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# Unpacking Youth Unemployment in Latin America

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## Abstract

High youth unemployment rates may be a signal of difficult labor market entry for youth or may reflect high churning. The European and United States literature finds the latter conclusion while the Latin American literature suggests the former. This paper uses panel data to examine whether Latin American youth follow OECD patterns or are, indeed, unique. By decomposing transition matrices into propensity to move and rate of separation matrices and estimating duration matrices, the authors find that Latin American youth do follow the OECD trends: their high unemployment reflects high churning while their duration of unemployment is similar to that of non-youth. The paper also finds that

young adults (age 19–24) have higher churning rates than youth; most churning occurs between informal wage employment, unemployment, and out-of-the labor force, even for non-poor youth; and unemployment probabilities are similar for men and women when the analysis control for greater churning by young men. The findings suggest that the “first employment” programs that have become popular in the region are not addressing the key constraints to labor market entry for young people and that more attention should be given to job matching, information, and signaling to improve the efficiency of the churning period.

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**Unpacking Youth Unemployment in Latin America**  
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## I. Introduction

Youth unemployment is a concern to policymakers and to the general population in Latin America. Although the rise in total unemployment rates in the region during the 1980s and 1990s led to levels that had not been seen for decades (IADB, 2004), the new level of youth unemployment rates were even more startling, ranging from 6% to 38%, often equaling twice or more of the level of the total unemployment rates. The common interpretation of this statistic is that young people have particular difficulty entering the labor market and spend longer periods in the unemployment state (ILO 2006), leading to irreversible damage in the future work life of these young people (World Bank 2006) and spawning policies to facilitate labor market entry of young people.<sup>1</sup> Further, youth inactivity (not in school, not looking for a job and out of the labor force) is assumed to be the source of other social issues, such as youth violence (World Bank, 2006; Freeman, 1999).

Youth unemployment rates in the OECD also exceed those of adults, but they are interpreted differently. While youth unemployment rates in Europe range from 7.8% to 23.5%, and the rates are double those of adults, the problem is not a difficulty in finding employment. Instead, the higher unemployment rates are attributed to frequent turnover early in the life cycle (Quintini, et. al. 2007) when young people are shopping around the labor market in an effort to identify a job that fits their preferences. In the United States, for example, a young person spends two years in each job, on average, before the age of 25 (Maloney 1999).

The objective of this paper is to test whether the high youth unemployment rates in Latin America signal difficulty in finding a job, a similar trend to the European model, or are a completely different process.<sup>2</sup> This paper uses panel data from three countries to better

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<sup>1</sup> For example, Brazil's *Primeiro Emprego* (First Job) program operates under the assumption that the main reason behind high youth unemployment rates is the pre-requisite of job experience to obtain a job, which is a particular issue for youth. The program spent \$10 million reais and may have created up to 9000 jobs, falling far short of its 260,000 goal (Doca et al, 2007). Or, in 2006, Mexico launched its First Employment program that assumes that youth unemployment is due to lower productivity than employers are willing to hire. The program was intended to alleviate the costs of hiring less skilled young workers by giving wage subsidies to employers who would hire young workers. The program has been less than successful and the government is reconsidering the design of the program.

<sup>2</sup> The European literature argues that the NEET – not in employment, education, or training – rate is a more relevant measure than the youth unemployment rate since it includes all youth who are not engaged in productive activities, as opposed to only those who declare that they are searching for employment (Ryan 2001). While the measure may better capture the situation of youth, we do not consider it here since the unemployment concept is more familiar to, and of greater concern to, Latin American policymakers and the

understand the dynamics of youth unemployment, including where the unemployed come from, how long they spend in that state, how often they enter the state, and where they go upon leaving unemployment. The analysis differentiates between adolescents (15-18 years old) who are at the point of deciding to leave school and enter work and may still be dependent on parents, young adults (19-24 years old) who are in the prime shopping period of Europeans, but are likely to be settling into the Latin American labor force, and prime aged adults (age 25-44), who are used as a counterfactual. We consider the behavior in Brazil, with its moderate unemployment rates, Mexico and its very low unemployment rates, and the high unemployment economy of Argentina.

The main conclusion of the study is that young people's unemployment in Latin America follows similar patterns to that in Europe. Namely, young people's unemployment is a reflection of frequent entry to the state, but duration of stay is similar to that of adults. This supports the "shopping around" hypothesis where young people may be trying out different types of jobs in an effort to identify which works best for them.

## **II. Youth Unemployment in Latin America versus Europe**

Youth unemployment rates in Latin America are higher than those in Europe, although the youth to adult unemployment rate is similar. Specifically, unemployment rates of those age 15-24 in Latin America range from 6 to 38 percent (2003 and 2004 data), as opposed to a range of 7 to 26 percent in Europe (Tables 1 and 2).

The unemployment rate alone is not instructive as to whether young people are in a particularly poor state since it does not control for the overall health of the economy. We can use the total unemployment rate as a counterfactual of how easy it should be to get jobs. Deviance from this counterfactual unemployment rate tells us whether young people are in a particularly difficult situation. The youth to adult unemployment rate in Latin America and the Caribbean ranges from 1.5 (Nicaragua) to 2.3 (Chile), suggesting that young people have about twice as much difficulty as adults in entering the labor market (Table 1). A comparison to Europe shows a similar range – 1.2 in Germany, where the large apprenticeship program particularly facilitates school-to-work transitions (Ryan 2001), relative to 2.9 in Italy (Table 2).

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public. However, for a discussion of the NEET in Latin America and the Caribbean, and how it compares to youth unemployment rates, see Cunningham (2008).

