

Sectoral Allocation by Gender of Latin American Workers over the Liberalization Period of the 1990s

Wendy V. Cunningham

Did the types of jobs that men and women hold change during the recent period of economic reforms in Argentina, Brazil, and Costa Rica? Among both men and women in all three countries (except Brazilian men), workers have become more likely to hold informal wage jobs and less likely to hold formal sector jobs.



Summary findings

The recent restructuring of Latin American economies has renewed interest in the effects of trade liberalization on labor markets and on the gender division of labor. Cunningham does not attempt to establish causality between economic reforms and the types of jobs that men and women hold. Instead, she provides a detailed description of the trends in male and female formal and informal sector participation during the economic reform period in Argentina, Brazil, and Costa Rica.

Cunningham first compares the gender composition of the formal, informal wage, and self-employment sectors in a year before reforms (1988 for Argentina, 1989 for Brazil and Costa Rica) and a year after reforms (1997 for Argentina, 1995 for Brazil and Costa Rica). Although women continued to be more likely than men to work in the informal wage sector, there is no trend of masculinization or feminization of the informal sector or

any other. Instead, in Argentina men have overtaken women as the most prevalent workers in the informal wage sector, while in Brazil the opposite has occurred (as men move into self-employment). In Costa Rica there have been no statistically observable changes.

The author then considers the distribution across sectors within each gender group to identify whether men and women are more likely to select different sectors in the post-reform period relative to the pre-reform period. Among both men and women in all three countries (except Brazilian men), workers have become more likely to hold informal wage jobs and less likely to hold formal sector jobs. Trends in human capital accumulation explain these changes for both men and women, while changes in gender roles, primarily in homecare and marriage, do not seem to have an effect.

This paper—a product of Gender Sector Unit, Latin America and the Caribbean Region—is part of a larger effort in the region to understand the role of gender in developing country labor markets. Copies of the paper are available free from the World Bank, 1818 H Street NW, Washington, DC 20433. Please contact Selpha Nyairo, room 18-110, telephone 202-473-4635, fax 202-522-0054, email address snyairo@worldbank.org. Policy Research Working Papers are also posted on the Web at <http://econ.worldbank.org>. The author may be contacted at wcunningham@worldbank.org. December 2001. (45 pages)

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**Sectoral Allocation by Gender of Latin American Workers
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I. Introduction

Over the past decade, most Latin American countries instituted structural reforms that included privatization, market-based exchange rate policies, and lower trade barriers, thus exposing their economies to world market forces that had not been experienced since the early part of the century. The ramifications of liberalization on labor markets are not well understood (Leamer, Robbins 1997, Wood 1994), but the gender dimensions are even less documented.¹ This paper does not attempt to establish a causality between the economic restructuring and the gender balance of labor markets.² Instead, it is a description of the gender composition of the labor market before and after periods of economic reforms. We examine whether or not the types of jobs that women hold has changed in three countries characterized by varying degrees of structural reforms and labor market rigidities over the period 1988-1997: Argentina with rapid opening product markets and strong unions that keep labor markets rigid, Brazil with a similar restructuring but more flexible labor markets, and Costa Rica with its flexible labor markets and modest reforms.³

Labor markets in developing countries are assumed to be composed of at least two subsectors: an informal and formal sector (Hart 1973, Thomas 1992). The former is composed of workers who do not enjoy the work conditions and benefits that are mandated by labor laws. There is a great deal of discussion in both academic and policy circles regarding the causes for and the implications of the various sectors. Mainstream thought claims that the dual sectors exist due to labor market segmentation such that formal sector jobs are the preferred jobs and residual workers create inferior employment to absorb the excess labor (Thomas 1992, Burki 1998, Stiglitz 1974). Under this theory, policymakers strive to abolish the non-formal jobs. However, the original work that identified multiple sectors (Hart 1973) as well as recent work suggest that labor markets are well integrated and cite the positive attributes of higher mean wages, flexibility, and freedoms found in self-employment or apprenticeships via the informal sector (Maloney 1998, 1999; Cunningham 1999) that would induce individuals to select these jobs over those in the formal sector. Those who subscribe to this view do not aim to abolish the sector but rather to protect it while integrating some of its positive attributes into the formal sector. Due to the unresolved debate on a quality ranking of the various sectors, we will not impose *a priori* a ranking. Instead, we will confine the analysis to the descriptive to allow practitioners of both views to utilize the results. We will examine three sectors: the formal sector employees, composed of workers who pay into the social

¹ Exceptions include Black and Brainerd 1999, Barrientos and Barrientos 1996, Gammage 1999

² The variety of macroeconomic changes and the econometric challenges associated with measuring causal relationships between economy-wide policy changes and observed outcomes make it quite difficult to identify the impacts of one policy change (such as trade liberalization, exchange rate reforms, etc.) on the gender balance in the labor market. For a discussion of the challenges of economy-wide impact evaluation, see (Baker 2000)

³ Saavedra (2000) and Arias (2000) examine the changes in wages over the same period in the Argentina, Costa Rica, and Brazil for women and men, respectively.

security system; informal sector employees, who do not pay into social security and work in firms with six or less employees; and the self-employed.⁴

Theory does not help us predict how, if at all, economic reforms will affect the allocation of male and female workers across these three sectors. For those who believe that the informal sector consists of unskilled jobs and the formal sector are only skilled jobs, trade liberalization should lead to a feminization of the informal sector since women, on average, have fewer job market skills than men do.⁵ However, Robbins' (1997) statistical work shows that in Chile, the wages of *skilled* workers increased during liberalization due to the adoption of skill-intensive technology. Since many skilled workers also work in the informal sector, theories based on skill levels cannot be used to sort out expected allocation patterns. Due to a lack of consensus in the theory, we will proceed without theory to search for trends of a feminization of any one sector.

We will define feminization in two ways. First, it may be a change in the sectoral gender balance such that women's share of jobs in a particular sector, relative to men's, has increased. Secondly, feminization may be interpreted as an increased share of women in a particular sector relative to women in the other sectors.

The paper is organized as follows. Section II discusses the structural reform process in each country. Section III describes the data and variables that will be used in the formal analysis. The fourth section briefly compares the mean characteristics of the labor force between countries and between years. Section V reviews the method of the analysis. Section six tests for a shift in the gender composition of the informal sector, by 1) comparing unconditional sectoral allocation patterns in earlier and later years and 2) formally estimating a sectoral choice multinomial logit model for each year to compare the sign and magnitude of the gender dummy. Section seven examines the intra-gender sectoral shifts by comparing raw sectoral allocation proportions. The supply-side reasons behind these changes are revealed in sectoral choice models. Finally we conclude.

II. Countries

Three countries are analyzed: Argentina, Brazil, and Costa Rica. They were selected based on the diversity of their liberalization experiences, the flexibility of their labor markets, and data availability. For each country, we select a sample year in the late 1980s and one in the mid-1990s, such that the economy is at the same point in the business cycle in each sample year (about 3% growth rate of GDP). Since only two years

⁴ The informal sector is composed of informal wage employees, self-employed, firm owners, unpaid workers, and family workers. The first two subsectors are the largest, consisting of approximately 10% and 30% of the labor force, respectively, while the other sectors are, collectively, 5-7% of the labor force. Given the small sample size of the latter three sectors, they will not be analyzed. Often, the informal wage and self-employment sectors are treated as single "informal sector" but research has shown that they are too distinct to treat together (Maloney 1999).

⁵ The Heckscher-Ohlin Theory hypothesizes that free trade causes an increase in demand for (goods produced by) the abundant factor in each country. Since the informal sector is often equated with excess unskilled labor, and women have, on average, lower average education levels and less job market experience than men, the demand for (and remuneration in) these jobs should increase as a result of liberalization, making it attractive to women who otherwise may remain out of the labor force.

were analyzed, we are not claiming that the results are indicative of a new trend. Instead, they only show allocations in a post-reform year relative to a pre-reform year.⁶

2.1 *Argentina*

Argentina is a case of a rapidly liberalizing economy that remains relatively inflexible due to its fixed nominal exchange rate and strong unions that inhibit job growth and lead to high unemployment.⁷ In the late 1980s, the Argentine economy was suffering from high inflation, highly variable growth rates, and a somewhat closed economy. With the 1991 convertibility plan, inflation fell to the single digits, privatization began, and structural adjustments included fiscal, public sector, trade, and financial sector reforms. Tariffs fell by nearly half (28% to 15%), 51 firms were privatized over the period 1989-1991, and public employment fell by 75%.

The effects on the labor market (Pessino 1997) included 1) an increase in the price of labor relative to capital due to the elimination of tariffs on capital goods and the real appreciation of the peso, 2) an increase in unemployment and underemployment, 3) an increase in female labor force participation, 4) technological change that increased the demand for skilled labor, and 5) slowly increasing productivity.

2.2 *Brazil*

Brazil presents a case of a rapidly liberalizing economy with a somewhat flexible exchange rate policy (managed float rather than a peg) and a relatively flexible labor market. Three events most profoundly defined the economic restructuring in the 1990s. First, hyper-inflation was brought under control by the Real Plan in July 1994 via a new currency (the *real*), tight monetary policy, government support of the currency, and elimination of price and wage indexation (Franco 1996). Secondly, Brazil changed its economic plan to an outward looking economy by cutting its tariffs in half and therefore forcing firms to cut their labor force in an effort to increase productivity and trim costs to stay competitive. Finally, a privatization program was initiated such that by October 1992, twenty-two state firms were privatized (Baer 1995).

The labor market's response to these changes were as expected. Real wages increased for workers in all sectors as the value of the *real* increased (Wilkie 1995) and productivity in the formal sector increased rapidly (Ministerio de Trabalho 1997). Increased aggregate demand was answered through increased employment, especially in the self-employment sector but employment in the manufacturing sector fell in favor of increased productivity (Amadeo 1996).

⁶ The exception is Argentina where the early period is a recessionary period and the latter is an expansion. These periods are robust to labor market shifts, though, as wages and unemployment behavior was similar between the two periods.

⁷ It may be argued that excessive labor legislation is the cause behind the high unemployment rates. However, Argentina's legislation is not particularly more rigid than that of most countries in Latin America (Marquez 1994), Brazil for example, that have much lower unemployment rates.

2.3 *Costa Rica*

Costa Rica did not experience the prolonged, severe economic difficulties of Brazil and Argentina since it rapidly repositioned itself after the 1983 debt crisis and has been on a steady growth path since (except for 1995). Thus, massive economic reforms in the late 1980s were not necessary. The average degree of tariff protection fell by 16% in the period 1985-1994 and exports of nontraditional goods were promoted via tax incentives and import duty exemptions, but in 1995, tariffs were increased to meet the growing interest demands from the public debt that rapidly escalated during the election cycle (1993-4). Free trade zones and maquilas were introduced in 1990 and became a significant portion of export earnings in 1993 with the entrance of Intel Corporation and its improved technology and productivity processes. There was gradual privatization and public sector downsizing in the mid-1990s, but the process was slow due to union opposition and political roadblocks (Cespedes and Jimenez 1994).

The labor market has been stable over the period with low unemployment and favorable income distribution. Maquila employment has become very important as public sector employment is decreasing. The labor laws remain largely unchanged over the period as well. Thus, Costa Rica may be considered the “base case” against which to consider the sectoral allocation changes experienced in the rapidly reforming economies.

III. Data

The data sets are cross-sectional household surveys from the late 1980s and mid-1990s.⁸ A pre-reform and post-reform period are selected for each country. For the Argentine analysis, the *Encuesta Permanente de Hogares* (EPH) in 1988 and 1997 is used. The Brazilian *Pesquisa Nacional de Amostra de Domicílio* and the Costa Rican *Encuesta de Hogares de Propósitos Múltiples* (EHPM) are used for 1989 and 1995. To keep the samples relatively comparable across countries, only individuals who are between the ages of 15 and 70, work for remuneration, are wage employees or self-employed, and reside in urban areas⁹ are analyzed.

The sectors are defined according to self-reporting and access to federally mandated benefits. The self-employed are those who identify themselves as “cuenta/conta propia”, regardless of their earnings or access to government benefits. Formal sector workers define themselves as employees and either work in firms where the employer pays for their benefits (social security or job insurance) or work in firms with more than 6 employees. Informal sector workers are those who define themselves as employees, work a positive number of hours in exchange for remuneration, work in firms with six employees or less, and do not receive social security benefits from their employers.

⁸ The countries and years were selected based on data availability, liberalization pattern, the business cycle and questions that allow us to identify the informal sector.

⁹ Only observations in the Greater Buenos Aires area are considered in the Argentina analysis. The Costa Rican sample includes anyone who declares his/her area as “urban”, and the Brazilian sample only includes those individuals in the states of Recife, Bahia, Ceará, Rio de Janeiro, São Paulo, and Paraná who identify themselves as non-agricultural workers.

