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THE SCHOOL-TO-WORK TRANSITION
OF JORDANIAN YOUTH

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Abstract

The paper aims at better understanding the school-to-work transition among the Jordanian youth using the recent Jordan Labor Market Panel Survey 2010 dataset (JLMPS 2010). The wealth of this dataset allows, for the first time, to present a dynamic analysis of the Jordanian labor market and especially to follow year after year the young individuals' different employment statuses. Five main results can be concluded from this study. First, young Jordanians are relatively immobile; they rarely change their employment status during the observation period of 1999-2010. Second, the more educated men get more protected jobs in both the public and the private sectors. The formal jobs they obtain are relatively stable; they rarely change their employment status. But when they do change, it is usually to get another formal employment. Instead less educated men have more difficulty obtaining a stable employment and/or a formal employment and they more often work informally. Third, women are either inactive, unemployed or working in formal employment (public or private). Women with more education are more active and much less likely than the least educated women to withdraw from the labor market. Fourth, there is a clear segmentation between formal and informal sectors. Young people who at one time informally employed do not obtain later on another job protected by a contract and social security. Finally, very few employment statuses lead to a permanent formal employment (public or private). Only initial formal employment or unemployment (or inactivity for women) leads to the two best types of wage work (public job and private formal job).

JEL classifications: J21, J64

Keywords: Employment Dynamics, Formal/informal Employment, Labor Market, Youth, Jordan

ملخص

تهدف الورقة إلى الوصول إلى فهم أفضل للانتقال من المدرسة إلى العمل بين الشباب الأردني باستخدام مجموعة البيانات للمسح التتبعي لسوق العمل في الأردن (JLMPS 2010). ثروة هذا المسح تتمثل في البيانات التي تسمح للمرة الأولى، لتقديم التحليل الديناميكي لسوق العمل الأردني وخاصة لمتابعة سنة بعد سنة حالات العمل المختلفة للأفراد الناشئين. يمكن استنتاج خمسة من أهم النتائج في هذه الدراسة. أولاً، أن الشباب الأردنيين غير قادرين على الحركة نسبياً، فنادراً ما تغير وضعهم في العمل خلال الفترة من 1999-2010. ثانياً، يحصل الرجال الأكثر تعليماً على وظائف أكثر حماية في القطاعين العام والخاص. والوظائف الرسمية التي يحصلون عليها مستقرة نسبياً، وهو أيضاً ما يجعل تغيير وضعهم الوظيفي نادراً. ولكن عندما يتغير ذلك التغيير، فإنه عادة ما يكون للحصول على عمل رسمي آخر. وبالتالي فالرجال الأقل تعليماً لديهم صعوبة أكبر في الحصول على فرص عمل مستقرة و / أو وظائف رسمية، وفي كثير من الأحيان فإنهم يعملون بصورة غير رسمية. ثالثاً، أن النساء تكون إما غير نشطة، أو عاطلة عن العمل أو تعمل في وظائف رسمية (عامة أو خاصة). أما النساء الأكثر تعليماً هم أكثر نشاطاً وأقل عرضة من النساء الأقل تعليماً على الانسحاب من سوق العمل. رابعاً، هناك تقسيم واضح بين القطاعات الرسمية وغير الرسمية. فالشباب الذين يعملون بشكل غير رسمي لا يتثنى لهم الحصول في وقت لاحق على وظيفة أخرى محمية بموجب عقد وضمن الاجتماعي. أخيراً، هناك عدد قليل جداً من حالات التوظيف التي تؤدي إلى عمل رسمي دائم (عام أو خاص). فقط العمالة الرسمية الأولية أو البطالة (أو البطالة في حالة النساء) هي التي تؤدي إلى نوعين من أفضل أنواع العمل المأجور (الوظيفة العامة والعمل الخاص الرسمي).

1. Introduction

Youth represents a very important segment of the Jordanian population and suffers the most from difficult insertion into the labor market after leaving the education system. This paper aims at better understanding the school-to-work transition among the youth (15-34) using the rich and recent Jordan Labor Market Panel Survey 2010 data set (JLMPS 2010). It gives particular attention to the post-secondary and university educated and to females who suffer the most from high unemployment rates and thus from difficulty in entering the labor market.

This paper uses the first dataset on employment history of the Jordanian labor market that allows for determining the trajectories of young people entering the labor market and analyzing its dynamics. It seeks to understand what the education outputs are or more specifically what happens to young Jordanians after completing their studies: are they employed, unemployed or out of the labor force? If they do work, what kind of jobs do they get according to gender and educational level? Also how old they are, and after how long do they get their first job? Do gender and educational level influence the duration of obtaining their first job?

Assaad (2012) shows that the type of first job has changed significantly over the past 50 years. He indicates that between 1960 and 2010 the share of precarious and informal first jobs rose significantly at the expense of permanent public jobs. He also noted that five years and ten years after the date of obtaining the first job, the shares of both private formal permanent jobs and self-employment have substantially risen. This paper attempts to understand whether the informalization of the initial insertion leads to a better status a few years later.

The paper is divided into three main parts. The first one presents the youth socio-demographic characteristics (size and share of youth population, its geographical distribution, and its enrollment and educational attainment) and presents a brief overview of youth labor market performances, in particular labor force participation and unemployment rates according to gender, age and educational attainment. The second part focuses on school-to-work transition by analyzing the characteristics of the first employment status after leaving school; the age at first job and the duration to get the first job. Finally, the last part presents a sequence analysis of the dynamics of labor market transitions from 1999 to 2010 of young males and females who had finished school before 1999.

2. Socio-Demographic Characteristics of Youth and Labor Market Performances

Jordanian youth represents over a third of the total population. The educational level of youth has dramatically increased over the past decades, resulting in one of the highest levels of educational attainment and school enrollment in the MENA region with females obtaining higher educational levels than their male counterparts. However it seems that the young people are facing difficulties in entering the labor market as demonstrated by their high unemployment rates, particularly among the more educated and among women. This first part presents the main socio-demographic characteristics of young Jordanians in terms of enrollment, educational level, labor force participation and unemployment.

As the objective of this paper is to study not only the insertion of youth into the labor market (i.e. the school-to-work transition) but also the early labor market paths, the study will focus on people aged 15 to 34. Moreover, as the JLMPS 2010 underestimates the foreign population in Jordan, this study is limited to the Jordanian population¹.

2.1 Size and share of youth

The Jordanian population is a very young population (Table A1). Those under the age of 35 represent almost three quarters (72.6%) of the total population. Out of 6 million inhabitants in

¹The JLMPS 2010 seems to underestimate the size and share of foreigners as compared to other studies. In particular, the sample size of the Syrians is very small (only 85 observations).