The duration of youth unemployment, compared to adult unemployment, gives an indication as to whether young people have a more difficult time integrating into labor markets than do adults. It has long been recognized that unemployment spells among European youth are shorter than those of adults (Martin et. al. 1984, OECD, 1983), although 20 percent of European youth had spells lasting more than a year (Quintini 2007). The US finds similar trends; over the period 1968-2000, teenagers were six times as likely as those age 35-54 to experience unemployment spells of four weeks or less and those age 19-24 were 3 times as likely as the older age group to have short unemployment spells (Abraham and Shiner, 2001). The same trend emerges for Latin America and the Caribbean where youth unemployment spells last an average of 4.9 months, as compared to 7.1 months for workers age 25-65 (SEDLAC, 2009).<sup>3</sup> Notably, unemployment spells are shorter than employment or inactivity spells (Bosch and Maloney, 2007).

Finally, the rates of youth entry and exit from unemployment allow us to determine if young people move around more in the labor market than do adults. The OECD literature suggests that high youth unemployment rates are primarily due to frequent job turnover. Young people in all 20 countries in the sample had higher “job changing” rates as compared to adults (Quintini, 2007). Similar results are found for the US (Leighton and Mincer, 1982). The common interpretation of this observation is that young workers are engaged in a search process where they experiment with various “low-quality” jobs – temporary, low-skilled, poorly paid – until the young person identifies a “career” path she wishes to follow. This process seems to emerge in Latin America, as well. Bosch and Maloney (2007) find that informal sector employment is of a short duration relative to other employment sectors and contributes to unemployment, as opposed to being a substitute.

### **III. Methodology and Data**

Three methodologies are used to understand the dynamics of youth unemployment, drawing on techniques developed in Bosch and Maloney (2007). First, transition matrices<sup>4</sup> are estimated to understand the amount of turnover, namely the share of people who move into unemployment and out of unemployment every period. This allows us to determine if

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<sup>3</sup> The SEDLAC data report truncated unemployment spells, so they may underestimate the actual duration of unemployment. Since they are drawn from a random point in time, though, there is no reason to expect that the age-trends would differ from completed unemployment spell durations.

<sup>4</sup> Transition matrices are referred to as “intensity matrices” in Bosch and Maloney (2007).

young people enter unemployment or leave unemployment at different rates than do adults at any one period of time.

Second, as proposed in Bosch and Maloney (2007), we decompose the transitions matrix into two separate components. The first component represents the transition probabilities independent of the rate at which different age groups leave any sector, and is called the *propensity matrix*. The second is the rate of transition, and is referred to as the *rate of separation matrix*. By decomposing the transition matrix into the propensity matrix and the rate of separation matrix, we can determine if movements to unemployment observed in the transition matrix are reflecting greater entry of certain age groups into unemployment or if the observed transitions are simply due to greater turnover by certain age groups in general.

Finally, elements of the propensity matrix allow us to estimate the duration of unemployment to determine whether the high unemployment rates among youth are due to longer unemployment spells.

All three methodologies take advantage of the panel nature of the three data sets utilized in this paper. In particular, we can follow the labor market status of young people at discrete moments in time over a one month (Brazil), three month (Mexico), and six month (Argentina) period.

### *Transition Matrices*

Transition matrices are generated using the panel data, where each cell denotes the probability of moving between an initial labor market state  $i$  to a final labor market state  $j$ . Each cell of the transition matrix is a simple probability where:

$$p_{ij} = n_{ij} / n_i \quad (1)$$

Where  $p_{ij}$  is the probability that a person moved from some initial state  $i$  into a final state  $j$  for  $i=1, \dots, K$  and  $j=1, \dots, K$ . The term  $n_{ij}$  is the number of people who were in state  $i$  and moved to state  $j$  between periods  $t$  and  $t+1$  and  $n_i$  is the number of people who were in state  $i$  in period  $t$  and were potential candidates for moving to state  $j$  in period  $t+1$ . The transition matrix is denoted by:

$$\left( \begin{array}{ccc} P_{11} & \cdots & P_{1K} \\ & 5 & \end{array} \right)$$

$$Q = \begin{matrix} \dots & \dots & \dots \\ & P_{K1} & \dots & P_{KK} \end{matrix}$$

This matrix will be used in three ways. First, we are interested in the share of people in transition into unemployment; i.e. transition from any state  $i$  into state  $j$ =unemployment. Second, we are interested in the share of people in transition out of unemployment; i.e. the transitions from initial state  $i$ =unemployment into any state  $j$ . Third, we can use  $Q$  to understand what sector the unemployed come from and where they go upon leaving unemployment.

Since we have access to discrete panel data, rather than continuous time data, equation (1) can be interpreted as the transition probability if we assume that the discrete-time mobility process captured by our data is generated by a continuous-time homogenous Markov process.<sup>5</sup> In other words, if we assume that transitions between states occur at random points in time, then a random draw of a transition in one point in time has the same probability (within a confidence interval) of a draw at any other point in time.

*Decomposing the Transition Matrix into the Propensity to Move and the Rate of Separation*

The transition matrix can be decomposed into the rate of separation matrix ( $\lambda$ ) and the propensity (to move) matrix ( $M$ ) as denoted by  $Q = \lambda(M - I)$ , where  $I$  is the identity matrix. The rate of separation during any period is one minus the probability of staying in a sector, calculated as

$$s_{ii} = 1 - p_{ii} = 1 - n_{ii}/n_i$$

If we have  $K$  sectors, this can be expressed as  $(I + \lambda)$  where  $I$  is the identity matrix and

$$\lambda = \begin{pmatrix} & -P_{11} & 0 & \dots \\ 0 & -P_{22} & \dots & 0 \\ 0 & 0 & \dots & 0 \\ & 0 & 0 & \dots \end{pmatrix} \begin{matrix} 0 \\ \\ \\ -P_{KK} \end{matrix}$$

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<sup>5</sup> See Bosch and Maloney (2007) for a discussion of this assumption and the broader literature that argues that this assumption is reasonable.