IV. Stylized Facts

Table 1 shows that in the late 1980s, men are nearly twice as likely as women to participate in the labor force.¹⁰ Among men and women who work for pay, men are more likely than women to be in the self-employment or formal wage sectors while the reverse is true for the informal sector. Relative to 1988/9 proportions, we are interested in establishing evidence on 1) whether or not women's (men's) likelihood of entering any particular sector, relative to the other sectors, was higher in the 1990s and 2) whether or not women's share of employment in any one sector, relative to men, has changed.

To focus the analysis on sectoral allocation trends in the formal, informal wage, and self-employment sectors, we consider only the sample of the remunerated economically active population. Table 1 shows that a disproportionate number of paid working women entered the informal salaried sector in Argentina and Brazil. In Argentina, there are 2.4% more in the latter period while in Brazil, the proportion grew by 4.58%. These increases are counterbalanced by a decrease in female formal sector employment. Therefore, a first glance suggests that women in the economies with the most reforms are more likely to be in the informal salaried sector than the other sectors, relative to the earlier period, while in the slowly reforming Costa Rica, any changes women's patterns are not statistically evident.

However, men's sectoral allocation proportions also change over the period. Argentine and Costa Rican men are more likely to be in the informal salaried sector in the latter periods than in the former and their respective rates of increase (4.58% and 2.07%) exceed those of women (2.41% and 0%). However, men still remain less likely to be informally employed than their female counterparts. Additionally, men's likelihood of formal sector employment decreases more than women's likelihoods in the two countries. An opposite pattern emerges in Brazil where men's informal wage attachment decreases while their formal sector attachment falls more slowly than women's. Instead, Brazilian men's attachment to self-employment increases.

To identify if women's share of a sector, relative to men's, increases between the two periods, Table 1 shows the proportion of female remunerated workers relative to all remunerated workers in sector j in 1988/9 and 1995/7. A difference between the ratios is due to a change in the gender "structure" of the labor market. We find that women's share of the labor force increases in all three countries, reflecting higher increases in their labor force participation rates in the latter period as compared to the men's trends. With respect to the sectors, there is a general trend for increased female presence in the formal sector (the change is not significant in Costa Rica, though) and a feminization of the informal sector in Brazil but a masculinization of it in Argentina.

¹⁰ Table 1 shows that female participation in the labor force increased in all three countries. In Argentina, 40% of the women between the ages of 15-70 either worked or searched for jobs, but nearly 50% did so by 1997. Over the period 1989-1995 in Argentina and Costa Rica, participation increased from 46.0% to 50.6% and 52.4%, respectively. Men's labor force participation followed a less dramatic upward trend in Argentina and Costa Rica, but it fell in Brazil.

Thus, as women's paid employment increases, in the liberalizing economies, men are less likely to be in formal sector jobs relative to themselves in 1988/9 and relative to women in 1995/7. Furthermore, informal sector employment increases within gender (except among Brazilian males), but across gender, there is a masculinization of the informal wage sector in Argentina and a feminization in Brazil. Allocation rates, both within and across gender, do not change for the self-employment sector (except for increased self-employment among Brazilian males) nor for the stable Costa Rican economy. However, the changes in sectoral allocation patterns perhaps are not due to gender but rather due to other characteristics that are correlated with gender. To identify whether or not the reallocations are a gender issue, we must control for human capital, household structure, wealth and other income resources, and demand side factors.

V. Modeling Approach

5.1 Modeling Approach

We would like to determine 1) if the intra-sectoral gender balance in the informal sector is changing, 2) if there is an intra-gender shift in sectoral allocation, and 3) the cause of the change in sectoral allocation patterns of women and men. The analysis proceeds in three parts. The first identifies whether or not the gender balance in the informal sector changes. We estimate a multinomial logit model to control for characteristics that may be correlated with a gender but are causing the observed sectoral reallocations.¹¹ The dependent variable is a dummy that takes the values of 1, 2, or 3, respectively, for participation in the self-employed, informal wage or formal sector and a gender dummy is included. The model is estimated for the whole labor force in the pre- and post-reform years and the coefficients on the gender dummies are compared to identify if similar patterns emerge among the three sample countries.

Second, we identify if there is a shift toward any one sector *within* gender. We estimate the econometric model described above for a sample of remunerated women and separately for a sample of remunerated working men to identify those factors that are most correlated with sectoral re-distributions. These are specific factors that are useful to understand the types of people in each sector and potential target variables for affecting the sectoral allocation.

Finally, we examine whether the change in sectoral allocation patterns are due to a change in the mean characteristics of the labor force or a change in the role of certain characteristics in sorting individuals into a particular sector. We estimate the

¹¹ Sectoral allocations may be interpreted as the observed outcome of a two-step process: the decision to work and the decision to be in a sector. Thus, the coefficient estimates from a sectoral allocation model will be biased. A common means to control for selectivity bias is to use a Heckman two-step procedure where the first step is the selection model. The results from the selectivity model are presented in Appendix I. However, they do not well explain the labor force participation choice, so econometrically, it is preferable to not use the two-step process but rather estimate the second model directly and take into account the selectivity bias in the interpretation of the results (Heckman 1979).

probabilities of being in each sector in each year¹² and compare it to the probabilities if we allow only the means to differ between years (hold the coefficient estimates equal) and the probabilities if we only allow only the coefficients to differ (hold constant the means across years). This gives us insights into whether the changed probabilities between the two years is due to a change in labor force characteristics or due to the sorting power of supply side variables.

5.2 Variables

The variables that identify the likelihood of being in one sector over another are broken into five general categories: gender, human capital (experience, education), household structure (marital status, headship, number of individuals in the household by age), resources (household wealth and income), and other (race and region in Brazil, region in Costa Rica). Mostly supply side variables are used due to an absence of demand side variables in the data sets. The only exception is regional dummies for the Brazilian and Costa Rican models. The variables in each category are as follows:

5.2.1 Gender

This variable captures those unobservable preferences and constraints associated with being male or female that induce individuals to be in any particular sector.

5.2.2 Human capital

Experience: true experience is difficult to measure, so age is used as a proxy. A quadratic is also included. Previous research has found that experienced women tend to be in the formal sector and experienced men tend toward formal or self-employment sectors since these give the highest rewards for experience (Maloney 1998, Cunningham 1998).

Education: dummies are used, each taking a value of 1 if that category is the highest level of education the individual reached. The categories are incomplete primary (including no school), incomplete secondary, complete secondary (including incomplete college), and complete college (including graduate school). The omitted category is completed primary.¹³ Along the lines of other research, we expect that the more educated are more likely to go into the formal sector, a sector that assigns jobs and pay based on

¹² We would like to do a type of Oaxaca decomposition but cannot because we are 1) predicting multiple states (formal wage, informal wage, self-employment) and 2) predicting relative probabilities. Instead, we will calculate the relative risk ratios and the means values of the variables for each state and identify whether or not the mean values are changing relative to the base group and/or the relative risk ratios differ between periods.

¹³ For the Brazilian models, the incomplete primary variable is broken into three dummies to take into consideration the two levels of primary school: incomplete primary 1 (grades 1-4), incomplete primary 2 (grades 5-8), and complete primary 2. The omitted variable is incomplete primary 1. Secondary is 9-11 and “grade” 12 is technical school or “vestibular”, the year long study to take the college entrance exams or begin technical school

observable productivity characteristics (Cunningham 1998) or into the self-employment sector, since a more diverse skill set is needed. A dummy for technical school is also included as a control.

5.2.3 Household Structure

Time constraints: household composition is meant to proxy time constraints imposed by the rest of the household. The number of young children (age 1-5) and school aged children (age 6-11) constrain women's time and impose demands on father's income that should lead to the more flexible self-employment or informal wage jobs for women and the higher paying formal or self-employment for men. Sectoral allocation due to the presence of older household members is less clear, though. Teenaged daughters and sons (age 12-17) could either contribute to or detract from mother's time, while they certainly impose monetary demands on both parents. Other adults in the household (age 18-65), less the spouse, may contribute to the primary female's housework or they may substitute for primary female's/male's market work.

Marital status and headship: marital and household head dummies are included to proxy gender roles and household role.¹⁴ We expect that household heads and married men would be more likely to be in the higher paying sectors (formal or self-employed) while married women would be in the more flexible sectors in order to fulfill their gender roles as well as their market roles.

5.2.4 Income and Wealth

Income: These variables measure household income flows from all sources *except the observation's own labor income*. The income variables are the value of non-labor income the household receives and the earnings of all individuals, less the person being analyzed.¹⁵ We expect that in households with higher "other" income, women are in the most flexible, lower paying self-employment and informal wage jobs (Saavedra 2000). A dummy is included that takes a value of 1 if someone in the household, less the person being analyzed, receives social security benefits. This variable is a proxy for access to public services, i.e. benefits that are already "paid" through a formal sector worker in the household, thus we would expect those who are in households that already receive these benefits to be less likely to work in the formal sector where they would "pay twice" for the services.

Wealth: For Argentina and Brazil, dummies for home ownership, running water in the home, and rooms per capita are also included as measures of "permanent" wealth. The impact is difficult to predict since the data do not permit us to identify if the job lead to the wealth (high formal wages lead to wealth accumulation) or if wealth lead to the sectoral allocation (collateral for the self-employed, for example).

¹⁴ The Brazilian survey does not ask about marital status, so this variable is omitted for the Brazil estimates.

¹⁵ Due to inflation in all countries and various currencies in Brazil throughout the period of observation, the Argentine peso and the Costa Rican colon have been adjusted to 1988/1989 local currency. The Brazilian values have been converted to US\$ (based on a daily conversion rate) and inflated to 1995 currency.

5.2.5 *Other*

Region: Since the Argentine sample only covers Greater Buenos Aires, we cannot control for differential regional labor markets, but in Brazil and Costa Rica, regional dummies are included. In Brazil, the two dummies are the poor Northeast (Pernambuco, Ceará, and Bahia) and the wealthy South (Paraná). The omitted region is the wealthy, industrial Southeast (Rio de Janeiro and São Paulo). The regions in Costa Rica are the Central Region (less San Jose), Central Pacific, the North, and the poor East (Chorotega and Brunca). The omitted category is wealthy metropolitan San Jose.

Race: Information on race is only included in the Brazil surveys, so we cannot address the issue across the region. There are two race dummies included in the Brazil models: black and mulatto. The omitted category is white or “yellow”.

5.3 *Mean values*

The mean values and proportions of the independent variables for each country and each year are given in Tables 2a-2c. Mean characteristics do differ by sector, gender, and country. The self-employment sector is the oldest for all countries for men and women, with a mean age in the range 37-42. Self-employed men are, on average, two years older than self-employed women. Informal wage workers are the youngest with an average age of 30. Thus, it is not surprising that the self-employed (who are older) are more likely than informal sector men to be married (except in Costa Rica). However, self-employed women are more likely than wage women to be married. Since 1/3 of women have husbands and/or children, this is expected due to the need to balance gender-based home and market roles and the flexibility offered by self-employment to achieve the balance more so than in wage jobs. It follows that women with more children in Brazil are more likely to be self-employed. In Argentina and Costa Rica, however, women with children are the least likely to be self-employed. Perhaps this is due to the lower dependency rates and the high number of teenaged daughters and other adult females in the households to care for the children. More educated individuals tend to be in the formal sector (or in self-employment in Argentina), especially women. Income, abstracting from own earnings, is lowest among male self-employed in Argentina and Brazil but among informal wage women in all countries. Finally, formal sector workers are the most likely to have a family member who also is eligible for social security through his/her job. However, 30-40% of men and 40-50% of working women in self-employment or informal wage work are eligible for the services provided by the social security system via another household member.

The shift in household structure and demographics are sector specific differ between women and men. In Argentina and Brazil, women in the formal sector have become older, household heads, and married while men are the opposite. In the other sectors, both men and women are less likely to be household heads and the women, in particular, tend to be older than in the earlier sample. The mean values of these variables do not change between the survey periods in Costa Rica. In the self-employment and

informal wage sectors, the individuals are more educated than in earlier years and in Costa Rica, women's education seems to be outpacing men's. In the formal sector, there is not a clear shift toward or away from education level (except for Costa Rica) so as downsizing occurs, the educated are not necessarily those who are retained. In fact, they seem to be increasingly in the informal wage and self-employment sectors where wage growth is highest. As in the sample as a whole, all sectors have fewer children than in the previous years and in Brazil and Argentina, social security receipt by other family members has fallen. With respect to wealth and income, households in all sectors seem wealthier with more rooms per capita and plumbing in the homes. Labor income has increased across the period for all sectors except in Costa Rica and informal wage women in Brazil. On the other hand, non-labor income has fallen in most sectors in Argentina and Brazil but risen for Costa Ricans (except formal wage women) and the male self-employed in Brazil.

VI. Regression Results

6.1 Inter-gender, intra-sectoral shift: holding sector constant, does the gender balance change?

The above estimates do not reveal whether or not the shift in the gender balance of formal and informal wage sectors is due to a true feminization (masculinization), i.e. an increased propensity for women (men) to be in the sector because of their gender, or whether the sector is more attractive to people with certain characteristics that happen to be highly correlated with women (men). In this section, we are primarily interested in understanding whether or not the gender balance *within* sector has changed over the period of analysis. Tables 2a-2c showed that women and men who are in the labor force have very distinct characteristics, so we should control for these and then ask if being a female leads to an increased propensity for informal wage work in Brazil and formal wage work in Argentina and Brazil.