Jordan in 2010, 1.7 million are aged 15-29 and 2.1 million are aged 15-34, representing 28.3% and 35.2% of the total population respectively.

Similar to the general population, the young population resides predominantly in urban areas, in the Middle region and in four governorates. Indeed, 81% live in urban areas while only 19% are rural residents. Some 60% reside in the Middle region, 30% in the North and only 10% in the South of Jordan (Figure 1).

2.2 School enrollment and educational attainment

Jordan has made remarkable progresses in terms of school enrollment and educational attainment in recent decades.

School enrollment is high in Jordan. Almost two-thirds (63.5%) of young people aged between 15 and 22 are enrolled in school. As can be expected school enrollment declines with age but remains relatively high among the 18 to 22 years of age. While 83.8% of the 16-17 year-olds (age group corresponding to secondary school) is enrolled in school, 47.0% of the 18-22 years old are studying (university education).

Another special feature of the educational situation in Jordan is the fact that differences by gender in terms of enrollments were reduced to such an extent that enrollment rates for girls are currently higher than for boys (Figure 2). This female advantage is particularly important among the youngest age group (16-17) in urban areas and among the 18-22 year-olds in rural areas. Indeed, among the 16-17 year-olds 85.9% of girls are enrolled as compared to 79.0% of boys. And among the 18-22 year-olds in rural areas, 43.8% of women are studying as compared to 38.1% of men. While urban enrollment ratios are higher than in rural areas among the 18-22 year-olds, they are lower among the youngest age group (16-17) among both men and women.

Jordanian youth is relatively well educated. Nearly half (43.3%) of the young people in Jordan have a secondary level of education or above and the illiterates are almost non-existent (1.6% among the 15-34 age group).

As shown in Table A2, the educational attainment has been substantially improving. The share of the less educated (illiterates and those who only read and write) increases with age and the share of the most educated decreases with age showing a clear improvement in educational level. Indeed, the proportion of illiterates is halved from 2.2% among the 30-34 year-olds to 1.1% among the 15-19 year-olds and the proportion of those who read and write decreases from 3.5% among the 30-34 year-olds to 1.2% among the 20-24 year-olds. The most spectacular results are seen at the highest levels of education, in particular at the university level. For instance, the proportion of university graduates is much higher among young people aged 25-29 (25.8%) than among the 30 to 34 years old (17.7%).

Women are now better educated than men (Figure 3). Indeed, the proportion of females with secondary education and above is higher than among their male counterparts. The gender gap in favor of women is particularly important at the post-secondary and university levels. For instance, 7.6% of women have a post-secondary degree and 15.0% have a university degree, as compared to 4.7% and 11.6% of men respectively.

These improvements in educational terms will reflect on the labor market. One can expect that a more qualified workforce will be more demanding in terms of working conditions (work contract and job security) and therefore could be temporarily unemployed in order to find good working conditions. One can also expect that more educated women would participate more in the labor force.

2.3 Youth labor force participation

Since the size of the labor force is not significantly affected by the type of economic activity definition, the sections below use only the extended definition of economic activity (including both market and subsistence activities)². The standard definition of unemployment (requiring the search criterion) is used.

The labor force comprises 900,000 people among the 2.1 million young people aged 15 to 34 years but it consists essentially of men, with women representing only 22.2% of the total labor force.

Labor force participation varies greatly by gender (Figure 4). Female labor force participation is only 18.2% while male labor force participation stands at 64.7% among the 15-34 year-olds, and it is generally much lower than that of men regardless of the age group or the place of residence. Labor force participation increases for men and women with age. It is extremely low among the youngest age group (15-29) as most of them are enrolled in school. Then it increases significantly with age, reaching a peak for the 25-29 and 30-34 age groups for men (94.3%) and for the 25-29 age group for women (29.7%). Even though female labor force participation is very low, it decreases for the 30-34 age group revealing the fact that women begin to withdraw from the labor market after the age of 25-29 (most probably corresponding with marriage). Male and female participation is not affected by the place of residence as there is no significant difference in labor force participation according to urban/rural areas for both young men and young women.

Labor force participation by education (Figure 5 and Table A4) also shows major differences between genders. Male labor force participation oscillates according to the education level. Lower participation rates among young men who read and write and among secondary graduates could be explained by the fact that these educational levels are not terminal levels and, that young men are pursuing their education. Contrarily, female labor force participation is clearly related to educational attainment. The more women are educated the more active they are. Female labor force participation varies between 3.2% and 9.0% for those with a secondary level of education and below. It then sharply increases among the post-secondary (43.9%) and university graduates (62.0%). The secondary level of education is the dividing line. Women with secondary and below education hardly participate in the labor market while post-secondary graduates significantly do. The gender gap in participation rates narrows significantly among university graduates and in particular among rural resident (68.5% for women versus 90.0% for men).

2.4 Youth unemployment

The high unemployment rate among young people and especially among young people without work experience reflects the difficulty of transition from school to employment and therefore a difficult integration into the labor market.

Some 122,338 Jordanians 15 to 34 years of age were unemployed in 2010, comprising 74,169 men and 48,169 women. While young women represent only 22.2% of the total active population they are overrepresented among the unemployed where their share reaches 39.4%. Young people represent the core of the unemployed. The share of youth (15-34) in total unemployment is indeed extremely important (76.9%) but those aged 20-24 are the most represented (36.0%) in total unemployment. Their share reaches 47.4% among unemployed women.

²The size of the labor force among the 15-34 years old varies between 876,502 when the market definition and the search criteria is required for unemployment and 898,974 when the extended definition of economic activity (including subsistence activities) and the search for a job criteria is released; which represents only a + 2.6% difference (table A3).

The unemployment rate of young Jordanians aged 15-34 is relatively high at 15.4%. The gender differences are very important as the female unemployment rate is more than twice as high as the male unemployment rate (26.6% versus 12.1%). Women suffer the most from unemployment at all ages (see Figure 6). Youth unemployment rate decreases with age for both men and women. The unemployment rate for men decreases steadily with age. It declines from 27.0% among the 15 to 19 age bracket to 3.0% among those aged 30-34. Female unemployment rate also decreases with age after increasing first between those aged 15-19 and those between 20 and 24 reaching a very high 45%. It then declines sharply as for their male counterparts. However, even though the female unemployment rate decreases with age it remains high among the 30-34 years old (11.3%).

Jordanian youth unemployment is strongly linked to the educational level (Figure 7). The male unemployment rate is absent among the illiterates then rises sharply among those who read and write (14%). It then declines steadily with educational level to reach 6.2% among post-secondary graduates and goes back again to 14.2% among university graduates. Female unemployment rate is more clearly related to education as it increases continuously with education. It goes from zero% among the less educated to 29%-29.5% among the post-secondary and university graduates.