The period of duration in each state can then be generated as  $1/p_{ii}$ . So, for example, the period of duration in unemployment is given by  $1/p_{uu}$  and the period of duration in any non-unemployment state is given by  $1/p_{ii}$  where  $i \neq \text{unemployment}$ .

Finally, the propensity to move out of a certain sector can be calculated as the number who leave the sector as a share of the total number who move:

$$r_{ij} = n_{ij}/(n_{ij} + n_{ji})$$

and the associated matrix is:

$$M = \begin{pmatrix} 0 & r_{12} & \dots & \\ r_{21} & 0 & \dots & \\ \dots & \dots & \dots & \\ r_{K1} & r_{K2} & \dots & \end{pmatrix} \begin{matrix} r_{1K} \\ r_{2K} \\ \dots \\ r_{KK} \end{matrix}$$

where each  $r_{ij}$  is the transitional probability if we assume that all workers were to leave their initial sector at the same rate. We are particularly interested in those  $r_{ij}$  where  $i = \text{unemployment}$  or  $j = \text{unemployment}$ .

### *Data*

Data from urban Argentina, Brazil, and Mexico are used. These countries were selected for the analysis since they are the only countries in Latin America with panel labor force surveys that allow us to follow the behavior of individuals over time. They also have recent labor market histories that are instructive to understanding youth unemployment. Namely, Mexico has the lowest unemployment rates in Latin America while Argentina has some of the highest rates. Brazil has moderate levels of unemployment. The structure of each country's data provides us with some lessons, as well.

The Argentine *Encuesta Permanente de Hogares* for 1995-2003 is used. The national survey is carried out in urban areas and is designed such that a sample is selected in period  $t$  and their labor market status is observed. Six months later, the same sample is interviewed again. This process is repeated two more times which gives us, in the end, the labor market status at four points in time over a one and a half year period ( $t, t+6, t+12, t+18$ ). In each period, there are four consecutive cohorts at different phases of the interview process. To limit attrition bias, we only track one transition. Further, we only track May to September transitions to avoid the summer vacation which falls during the September to May transition.

We pool the data, giving us a sample size of 368,453 over the eight years of data. While these data are useful since they show a long-term dynamic process, they are of limited usefulness in that it is unlikely that we are capturing short-run movements between labor market states.

The Brazilian *Pesquisa Mensual de Emprego* (PME) for 1982-2002 is designed similarly to that in Argentina, but the same sample is interviewed once a month for four months.<sup>6</sup> Again, to avoid summer vacations, we only include observations that make the September to October transition. This gives us a sample size of 340,000,000 over the 20 year period. The structure of this data set is particularly useful to our analysis since the time between observations is so short that it is unlikely that there are intermediate transitions between states that we are not observing. Thus, we are likely capturing all the movements that people make in the short run.

The Mexican *Encuesta Nacional de Empleo Urbano* for 1987-2003 has a design similar to that in Brazil and Argentina, but there is a three month period between each interview, for a total of five interviews per cohort. Thus, we are able to observe the employment status of each cohort over a one year period. We do not include transition from the second to the third quarter or the third to the fourth quarter since those overlap with the school “summer vacation” period, leaving us with a sample size of 952,664.

We define three different age groups for analysis. *Youth* are defined as those age 15-18 years of age. They are still of secondary school age, so they are the newest entrants to the labor force of any age group and they are more tied to school than any other group. *Young adults* are those who are age 19-24 years of age. They are beyond secondary school age (though, due to grade repetition, they still may be attending secondary school) and are, as a group, the most likely to be new entrants to the labor market. Finally, we consider *prime age adults*, who are age 25-44, and are in the prime of their working life. We choose to only include those younger than age 45 to avoid including the years when retirement starts becoming an option. This last group is included in our analysis to serve as a counterfactual against which we can compare youth and young adult unemployment patterns.

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<sup>6</sup> The full panel has a 4-8-4 structure, where the sample is interviewed for four consecutive months, not interviewed for the following eight months, then interviewed another four consecutive months. Due to attrition bias arising after the eight month hiatus, we chose to only use the information from the first four months. Further, this is the only of our three survey that allows for observations over such a short time period, i.e. month by month, so we take advantage of that information.

The analysis disaggregates the youth population by gender and poverty status. The gender disaggregation is necessary due very different time use patterns by men and women, including women's greater propensity to spend significant periods out of the labor force and women's higher unemployment rates. The sex variable is used to proxy gender.

The poverty disaggregation is intended to identify if the poor have more difficulty than in the non-poor in securing or keeping employment. Since the three surveys do not include consumption data, we use a crude measure to proxy poverty level of the individual. We calculate total labor income for each household, and we divide the sample into household income quintiles. Once the quintile is assigned to a household, we assign the corresponding quintile level to each individual in our sample.

Seven different sectors are defined in order to better understand where the unemployed were before entering this state and to what sector they go upon leaving the state. Three non-working sectors are identified. The "unemployed" are those who are not working, not studying, and report having searched for a job for at least an hour in the week prior to the interview. Those who are "out of the labor force" are not in school, not working, and not looking for a job. "Students" are in school, not working, and not looking for a job. Four labor market sectors are considered. Those who own a firm and do not have any paid employees are identified as "self-employed." The "unpaid" are those who state that they work but do not receive remuneration. Those who work for pay are divided into two categories: "formal salaried employees" are employees who receive a salary and whose employer also pays into the social security system on their behalf and "informal salaried employees" earn a salary but the employers do not contribute to the social security system on the workers' behalf.