When controlling for observable characteristics, in all three countries, women are more likely than men to be in the informal wage sector relative to the other sectors (first row, Tables 3a-3c), as the unconditional observed proportions in Table 1 showed. Furthermore, the change in the propensity for female informal sector attachment mirrors those changes noted in Table 1. The first row of Tables 3a-3c show that women's likelihood of informal wage work, relative to men's increases in Brazil but decreases in Argentina and Costa Rica, reflecting the trends in Table 1. The change in Argentina and Costa Rica are due to a higher rate of male entry to the informal wage sector as compared to women, thus increasing the male share of the sector. However, in Brazil, men shift to self-employment, leaving informal wage jobs to the women. Thus, in the two liberalizing economies (Argentina and Brazil), the informalization trends moves in opposite directions for men and women and in the flexible labor markets (Brazil and Costa Rica), there is not a common trend, implying that liberalization and market flexibility may not have gender specific impacts.

The trends for the other sectors are not as robust since a difference in the rates of change between formal sector and self-employment attachment cannot be statistically

identified. The statistics, though not significant, do suggest that the likelihood of formal sector attachment (relative to the other sectors) is generally increasing among Argentine and Costa Rican women. The results for Brazilian women are not conclusive.

Other gender variables change across the region over time as well. Being married is more associated with self-employment in Argentina and Costa Rica. In the later period, the trend is even stronger for Argentines, but married Costa Ricans are increasingly correlated with informal wage work. Those with children are more likely to be in the informal wage or self-employment sector, but the trends are weakening over time. In Costa Rica and Argentina, the presence of children is becoming less of a force in driving sectoral choice decisions while in Brazil, those with children are less likely to go into the informal sector than in the earlier period.

6.2 *Intra-gender, inter-sectoral shift: in which sectors are women (men) working?*

Now we turn to the analysis of sectoral allocation *by gender* to identify which characteristics are correlated with attachment to a certain sector for men and women, if these differ between men and women, and how they are different in the mid-1990s as compared to the late 1980s. The gender-specific estimated relative risk ratios for the propensity of being in one sector relative to another are given in Tables 4a-4c. In each table, a pair of columns give the likelihood of being in sector *j* rather than sector *k* in 1988/9 and 1995/7. The coefficient estimates with a cross are significantly different from zero at the 5% level within the year. An asterisk indicates that the coefficient estimates *between* the years are not equal to each other, at the 5% level.¹⁶

6.2.1 *Human Capital*

6.2.1.1 *Experience*

In all three countries in 1988/9, older individuals, i.e. those with more potential job experience, are the least likely to be informal wage workers, regardless of gender. Furthermore, in Brazil, older men show a propensity for self-employment over formal wage while women do not, despite the means tables statistic that showed that, on average, the self-employment sector had the oldest women.

For both men and women, the change in sectoral attachment of older workers closely follows the observed proportions in Table 1. Potential experience is correlated with an increased propensity for women to be in the informal sector in the latter period in Argentina and Brazil. This may be due to the higher mean wages in this sector for older workers in the later year (Saavedra 2000). Among men, age is increasingly associated

¹⁶ Given the 6-8 years between observation periods and the high turnover in the labor markets (see, for example, Gonzaga 1992 for Brazil), it is not unrealistic to assume that the pre- and post-reform period samples are independent, and thus can be statistically compared. Although it may seem counter-intuitive to compare coefficients across years due to different base individuals, we have constrained the base by the same observable characteristics in the two regressions. The unobservables, of course, cannot be calibrated, so to the extent that they interact differently with the observables in the two years, the differences cannot be controlled.

with informal wage jobs in the latter years in Argentina and Costa Rica while in Brazil, experience is more strongly correlated with self-employment, thereby supporting the change in observed proportions. The explanation may indirectly be derived from Cunningham and Maloney (1998) that showed that there exists a distinct sub-sector of self-employment characterized by older men who were laid off from their previous jobs and were unable to find formal sector work. Extrapolating to the informal sector, we may hypothesize that a group of older, less entrepreneurial, out-of-work men also turn to the informal wage sector.¹⁷ Thus, part of the increase in informal sector employment may be attributed to a lower propensity of some older individuals to maintain their formal sector jobs.

6.2.1.2 Education

Disaggregating by gender, the school dummies show the probability of being in sector *j* relative to sector *k* if the individual has level of education *y* rather than completed primary school (primary 1 for Brazil). In the base year, the more educated are more likely to be in the formal sector, regardless of country or gender, and they tend to be self-employed rather than informal wage workers.¹⁸

Although individuals with more education continue to be more likely to be in the formal sector job, in the later period, the propensity is declining. In Argentina and Costa Rica, the propensity of the more educated to be in formal sector work is gradually decreasing in favor of informal wage employment or self-employment, especially for those with a university education.¹⁹ Men and women show opposite patterns from each other for participation in the informal wage sector relative to self-employment as education levels increase, though. The relative propensity for more educated women to be in informal wage jobs is decreasing between the periods while the likelihood is increasing for more educated men, although self-employment remains more likely than informal wage work for educated workers.

Brazilian men show trends similar to men in Argentina and Costa Rica while Brazilian women are distinct from all groups. The probability of formal sector attachment as education levels increase for Brazil men is lower than in the earlier period, and, like women in the other countries, self-employment dominates informal wage even more in the later period for more highly educated Brazilian men. Conversely, more educated Brazilian women are more likely to be in formal sector jobs than informal wage jobs but their increased propensity for self-employment over any wage jobs is their most notable change over the period, contrary to Table 1. Nonetheless, the new trend for the minority of highly educated Brazilian women are not strong enough to drive the change in observed probabilities reported in Table 1.

¹⁷ This group was not examined in Cunningham and Maloney (1998).

¹⁸ In Brazil, the likelihood of informal rather than self-employment is not monotonically decreasing with education.

¹⁹ For Costa Rican men, we were able to disaggregate secondary complete and university complete. For the most highly educated, we find the opposite trend where formal sector work became even more likely, perhaps due to the influence of the high technology maquila industry

The increasing propensity for more educated men to not be in the formal sector may be due to the increased attractiveness of the informal sector due to the increased relative wages (Arias 2000) or a scarcity of formal sector jobs (Cunningham and Artecona 2000) in an economy with high unemployment and declining manufacturing and public sector employment. Furthermore, since the general education level is increasing, but the demand in the formal sector is not, individuals with more education would end up in the informal sectors.

6.2.2 Household Structure

6.2.2.1 Headship and Marital Status

The base period sectoral allocation probabilities support the hypotheses that women balance their home and market responsibilities, but these trends are not as robust in the 1990s. In 1988/9, Argentine and Brazilian female household heads tend to be in the self-employment sector, thereby allowing them to fulfill home and market duties²⁰ while male household heads in all three countries tend to be in the formal or the self-employment sector, both of which have median wages that are higher than the median wage in the informal wage sector (Cunningham and Artecona 2000). In the latter period, Argentine female heads increase their likelihood of self-employment while Brazilian women do the opposite, increasing any wage employment but still remaining more likely to be self-employed. Furthermore, contrary to the observed proportions, Brazilian men who are household heads in the latter period increasingly are associated with informal sector employment, though maintaining their preponderance for formal or self-employment, while Argentine male household heads are more likely to be in the formal sector.

Although married Argentine and Costa Rican women are more likely to be self-employed rather than wage workers in the early and latter period, allowing them to fulfill home and work responsibilities, in the latter period they are increasingly foregoing informal wage work or self-employment in favor of formal salaried work. This sector has higher expected earnings (Cunningham and Artecona 2000), but is more time constraining, thus putting a strain on women's family and market responsibilities.²¹ The marriage variable does not enter significantly for men.

Thus, the change in sectoral attachment that is correlated with headship differs both by gender and by country while marital status increases formal work for women in both a non-reforming (Costa Rica) and liberalizing (Argentina) economy.

6.2.2.2 Others in the household

²⁰ The role of gender in the choice to become self-employed is discussed in Cunningham (2000).

²¹ Artecona and Cunningham (2000) show that non-working women spend an average of 44 hours each week on housework while working women spend 32 hours weekly so their total work burden increases as they enter the labor force.

Although in all three countries, women *and* men who have young children generally do not tend to be in the formal sector,²² household constraints are less of a sorting factor in the later period than the early, especially in Argentina and Costa Rica. This may be due to a small sample of households with young children that do not permit us to sort out these variables. In Brazil, though, with its large sample size, children remain a factor in sectoral allocation. Brazilian men and women with young and school-aged children are increasingly self-employed in Brazil. Furthermore, women with children are more likely to be in formal rather than informal wage work in the latter period. Since self-employment is correlated with higher wages for men and time flexibility for women, parents seem to be in jobs that allow a better home life for the children. With respect to substitutes to the head's home and market work, the presence of other adults increases the likelihood of the head being self-employed, as households use their unproductive members to produce income in the period of increasing social safety net frugality.

6.2.3 Resources

6.2.3.1 Income

Household labor income plays an important role in women's decisions to be in the labor force (Appendix I) but it also is relevant in sectoral allocation, more so than for men. In Argentine and Brazilian households with more income, women and men tend to be in the self-employment sector in 1988/9, and this tendency is stronger in 1995/7. Since credit for starting and maintaining a firm is principally obtained from personal or informal sources (Cunningham and Maloney 1998), the greater abundance of income (Tables 2a-2c) may increase the dependence on this source of financing in the more volatile economies of the 1990s.

Non-labor income has a similar correlation with self-employment as does labor income in Brazil, but not in Argentina. In Argentina, higher non-labor is associated with men's informal wage work in 1988/9, but it loses its sorting power afterwards, perhaps due the decreased value of this income among informal wage workers (Table 2a) and thus the lower dependency on it. In Brazil, on the other hand, it followed the same pattern as wage labor: high correlation with self-employment that becomes even stronger in the later for both men and women.

Access to social security benefits is correlated with formal sector employment in both periods, but less so in the latter period, for both men and women in Argentina and Brazil. The correlation is likely due to networks: individuals who are formal sector workers will provide access to that sector to others in his/her household. However, the movement toward non-formal jobs may reflect a more efficient allocation of household resources such that if the household is eligible for benefits via one person's formal work status, other individuals will work in non-formal jobs that are not subject to the tax. Costa Rican men show the same trend with respect to self-employment relative to formal

²² This is principally picked up in the labor force participation entry decision, not the sectoral choice (Appendix I).

wage work, despite the increased likelihood of social security benefits in their households.

6.2.3.2 *Wealth*²³

Wealth, proxied by household characteristics, is weakly significant both in terms of the variables and trends across the countries. Asset ownership is correlated with self-employment in the early period and even more so in the later period, especially among Argentine and Brazilian men. Jovanovic (1989) would attribute this to the use of wealth as collateral for formal credit, but higher mean self-employment earnings (Arias 2000, Saavedra 2000) may simply lead to asset ownership. However, amenities that cannot be used as collateral but can be purchased with income, such as running water, are correlated with more participation in the formal sector, not self-employment for men and women, suggesting that the collateral precedes the self-employment wealth.

6.2.4. *Other*

6.2.4.1 *Race*

The race variable has very different implications for Brazilian men and women. Race has a higher weight for women than men, so it is relatively effective target variable for women. In both periods, black or mulatto working men and women are the least likely to be in self-employment,²⁴ but their propensity for formal relative to informal wage is not statistically evident (except for black women who tend toward informal wage jobs). After the reforms, the tendency to not be self-employed increases for women, but men's tendency for self-employment increases for all except mulatto men whose likelihood of informal wage, relative to self-employment, increases. Furthermore, the distinction between formal and informal wage decreases even more.

6.2.4.2 *Region*

Despite the many impacts of the reform process in the Southeastern region of Brazil and the expansion of the maquila sector in the San Jose region in Costa Rica, sectoral allocations do not change very much. Workers in the Brazilian northeast and Costa Rican Brunca and Chorotega regions, the poorest in each country, are more likely to be in self-employment or informal wage jobs, relative to the wealthiest regions. In the later period, the propensity for self-employment in the Brazilian northeast increases for women while wage work increases for men, and self-employment or formal work probabilities improve for Costa Rican men. Thus, for the poor regions, the changes over

²³ These variables are not included in the Costa Rican survey.

²⁴ Becker (1971) would attribute this to a higher perceived level of consumer rather than employer discrimination. Consumers (creditors) who are prejudiced against non-whites are less likely to buy from businesses owned by non-whites so the expected profits in the non-white businesses are low. If non-white workers believe that these wages are lower than those from salaried work, they will not select self-employment.

time are not gender or country specific; Brazilian women and Costa Rican men increase their self-employment propensity relative to the rich regions while Brazilian men in the poor regions are more likely to be in wage work. Brazilian men's trends may reflect a decline in wage jobs in the wealthier region or an increase in opportunities in the poor regions, but the former is more likely (Mercado de Trabalho 1997). In the other regions, there is less of a difference between periods, as the sectoral allocations are not significantly different from the wealthy regions in the latter period. Thus, there is a convergence of labor market structures in the middle and upper income regions, while the poor regions remain distinct.