3. School-to-Work Transition

The unemployment concentration in young people probably reflects the difficulty for the youth in entering the labor market and since it is closely linked to educational level it is interesting to study the transition from school to work. This section presents the characteristics of the first employment status after the individual leaves school, the age at first job and duration to get the first job according to gender and educational level.

3.1 First Employment Status after School

We try to determine what the young people do after leaving school. Do they work directly after graduation (and if so what type of job do they get), are they looking for a job or are they inactive? We also try to analyze whether the first employment status differs by gender and educational level, two determining factors of the Jordanian labor market.

Methodology

The first employment status refers to the first employment status after the individual has left school. It is estimated using information given on the current, previous and pre-previous employment statuses of the history of employment module of JLMPS 2010. This information is crossed with the date the individual left the educational system³. Seven employment statuses are distinguished: public employment, private formal employment (with social security or a written contract); private informal employment (with no contract and no social security); non-wage work (self-employed or employer); unpaid work for the family or other; unemployment and inactivity.

The first employment status after leaving school differs substantially across genders (Table 2). While 64.3% of men work, only 15.5% of women get a job after leaving school. Men work mainly in protected jobs (17.2% in the private sector and 15.6% in the public sector) and slightly less in informal types of jobs (24.6%). Other types of employment (self-employment and unpaid work) are much less important. When women work they are employed formally (7.8% in the private sector and 4.1% in the public sector). Informal employment and non-wage work are hardly present among women first employment statuses.

³ As the date of end of schooling is not included in the data, it is estimated using the number of years of education and assuming that the individual entered school at the age of six. For individuals who have never been to school or who dropped out from school before the age of 15, it is assumed that the start date of the first employment status corresponds to the date the individual becomes 15 years old.

Men who are not working are mainly unemployed (29.2%) and very few are inactive (6.5%). On the contrary, women who do not work after school are predominantly inactive (71.4%) and to a lesser extent unemployed (13.2%).

As shown in Table 2 the first employment status by educational level and gender reveals a real divide according to the educational levels for both women and men. The shares of formal employment and unemployment increase (more significantly among women) with the educational level among both men and women. This increase is offset by a decline in inactivity among both men and women and by informal employment among men. For example, the share of male formal employment (in both public and private sectors) nearly doubles (it goes from 24% among the least educated to 51.9% among university graduates) while the share of male informal employment is almost divided by three. We find that the share of female total formal employment increases even more sharply from 1.8% among the least educated to 29.4% among university graduates while the share of inactive women is divided by around 2 (it decreases from 90.7% to 36.5%).

The distribution of first employment status among women shows that they are either inactive (almost exclusively among the less educated), unemployed or in formal employment whatever their educational level is. Informal employment, self-employment and unpaid family employment have virtually no place after graduation. If women work they are employed formally. The substantial increase in the share of the unemployed with educational level (from 4.4% among the less than secondary graduates to 29.6% among the university graduates) probably reflects the fact that the more educated women are very demanding in terms of working conditions and are looking for a protected employment.

3.2 Age at first job and duration to get the first job

The analysis of the transition from school to the first employment status has shown that many young people find themselves unemployed after leaving school. We try here to analyze at what age the youth enters the labor market and what is the time needed to get a first job⁴. We also investigate whether age at first job and duration to the first job vary according to gender educational attainment.

Age at First Job

Methodology

The Kaplan-Meier failure estimates are used to calculate the probability of obtaining the first job at various ages. Failure estimates calculate the probability that an individual obtain his/her first job given his/her age. In other terms, it calculates the probability of obtaining a first job given that the individual did not work until a specific age⁵.

As shown in Figure 8 the cumulative probability of getting the first job by age is clearly differentiated by gender. The wide gap between male and female failure curves reveals that the male probability of obtaining a first job is much higher than the female probability at all ages. While all men obtain a first job by the age of 34, only around one third of females had ever worked by that same age. By the age of 25, while 75% of men had obtained a first job only 25% of women had entered the labor market. This result simply shows that many women will never enter the labor market and therefore will not get a first job. As women who end up working have probably different characteristics from those who decide not to participate in economic activity. To avoid selection problems we limit the following analysis to women who ever worked. We therefore compare the distribution of age at first job of all men to that of women who ever worked.

⁴The first job refers here to the first job ever obtained that lasted at least six months.

⁵For individuals who work while they are at school, age at first job has been set at the age of the end of schooling and therefore duration to get the first job has been set to zero.

Figure 9 presents the cumulative probability of getting the first job by age for people aged 15 to 49 years (restricting the analysis to women who ever entered the labor market). It shows that half the men get their first job by age 18, while half of women get their first job by age 22. This difference between men and women could be explained by the fact that most working women have post-secondary or university degrees. They are generally more educated than men and consequently enter older into the labor market. The curves become flat beginning from the age 29-30 for men and from the age 39 for women. This means that all the men get their first job by age 29-30 and women by the age of 39. The analysis can therefore be limited to the age group 15-39 that includes all men and women who ever entered the labor market.

As expected and as illustrated by Figure 10 the longer people are studying, the later they enter the labor market. Among men, age at first job increases steadily with the educational level. For example half the men with less than secondary education obtain their first job by age 17, those with a secondary degree by age 19, those with a post-secondary degree by age 21 and finally the university graduates by age 23. Women with higher education enter later on the labor market but age differences are smaller between educational levels. They are also, at equivalent levels of education, generally older than men when they obtain their first job (with the exception of university graduates who enter at the same age as men do). We also find that starting from age 23 the less educated women enter the labor market less rapidly.

Duration to Get the First Job

This section analyzes how long it takes for a young individual to find a job after leaving school. Failure estimates of the cumulative probability of transition from school-to-work by years according to gender and educational attainment are examined. The time between the end of schooling and the time individuals obtain their first job is estimated in number of years. In the case a young individual finds a job before finishing school, the time to get a job after school is set to zero (i.e. immediate entry).

Using the same methodology as for age at first job, we estimate the cumulative probability of getting the first job according to the time elapsed between graduation and the date of first job by gender and educational level.

As shown in Figure 11, men generally get their first job more quickly than women do. Half of the men are employed two years after they leave school whereas half of the women find their first job within three years. Also, three-quarters of men are employed three years after graduation against five years for women.