### *Summary Statistics*

The unemployment rates in our sample are given in Table 3. The youth rates range from 6 percent in Mexico to 6.5 percent in Brazil to 35 percent in Argentina. Among young adults, the rates are around 4 percent, 8 percent, and 22 percent, respectively. Adults have the lowest rates at 2 percent, 4 percent, and 10 percent, respectively. The rates differ slightly between the first and second observations in our sample, but there is no trend in any country of a uniform increase or decrease in rates across group. They also differ slightly from those in Table 1 since the table presents unemployment rates in the indicated year for each country

while Table 3 presents average unemployment rates over the sample period, ranging from 7 to 20 years.

As expected, women's unemployment rates are higher than men's within each age group. The male-female unemployment rate gap ranges from 1 to 6 percent, depending on the age group and country being considered.

The poor have higher unemployment rates than the non-poor, with a particularly large gap in Argentina. In Brazil and Mexico, the difference in unemployment rates across income quintiles ranges from 1 to 5 percentage points. However, in Argentina, the gap is as large as 40 percentage points.

#### **IV. Transition and Duration Results**

##### *General Transition and Duration Trends*

Young adults are twice as likely as prime aged adults or youth to become unemployed. Table 4 shows the probability of entering unemployment in a random period for men and women, poor and non-poor people, by age group. Regardless of sex or income quintile, young adults are more likely than youth or than prime aged adults to enter unemployment. For example, the probability of becoming unemployed for young men ranges from 1.9 percent in Mexico to 9.9 percent in Argentina, in comparison to 1.6 percent and 5.6 percent, respectively, for male youth and 1.0 percent and 6.1 percent, respectively for prime-aged adults. Brazilian transition rates follow a similar pattern, with point estimates falling between those of Argentina and Mexico. There is not a clear trend in relative transitions between youth and prime-aged adults. Youth in Argentina and Brazil have lower transitions probabilities into unemployment than do prime-aged adults while the opposite emerges in Mexico.

Youth leave unemployment at a higher rate than do young or prime-age adults. Table 4 shows that about 2/3 of youth, young adults, and prime-aged adults in the three countries leave unemployment between periods. For both genders and both ends of the income spectrum, youth have higher rates of exiting unemployment in all three countries.<sup>7</sup> Their exit probabilities range from 0 to 9 percentage points higher than those of the other

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<sup>7</sup> Exception: women age 25-44 in Argentina

age groups, depending on which age group, sex, and income group being compared. There is no clear pattern in unemployment exit rates between young adults and prime age adults.

Young adults change their labor market status more than youth and prime-aged adults. For all three countries, in each sex and income quintile category, those aged 19-24 have a greater probability of changing labor market state between periods (Table 5). About 40 percent of young Argentine men change their labor market state over a six month period, as compared to 25 percent of male youth and 28 percent of prime-aged men. This compares to 32 percent of young Mexican men changing sectors over a 3 months period, as compared to 29 percent of male Mexican youth and 24 percent of males of prime working age. Brazilian turnover rates are lower point estimates, but the same trends. The high turnover among youth is consistent with the findings in Europe (Quintini 2007).

If we were to force all age groups to have the same rates of transition, young adults would still have the greatest entry to unemployment in Brazil, but, contrary to the findings in Table 4, young adults are not necessarily more prone to unemployment in Argentina and Mexico. Table 5 shows that, if we only consider those people who changed their labor state in the past period, 10-14 percent of Brazilians age 19-24 would end up unemployed, exceeding the transition to unemployment rates for prime-aged Brazilian adults by 2-4 percentage points. In Mexico, while young adults dominated the transition to unemployment among all those who *might* change labor markets states, when only considering those who *do* change labor market states, youth have the highest propensity for unemployment across gender and income groups. The trend is mixed in Argentina. When considering all those who could have become unemployed between periods, Argentine young adults of both genders and both ends of the income scales dominated, but when we only consider the final state of those who did move, youth and young adults are equally as likely to become unemployed (both genders), poor youth dominate among the poorest labor force participants, and young and prime-aged adults have equal propensities for unemployment.

Contrary to the unconditional transition matrices, young adults are the most likely to leave unemployment once we limit the sample to only those who make a transition. While youth had the highest rates of exiting the state when we did not control for transition frequency, young adults have rates that are one to ten percentage points higher, depending on the sex and income group of comparison. Their conditional rates of exit from

unemployment are similar to the conditional rates of entry for most gender and income groups.

The duration of unemployment is very similar between age groups, as shown in Table 6. Unemployment duration lasts from less than two months (Brazil) to more than nine months (Argentina) in the three country sample. While, on average, a spell of unemployment lasts for 9.8 months for prime aged Argentine males, the duration is about 9.6 years for young adult men and 9.4 years for male youth. Argentine women show similar unemployment durations across age groups, though duration is longest for young adult women. In the other two countries, the unemployment duration across age groups also differs by less than a month for every age and wealth category in Table 6.

#### *Transition and Duration of Women Compared to Men*

Men have higher rates of transition into unemployment than do women of the same age groups, but women have higher transitions out of unemployment. For example, Argentine men of any age group are about 2 percentage points more likely to enter unemployment than are women (Table 4). In Brazil the difference is smaller, about a 0.4 percentage point difference, and in Mexico the difference is about 0.2 percentage points. Within age group, women have slightly higher rates of exit than do men. For example, while 83 percent of young Mexican women leave unemployment in a period, 79.6 percent of young men do so. The male-female differential in the other countries is 55.9 compared to 53.5 percent among young Mexican adults and 65.2 versus 62.5 percent among young Argentine adults (Table 4).

Men of all age groups, but particularly youth and young adults, have higher transition rates than do women of the same age (Table 5). While the gender difference in transition rates ranges from 1-3 percentage points among prime-age adults, it ranges from 3-7 percentage points among youth and young adults.