6.3 Change in sectoral allocation patterns: labor force characteristics or explanatory variables?

Tables 2a-2c show that the characteristics of the labor force are changing while tables 4a-4c show that the weights attributed to these characteristics are changing. The results of both set of tables do not perfectly reflect the observed probabilities from Table 1. Thus, to identify whether the changing characteristics of the labor force or the changing returns to certain characteristics are more responsible for the observed changes, we dissect the observed probabilities into changes due to the mean characteristics and those due to the weights. Table 5 consists of three panels, one for each country. In the top section of each panel, multinomial logit estimates and mean values are used to generate predicted probabilities.²⁵ In the lower left sections of each panel, we test whether or not the observed proportion differentials are due to a change in the composition of the labor force by allowing the mean characteristics to change while holding constant the estimated parameters. The bottom right section tests whether or not the differentials are due to a change in the estimated parameters by calculating the predicted probabilities if the mean characteristics remained unchanged between the years, but only the probability weights of the characteristics are permitted to vary.²⁶

The bottom left section of each panel in Table 5 shows that if the characteristics of workers remained constant between the periods, the sectoral allocations would not change in Argentina and Costa Rica and would be counter to Table 1 for Brazil. In particular, the mean characteristics of the Brazilian labor force in 1995 would *decrease* the likelihood of informal wage employment and increase that of formal sector workers. Self-employment among men would be less likely while women's self-employment in all three countries does change enough such that the expected sectoral allocation should change. Thus, the new patterns must be due to changes in the weights of characteristics.

Holding constant the mean characteristics of the early period, the bottom right section of each panel in Table 4 supports the patterns found when both the means and returns differ. Formal sector employment decreases in Brazil and Argentina but remains

²⁵ The observed and predicted sectoral allocations are very similar and show nearly identical patterns

²⁶ The predicted probabilities were generated for comparison purposes since the estimated proportions when means or parameters are held constant, will not capture the unobservables that may be driving the observed proportions. For the latter exercise to be meaningful, we should compare it to proportions that allow both means and parameters to change, but omit the unobservables.

unchanged in Costa Rica as the measured proportions also showed. Furthermore, informal wage employment increases for all workers, although Argentine and Costa Rican women do not have a difference in proportions in the original calculations. Contrary to the expected probabilities when parameters are held constant and means change, Brazilian men increase their likelihood of self-employment and women decrease their attachment. Thus, the market forces that determine sectoral choice are the primary impetus behind differing sectoral allocation patterns, not the changing face of the labor force.

VI. Conclusion

The gender composition of the labor market has changed in the past decade. Formal sector attachment has decreased and informal wage sector attachment has increased for nearly all men and women, relative to remunerated workers *within* gender, in the three sample countries. However, the change in the gender balance within sector does differ among the three countries. In Argentina there has been a masculinization of the informal sector such that men now dominate the sector while in Brazil there is a feminization.

The supply side explanatory variables suggest that the relevance of the variables, not the composition of the labor force is contributing to the changing proportions, i.e. certain characteristics play a larger (or smaller) roles in explaining sectoral attachments than in the earlier periods. The changes in the composition of the labor force are largely counter to the direction of change of the observed sectoral attachment probabilities.

Observable human capital variables are generally good predictors for the change in the observed probabilities. Higher levels of education and experience are less correlated with formal sector attachment than in 1988/9. However, education has less predictive power than in the earlier period and its sorting effects on informal jobs (self- or informal wage employment) differ between gender and country. Therefore, it appears that human capital is less a guarantor of formal sector jobs compared to the earlier periods. This may be due to increased job opportunities and higher wage growth in the informal sectors (Arias 2000, Saavedra 2000) or due to fewer job opportunities in the newly competitive, large (and therefore formal) firms.

Gender variables, proxied by household composition, do not well explain the change in the observed probabilities. First, the change in the sectoral allocation patterns between periods are not uniform by gender or by country. Second, many of these variables are associated with an increase in self-employment, especially for women, although self-employment participation rates generally did not change in the observed probabilities. Thus, gender characteristics remain secondary to human capital in the choice behind sectoral allocation patterns.

VIII. Graphs and Tables

TABLE 1: Observed sectoral attachment probabilities

A. Argentina						
	1988			1997		
	<i>male</i>	<i>female</i>	<i>female/ all</i>	<i>male</i>	<i>female</i>	<i>female/ all</i>
LFP	0.774	0.389	0.37	0.833*	0.493*	0.389*
s-e	0.274	0.253	0.351	0.266	0.252	0.36
informal wage	0.107	0.198	0.52	0.153*	0.222*	0.473*
formal	0.618	0.549	0.342	0.581*	0.536	0.363*
B. Brazil						
	1989			1995		
	<i>male</i>	<i>female</i>	<i>female/ all</i>	<i>male</i>	<i>female</i>	<i>female/ all</i>
LFP	0.892	0.461	0.369	0.824*	0.506*	0.426*
s-e	0.233	0.229	0.366	0.268*	0.222	0.376
informal wage	0.184	0.227	0.421	0.160*	0.284*	0.562*
formal	0.583	0.545	0.354	0.571*	0.494*	0.386*
C. Costa Rica						
	1989			1995		
	<i>male</i>	<i>female</i>	<i>female/ all</i>	<i>male</i>	<i>female</i>	<i>female/ all</i>
ILF	0.843	0.460	0.377	0.862*	0.524*	0.40*
s-e	0.210	0.168	0.33	0.185*	0.151	0.345
informal wage	0.099	0.181	0.530	0.120*	0.187	0.503
formal	0.690	0.651	0.368	0.695	0.662	0.381

* the difference in proportions between the two years is significantly different from 0 at the 5% level

TABLE 2A: ARGENTINA - Mean Values of Explanatory Variables

	Male				Female			
	all	s-e	informal	formal	all	s-e	Informal	formal
Human capital								
age	38.48	42.39	32.88	37.81	36.61	41.18	36.21	34.89
	38.04	42.71	33.78	37.06*	38.13*	42.77*	37.43	36.42*
Incomplete primary	0.13	0.14	0.14	0.13	0.11	0.18	0.26	0.04
	0.08*	0.12	0.09*	0.07*	0.07*	0.12*	0.15*	0.02*
Complete primary	0.34	0.34	0.42	0.33	0.26	0.36	0.39	0.18
	0.30*	0.34	0.36*	0.27*	0.22*	0.30*	0.34	0.14*
Incomplete secondary	0.22	0.22	0.24	0.21	0.16	0.14	0.18	0.16
	0.24*	0.22	0.30*	0.23	0.16	0.17	0.22	0.13*
Complete secondary	0.13	0.14	0.08	0.14	0.20	0.11	0.07	0.27
	0.17*	0.14	0.12*	0.20*	0.18	0.14	0.14*	0.22*
Complete university	0.07	0.09	0.01	0.08	0.15	0.14	0.03	0.20
	0.09*	0.10	0.03	0.10*	0.21*	0.18	0.05	0.28*
Technical school	0.14	0.15	0.12	0.15	0.03	0.02	0.02	0.04
	0.14	0.15	0.13	0.14	0.02	0.02	0.03	0.02*
Household structure								
Married	0.72	0.80	0.51	0.72	0.51	0.65	0.51	0.45
	0.66*	0.74*	0.47	0.67*	0.51	0.66	0.48	0.46
Hh head	0.74	0.85	0.52	0.72	0.65	0.82	0.64	0.59
	0.68*	0.77*	0.48	0.69*	0.67	0.84	0.62	0.62
# children age 1-5	0.31	0.30	0.30	0.32	0.20	0.22	0.22	0.18
	0.25*	0.24*	0.22*	0.27*	0.17*	0.20	0.20	0.14
# children age 6-11	0.47	0.48	0.39	0.47	0.34	0.39	0.49	0.27
	0.35*	0.36*	0.31*	0.35*	0.28*	0.32	0.35*	0.23*
# daughters 12-17	0.20	0.22	0.18	0.20	0.21	0.27	0.27	0.16
	0.18*	0.14*	0.23	0.19	0.17*	0.20*	0.21*	0.15
# sons age 12-17	0.21	0.18	0.26	0.22	0.19	0.19	0.29	0.15

	0.23	0.22*	0.26	0.22	0.18	0.23	0.25	0.13
# other adult women	0.38	0.36	0.44	0.38	0.39	0.35	0.40	0.40
	0.41*	0.40	0.43	0.41	0.39	0.37	0.42	0.38
# other adult men	0.32	0.32	0.42	0.31	0.32	0.29	0.41	0.31
	0.40*	0.41*	0.49	0.38*	0.40*	0.41*	0.41	0.39*
Dependency ratio	2.66	2.71	2.39	2.69	1.94	2.03	2.03	1.88
	2.55*	2.68	2.37	2.54*	2.01*	2.11	2.19	1.90
Resources								
Real hh labor income	1054.18	959.79	1269.89	1057.89	1893.40	1815.59	1523.73	2040.87
	1622.27*	1358.83*	1809.00*	1691.30*	2317.57*	2186.90*	1941.20*	2518.27*
Real non-labor income	290.78	262.51	527.41	265.08	532.33	438.02	379.56	618.24
	238.32*	259.07	204.35*	237.70	347.52*	284.35*	241.61*	415.25*
Real total hh income	2979.42	3012.92	2297.38	3079.04	3124.16	2834.70	2155.43	3561.59
	3678.66*	3182.53	3027.10*	4062.36*	3831.38*	3325.96*	2825.85*	4455.46*
Hh in social security system	0.36	0.27	0.34	0.40	0.50	0.42	0.50	0.54
	0.34*	0.28	0.29	0.38	0.43*	0.33*	0.42*	0.47*
Wealth								
Homeowner	0.84	0.85	0.85	0.83	0.81	0.84	0.84	0.79
	0.83	0.87	0.83	0.82	0.80	0.81	0.81	0.79
Running water	0.96	0.97	0.96	0.97	0.97	0.96	0.96	0.98
	0.99*	0.99*	0.97	0.99*	0.99*	0.99*	0.98*	1.00*
Rooms per capita	0.87	0.93	0.83	0.86	0.97	0.99	0.82	1.01
	0.89	0.93	0.82	0.89*	1.01*	0.98	0.87	1.07*
Sample size	5335	1360	536	3439	3101	726	568	1807
	4406	1146	653	2607	2735	643	582	1510

Top cell 1988 values, bottom cell 1997; those with an asterisk are significantly different from early year at the 5% level.

TABLE 2B: BRAZIL - Mean Values of Explanatory Variable

	male				female			
	all	s-e	Informal	Formal	all s-e	informal	Formal	
Human capital								
age	34.515	40.346	30.403	33.465	33.421	39.199	30.357	32.095
	35.150*	39.464*	30.054	34.278*	34.523*	39.237	31.859*	33.678*
literate	0.862	0.783	0.771	0.923	0.893	0.805	0.820	0.958
	0.930*	0.914*	0.882*	0.954*	0.933*	0.912*	0.878*	0.970*
Incomplete primary 1	0.179	0.240	0.235	0.138	0.143	0.211	0.211	0.088
	0.146*	0.169*	0.197*	0.119*	0.127*	0.144*	0.210	0.077*
Complete primary 2	0.184	0.203	0.174	0.179	0.154	0.199	0.193	0.120
	0.161*	0.184*	0.156*	0.149*	0.136*	0.162*	0.177*	0.102*
Incomplete primary 2	0.167	0.125	0.198	0.175	0.141	0.137	0.193	0.123
	0.204*	0.169*	0.282*	0.200*	0.171*	0.176*	0.235*	0.136*
Complete primary 2	0.083	0.058	0.056	0.101	0.079	0.082	0.056	0.087
	0.104*	0.099*	0.077*	0.114*	0.086*	0.103*	0.066*	0.089
Incomplete secondary	0.056	0.027	0.046	0.072	0.065	0.036	0.066	0.077
	0.064*	0.040*	0.060*	0.079*	0.071*	0.053*	0.066	0.082
Complete secondary	0.136	0.076	0.061	0.183	0.225	0.102	0.087	0.332
	0.171*	0.159*	0.088*	0.204*	0.239*	0.184*	0.093	0.338
Complete university	0.054	0.039	0.013	0.073	0.085	0.039	0.020	0.129
	0.072*	0.080*	0.020*	0.084*	0.097*	0.080*	0.018	0.144*
Household structure								
Hh head	0.665	0.813	0.470	0.667	0.609	0.827	0.501	0.556
	0.697*	0.813	0.485	0.696*	0.662*	0.843*	0.581*	0.618*
# children age 1-5	0.487	0.524	0.473	0.477	0.366	0.420	0.423	0.321
	0.381*	0.387*	0.372*	0.380*	0.308*	0.324*	0.367*	0.271*
# children age 6-11	0.590	0.652	0.616	0.557	0.531	0.655	0.636	0.437
	0.438*	0.466*	0.410*	0.431*	0.422*	0.472*	0.491*	0.363*
# daughters age 12-18	0.281	0.298	0.347	0.254	0.323	0.301	0.484	0.271