As shown in Figure 12, the educational level has minimal impact on the time it takes for men to get their first job after graduation whereas it greatly affects the probability of women getting a job according to time. Half the men find a job within two years, regardless of their educational level. On the contrary, the more educated women are the more quickly they get their first job. Half the female university graduates get their first job within two years, while those with post-secondary education obtain it within three years, the secondary school graduates within four years and finally those with less than secondary level education within five years. Also unlike men, gaps are widening between women of different educational levels over time. For instance, 75% of female university graduates find a job within three years, which is comparable to men. But 75% of women with post-secondary degree work only 5 years after graduation, those with a secondary diploma and the least educated work in 7 and 12 years after finishing school respectively. The curve of the least educated women is much flatter as they enter much more slowly into the labor market. Although the most highly educated women are more affected by unemployment and one could expect that they will be more demanding in terms of job security and work conditions this does not prevent them from finding a job more quickly than other women.

More educated women are probably unemployed before finding their first job as their unemployment rates are very high. But why do less educated women take more time to work? Their unemployment and activity rates are lower and therefore we can assume that some of them are inactive before working. Sequence analysis of the transitions on the labor market can answer these inquiries.

4. Sequence Analysis of Youth Labor Market Trajectories

This part describes early labor market trajectories over time using a sequence analysis. It aims at apprehending the main labor market paths between 1999 and 2010 by sketching individuals' employment status year after year. More precisely we want to apprehend the degree of mobility or persistency of particular employment statuses and the various sequences that follow each employment status according to gender and educational attainment. To do so we try to answer to the following questions:

- What are the main labor market paths in the Jordanian labor market from 1999 to 2010?
- What are the most persistent and the more mobile employment statuses?
- To which employment status does one spell of unemployment lead?
- What are the trajectories that lead to public employment, private formal permanent employment and self-employment? Are there any employment statuses that allow easier access to formal permanent employment in the public and private sectors?

Methodology

In order to illustrate the labor market dynamics over time we use a sequence analysis that generates a classification of all kinds of labor market paths by gathering together similar trajectories using a cluster analysis. First we create a yearly calendar of labor market statuses over the period 1999-2010 using the employment history data that provides information of employment statuses for the current, previous, pre-previous and 1999 situations. Nine employment statuses are distinguished: public job; private formal permanent job; private formal temporary job; informal private job; employer/self-employed; unpaid work; unemployment; and out of labor force. Second, the sequence analysis gathers together all identical trajectories. As we are interested in early career paths we restrict our analysis to the 15-29 years old in 1999 (i.e. those aged between 29 and 40 in 2010) who finished school before 1999 in order to include all men and women who ever entered the labor market.

Since the figures of sequential analysis are sometimes difficult to read (because of the multiple possibilities of transitions from one employment status to another), we also estimate the rate of transition from one employment status to another over various period lengths. We calculate the transition rates between 1999 and 2000 (one-year period), 1999 and 2005 (six-year period) and between 1999 and 2010 (11-year period) from each employment status in 1999.

How to read the sequence analysis figures

The figures presenting the sequence analysis illustrate for each individual in the sample its employment status each year from 1999 to 2010 by grouping the similar trajectories beginning from the same employment status in 1999. The y-axis represents the number of observations in the sample. The trajectory of each individual is represented by a line. If the individual does not change his/her employment status from 1999 to 2010 the line is represented by a single color (that of the corresponding employment status). Instead the color line changes every time (here every year) that the individual changes his/her employment status.

Ordered sequences figures illustrate to where each employment status leads not taking into account the length of each employment status. They show more clearly labor market paths for the most mobile individuals.

4.1 Young Jordanians are not mobile

One of the most notable results of the dynamic analysis given by the yearly calendar of employment statuses is the very high degree of immobility of youth in the Jordanian labor market. As shown in Table 3, very few young people change their employment status between 1999 and 2010. Indeed, the figures show that 61.6% of young people aged 26-40 in 2010 have experienced a single episode during the 11-year period and little over one third (34.5%) had two different employment statuses. Less than 4% changed their employment status twice⁶. Females are more likely to change their employment status as 47.1% changed once compared to 31.0% of their male counterparts. However, this result mainly reflects the fact that women often change their employment status to withdraw from the labor market as will be shown in Table 3.

Since the Jordanian labor market is highly differentiated by sex, the sequence analysis is presented separately for men and women.

4.2 Male labor market sequences

Figure A1 presents the 20 most frequent sequences and confirms the high degree of immobility in the male Jordanian labor market. These sequences represent around 70% of all sequences among males. Thus the vast majority of males aged between 26 and 40 in 2010 are not mobile. Indeed, almost two-thirds of the young men stay in the same employment status during the whole period of observation (Table 3).

As shown in Table 4, at the beginning of the period of observation (that is in 1999) males are predominantly working (93%), 6.1% are unemployed and only 0.9% are inactive. Amongst working males, the majority is employed in formal jobs, mainly in public jobs (35.9%) and 29.8% are in unprotected types of job, 11.1% are non-wage workers and only 4.4% are unpaid workers.

Table 5 shows male persistency rates of each employment status over the period 1999-2010. It is possible to classify the different employment statuses according to their degree of persistency/mobility. Some employment statuses (public employment and private formal permanent employment) are extremely stable with persistency rates over 80% and some are very stable (self-employment and private informal employment) with persistency rates around 70%. Formal private temporary employment leads to much more changes (persistency around 45%). And finally unemployment and unpaid family work are very mobile statuses (with persistency rate below 5%). The out the labor force status is not statistically significant because of the very few observations (only 9).

Figure A2 gives complementary information about the male labor market sequences. It presents the sequences' order of male labor market paths from 1999 to 2010, not taking into account the length of each employment status. It clearly illustrates the labor market paths for the most mobile individuals. It also confirms the fact that young males rarely change their employment status and that it is very rarely when they do change more than once. As we have shown that young Jordanians rarely change their employment status during the period 1999-2010, the transition rates provide a good summary of insertion paths in the labor market.

⁶ It has to be noted that the number of episodes that occurred is underestimated. By construction, the number of episodes cannot exceed 4. Indeed, the estimation of the number of episodes is based on the history of employment module that only gives information about 4 employment statuses (the current, previous, pre-previous ones, plus the employment status in 1999).

Figure 13 presents male employment statuses in 2000, 2005 and 2010 according to the employment status in 1999. It estimates transition rates over one year (1999-2000), over six years (1999-2005) and over 11 years (1999-2010).