There is not a dominant gender trend in the conditional transitions to or from unemployment. Once controlling for higher turnover among men, young (15-18 and 19-24) women's transition into unemployment exceeds that of men's in Mexico and Brazil (Table 5). The magnitude of the gender gap is less than 1.5 percentage points, much smaller than it was for the unconditional transitions. Men of all age groups still dominate the gender-disaggregated transition to unemployment in Argentina. The female dominated trend for

exiting unemployment is lost when we control for transition probabilities. No gender trend emerges for any age group in the conditional probabilities for exiting unemployment.

Comparing across gender groups, the duration of unemployment, again, shows little difference. Young women's duration of unemployment is lower than men's for most age categories, but the difference is very small, less than a couple of days difference (Table 6).

#### *Transition and Duration of Poor Relative to Non-poor*

Youth and young adults from poor households fare worse in all measures of labor market transitions. For all three countries, they have greater exit to unemployment, lower exit from unemployment, and greater labor market turnover than do those from non-poor families. For example, less than 1 percent of non-poor youth in the three countries become unemployed, as compared to 1.6 (Brazil) to 6.5 (Argentina) percent of poor youth (Table 4). The gaps between the poor and non-poor youth are similar to those of prime-age adults. Conversely, poorer youth and young adults are 2-9 percentage points less likely to leave unemployment than their non-poor peers; this gap is observed for prime-aged adults, as well.

Not surprisingly, poorer youth and young adults also dominate the conditional exit into unemployment trends (Table 5). For example, while 8.8 percent of poor Brazilian youth movers enter unemployment between periods, only 6.6 percent of non-poor 15-18 year old movers do; this compares to 1.6 percent and 0.8 percent of the total 15-18 year olds (movers and non-movers, respectively), shown in Table 4.

In contrast to the unconditional results for exit from unemployment, poor youth and young adults in all three countries have higher conditional rates of exit from unemployment than do their colleagues in non-poor households. For example, while 65 percent of all poor unemployed 15-18 year olds leave unemployment between periods and 73 percent of non-poor unemployed in the same age range do so, 20 percent of poor movers and 5 percent of non-poor movers leave unemployment (Table 5). It should be noted that the trend is not a youth-specific behavior: prime-aged adult movers from poor households also have a greater propensity to leave unemployment than do prime-aged adult movers from non-poor households.

The duration of unemployment shows little difference between youth or young adults from opposite ends of the household income spectrum (Table 6). Those from poor

families spend more time unemployed than those whose families are not poor, but the difference is not more than a month in any country.

## V. Source of Unemployment and Destination of the Unemployed

### *Where Do the Unemployed Come From?*

Most unemployed youth were in school or out of the labor force in the period prior to their unemployment spell. Table 7 presents the probability that the unemployed transition into sector  $j$  for each country and age group, disaggregated by gender and income quintile. In Mexico and Argentina, about one-quarter of male youth who are unemployed were in school three and six months ago, respectively. Female youth in all three countries and male Brazilian youth, on the other hand, primarily exited the no school-no work status to become unemployed (25-35%). The difference in transition patterns between countries may be due to the fact that we observe Brazilians in the previous month, whereas the lag time in the observation for Argentines and Mexicans is longer. Thus, over a one month period, young Brazilians may be ready to end their post-school break and begin their job search whereas we do not observe the “break” period for Argentines and Mexicans, instead only seeing their school to unemployment transition.<sup>8</sup>

Young adults also enter unemployment from out-of-the-labor force or school states, but school-leavers are rarer than among the younger cohort. Only young adult males in Argentina and wealthy young adults in Mexican enter unemployment from school more than from being out-of-the-labor force. The only young adults who enter unemployment from a job are non-poor Argentines, who primarily have left the formal sector.

If we limit our transition only to exits from a job, we find that most unemployed youth had been working in the informal salaried sector. This is particularly the case for youth and young adults, while prime aged adults who left a job come from all three income-earning sectors. This patterns cuts across genders, but not across income levels, where most of the non-poor young adult workers who left their jobs had been in the formal sector in all three countries.

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<sup>8</sup> Three-month transition patterns of Brazilian unemployed are similar to those of one-month transitions, suggesting that Brazilians take a long break between leaving school and entering the labor market. The three-month transition matrices available upon request.



### *Where Do the Unemployed Go?*

When young people leave unemployment, most go into informal salaried work or leave the labor force. Young men exit unemployment into informal salaried work in all three countries (about one-quarter), as do most young adults (Table 8). The exception is that Mexican males age 19-24 mostly enter formal sector employment (27.2%), followed by informal sector employment (23.9%). About one-third of women of all ages, on the other hand, leave the labor force entirely after a spell of unemployment. Among women who find a job, one-half to two-thirds become informal sector employees (Table 8).

The propensity to transition from unemployment to informal salaried employment is not markedly different among young people from poor and non-poor families. Taking young adults as an example, 25 percent of poor Argentines who had been unemployed six months previously now hold informal salaried employment, as compared to 22 percent of young adults from non-poor families. This compares to 15 percent for Mexican young adults from poor and non-poor families and 21 and 14 percent for young Brazilian adults, respectively.

Three to 22 percent of youth who are unemployed go back to school. The propensity is the highest among Argentine youth and lowest among Brazilian youth. The difference in propensities may be due to the length of the period between observations for each sample. While the Argentines may have left school, spent time in job search, spent time working, and decided that they needed more school over a six month period, we observe the Brazilians over a shorter period, where they may be in the school-to-break transition, having not yet decided whether their future holds employment or more school.<sup>9</sup>

Although the informal sector is the main labor market segment to receive unemployed youth, they do not want to be there. Brazilian data show that only one-quarter of informal salaried youth and young adults prefer to be in that sector, compared to the formal salaried sector (Perry et al, 2007). These are lower rates than prime aged adults (32 percent for men and 43 percent for women) and than older adults (55 and 70 percent for men and women age 55-70, respectively). Among youth and young adults who do prefer the informal salaried sector, the motivation for such a preference is that they like their current job (75 percent), or they need time for other activities (5-10 percent).