	0.244*	0.251*	0.269*	0.232*	0.293*	0.286	0.369*	0.257
# sons age 12-18	0.337	0.324	0.485	0.296	0.284	0.311	0.355	0.244
	0.286*	0.271*	0.385*	0.264*	0.250*	0.276*	0.274*	0.226*
# adult females	0.369	0.337	0.389	0.376	0.775	0.522	0.788	0.880
	0.310*	0.292*	0.338*	0.311*	0.635*	0.466*	0.629*	0.717*
# adult males	0.709	0.575	0.906	0.702	0.434	0.403	0.464	0.435
	0.590*	0.488*	0.773*	0.592*	0.328*	0.304*	0.343*	0.332*
Dependency ratio	2.729	2.750	2.637	2.750	2.284	2.252	2.431	2.241
	2.648*	2.582*	2.705*	2.668*	2.456*	2.320*	2.770*	2.360*
Resources								
Real hh labor income	315.30	218.28	311.26	355.49	547.46	445.176	394.597	650.058
	429.52*	418.85*	415.48*	439.79*	697.62*	785.91*	456.78*	778.30*
Real non-labor income	128.26	120.17	114.06	135.96	190.70	174.72	122.84	223.53
	110.21*	131.80*	92.27*	103.53*	130.13*	155.79	73.52*	146.83*
Real total hh income	738.77	652.96	524.87	840.35	859.29	635.33	669.41	1032.25
	1056.64*	1263.03*	724.18*	1041.19*	1012.66*	1199.71*	576.36*	1157.58*
Hh in social security system	0.358	0.228	0.316	0.423	0.510	0.424	0.456	0.568
	0.291*	0.218*	0.277*	0.338*	0.388*	0.338*	0.350*	0.431*
Wealth								
homeowner	0.783	0.838	0.810	0.753	0.765	0.776	0.770	0.759
	0.822*	0.838	0.817	0.814*	0.819*	0.839*	0.807*	0.817*
Running water	0.775	0.663	0.629	0.865	0.824	0.738	0.711	0.904
	0.908*	0.899*	0.837*	0.935*	0.907*	0.891*	0.843*	0.946*
Rooms per capita	1.379	1.449	1.193	1.409	1.485	1.468	1.189	1.605
	1.541*	1.676*	1.325*	1.531*	1.607*	1.749*	1.276*	1.708*
Race								
black	0.069	0.052	0.087	0.069	0.072	0.072	0.108	0.058
	0.067	0.053	0.079	0.071	0.067*	0.047*	0.095*	0.062
mulatto	0.394	0.416	0.466	0.362	0.369	0.419	0.439	0.321
	0.381*	0.360*	0.467	0.366	0.367	0.368*	0.438	0.332

Region								
south	0.108	0.121	0.074	0.114	0.100	0.088	0.092	0.108
	0.107	0.109*	0.100*	0.108	0.104	0.093	0.112*	0.105
Northeast	0.323	0.417	0.405	0.259	0.313	0.401	0.335	0.268
	0.300*	0.330*	0.380*	0.259	0.313	0.391	0.322*	0.273
Sample size	35594	8328	6511	20755	20165	4803	4246	11116
	37481	11288	6118	20075	25906	6111	6645	13150

Top cell 1988 values, bottom cell 1997; those with an asterisk are significantly different from early year at the 5% level.

TABLE 2C: COSTA RICA -Mean Values of Explanatory Variables

	Male				Female			
	all	s-e	Informal	formal	all	s-e	informal	formal
Human Capital								
age	35.298	40.524	31.573	34.121	33.71	39.525	32.913	32.161
	35.627	42.666*	31.208	34.352	34.681*	41.392	33.184	33.191
Complete primary	0.26	0.303	0.364	0.232	0.200	0.275	0.296	0.158
	0.248	0.284	0.324	0.266	0.221	0.315	0.348	0.168*
Incomplete primary	0.137	0.216	0.188	0.104	0.099	0.192	0.194	0.051
	0.116*	0.191	0.173	0.087	0.074*	0.151	0.156	0.036*
Incomplete secondary	0.208	0.195	0.251	0.207	0.185	0.228	0.245	0.159
	0.221	0.228	0.268	0.212	0.180	0.186	0.232	0.166
Complete secondary	0.260	0.174	0.113	0.307	0.357	0.243	0.163	0.431
	0.278	0.194	0.182*	0.317	0.355	0.257	0.192	0.417
Complete university	0.092	0.061	0.021	0.111	0.126	0.011	0.026	0.181
	0.112*	0.074	0.015	0.139*	0.153*	0.055*	0.016*	0.210
Technical school	0.033	0.012	0.017	0.042	0.038	0.018	0.015	0.048
	0.044*	0.037*	0.015	0.050	0.061*	0.029	0.024	0.078
Household Structure								
Married	0.676	0.765	0.448	0.678	0.441	0.580	0.383	0.412
	0.641*	0.432	0.742	0.452	0.432	0.643*	0.556	0.372
Hh head	0.676	0.801	0.448	0.667	0.618	0.819	0.577	0.567
	0.658	0.792	0.479	0.648	0.649	0.839	0.560	0.617
# children age 1-5	0.506	0.559	0.410	0.502	0.374	0.355	0.408	0.373
	0.380*	0.323*	0.488	0.401*	0.311*	0.299*	0.332	0.310*
# children age 6-11	0.495	0.582	0.410	0.479	0.483	0.475	0.505	0.481
	0.458	0.454*	0.488	0.455	0.432	0.531	0.632	0.362
# daughters age 12-18	0.235	0.240	0.243	0.232	0.274	0.272	0.388	0.251
	0.237	0.243	0.262	0.232	0.365	0.251	0.340	0.252*
# sons age 12-18	0.253	0.244	0.301	0.250	0.214	0.192	0.250	0.214

	0.287*	0.272	0.363	0.279	0.248	0.312	0.296	0.220*
# adult females	0.138	0.138	0.109	0.142	0.224	0.156	0.255	0.238
	0.176*	0.189	0.190*	0.171	0.261	0.228	0.340	0.253*
# adult males	0.169	0.178	0.155	0.168	0.133	0.123	0.168	0.128
	0.191	0.198	0.208	0.186	0.175*	0.129	0.276	0.166*
Dependency ratio	2.799	2.874	2.493	2.816	2.198	2.092	2.247	2.219
	2.586*	2.535*	2.611	2.597	2.189	2.134*	2.304	2.179
migrant	0.048	0.044	0.063	0.047	0.044	0.029	0.087	0.040
	0.055	0.046	0.048	0.058	0.054	0.032	0.080	0.055
Resources								
Real hh labor income	14643.31	11772.48	17261.78	15213.96	21337.22	18379.42	20181.46	22451.41
	13741.83*	13984.50	1492.36	17461.61*	23234.46*	21117.89	21281.01	24323.39
Real non-labor income	1690.98	1333.686	1492.326	1831.999	2293.809	1897.54	1714.515	2531.963
	3426.536*	4147.446*	3152.613*	3267.439*	3361.258*	3510.774*	1946.071*	3628.706
Hh in social security system	0.418	0.308	0.141	0.454	0.592	0.453	0.526	0.646
	0.443	0.355	0.384	0.478	0.560	0.453	0.552	0.590
Region								
San Jose	0.406	0.385	0.251	0.433	0.435	0.406	0.357	0.460
	0.451*	0.456*	0.351*	0.465*	0.487*	0.469	0.472	0.494*
San Jose Metropolitan area	0.204	0.228	0.234	0.192	0.222	0.181	0.189	0.241
	0.207	0.182	0.235	0.210	0.184*	0.154	0.168	0.196
Chorotega/Brunca	0.125	0.155	0.218	0.103	0.129	0.149	0.168	0.115
	0.107*	0.147	0.155	0.088	0.125	0.138	0.140	0.118*
Pacific Central	0.130	0.113	0.134	0.135	0.092	0.145	0.128	0.069
	0.107*	0.113	0.122	0.103	0.087	0.122	0.084	0.078*
Huetar Atlantico/Norte	0.136	0.118	0.163	0.137	0.121	0.120	0.158	0.113
	0.127	0.101	0.137	0.133	0.117	0.116	0.136	0.113
n	2604	574	234	1791	1408	276	196	936
	3032	592	336	2104	1710	311	250	1149

Top cell 1989 values, bottom cell 1995; those with an asterisk are significantly different from early year at the 5% level.

TABLE 3A: ARGENTINA - Relative risk ratios, whole sample^A

	inf/se		inf/f		se/f	
	1988	1997	1988	1997	1988	1997
Sex (female=1)	1.942	1.597*	2.173	1.686*	1.119	1.056
Human Resources						
age	0.797	0.861*	0.809	0.892*	1.016	1.035
age ²	1.002	1.001*	1.003	1.001*	1.000	1.000
no school	1.839	1.168	1.311	1.220	0.713	1.044
incomplete primary	1.502	1.163	1.481	1.491*	0.987	1.282
incomplete secondary	0.703	0.904	0.648	0.767*	0.922	0.848
complete secondary	0.469	0.697*	0.266	0.337*	0.568	0.483*
complete university	0.195	0.264*	0.123	0.155*	0.631	0.587*
technical school	0.815	0.837	0.952	1.122	1.169	1.340
Household Structure						
hh head	0.752	0.729	1.142	0.684	1.518	0.939
married	0.856	0.628	1.006	0.823	1.176	1.310
# children age 1-5	1.103	0.994	1.149	1.021	1.042	1.028
# children age 6-11	1.090	1.071	1.150	1.095	1.055	1.022
# daughters age 12-18	0.865	1.309	1.045	1.104	1.209	0.843*
# sons age 12-18	1.511	1.119	1.329	1.141	0.879	1.020*
# adult females	1.127	1.014	1.160	0.961	1.029	0.947
# adult males	1.093	0.976	1.183	1.035	1.083	1.060
Resources						
real hh labor income	1.000	1.000*	1.000	1.000	1.000	1.000*
hh in social security system	1.075	0.945	0.599	0.661*	0.557	0.699*
dependency ratio	0.833	0.859*	0.792	0.906*	0.951	1.054
real non-labor income	1.000	1.000	1.000	1.000	1.000	1.000
Wealth						
homeowner	0.982	0.842	1.099	0.990	1.119	1.175
running water	1.138	0.465	0.994	0.386	0.874	0.829
rooms per capita	0.803	0.815*	0.908	0.857	1.132	1.051
n	8157			3098		
Chi ² ₍₅₄₎	1503.99*			715.76*		
Loglikelihood	-6362.03*			-2701.66*		
Pseudo-R ²	0.11			0.12		

^a coefficients in bold are significantly different from 0 in their own year, at the 5% level; those with an asterisk are significantly different from the coefficient in the base year, at the 5% level.

Table 3B: BRAZIL - Relative risk ratios, whole sample^a

all	inf/se		inf/f		se/f	
	1989	1995	1989	1995	1989	1995
Sex (female=1)	1.256	2.461*	1.686	2.066*	1.343	0.840*
Human Resources						
age	0.831	0.822*	0.846	0.853*	1.019	1.038*
age ²	1.002	1.002*	1.002	1.002*	1.000	1.000
literate	0.661	0.642*	0.486	0.543*	0.735	0.846*
primary 1 incomplete	1.075	1.133	1.272	1.210*	1.183	1.069
primary 2 incomplete	0.929	0.869	0.755	0.797*	0.813	0.917*
primary 2 complete	0.715	0.584*	0.466	0.473*	0.652	0.810*
secondary incomplete	0.848	0.611*	0.402	0.360*	0.474	0.588*
secondary complete	0.796	0.465*	0.236	0.234*	0.296	0.503*
university complete	0.746	0.407*	0.174	0.153*	0.234	0.376*
Household structure						
hh head	0.498	0.714*	0.662	0.760*	1.330	1.064
married	---	0.657	---	0.878	---	1.338
# children age 1-5	0.912	0.849*	1.078	1.073*	1.183	1.264*
# children age 6-11	0.956	0.931*	1.067	1.069*	1.116	1.148*
# daughters age 12-18	1.106	0.971	1.117	1.044*	1.010	1.075
# sons age 12-18	1.102	0.996	1.112	1.090*	1.009	1.094
# adult females	0.965	0.910	0.950	0.923*	0.985	1.014
# adult males	0.928	0.927*	1.055	1.056*	1.136	1.139*
dependency ratio	1.018	1.065	0.910	0.949*	0.894	0.891*
Resources						
real hh labor income	1.000	1.000	1.000	1.000	1.000	1.000
hh in social security system	1.057	1.118	0.544	0.649*	0.515	0.580*
real non-labor income	1.000	1.000	1.000	1.000*	1.000	1.000*
Wealth						
homeowner	0.850	0.833*	0.999	0.863	1.175	1.035
water	1.018	0.931	0.603	0.728*	0.592	0.782*
Rooms per capita	0.887	0.773*	0.972	0.914	1.096	1.182*
Race						
black	1.734	1.762*	1.071	1.053	0.618	0.597*
mulatto	1.211	1.327*	0.990	1.049	0.818	0.791*
Region						
south	0.672	1.127*	0.820	1.164*	1.220	1.033
northeast	0.696	0.745*	1.173	1.178*	1.685	1.581*
	1989			1995		
n	55759			63387		
Chi ² ₍₆₀₎	16232.03			15642.49		
Loglikelihood	-46399.49			-56590.24		
Pseudo-R ²	0.15			0.12		

^a coefficients in bold are significantly different from 0 in their own year, at the 5% level; those with an asterisk are significantly different from the coefficient in the base year, at the 5% level.