First, as shown in Table 5, some employment statuses are very persistent. Men working in public, private formal permanent, informal and independent types of job are not mobile. They usually stay in the same employment status over the whole period of observation. Around 83-86% of men who had permanent jobs (in both public and private sectors), 76.3% of self-employed or employers and 70.9% of unprotected workers remain in the same employment status during the 11-year period of observation. Although these statuses are very stable it is interesting to analyze what the exits are from these statuses when they are not persistent. For instance as shown in Figure 13 and Figure A2 it is noticeable that a significant proportion of civil servants change their employment status. They mainly change employment (4.0% become self-employed or employers, 3.7% become private formal wage workers and 3.1% become informal wage workers), but a few become unemployed (3.4%) or inactive (3.0%). Thus a non-negligible proportion withdraws from the labor market reflecting the phenomenon of early retirement at very young ages in Jordan. The few young men who leave their formal private permanent job do so mainly to work in the public sector (10.6%) thus maintaining their job stability, and very few obtain a formal temporary private job (3.0%). Those who were non-wage workers (self-employed or employers) in 1999 and who change their status work thereafter either formally (mainly in the public sector, 8.1%) or become informal wage workers (7.1%). Young men who were initially employed without a contract and who change their status head towards one main exit: non-wage work (23.0% end up becoming self-employed or employers).

Second, over half (56.0%) of private sector workers with a temporary contract change their employment status. In most cases it is to get a permanent contract in the public sector (29.6%) or in the private sector (26.4%). Thus young people in the formal type of employment remain employed formally and manage to improve their situation.

Finally, young people who were unemployed or unpaid family workers in 1999 are very mobile. Unsurprisingly, young males who were initially unemployed do not stay for a long period of time in this status. Over a one-year period (from 1999-2000) only 45.3% are still unemployed and over a six-year period (1999-2005) only 7% are still unemployed. We can identify the main exits from unemployment from Figure 13 and Figure A2. They show that an unemployment episode leads to two very different types of statuses: mainly to public sector employment (55.8%) and to a lesser extent to informal employment (30.3%).

Because young men are rarely mobile in the labor market, the initial employment status is thus determinant. The main changes are observed among those who were initially in a private formal temporary job (who will find a permanent job either in the public sector or in the private sector) or who were working informally (and who will become non-wage workers), and finally, among the unemployed males (who will find a public job or a private informal job). The analysis of the dynamics of the male labor market also shows that there is a clear segmentation line between the formal and informal sectors. Indeed, young men who were initially in a formal type of employment maintain their situation or improve it by getting a permanent contract. We do not observe any transition from informal employment to formal employment. The fact that we do not observe here any transition from informal employment to formal employment over the 1999-2010 probably indicates that the history of employment module does not capture the formalization that occurs when new entrants are first hired informally and then acquire formal status within the same job. It would only capture potential transitions between informal employment and formal employment when a job change is involved, i.e. from the informal sector to the formal sector. Therefore we can conclude that

young Jordanian males in the formal type of employment remain employed formally. On the contrary, the young Jordanian males who were employed informally either remain unprotected wage workers or become self-employed or employers. They cannot find another formal job or find a job in the formal sector.

Education and male transitions

The distribution of young men by their employment status in 1999 clearly differs depending on their educational level as shown in Table 6. Secondary and above graduates are more employed in formal jobs (in both public and private sectors), less employed in informal type of jobs (private informal and unpaid work) than graduates with a less than secondary degree. While 57.7% of the more educated obtain more protected jobs, only 41.6% of the less educated have a formal employment in 1999. The gap is particularly important in the private sector (for both permanent and temporary contracts) where the share of protected employment is nearly double among secondary and above graduates. In parallel the shares of informal employment and unpaid family work are almost twice as high among men with lower educational levels. The proportion of unemployed and inactive men does not differ much according to educational attainment.

Figure 14 and Figure A3 illustrate the influence of education on males' sequences distinguishing males with low levels of education (less than secondary) and higher levels of education (secondary and above). We will try to answer a number of questions. Does the segmentation observed in general between formal and informal sectors persist according to educational levels? Do the more educated have greater opportunities to transit from informal to formal jobs? Are the transitions from temporary contracts to permanent contracts easier among the better educated?

Figure 14 presents the distribution of male employment status in 2000, 2005 and 2010 according to their educational level and their employment status in 1999⁷. We find that the more educated men stay longer in public employment. Their persistency rate equals 87.9% versus 78.4% among the less educated who are more likely to leave the public sector to get a private informal or a private temporary job or to become inactive.

Persistency rates in permanent employment over the period 1999-2010 are relatively similar regardless of the educational level (88% among the less than secondary graduates versus 85% among the secondary and above graduates). The only noticeable difference is the fact that the more educated leave permanent private employment only to go to the public sector (15%) while the less educated go to either public employment (7%) or to temporary private employment (6%).

Although less educated males are more likely to hold unprotected jobs, transitions from informal employment hardly differ according to the educational level. Nearly 70-71% of young males, whatever their educational level is, remain in informal employment from 1999 to 2010. Youth who were initially employed informally in 1999 have almost one chance out: self-employment or being an employer, whatever their educational level is (28.8% of secondary and above graduates and 21.2% of below secondary graduates).

Young men who were non-wage workers in 1999 have almost the same chances of holding their status over the 1999-2010 period by educational level (75.0% for the less than secondary graduates and 78.0% among the secondary and above graduates). But the transitions to other employment statuses differ by educational level. The exits for the more educated are more often to public employment (12.8% against 4.4%) or to formal private

⁷We study here the transitions from only four employment statuses in 1999 (public employment, permanent employment private, informal employment and unemployment) due to the small number of observations for other employment statuses.

permanent employment (6.5% versus 0%) and less likely to informal employment (1.9% versus 11.2%) or to unemployment or inactivity.

Finally, although unemployment leads to the same two main exits (public employment or informal employment), the transitions to these statuses differ greatly in terms of proportions according to educational level. Relative to the less educated men, secondary and above graduates get much more public employment (70.8% versus 45.8%) and less often informal employment (18.2% versus 38.4%). Moreover, it is quite remarkable that the rate of persistency in unemployment decreases much more rapidly among the more educated.

Therefore the main differences that arise are that the most educated men are more likely to improve their employment status than the less educated. When they change their employment status it is usually to secure their job or to get a better or more stable employment status (transition from a private temporary job to a private permanent job; transitions from self-employment or unemployment to public job).

The segmentation between formal and informal sectors observed above remains very strong according to the educational level. Indeed, whatever the educational level is, informal jobs are not a temporary step to get a protected employment. The only way out of informal employment is self-employment for both less than secondary graduates and secondary and above graduates.

4.3 Female labor market sequences

As shown in Table 7, and contrary to their male counterparts, the majority of women are either inactive (44.7%) or unemployed (14.3%) in 1999. Only 41.0% of women aged 26-40 in 2010 are working in 1999. Working women are mainly distributed in protected types of jobs (16.8% in the public sector and 10.8% in private formal jobs). Only 9.8% are employed in private informal wage work and very few women are either non-wage workers or unpaid workers.