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<sup>9</sup>

## VI. Conclusion

Contrary to popular belief, young people's high unemployment rates in Latin America reflect high turnover and not necessarily a protracted unemployment period. While young adults are more likely to become unemployed than are youth or prime-aged adults, they also are more likely to leave unemployment, have greater turnover in the labor market in general and a similar duration of unemployment as prime-aged adults. When we net out young adults' higher general turnover rates, we find that they are no more or less likely to be unemployed than other age groups. This simply suggests that young people's elevated unemployment rates reflect higher rates of turnover than other age groups, similar to the conclusions about European youth unemployment (Quntini 2007). The turnover may reflect the "shopping around" hypothesis where young people may be trying out different types of jobs, laced in with "leisure" periods, in an effort to identify a job that meets their interest and needs, parameters that are also refined during the search process.

Both youth and young adults transition frequently between school, unemployment, being out of the labor force, and informal wage employment. School and out of the labor force are the two most common sources of youth and young adult unemployment, with school playing a lesser role for young adults than youth. And out of the labor force is a frequent recipient of former unemployed, particularly young women (though 22% of unemployed young people return to school). Among employment sectors, most unemployed had been informal wage employees and that sector is the most common recipient of unemployed youth and young adults. The trend does not differ between youth and young adults from poor and non-poor families.

The transition patterns again support the idea that young people's transition is a non-linear process where periods in and out of the labor force are mixed with experimentation in the flexible informal sector. The informal sector may be playing the role of informal job training, as suggested by Hemmer and Mannel (1989). It may serve as a holding sector – the Latin American equivalent to youth unemployment in the more structured European economies, as suggested by the motivational information about young people's dissatisfaction with their employment in the sector.

Although women have higher unemployment rates than men, women's and men's entry to and exit from unemployment do not show any regional trends once we account for

men's higher turnover rates. The unconditional turnover patterns suggest that men enter unemployment at a higher rate than women and women leave at a higher rate than men. However, once we account for men's greater transitions across a range of labor market states compared to women's greater tendency for being "out of the labor force", the gender-specific patterns disappear. In some countries, women have greater transition to unemployment (Mexico and Brazil) while in others (Argentina), men dominate. There is even less of a trend in exit from unemployment once we control for greater movement by men.

Youth and young adults from poor households do worse than the non-poor in terms of higher entry to unemployment, lower exit from unemployment, and greater labor market turnover, but the decomposed matrices suggest a less dire situation. If we control for the greater rates of turnover, we find that unemployed poor youth and young adults leave that state at a faster rate than do the non-poor of the same age group. This is due to a larger share of poor, compared to non-poor, who are starting in the unemployment state and a greater movement of the non-poor among other employment sectors while the poor are moving between employment states. Notably, the informal wage employment sector is an entry portal to the labor force for both poor and non-poor youth

All these conclusions suggest that young people's "unemployment" phase is a dynamic, fast-moving, non-linear process. Policies that promote "first employment" are not necessarily the right interventions for men or women, poor or non-poor since young people seem to find their first job at the same rate as do more experienced workers. Instead, it would be worth exploring the efficiency of the transition process and whether there are interventions that can improve the efficiency of the shopping period and shorten the young person's path from school to a more permanent job.

Table 1: Youth unemployment rates in Latin America

Country	year	youth unemployment rate (as a % of the total labor force ages 15-24)	total unemployment rate (as a % of the total labor force)	youth to adult unemployment rate
Mexico	2004	6	3	2.0
Honduras	2004	10	6	1.7
El Salvador	2004	12	7	1.7
Nicaragua	2003	12	8	1.5
Costa Rica	2004	14	6	2.3
Paraguay	2001	14	8	1.8
Chile	2004	18	8	2.3
Ecuador	2004	18	9	2.0
Brazil	2003	19	10	1.9
Peru	2004	19	10	1.9
Colombia	2004	25	14	1.8
Panama	2004	27	12	2.3
Venezuela	2003	28	17	1.6
Argentina	2003	35	16	2.2
Uruguay	2003	38	17	2.2

source: World Bank Indicators

Table 2: Youth unemployment rates in Europe

	Unemployment, youth total (% of total labor force ages 15-24)	Unemployment, total (% of total labor force)	youth to adult unemployment rate
Austria	9.7	4.9	2.0
Belgium	17.5	7.4	2.4
Denmark	7.8	5.2	1.5
Finland	20.8	8.9	2.3
France	22.7	9.9	2.3
Germany	11.7	9.8	1.2
Greece	26.5	10.2	2.6
Iceland	8.1	3.1	2.6
Ireland	8.1	4.4	1.8
Italy	23.5	8.0	2.9
Norway	11.7	4.4	2.7
Portugal	15.3	6.7	2.3
Spain	22.0	11.0	2.0
Sweden	17.0	6.5	2.6
Switzerland	7.7	4.3	1.8
United Kingdom	10.9	4.6	2.4

source: World Bank Indicators

Table 3: Unemployment rates in the sample countries at the time of the first and the second observation

	Argentina		Brazil		Mexico	
	first observation	second observation (6 onths)	first observation	second observation (1 month)	first observation	second observation (3 months)
Male						
15-18	31.4	31.5	6.0	5.8	5.1	5.0
19-24	20.5	19.8	7.5	6.7	3.3	3.0
25-44	9.3	9.4	3.7	3.5	1.4	1.3
Female						
15-18	37.8	38.1	7.3	6.7	8.8	7.9
19-24	24.1	22.7	8.6	7.9	5.4	4.6
25-44	11.3	11.1	4.3	4.0	2.6	2.3
1 <sup>st</sup> income quintile						
15-18	54.0	41.2	9.8	8.2	8.7	7.2
19-24	47.3	32.4	11.9	10.3	6.1	4.6
25-44	32.9	22.2	6.9	5.7	2.4	2.0
5 <sup>th</sup> income quintile						
15-18	14.1	16.7	5.3	5.4	4.5	5.3
19-24	7.3	8.8	6.5	6.0	2.6	2.5
25-44	2.4	3.4	2.8	2.7	1.1	1.0