Table 3C: COSTA RICA - Relative Risk Ratios, whole sample

	inf/se		inf/f		se/f	
	1989	1995	1989	1995	1989	1995
Sex (female=1)	1.86	1.677*	1.753	1.505*	0.942	0.897
Human Resources						
age	0.82	0.837*	0.868	0.912*	1.059	1.09*
age ²	1.002	1.002*	1.002	1.001*	0.999	0.999
incomplete primary	1.065	1.141	1.337	1.382	1.256	1.212
incomplete secondary	0.758	0.732	0.691	0.698*	0.911	0.952
complete secondary	0.451	0.548*	0.182	0.23*	0.404	0.42*
Household structure						
hh head	0.727	0.769	0.733	0.798	1.009	1.038
married	0.696	0.703*	0.757	0.768	1.088	1.092
# children age 1-5	0.867	0.885	1.189	1.021	1.373	1.154
# children age 6-11	0.939	1.069	1.104	1.292	1.175	1.208*
# daughters age 12-18	1.018	1.108	1.073	1.109	1.054	1.000
# sons age 12-18	1.014	0.942	0.956	1.061	0.942	1.126
# adult females	1.07	0.949	0.957	1.038	0.894	1.094
# adult males	0.769	1.042	0.922	1.114	1.199	1.07
dependency ratio	1.025	1.152	0.831	0.943	0.811	0.819*
Resources						
real hh labor income	1.00	0.999	1.000	1.000	0.999	1.000
hh in social security system	1.183	1.167	0.553	0.637*	0.468	0.546*
real non-labor income	1.00	0.999	0.999	0.999	0.999	1.000
Region						
San Jose Metropolitan area	1.256	1.337	1.438	1.14	1.144	0.852
Chorotega/Brunca	1.869	1.150	2.552	1.587*	1.365	1.38*
Pacific Central	1.638	1.068	1.553	1.052	0.947	0.985
Huetar Atlantico/Norte r5	1.803	1.484*	1.637	1.121	0.907	0.756
	1989		1995			
n	4012		4742			
Chi ² ₍₄₈₎	981.6		1144.28			
Loglikelihood	-2847.54		-3376.74			
Pseudo-R ²	0.147		0.145			

^a coefficients in bold are significantly different from 0 in their own year, at the 5% level; those with an asterisk are significantly different from the coefficient in the base year, at the 5% level.

Table 4A: ARGENTINA – relative risk ratios by gender^a

	women						men					
	Inf/se		inf/f		se/f		Inf/se		inf/f		se/f	
	1988	1997	1988	1997	1988	1997	1988	1997	1988	1997	1988	1997
Human capital												
age	0.860 ⁺	0.886 ^{+*}	0.832 ⁺	0.934 ^{+*}	0.968	1.054	0.742 ⁺	0.832 ⁺	0.776 ⁺	0.863 ^{+*}	1.045	1.037
age ²	1.002 ⁺	1.001 ^{+*}	1.002	1.001 ⁺	1.001	1.000	1.003 ⁺	1.002 ^{+*}	1.003 ⁺	1.002 ^{+*}	1.000	1.000
no school	1.882	2.243	1.917	1.257	1.018	0.560	1.607	0.672 [*]	0.796	0.915	0.495	1.361
incomplete primary	1.685 ⁺	1.343	2.746 ⁺	3.021 ^{+*}	1.630 ⁺	2.249 ^{+*}	1.273	0.968	1.037	1.064	0.814	1.099
incomplete secondary	0.918	0.831	0.477 ⁺	0.670 [*]	0.519 ⁺	0.806	0.675 ⁺	1.027	0.806	0.851	1.193	0.828
complete secondary	0.582 ⁺	0.653 ^{+*}	0.128 ⁺	0.244 ^{+*}	0.220 ⁺	0.374 ^{+*}	0.579 ⁺	0.850	0.525 ⁺	0.442 ^{+*}	0.907	0.520 ⁺
complete university	0.304 ⁺	0.290 ^{+*}	0.088 ⁺	0.095 ^{+*}	0.288 ⁺	0.329 ^{+*}	0.174 ⁺	0.308 ^{+*}	0.173 ⁺	0.283 ^{+*}	0.995	0.917
technical school	1.054	1.742	0.893	1.573	0.847	0.903	0.721	0.678 ⁺	0.765	0.983	1.060	1.450 ^{+*}
Household Structure												
hh head	0.750	0.510 ⁺	1.133	0.850	1.510 ⁺	1.668 ^{+*}	0.572 ⁺	0.850	0.963	0.549 ⁺	1.684 ⁺	0.646 ^{+*}
Married	0.744 ⁺	0.658 ^{+*}	1.224	0.966	1.646 ⁺	1.468 ^{+*}	1.129	0.613 ⁺	0.969	0.797	0.859	1.300
# children age 1-5	0.986	0.934	1.056	1.054	1.072	1.128	1.282 ⁺	0.981	1.323 ⁺	1.028	1.032	1.047
# children age 6-11	1.282 ⁺	1.081	1.338 ⁺	1.194	1.043	1.104	0.999	1.077	1.053	1.069	1.054	0.992
# daughters age 12-18	0.950	0.897	1.196	0.895	1.259 ⁺	0.998	0.754 ⁺	1.744 ^{+*}	0.854	1.249 ⁺	1.132	0.716 ⁺
# sons age 12-18	1.402 ⁺	1.052	1.382 ⁺	1.285 ^{+*}	0.985	1.222	1.658 ⁺	1.143	1.385 ⁺	1.056	0.835 ⁺	0.923
# adult females	1.130	1.023	1.042	0.882	0.922	0.862	1.146	1.037	1.224 ⁺	0.984	1.068	0.949
# adult males	1.253 ⁺	0.844	1.220 ⁺	0.900	0.974	1.066	1.074	1.058	1.219 ⁺	1.130	1.135 ⁺	1.068
Dependency ratio	0.796 ⁺	0.978	0.863	1.091	1.084	1.115	0.832 ⁺	0.777 ^{+*}	0.801 ⁺	0.853 ^{+*}	0.963	1.097 ⁺
Resources												
real hh labor income	1.000 ⁺	1.000	1.000	1.000	1.000 ⁺	1.000 ^{+*}	1.000 ⁺	1.000	1.000	1.000	1.000 ⁺	1.000
hh in social security system	1.284	1.505	0.679 ⁺	0.879	0.529 ⁺	0.584 ^{+*}	0.844	0.629 ⁺	0.440 ⁺	0.490 ^{+*}	0.522 ⁺	0.779 ^{+*}
real non-labor income	1.000	1.000	1.000	1.000	1.000	1.000	1.000 ⁺	1.000	1.000 ⁺	1.000	1.000	1.000
Wealth												
Homeowner	0.996	1.031	1.321	1.122	1.327 ⁺	1.088	0.897	0.696 ⁺	0.973	0.868	1.085	1.247
running water	1.294	0.819	0.883	0.469	0.682	0.572	1.015	0.323 ⁺	0.951	0.315 ⁺	0.938	0.975
rooms per capita	0.781	0.909	0.830	0.836	1.062	0.920	0.864	0.726 ⁺	1.009	0.870	1.168	1.199 ⁺

	<i>1988</i>	<i>1997</i>	<i>1988</i>	<i>1997</i>
Sample size	3010	1203	5075	1895
LR statistic	976.81 ⁺	313.78 ⁺	656.04 ⁺	466.67 ⁺
Chi-2	-2382.91 ⁺	-1659.53 ⁺	-3850.41 ⁺	-993.79 ⁺
Pseudo-R ²	0.17	0.079	0.19	0.086

^aCoefficients with a cross (+) are significantly different from 0 (at the 5% level) in their own year. Those with an asterisk are significantly different from the base year.

Table 4B: BRAZIL – relative risk ratios by gender^a

	women						men					
	<i>inf/se</i>		<i>inf/f</i>		<i>se/f</i>		<i>inf/se</i>		<i>inf/f</i>		<i>se/f</i>	
	1989	1995	1989	1995	1989	1995	1989	1995	1989	1995	1989	1995
Human capital												
age	0.845 ⁺	0.857 ^{**}	0.850 ⁺	0.873 ^{**}	1.006	1.019	0.824 ⁺	0.800 ^{**}	0.849 ⁺	0.839 ^{**}	1.030 ⁺	1.048 ^{**}
age ²	1.002 ⁺	1.001 ^{**}	1.002 ⁺	1.002 ^{**}	1.000	1.000	1.002 ⁺	1.002 ^{**}	1.002 ⁺	1.002 ^{**}	1.000	1.000
black	1.735 ⁺	2.129 ^{**}	1.345 ⁺	1.186 ^{**}	0.775 ⁺	0.557 ^{**}	1.699 ⁺	1.489 ^{**}	0.921	0.925	0.542 ⁺	0.621 ^{**}
mulatto	1.233 ⁺	1.362 ^{**}	1.083	1.068	0.878 ⁺	0.784 ^{**}	1.185 ⁺	1.294 ^{**}	0.931 ⁺	1.035	0.785 ⁺	0.800 ^{**}
literate	0.731 ⁺	0.614 ^{**}	0.435 ⁺	0.495 ^{**}	0.595 ⁺	0.805 ^{**}	0.634 ⁺	0.674 ^{**}	0.510 ⁺	0.577 ^{**}	0.805 ⁺	0.857 ^{**}
primary 1 incomplete	1.021	1.227 ⁺	1.234 ⁺	1.296 ^{**}	1.209 ⁺	1.056	1.108	1.059	1.293 ⁺	1.142 ^{**}	1.167 ⁺	1.079
primary 2 incomplete	0.781 ⁺	0.662 ^{**}	0.695 ⁺	0.711 ^{**}	0.890	1.074	1.029	1.052	0.795 ⁺	0.887 ^{**}	0.772 ⁺	0.844 ^{**}
primary 2 complete	0.503 ⁺	0.430 ^{**}	0.382 ⁺	0.381 ^{**}	0.760 ⁺	0.887 ^{**}	0.907	0.757 ^{**}	0.539 ⁺	0.586 ^{**}	0.595 ⁺	0.774 ^{**}
secondary incomplete	0.773 ⁺	0.418 ^{**}	0.376 ⁺	0.303 ^{**}	0.486 ⁺	0.726 ^{**}	0.898	0.832 ^{**}	0.422 ⁺	0.436 ^{**}	0.470 ⁺	0.523 ^{**}
secondary complete	0.797 ⁺	0.413 ^{**}	0.172 ⁺	0.156 ^{**}	0.216 ⁺	0.377 ^{**}	0.854 ⁺	0.638 ^{**}	0.330 ⁺	0.389 ^{**}	0.387 ⁺	0.610 ^{**}
university complete	0.923	0.395 ⁺	0.135 ⁺	0.094 ^{**}	0.147 ⁺	0.239 ^{**}	0.722 ⁺	0.550 ^{**}	0.236 ⁺	0.275 ^{**}	0.327 ⁺	0.500 ^{**}
Household structure												
hh head	0.488 ⁺	0.608 ^{**}	0.937	0.871	1.920 ⁺	1.432 ^{**}	0.509 ⁺	0.689 ^{**}	0.497 ⁺	0.617 ^{**}	0.976	0.895
married	---	0.624 ⁺	---	1.004	---	1.609 ⁺	---	0.660 ⁺	---	0.765 ⁺	---	1.160 ⁺
# children age 1-5	0.871 ⁺	0.802 ^{**}	1.075 ⁺	1.057	1.234 ⁺	1.317 ^{**}	0.937 ⁺	0.899 ^{**}	1.118 ⁺	1.145 ^{**}	1.193 ⁺	1.274 ^{**}
# children age 6-11	0.927 ⁺	0.923 ^{**}	1.113 ⁺	1.088 ^{**}	1.200 ⁺	1.178 ^{**}	0.971	0.929 ⁺	1.049 ⁺	1.050 ^{**}	1.080 ⁺	1.130 ^{**}
# daughters age 12-18	1.203 ⁺	0.980	1.138 ⁺	1.027	0.946	1.048	1.054	0.972	1.106 ⁺	1.054	1.050	1.085 ^{**}
# sons age 12-18	1.070	0.936	1.045	1.028	0.977	1.098 ⁺	1.110 ⁺	1.022	1.136 ⁺	1.110 ^{**}	1.023	1.086 ⁺
# adult females	0.996	0.867 ⁺	0.970	0.937 ⁺	0.974	1.081 ⁺	0.949	0.965	1.035	1.043	1.092 ⁺	1.081 ^{**}
# adult males	0.950	1.000	1.014	1.035	1.068 ⁺	1.034	0.920 ⁺	0.890 ^{**}	1.025	0.982	1.114 ⁺	1.104 ^{**}
dependency ratio	1.011	1.027	0.950 ⁺	0.963 ^{**}	0.940 ⁺	0.938 ^{**}	1.013	1.075 ⁺	0.886 ⁺	0.938 ^{**}	0.875 ⁺	0.872 ^{**}
Resources											5.937 ⁺	5.453 ^{**}
real hh labor income	1.000 ⁺	1.000 ^{**}	1.000	1.000	1.000 ⁺	1.000 ^{**}	1.000	1.000	1.000	1.000	1.000	1.000 ⁺
hh in social security system	1.016	1.045	0.649 ⁺	0.679 ^{**}	0.638 ⁺	0.650 ^{**}	1.091	1.121 ⁺	0.452 ⁺	0.570 ^{**}	0.415 ⁺	0.509 ^{**}
real non-labor income	1.000	1.000	1.000 ⁺	1.000	1.000 ⁺	1.000 ^{**}	1.000	1.000	1.000 ⁺	1.000	1.000 ⁺	1.000 ^{**}