As the number of observations is very low for certain statuses (private temporary employment; non-wage work and unpaid family work) the sequence and transitions analyses between 1999 and 2010 are restricted to five employment statuses: public employment; private formal employment; informal employment; unemployment and inactivity.

Table 3 shows that as for their male counterparts, women usually stay in the same employment status over the 1999-2010 period. Even though women seem more mobile than men, when they do change their status it is generally to withdraw from the labor market. Figure A4 illustrates the 20 most frequent female sequences that represent a little more than two-thirds of all female sequences. It confirms that women either stay in the same employment status or become inactive (except for those who were initially unemployed and who end up working in the public sector).

According to Table 8, the persistency rates vary greatly from one employment status to another. Only women working in the public sector in 1999 largely (84.8%) remain in their status over the 11-year period of observation. Around half of women employed formally in the private sector and who were inactive in 1999 stay in the same employment status. And on the contrary most of those who were employed informally or were unemployed will change their employment status.

Figure 15 presents the distribution of female employment status in 2000, 2005 and 2010 according to various employment statuses in 1999. It provides transition rates over one year (1999-2000), six years (1999-2005) and 11 years (1999-2010). Figure 16 and Figure A5 (female ordered sequences) confirm that the most stable statuses consist of public and private formal employment. The vast majority (84.8%) of women who were working in the public

sector in 1999 remain in that employment status during the whole period. Very few become inactive (9.0%) or employed in private protected jobs (6.3%). It is interesting to note that the majority of changes occur during the first year (between 1999-2000) and that six years and 11 years later we observe very little mobility.

Half the women who worked in 1999 in the private sector keep their protected job until 2010. Those who change their status mainly withdraw from the labor market (30.8%) and to a lesser extent get a public job (12.2%).

Contrary to what one might expect, a significant proportion (50.9%) of women who were initially inactive in 1999 change their employment status over the 1999-2010 period (see Table 8). The majority will find a protected job (18.2% in the public sector and 12.0% in the private sector), 10.7% will be employed informally and 7.5% will become self-employed or employers. Thus, for almost half the women who were initially out of the labor force, inactivity is not an end in itself; it can lead to different types of employment.

The vast majority (79.4%) of women who were in informal private jobs in 1999 change their employment status in 2010. But when they do it is only to exit from the labor force (75.9%).

Almost all women who were unemployed in 1999 changed their employment status in 2010. Three-quarters of young females who were initially unemployed obtain a protected job (54.0% in the public sector and 20.8% in the private sector). To a much lesser extent they become informal wage workers (10.3%). And a non-negligible proportion is discouraged from looking for a job and withdraws from the labor market (9.8%). Thus, unemployment could be considered as a temporary status in order to get a protected job.

Finally, the more women are employed in protected types of jobs the less they withdraw from the labor market. Indeed the exit rates decrease substantially with the degree of employment stability (from 75.9% for the informally employed, to 30.8% for the formally employed in the private sector and to only 9.0% for those were employed in the public sector).

Education and Female Transitions

Education plays a crucial role in female labor market transitions. Table 9 shows that in 1999 almost three-quarters (71.7%) of women with low levels of education are either inactive (61.3%) or unemployed (10.4%); very few are employed and when they are it is in mainly in private unprotected types of jobs (15.6%) and more rarely (4.3%) in the public sector. Contrarily, the majority of secondary and above graduates is working (49.4%) and in most cases they are employed in protected types of jobs (24.9% in the public sector and 16.4% in the private formal sector) and rarely in informal jobs (6.0). But the proportion of unemployed highly educated females is relatively high (16.8%) as compared to the less educated ones (10.4%). Finally the most educated women are half as inactive as the less educated (33.8% against 61.3%).

Given the very low number of observations for certain employment statuses, Figure 16 presents the female transition rates by educational level only from public employment and inactivity in 1999. Figure A6 presents complementary information with the ordered female sequences by educational level.

The persistency rate in public employment is the same regardless of the educational level (84-85%) throughout the period 1999-2010. However, the exit rates of public employment differ. When the less educated women leave the public employment it is only to withdraw from the labor market (16.2%) while half of that percentage of female secondary and above graduates becomes inactive (8.1%) and a significant proportion gets a formal private job (7.0%).

Among women who were inactive in 1999, a higher proportion of the more educated eventually enter the labor market one year, six years and 11 years later. Moreover, when they

do enter the labor market they get more formal jobs (in both public and private sectors) than the least educated women (41% versus 21%).

4.4 How to get a permanent job or to be a self-employed/employer?

We now try to understand if there are specific paths that allow access to protected permanent jobs in the public and private sectors and to non-wage work by looking at sequences that lead in the year 2010 to one of these employment statuses.

Figure 17 presents the distribution of male employment status in 1999, 2000 and 2010 according to the employment status in 2010. We consider in particular transitions to public employment, formal permanent private employment and self-employment in order to see whether there are specific statuses leading to formal wage work or non-wage work. Figure 18 illustrates the distribution of female employment status in 1999, 2000 and 2010 according to public employment, formal employment or inactivity in 2010⁸.

Figures 17 and 18 show that only formal employment, inactivity or unemployment lead to a stable formal wage work. We never observe transitions from informal employment to formal employment (whether public or private).

For instance, the vast majority of men (84.9%) who hold a public job in 2010 were already working in that same job in 1999. If not they were either unemployed (6.0%) or in another form of formal job (2.3% in permanent private job and 2.1% in temporary private job). We find similar results for women. Only formal employment, unemployment and inactivity lead to public employment albeit in different proportions than for men. For example, 49.9% were already in a public job, 21.0% were unemployed and 20.7% were inactive in 1999.

Men who are in permanent private formal employment in 2010 were also mostly (76.9%) already in the same status in 1999. For the remaining quarter, the statuses that preceded permanent private employment are either inactivity (10.2%) or formal temporary employment (7.8%). Similarly, albeit in different proportions, half of women who are in formal employment in 2010 were already in formal employment, 24.2% were inactive and 7.8% were unemployed in 1999.

Instead, the statuses that lead to male self-employment in 2010 are very different. Self-employment is less stable, with half of those who are non-wage workers in 2010 were not in 1999. In 33.5% of the cases informal employment preceded self-employment and more rarely public employment (.9.4%) or unpaid family work (5.7%).

Finally we note that half the inactive women in 2010 were also inactive in 1999. The other half was employed mainly in the private sector (17.8% to 16.8% informally and formally) and more rarely in the public sector (4.9%). This result confirms the fact that women withdraw from the labor market more often when they were working in the private sector (especially informal) rather than in the public sector.

