migration.

APPENDIX 1
DESCRIPTIVE STATISTICS FOR VARIABLES IN THE MODELS

	First trip		First return		Other trips		Duration add. Trips	
Dependent variable	0.02	(0.14)	0.12	(0.33)	0.14	(0.35)	0.36	(0.48)
Duration	24.96	(9.88)	9.56	(7.36)	7.38	(6.46)	5.94	(6.03)
Duration squared	720.63	(529.86)	145.51	(181.82)	96.15	(133.04)	71.52	(127.15)
Human capital characteristics								
Years of education (ref. less than primary)								
6-8	0.42	(0.49)	0.56	(0.50)	0.45	(0.50)	0.33	(0.47)
9+	0.12	(0.33)	0.21	(0.41)	0.10	(0.30)	0.11	(0.32)
Type of Employment								
Not working	0.19	(0.39)	–		–		–	
Agricultural worker	–		0.04	(0.19)	–		0.31	(0.46)
Construction worker	0.11	(0.32)	–		0.18	(0.38)		
Sales employee	0.19	(0.39)	0.13	(0.34)	0.19	(0.40)	0.27	(0.44)
Worker in Leather	0.04	(0.19)	0.46	(0.50)	0.08	(0.27)	0.16	(0.37)
Other skilled worker	0.03	(0.16)	–		0.05	(0.22)	–	
Rural origin	0.57	(0.50)	0.86	(0.35)	0.49	(0.50)	0.66	(0.48)
Physical capital								
Property owned in Paraguay								
Land	0.10	(0.30)	0.01	(0.08)	0.18	(0.38)	0.11	(0.31)
Business	0.05	(0.22)	0.11	(0.32)	0.10	(0.31)	0.18	(0.38)
House	0.14	(0.34)	0.04	(0.19)	0.43	(0.50)		
Property owned in Argentina								
Business	–		0.03	(0.18)	–		0.03	(0.18
House	–		0.20	(0.40)	0.00	(0.06)	0.08	(0.28
Household structure								
Marital status								
Single	0.60	(0.49)	0.40	(0.49)	0.27	(0.44)	0.33	(0.47)
Married with wife in Arg.	–		0.50	(0.50)	–		0.27	(0.44)
Number of children	1.40	(1.94)	1.23	(1.32)	2.44	(2.06)	1.68	(1.77)
Previous family migration								
Migrant parents	0.01	(0.09)	0.11	(0.31)	–		0.09	(0.29)
Migrant siblings	0.26	(0.73)	1.20	(1.93)	0.93	(1.53)	1.57	(2.30)
Migrant children	0.06	(0.24)	0.06	(0.24)	0.02	(0.15)	0.07	(0.26)
Migrant wife	–		–		0.05	(0.21)	–	
Trip characteristics								
Age	–		20.99	(4.63)	33.23	(7.47)	25.83	(7.17)
Migration experience	–		–		4.72	(4.20)	6.64	(4.60)
Macroeconomic conditions								
Inflation rate[a]	2.56	(7.56)	2.94	(7.90)	3.11	(8.59)	2.47	(7.00)
Unemployment	5.85	(3.20)	6.04	(3.40)	6.39	(3.62)	5.85	(3.26)
Ratio of per capita GNP	4.94	(1.10)	4.74	(1.07)	4.67	(1.07)	4.85	(1.08)
Overvaluation	0.80	(0.40)	0.78	(0.41)	0.78	(0.41)	0.78	(0.41)
Person-years	5,144		809		1,505		557	

Note: [a]Divided by 100.

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