Wealth												
homeowner	0.944	0.862 ⁺	0.958	0.871 ⁺	1.015	1.010	0.800 ⁺	0.814 ^{++*}	1.026	0.852 ⁺	1.283 ⁺	1.047
water	0.998	0.932	0.718 ⁺	0.813 ^{++*}	0.720 ⁺	0.872 ^{++*}	1.011	0.872 ⁺	0.544 ⁺	0.662 ^{++*}	0.538 ⁺	0.759 ^{++*}
Rooms per capita	0.887 ⁺	0.716 ^{++*}	0.904 ⁺	0.841 ^{++*}	1.020	1.175 ⁺	0.885 ⁺	0.832 ^{++*}	1.019	0.988	1.152 ⁺	1.187 ^{++*}
Region												
south	0.925	1.219 ⁺	0.911	1.165 ⁺	0.985	0.956	0.559 ⁺	1.074	0.752 ⁺	1.152	1.346 ⁺	1.073
northeast	0.649 ⁺	0.547 ^{++*}	1.034	1.046	1.592 ⁺	1.913 ^{++*}	0.723 ⁺	0.954	1.260 ⁺	1.365 ^{++*}	1.743 ⁺	1.431 ^{++*}
	<i>1989</i>			<i>1995</i>			<i>1989</i>			<i>1995</i>		
Sample size	20165			25906			35594			37481		
F-statistic	7540.37 ⁺			8732.37 ⁺			9396.31 ⁺			6993.31 ⁺		
LR statistic	-16356.14 ⁺			-22418.09 ⁺			-29653.88 ⁺			-33673.49 ⁺		
Pseudo-R ²	0.19			0.14			0.16			0.094		

^aCoefficients with a cross (+) are significantly different from 0 (at the 5% level) in their own year. Those with an asterisk are significantly different from the base year.

Table 4C: COSTA RICA – relative risk ratios by gender

	women						men					
	inf/se	inf/se	inf/f	inf/f	se/f	se/f	inf/se	inf/se	inf/f	inf/f	se/f	se/f
	1989	1995	1989	1995	1989	1995	1989	1995	1989	1995	1989	1995
Human Capital												
Age	0.916	0.919	0.883 ⁺	0.881 ⁺	0.964	0.959	0.769 ⁺	0.799 ⁺ *	0.835 ⁺	0.895 ⁺ *	1.086 ⁺	1.12 ⁺ *
Age ²	1.000	1.000	1.002 ⁺	1.001 ⁺ *	1.001	1.001	1.003 ⁺	1.002 ⁺ *	1.003	1.001 ⁺	0.999	0.999 ⁺
Incomplete primary	1.084	1.278	1.683	1.575	1.553	1.233	1.017	1.072	1.26	1.351	1.239	1.26
Incomplete secondary	0.708	0.858	0.695	0.593 ⁺	0.981	0.691	0.819	0.71	0.72	0.77	0.878	1.084
Complete secondary	0.559 ⁺	0.549 ⁺ *	0.145 ⁺	0.169 ⁺ *	0.259 ⁺	0.307 ⁺ *	0.466 ⁺	0.618 ⁺ *	0.228 ⁺	0.305 ⁺ *	0.489 ⁺	0.494 ⁺ *
Household Structure												
hh head	0.831	0.557	0.947	0.656	1.14	1.178	0.456 ⁺	0.881	0.473 ⁺	0.961	1.038	1.094
Married	0.614	0.708	1.202	1.092	1.958 ⁺	1.542 ⁺ *	0.973	0.639	0.743	0.517 ⁺	0.763	0.809
# children age 1-5	0.978	0.891	1.173	1.018	1.199	1.143	0.839	0.875	1.226	---	1.461 ⁺	1.143
# children age 6-11	1.111	1.203	0.969	1.86 ⁺	0.872	1.546 ⁺	0.877	0.98	1.135	1.07	1.295	1.092
# daughters age 12-18	1.148	1.292	1.26	1.164	1.097	0.9	0.887	1.017	0.915	1.064	1.032	1.047
# sons age 12-18	1.096	0.907	0.881	1.201	0.804	1.323 ⁺	0.936	0.936	0.918	0.987	0.982	1.055
# adult females	1.322	0.802	1.037	1.043	0.784	1.3	0.801	0.936	0.85	1.007	1.062	1.047
# adult males	1.086	2.061 ⁺	1.061	1.491	0.976	0.724	0.633 ⁺	0.785	0.751	0.94	1.187	1.198
Dependency ratio	1.081	1.04	0.899	0.865	0.832	0.832	1.034	1.21 ⁺	0.851 ⁺	1.02	0.823 ⁺	0.843 ⁺ *
Resources												
real hh labor income	1.000	0.999	1.000	0.999	0.999	1.000	1.000	1.000	1.000	1.000	0.999	0.999
hh in social security system	1.402	1.408	0.513 ⁺	0.774	0.366 ⁺	0.55 ⁺ *	1.064	0.981	0.528 ⁺	0.519 ⁺ *	0.496 ⁺	0.529 ⁺ *
real non-labor income	1.000	0.999	0.999	0.999	0.999	1.000	1.000	0.999	0.999	1.000	0.999	1.000
Region												
San Jose Metropolitan area	1.116	0.998	1.143	0.828	1.024	0.83	1.493	1.648 ⁺	1.825 ⁺	1.394 ⁺ *	1.222	0.846
Chorotega/Brunca	1.453	1.063	1.993 ⁺	1.212	1.371	1.14	2.288 ⁺	1.311	3.123 ⁺	2.0 ⁺ *	1.365	1.525 ⁺
Pacific Central	1.018	0.847 ⁺	2.402 ⁺	1.013	2.359 ⁺	1.196	2.035 ⁺	1.312	1.437	1.186	0.706 ⁺	0.904
Huetar Atlantico/Norte r5	1.485	1.23	1.801 ⁺	1.389	1.213	1.129	2.01 ⁺	1.718 ⁺ *	1.652 ⁺	1.069	0.822	0.622 ⁺
	1989			1995			1989			1995		
Sample size	1408			1710			2604			3032		

Chi-2	546.12 ⁺	669.77 ⁺	514.86 ⁺	573.35 ⁺
Loglikelihood	-945.34 ⁺	-1132.74 ⁺	-1851.69 ⁺	-2188.25 ⁺
pseudo-R2	0.224	0.228	0.122	0.116

^aCoefficients with a cross (+) are significantly different from 0 (at the 5% level) in their own year. Those with an asterisk are significantly different from the base year.

TABLE 5: Conditional sectoral attachment probabilities^a**Panel A: Argentina**

	1988 means and parameters			1997 means and parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>all</i>	<i>Male</i>	<i>female</i>
s-e	0.244	0.249	0.236	0.24	0.247	0.229
informal wage	0.133	0.102	0.185	0.175*	0.151*	0.214*
formal	0.623	0.649	0.579	0.585*	0.602*	0.557*
	1997 means and 1988 parameters			1988 means and 1997 parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>all</i>	<i>Male</i>	<i>female</i>
s-e	0.241	0.248	0.229	0.252	0.253*	0.251
informal wage	0.128	0.107	0.163*	0.169*	0.139*	0.215*
formal	0.631	0.649	0.607*	0.579*	0.607*	0.533*

Panel B: Brazil

	1989 means and parameters			1995 means and parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>All</i>	<i>Male</i>	<i>female</i>
s-e	0.235	0.234	0.238	0.241*	0.259*	0.217
informal wage	0.193	0.183	0.211	0.211*	0.173*	0.263*
formal	0.572	0.583	0.551	0.548*	0.568*	0.52*
	1997 means and 1988 parameters			1988 means and 1997 parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>all</i>	<i>Male</i>	<i>female</i>
s-e	0.231	0.222*	0.248*	0.243*	0.265*	0.202*
informal wage	0.166*	0.159*	0.186*	0.232*	0.198*	0.288*
formal	0.603*	0.62*	0.566*	0.526*	0.537*	0.51*

Panel C: Costa Rica

	1989 means and parameters			1995 means and parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>All</i>	<i>Male</i>	<i>Female</i>
s-e	0.211	0.22	0.196	0.19*	0.195*	0.182*
informal wage	0.108	0.092	0.139	0.124*	0.092*	0.146
formal	0.68	0.688	0.667	0.686	0.694	0.672
	1997 means and 1988 parameters			1988 means and 1997 parameters		
	<i>all</i>	<i>male</i>	<i>female</i>	<i>all</i>	<i>Male</i>	<i>female</i>
s-e	0.207	0.214	0.194	0.187*	0.193*	0.178
informal wage	0.102	0.088	0.129	0.13*	0.116*	0.159
formal	0.691	0.698	0.677	0.68	0.691	0.662

^a sample sizes, standard errors are in Appendix 1. An asterisk indicates that the coefficient is significantly different from the 1989(88) means and parameters proportions.

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APPENDIX I: LABOR FORCE PARTICIPATION ESTIMATES
(Marginal effects)

	ALL	Argentina		Brazil		Costa Rica	
		1988	1997	1989	1995	1989	1995
Sex		-0.46*	-0.39*	-0.48*	-0.39*	-0.45*	-0.43*
		(0.0077)	(0.0089)	(0.0029)	(0.0031)	(0.011)	(0.0097)
Household head		0.06*	0.019	-0.041*	0.14*	0.12*	0.14*
		(0.018)	(0.019)	(0.0057)	(0.0068)	(0.024)	(0.022)
Couple		-0.15*	-0.1*	---	-0.12*	-0.16*	-0.16*
		(0.014)	(0.015)		(0.0052)	(0.018)	(0.016)
Age		0.084*	0.085*	0.049*	0.054*	0.067*	0.057*
		(0.0024)	(0.0025)	(0.00094)	(0.00089)	(0.003)	(0.0025)
Age ²		-0.001*	-0.001*	-0.00065*	-0.00072*	-0.00087*	-0.00075*
		(0.000031)	(0.000032)	(0.000013)	(0.000012)	(0.000036)	(0.00003)
black		---		0.078*	0.037*	---	---
				(0.0067)	(0.0066)		
mulatto		---		0.036*	0.024*	---	---
				(0.0039)	(0.024)		
Primary (1) incomplete		0.015	-0.042*	-0.028*	-0.023*	0.028	-0.038*
		(0.013)	(0.018)	(0.0054)	(0.0055)	(0.019)	(0.019)
Primary (2) incomplete		---	---	-0.0074	0.0025	---	---
				(0.0059)	(0.0054)		
Primary (2) complete		---	---	0.052*	0.059*	---	---
				(0.0071)	(0.0065)		
Secondary incomplete		0.017	-0.038*	-0.032*	0.015*	0.017	-0.047*
		(0.013)	(0.015)	(0.0081)	(0.0073)	(0.018)	(0.016)
Secondary complete		0.11*	0.11*	0.16*	0.15*	0.098*	0.089*
		(0.012)	(0.014)	(0.0053)	(0.0052)	(0.016)	(0.014)
University complete		0.35*	0.32*	0.3*	0.3*	---	---
		(0.012)	(0.014)	(0.0045)	(0.0052)		
Technical school		0.018	0.037	---	---	---	---