5. Conclusion

The Jordanian labor market has experienced major changes in recent decades. On the one hand, young Jordanians are increasingly educated and an important proportion holds a university degree. A particularly interesting phenomenon is that the educational level of young women has exceeded that of young men. Despite the improvement in their level of education young Jordanians, especially those with a university degree—and particularly women—are experiencing very high unemployment rates. Meanwhile, although the most highly qualified women are also more unemployed they also participate at relatively high rates in the Jordanian economic activity. On the other hand, the share of unprotected jobs

⁸ The number of women in non-wage work in 2010 is too small to be examined. We also give particular attention to inactive women in 2010 as they represent an important share of the distribution of all females in 2010.

(with no written contract)—and in particular the share of informal jobs in total first jobs—rose sharply in recent decades compensating the decline of the share of public employment in total first employment. The wealth of the JLMPS 2010 data allows for the first time to make a dynamic analysis of the Jordanian labor market and especially to follow year after year the different employment statuses of individuals. It thus allows us to better understand the school-to-work transition. Five main results can be concluded from this study.

First, young Jordanians are relatively immobile; they rarely change their employment status during the observation period 1999-2010.

Second, the more educated men (especially those with a university degree) get protected jobs in both the public and private sectors. The formal jobs they obtain are relatively stable; they rarely change their employment status. But when they do change, it is usually to get another formal employment (transition from a private protected job to public employment or transition from temporary employment to permanent employment). On the other hand less educated men have more difficulty obtaining a stable employment and/or a formal employment. They more often work informally.

Third, the observation of female transitions from one employment status to another shows that women are either inactive, unemployed or working in formal employment (public or private). Informal employment is almost nonexistent among women, even among the less educated. Women with more education are more active and much less likely than the least educated women to withdraw from the labor market (whatever the type of job they obtain). Although the least educated women do not participate much in economic activity, around half of those who were initially inactive will eventually work. The behavior of women with a university degree is relatively similar to that of men. Their participation rate is very high and they find their first job as quickly as men. However they are much more affected by unemployment than men.

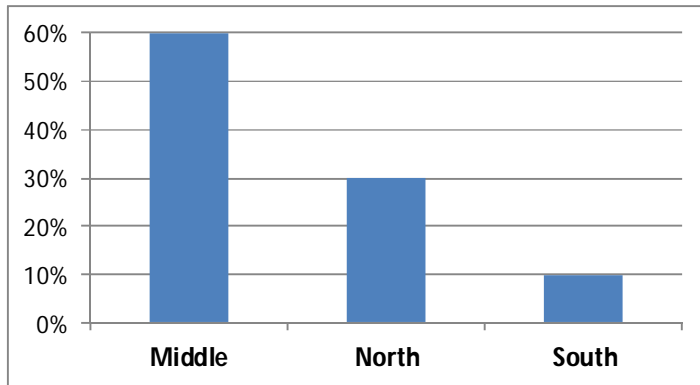
Fourth, there is a clear segmentation between formal and informal sectors. Young people who at one time worked informally are not able to get another job that is protected by a contract and social security. Informal and non-wage work seem to be related as informal wage work often leads to self-employment. The informalization of employment is not a temporary status for accessing a stable protected employment a few years later.

Finally, very few initial employment statuses lead to a permanent formal employment (public or private) eleven years later. Only initial formal employment or unemployment (and inactivity for women) lead to the two best types of wage work (public and private formal employment).

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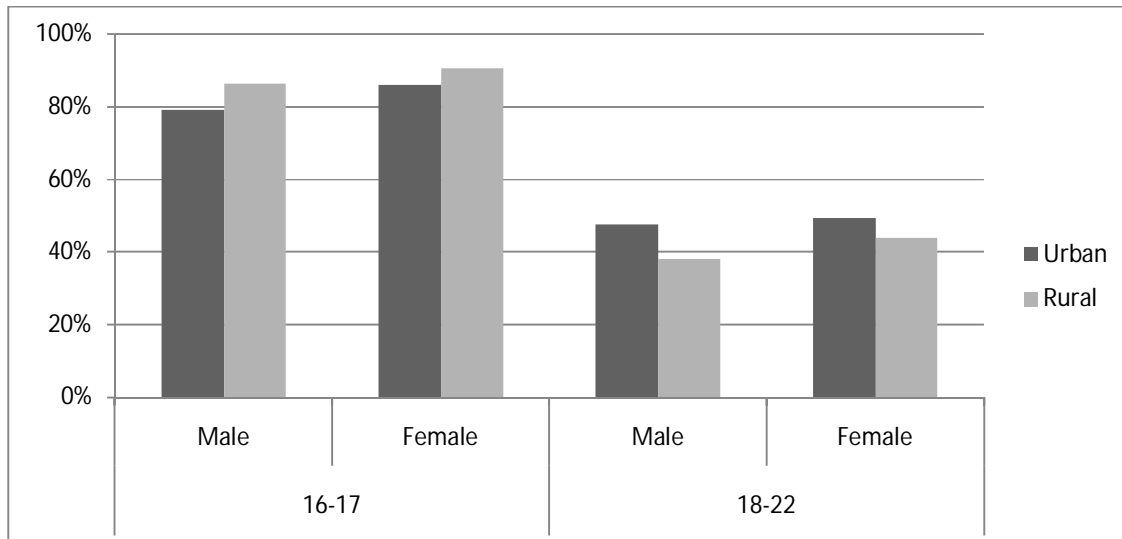
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Figure 1: Distribution of Youths (15-34) by Region in 2010