Table 4: Transition Matrix

	% moving into unemployment			% moving out of unemployment		
	Argentina	Brazil	Mexico	Argentina	Brazil	Mexico
Male						
15-18	5.6	1.4	1.8	64.0	59.6	84.7
19-24	9.9	2.8	1.9	62.5	53.5	79.6
25-44	6.1	1.8	1.0	61.5	53.1	77.3
Female						
15-18	3.6	1.0	1.6	66.5	62.6	85.2
19-24	7.2	2.4	1.8	65.2	55.9	83.0
25-44	4.9	1.3	0.9	70.5	58.8	84.3
1 <sup>st</sup> income quintile						
15-18	6.5	1.6	1.9	65.0	63.8	83.7
19-24	11.6	3.5	2.2	63.1	55.2	81.6
25-44	9.5	2.1	1.1	65.1	59.4	83.5
5 <sup>th</sup> income quintile						
15-18	0.9	0.8	1.1	73.1	64.3	89.6
19-24	4.0	2.2	1.3	71.6	58.0	83.3
25-44	2.3	1.2	0.6	66.7	55.5	78.6

**Table 5: Decomposing the Transition matrix into the propensity to move and the conditional probability**

	% who move			% moving into unemployment as share of total movers			% moving out of unemployment as share of total movers		
	Argentina	Brazil	Mexico	Argentina	Brazil	Mexico	Argentina	Brazil	Mexico
Male 15-18	25.4	17.8	29.8	20.6	7.5	5.9	15.9	7.7	5.9
Male 19-24	41.5	21.7	32.1	20.6	12.0	5.7	20.2	15.1	6.3
Male 25-44	28.3	14.9	24.0	19.7	11.3	4.2	19.2	12.4	4.3
Female 15-18	18.5	12.8	24.0	19.0	8.1	6.7	13.6	9.0	7.3
Female 19-24	34.0	18.1	26.8	19.1	12.7	6.4	19.1	14.8	7.7
Female 25-44	27.5	15.2	21.8	16.7	8.2	4.0	17.0	9.7	4.6
1 <sup>st</sup> income quintile 15-18	27.0	17.6	28.2	22.1	8.8	6.7	20.6	10.7	6.9
1 <sup>st</sup> income quintile 19-24	43.7	23.6	32.8	20.8	13.8	6.4	31.4	17.9	8.2
1 <sup>st</sup> income quintile 25-44	40.4	19.6	25.7	18.5	10.3	4.2	33.7	14.5	5.0
5 <sup>th</sup> income quintile 15-18	9.2	12.3	20.9	10.0	6.6	5.2	5.8	6.6	4.7
5 <sup>th</sup> income quintile 19-24	28.8	19.6	28.3	13.3	10.6	4.6	10.1	12.4	5.1
5 <sup>th</sup> income quintile 25-44	17.0	13.9	20.0	13.3	8.1	3.1	8.0	8.9	3.5

**Table 6: Duration of unemployment**

	<b>Argentina</b>		<b>Brazil</b>	<b>Mexico</b>	
	<b>periods</b>	<b>months</b>	<b>months</b>	<b>periods</b>	<b>Months</b>
Male 15-18	1.56	9.37	1.56	1.18	3.54
Male 19-24	1.60	9.60	1.60	1.26	3.77
Male 25-44	1.62	9.75	1.62	1.3	3.90
Female 15-18	1.50	9.02	1.50	1.17	3.52
Female 19-24	1.53	9.20	1.53	1.20	3.61
Female 25-44	1.42	8.51	1.42	1.2	3.60
1st income quintile 15-18	1.54	9.23	1.54	1.20	3.59
1st income quintile 19-24	1.59	9.52	1.59	1.23	3.68
1st income quintile 25-44	1.54	9.21	1.54	1.20	3.59
5th income quintile 15-18	1.37	8.21	1.37	1.12	3.35
5th income quintile 19-24	1.40	8.38	1.40	1.20	3.60
5th income quintile 25-44	1.50	9.00	1.50	1.27	3.81