	(0.017)	(0.019)				
Children age 1-5	-0.051*	-0.028*	-0.033*	-0.026*	-0.0086	0.0059
	(0.0088)	(0.011)	(0.0027)	(0.003)	(0.0099)	(0.01)
Children age 6-12	-0.03*	-0.025*	-0.0085*	-0.0059*	-0.0048	-0.0089
	(0.0068)	(0.0081)	(0.0023)	(0.0025)	(0.0089)	(0.0083)
Daughters age 13-18	0.00054	0.00079	0.018*	0.016*	-0.0013	-0.0049
	(0.0097)	(0.011)	(0.029)	(0.016)	(0.012)	(0.011)
Sons age 13-18	-0.03*	-0.044*	-0.022*	-0.026*	-0.057*	-0.053*
	(0.0093)	(0.0095)	(0.0028)	(0.00)	(0.012)	(0.0096)
Females age 18+	0.0084	0.022*	0.04*	0.085*	0.037*	0.029*
	(0.0071)	(0.0077)	(0.0024)	(0.0026)	(0.014)	(0.012)
Males age 18+	0.0032	0.0097	-0.028*	-0.026*	0.011	0.0049
	(0.0075)	(0.0077)	(0.0022)	(0.0024)	(0.014)	(0.014)
Real hh labor income	-0.000022*	-0.000019*	-0.000011*	-0.000027*	-1.0x10 ⁻⁶ *	-5.35x10 ⁻⁷ *
	(2.11x10 ⁻⁶)	(1.82x10 ⁻⁶)	(6.0x10 ⁻⁷)	(1.73x10 ⁻⁶)	(2.16x10 ⁻⁷)	(6.51x10 ⁻⁸)
Real hh non-labor income	-9.27x10 ⁻⁶ *	-0.000081*	-0.000025*	-0.00012*	-7.65x10 ⁻⁶ *	-1.0x10 ⁻⁶ *
	(12.32x10 ⁻⁶)	(5.07x10 ⁻⁶)	(8.33x10 ⁻⁷)	(3.98x10 ⁻⁶)	(7.24x10 ⁻⁷)	(1.09x10 ⁻⁷)
Own home	-0.1	-0.079*	-0.059*	-0.044*	---	---
	(0.012)	(0.014)	(0.0043)	(0.0045)		
Water	0.0068	-0.072	-0.011*	0.0082	---	---
	(0.025)	(0.048)	(0.0049)	(0.0057)		
Rooms per capita	0.0069	0.045*	-0.0042	-0.0075*	---	---
	(0.011)	(0.012)	(0.0024)	(0.0023)		
South	---	---	-0.015*	0.037*	---	---
			(0.0059)	(0.0056)		
Northeast	---	---	-0.054*	-0.04*	---	---
			(0.0043)	(0.004)		
r2	---	---	---	---	-0.041*	-0.034*
					(0.017)	(0.015)
r3	---	---	---	---	0.0005	-0.04*
					(0.019)	(0.019)
r4	---	---	---	---	-0.025	-0.045*

r5	---	---	---	---	(0.021) -0.043* (0.02)	(0.02) -0.066* (0.019)
Sample size	17039	13813	96185	108280	7458	8844
LR statistic	6181.19	4926*	31863*	29871*	2416*	2869*
Pseudo-R ²	0.26	0.26	0.25	0.2	0.24	0.25

MEN	Argentina		Brazil		Costa Rica	
	1988	1997	1989	1995	1989	1995
Household head	0.063* (0.023)	0.04 (0.025)	0.14* (0.0069)	0.16* (0.0095)	0.11* (0.02)	0.064* (0.021)
Couple	0.1* (0.02)	0.091* (0.022)	---	0.089* (0.0079)	0.051* (0.021)	0.068* (0.018)
Age	0.066* (0.0027)	0.076* (0.0029)	0.025* (0.00079)	0.032* (0.00096)	0.039* (0.0027)	0.031* (0.0021)
Age ²	-0.0089* (0.00034)	-0.00096* (0.00038)	-0.00035* (0.00001)	-0.00046* (0.000013)	-0.00051* (0.000032)	-0.00041* (0.000025)
Black	---	---	0.0021 (0.0064)	0.0015 (0.0075)	---	---
Mulatto	---	---	0.0082* (0.0036)	0.0056 (0.0055)	---	---
Primary (1) incomplete	0.0053 (0.016)	-0.074* (0.025)	-0.1* (0.005)	-0.014* (0.0063)	-0.0041 (0.017)	-0.002 (0.015)
Primary (2) incomplete	---	---	-0.018* (0.0056)	-0.0035 (0.0062)	---	---
Primary (2) complete	---	---	0.019* (0.0063)	0.039* (0.0071)	---	---
Secondary incomplete	0.0071 (0.015)	-0.031 (0.018)	-0.072* (0.0087)	-0.04* (0.0089)	-0.014 (0.016)	-0.04* (0.015)
Secondary complete	0.034* (0.14)	0.068* (0.016)	0.018* (0.0055)	0.053* (0.0061)	-0.046* (0.015)	-0.023 (0.013)

University complete	0.16*	0.15*	0.094*	0.13*	---	---
	(0.015)	(0.018)	(0.0044)	(0.006)		
Technical school	0.027	0.027	---	---	---	---
	(0.016)	(0.018)				
Children age 1-5	0.0016	0.017	0.015*	0.012*	0.023*	0.035*
	(0.011)	(0.014)	(0.0028)	(0.0038)	(0.01)	(0.01)
Children age 6-12	0.0074	0.011	-0.0018	0.0079*	0.0027	0.013
	(0.0086)	(0.011)	(0.0021)	(0.0031)	(0.0087)	(0.0075)
Daughters age 13-18	-0.0091	0.00082	-0.0016	0.0016	-0.0074	-0.012
	(0.012)	(0.013)	(0.0027)	(0.0036)	(0.01)	(0.0087)
Sons age 13-18	-0.014	-0.019	-0.015*	-0.015*	-0.023*	-0.018*
	(0.011)	(0.011)	(0.0024)	(0.0032)	(0.0091)	(0.0071)
Females age 18+	0.0043	0.02*	-0.0059*	0.01*	0.021	0.0038
	(0.008)	(0.0093)	(0.0021)	(0.0029)	(0.013)	(0.0094)
Males age 18+	0.026*	0.017	0.0069*	0.019*	0.0044	0.0068
	(0.0086)	(0.0092)	(0.0019)	(0.0026)	(0.0097)	(0.0097)
Real hh labor income	-7.96x10 ⁻⁶ *	-7.25x10 ⁻⁶ *	-1.82x10 ⁻⁶ *	-2.75x10 ⁻⁶	-1.51x10 ⁻⁷	-1.59x10 ⁻⁷ *
	(2.93x10 ⁻⁶)	(2.32x10 ⁻⁶)	(4.87x10 ⁻⁷)	(2.07x10 ⁻⁶)	(1.52x10 ⁻⁷)	(4.98x10 ⁻⁸)
Real hh non-labor income	-0.000013*	-0.00075*	-0.000013*	-0.0001*	-3.68x10 ⁻⁶ *	-3.74x10 ⁻⁷ *
	(2.57x10 ⁻⁶)	(5.82x10 ⁻⁶)	(6.08x10 ⁻⁷)	(4.07x10 ⁻⁶)	(4.89x10 ⁻⁷)	(6.36x10 ⁻⁸)
Own home	-0.046*	-0.013	-0.02*	-0.029*	---	---
	(0.014)	(0.017)	(0.0039)	(0.0051)		
Water	0.039	-0.13*	-0.0091*	0.017*	---	---
	(0.031)	(0.041)	(0.0042)	(0.0069)		
Rooms per capita	0.021	0.045*	-0.0086*	0.01*	---	---
	(0.013)	(0.016)	(0.0021)	(0.0027)		
South	---	---	-0.0036	0.024*	---	---
			(0.0054)	(0.0063)		
Northeast	---	---	-0.038*	-0.032*	---	---
			(0.0041)	(0.0047)		
r2	---	---	---	---	-0.034*	0.015
					(0.015)	(0.011)

r3	---	---	---	---	-0.0039 (0.016)	-0.0073 (0.015)
r4	---	---	---	---	0.0081 (0.016)	0.0064 (0.014)
r5	---	---	---	---	-0.017 (0.018)	-0.015 (0.015)
Sample size	7699	6585	45396	49105	3536	4220
LR statistic	2256*	2436*	7976*	10967*	1011*	1078*
Pseudo-R ²	0.25	0.31	0.2	0.2	0.31	0.29

WOMEN	Argentina		Brazil		Costa Rica	
	1988	1997	1989	1995	1989	1995
Household head	0.06* (0.019)	0.0099 (0.023)	-0.14* (0.0078)	0.0777* (0.0084)	0.1* (0.03)	0.18* (0.028)
Couple	-0.29* (0.017)	-0.22* (0.018)	---	-0.23* (0.0064)	-0.35* (0.022)	-0.35* (0.021)
Age	0.064* (0.0029)	0.066* (0.0032)	0.045* (0.013)	0.056* (0.0013)	0.064* (0.0044)	0.057* (0.0038)
Age ²	-0.00085* (0.00038)	-0.00083* (0.000041)	-0.0006* (0.000019)	-0.00075* (0.000018)	-0.00088* (0.000055)	-0.00081* (0.000047)
Black	---	---	0.14* (0.01)	0.063* (0.0093)	---	---
Mulatto	---	---	0.049* (0.0054)	0.033* (0.0051)	---	---
Primary (1) incomplete	0.034* (0.017)	-0.0089 (0.023)	-0.035* (0.0071)	-0.024* (0.0072)	-0.049 (0.027)	-0.062* (0.027)
Primary (2) incomplete	---	---	0.0086 (0.008)	-0.00095 (0.0073)	---	---
Primary (2) complete	---	---	0.063* (0.01)	0.055* (0.0092)	---	---
Secondary incomplete	0.0099*	-0.031	0.021	0.033*	0.014	-0.048*

	(0.016)	(0.019)	(0.011)	(0.01)	(0.025)	(0.023)
Secondary complete	0.12*	0.097*	0.24*	0.19*	0.19*	0.15*
	(0.016)	(0.018)	(0.0082)	(0.0076)	(0.022)	(0.02)
University complete	0.43*	0.39*	0.47*	0.41*	---	---
	(0.022)	(0.022)	(0.0091)	(0.0087)		
Technical school	0.045	0.064	---	---	---	---
	(0.033)	(0.044)				
Children age 1-5	-0.097*	-0.078*	-0.073*	-0.064*	-0.046*	-0.033*
	(0.011)	(0.014)	(0.0036)	(0.0039)	(0.013)	(0.014)
Children age 6-12	-0.054*	-0.052*	-0.0096*	-0.014*	-0.0044	-0.031*
	(0.008)	(0.01)	(0.003)	(0.0033)	(0.012)	(0.012)
Daughters age 13-18	0.007	0.007	0.015*	0.0059	-0.02	-0.03*
	(0.011)	(0.014)	(0.0038)	(0.0038)	(0.015)	(0.015)
Sons age 13-18	-0.036*	-0.049*	0.0046	-0.0053	-0.029	-0.041*
	(0.011)	(0.013)	(0.0041)	(0.0042)	(0.017)	(0.015)
Females age 18+	-0.0028	0.0053	0.029*	0.015*	0.0042	0.015
	(0.0085)	(0.0099)	(0.0032)	(0.0035)	(0.018)	(0.017)
Males age 18+	-0.023*	-0.0051	-0.014*	-0.0099*	0.039	0.019
	(0.009)	(0.0098)	(0.0033)	(0.0036)	(0.022)	(0.02)
Real hh labor income	-0.000012*	-0.000014*	-0.000015*	-0.000025*	-6.2x10 ⁻⁷ *	-3.52x10 ⁻⁷ *
	(2.24x10 ⁻⁶)	(2.2x10 ⁻⁶)	(8.82x10 ⁻⁷)	(2.22x10 ⁻⁶)	(3.15x10 ⁻⁷)	(9.03x10 ⁻⁸)
Real hh non-labor income	-3.88x10 ⁻⁶	-0.000062	-0.000018*	-0.000099*	-6.76x10 ⁻⁶ *	-9.9x10 ⁻⁷ *
	(2.84x10 ⁻⁶)	(6.46x10 ⁻⁶)	(1.27x10 ⁻⁶)	(5.67x10 ⁻⁶)	(1.14x10 ⁻⁶)	(1.96x10 ⁻⁷)
Own home	-0.1*	-0.1*	-0.072*	-0.044*	---	---
	(0.016)	(0.018)	(0.0059)	(0.006)		
Water	-0.0071	0.011	-0.0022	-0.0045	---	---
	(0.031)	(0.063)	(0.0066)	(0.0075)		
Rooms per capita	0.0013	0.037*	0.0029	-0.012*	---	---
	(0.012)	(0.014)	(0.0032)	(0.0029)		
South	---	---	-0.019*	0.04*	---	---
			(0.0077)	(0.00756)		
Northeast	---	---	-0.048*	-0.041*	---	---

			(0.0055)	(0.0052)		
	---	---	---	---	-0.025 (0.022)	-0.085* (0.02)
	---	---	---	---	0.019 (0.027)	-0.059* (0.025)
	---	---	---	---	-0.059* (0.027)	-0.088* (0.027)
	---	---	---	---	-0.051 (0.027)	-0.095* (0.025)
Sample size	9340	7228	50789	59175	3922	4624
LR statistic	2136*	1663*	8164*	10770*	803*	954*
Pseudo-R ²	0.18	0.17	0.12	0.13	0.15	0.15

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