Table 7: Where the unemployed come from

	O.L.F. Not Studying	O.L.F. Studying	Unemployed Not Studying	Self Employed	Formal	Informal	Unpaid not studying
<b>Argentina</b>							
Male 15-18	16.3	28.6	30.3	5.0	2.1	15.8	2.1
Male 19-24	9.5	12.8	37.1	8.6	9.1	22.2	0.7
Male 25-44	4.8	2.0	37.8	21.3	14.9	18.8	0.4
Female 15-18	25.7	33.7	26.6	1.3	0.6	12.0	0.1
Female 19-24	27.2	15.6	34.7	2.0	5.2	14.7	0.7
Female 25-44	37.5	3.4	29.9	6.7	7.6	14.3	0.5
1st income quintile 15-18	23.0	31.1	33.5	3.2	0.7	8.7	0.0
1st income quintile 19-24	21.1	13.9	47.0	4.6	2.0	11.5	0.0
1st income quintile 25-44	20.2	2.0	49.4	12.0	3.3	13.2	0.0
5th income quintile 15-18	15.0	57.0	17.5	0.0	5.0	5.0	0.0
5th income quintile 19-24	11.2	19.5	23.2	6.0	21.6	18.7	0.0
5th income quintile 25-44	16.3	3.0	23.1	16.7	26.9	14.1	0.0
<b>Brazil</b>							
Male 15-18	26.4	3.3	41.3	3.6	7.9	16.6	0.9
Male 19-24	15.0	1.3	52.4	6.5	12.9	11.7	0.3
Male 25-44	12.6	0.5	49.1	13.0	14.0	10.6	0.1
Female 15-18	35.7	5.2	40.1	1.5	5.4	12.1	0.1
Female 19-24	31.8	1.9	47.9	2.5	7.9	8.0	0.2
Female 25-44	34.5	0.4	45.2	5.0	7.4	7.3	0.2
1st income quintile 15-18	33.8	2.6	40.8	2.6	5.6	14.5	0.1
1st income quintile 19-24	24.9	0.9	51.3	4.7	7.4	10.6	0.2
1st income quintile 25-44	22.5	0.2	49.1	10.2	8.4	9.6	0.1
5th income quintile 15-18	29.0	5.6	35.6	6.6	5.4	16.4	1.5
5th income quintile 19-24	25.3	3.3	45.9	5.4	11.7	8.1	0.2
5th income quintile 25-44	22.6	0.9	46.8	10.6	10.2	8.7	0.3
<b>Mexico</b>							
Male 15-18	14.4	26.6	15.1	2.4	14.2	24.8	2.5
Male 19-24	8.0	16.0	22.1	4.6	24.8	22.8	1.7
Male 25-44	6.6	3.5	23.2	16.3	28.1	21.1	1.1
Female 15-18	34.7	24.4	16.0	0.5	10.5	12.9	1.1
Female 19-24	33.6	15.9	19.8	2.0	16.3	11.5	0.8
Female 25-44	45.3	2.8	17.8	5.8	16.2	10.5	1.6
1st income quintile 15-18	29.4	26.6	16.7	1.4	4.8	17.8	3.3
1st income quintile 19-24	22.3	16.4	22.5	3.9	14.7	18.1	2.1
1st income quintile 25-44	29.1	2.3	19.0	12.8	14.7	20.0	2.0
5th income quintile 15-18	15.0	38.7	9.5	0.7	17.7	18.4	0.0
5th income quintile 19-24	15.3	23.1	18.4	3.4	21.9	17.0	1.0
5th income quintile 25-44	18.9	3.6	23.2	12.0	29.4	11.6	1.4



**Table 8: Where do the unemployed go to?**

	O.L.F. Not Studying	O.L.F. Studying	Unemployed Not Studying	Self Employed	Formal	Informal	Unpaid not studying
<b>Argentina</b>							
Male 15-18	14.6	14.0	36.0	6.5	4.0	23.3	1.6
Male 19-24	8.5	8.3	37.5	9.7	8.6	26.5	0.9
Male 25-44	5.3	1.9	38.5	23.0	9.3	21.7	0.3
Female 15-18	32.1	15.2	33.5	2.6	1.6	14.6	0.5
Female 19-24	26.9	9.6	34.8	2.9	5.5	19.8	0.7
Female 25-44	37.9	2.5	29.5	6.4	5.8	17.3	0.6
1st income quintile 15-18	21.4	13.5	35.0	5.9	1.9	21.4	1.0
1st income quintile 19-24	16.3	7.2	36.9	8.2	5.0	25.5	0.9
1st income quintile 25-44	15.9	1.6	34.9	18.9	6.3	22.1	0.4
5th income quintile 15-18	19.2	19.2	26.9	3.9	3.9	26.9	0.0
5th income quintile 19-24	15.6	12.4	28.4	2.8	17.4	22.0	1.4
5th income quintile 25-44	22.2	4.0	33.3	12.4	14.4	12.6	1.1
<b>Brazil</b>							
Male 15-18	24.0	3.8	40.4	5.9	6.2	19.5	0.3
Male 19-24	15.9	2.1	46.5	8.2	10.5	16.5	0.3
Male 25-44	11.6	0.2	46.9	15.2	11.2	14.8	0.2
Female 15-18	35.2	3.9	37.4	1.9	5.3	16.1	0.3
Female 19-24	32.0	1.8	44.1	2.9	7.7	11.1	0.4
Female 25-44	35.3	0.5	41.2	6.1	6.3	10.5	0.2
1st income quintile 15-18	32.3	3.4	36.2	5.1	5.7	17.3	0.2
1st income quintile 19-24	22.4	1.3	44.8	7.1	9.3	15.0	0.2
1st income quintile 25-44	20.8	0.2	40.6	14.0	9.7	14.4	0.3
5th income quintile 15-18	35.4	4.6	35.7	4.4	4.9	15.0	0.0
5th income quintile 19-24	25.8	3.3	42.0	6.0	7.8	14.8	0.2
5th income quintile 25-44	25.7	0.6	44.5	10.1	8.1	10.5	0.2
<b>Mexico</b>							
Male 15-18	14.8	22.3	15.3	2.8	16.7	25.8	2.4
Male 19-24	7.3	14.2	20.4	5.5	27.2	23.9	1.5
Male 25-44	6.0	2.6	22.7	19.1	26.3	22.1	1.3
Female 15-18	35.3	19.2	14.8	0.8	13.6	15.1	1.2
Female 19-24	32.4	13.1	17.0	1.9	20.0	14.2	1.4
Female 25-44	47.5	2.3	15.7	6.7	14.5	11.9	1.2
1st income quintile 15-18	26.8	18.0	16.3	2.0	12.3	22.6	2.0
1st income quintile 19-24	21.2	13.3	18.4	3.4	21.2	21.5	1.2
1st income quintile 25-44	29.2	2.1	16.5	14.2	16.8	19.6	1.6
5th income quintile 15-18	19.4	38.8	10.5	2.2	11.2	16.4	1.5
5th income quintile 19-24	18.3	15.4	16.7	4.4	28.2	14.8	2.2
5th income quintile 25-44	22.6	3.4	21.4	11.9	25.1	14.6	1.1

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