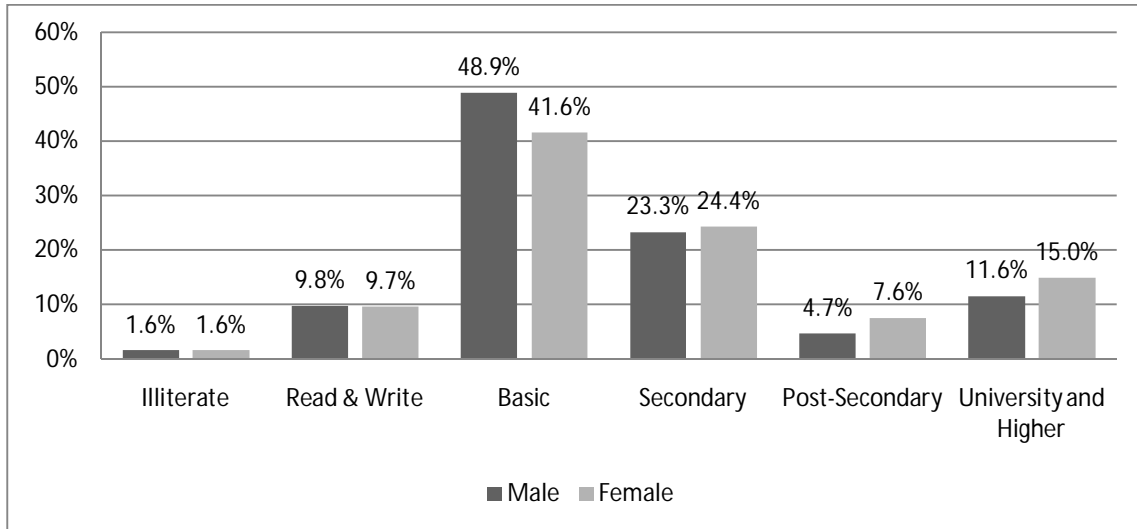
Source: JLMPS 2010

Figure 2: Enrollment Ratio by Gender, Age Group and Urban/Rural Residency in 2010



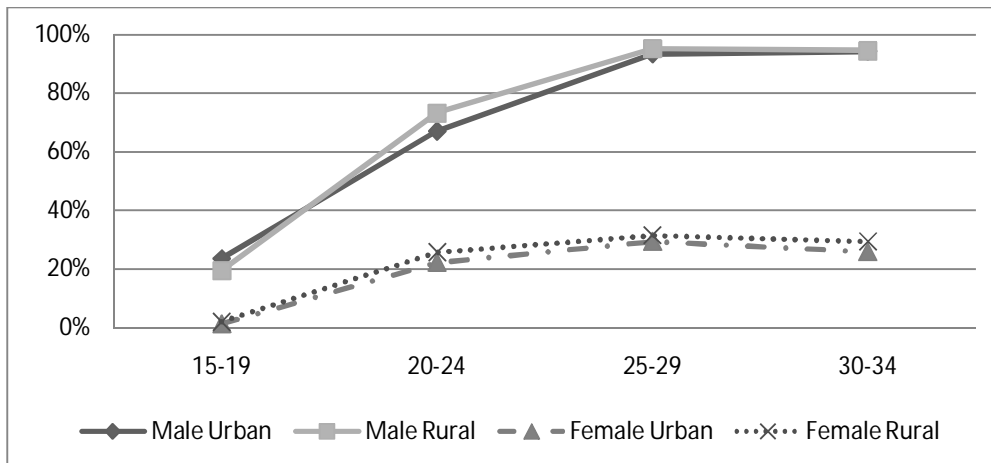
Source: JLMPS 2010

Figure3: Educational Attainment (15-34) by Gender in 2010



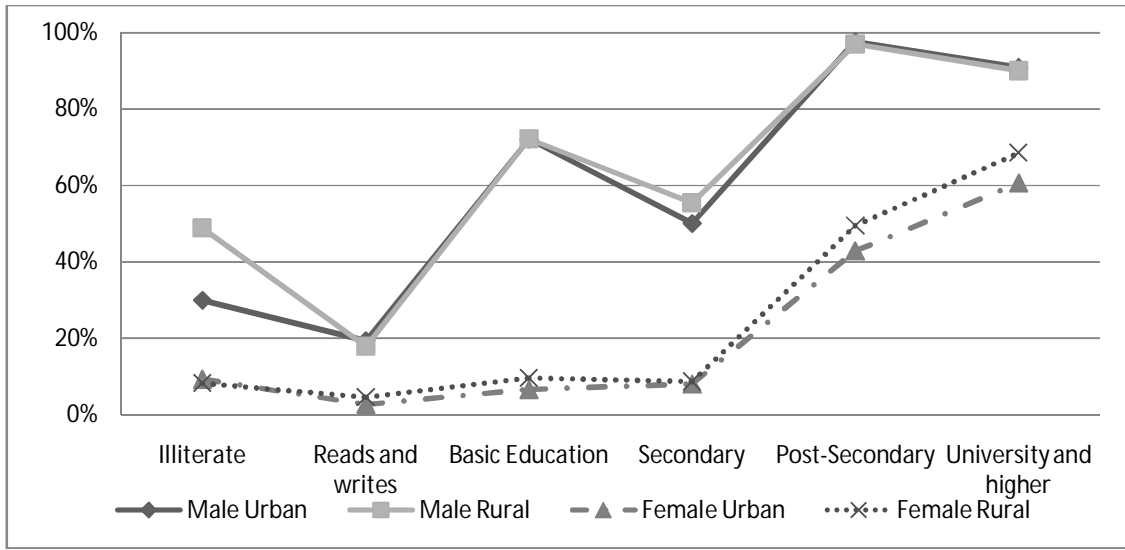
Source: JLMPS 2010

Figure 4: Youth Labor Force Participation Rate by Gender, Age Group and Urban/Rural Residency in 2010



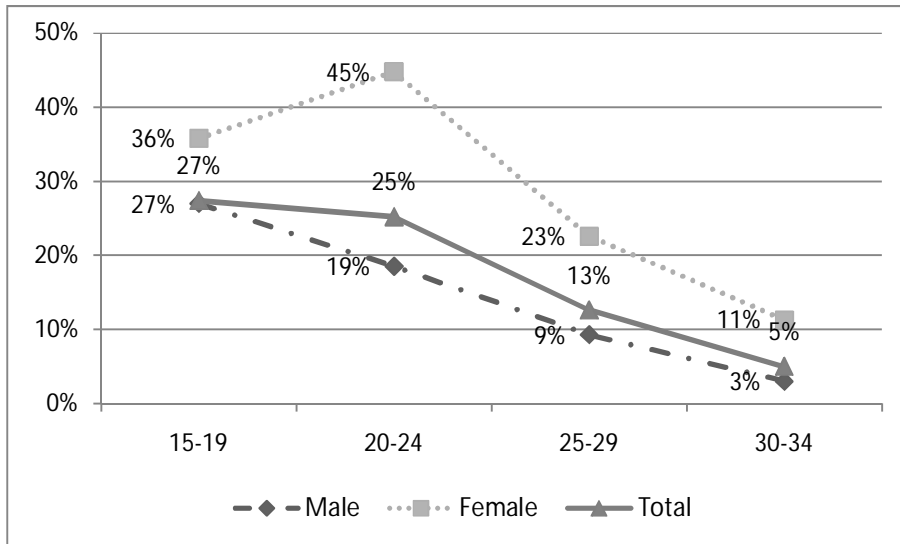
Source: JLMPS 2010

Figure 5: Labor Force Participation (15-34) by Gender, Educational Level and Urban/Rural Residency in 2010



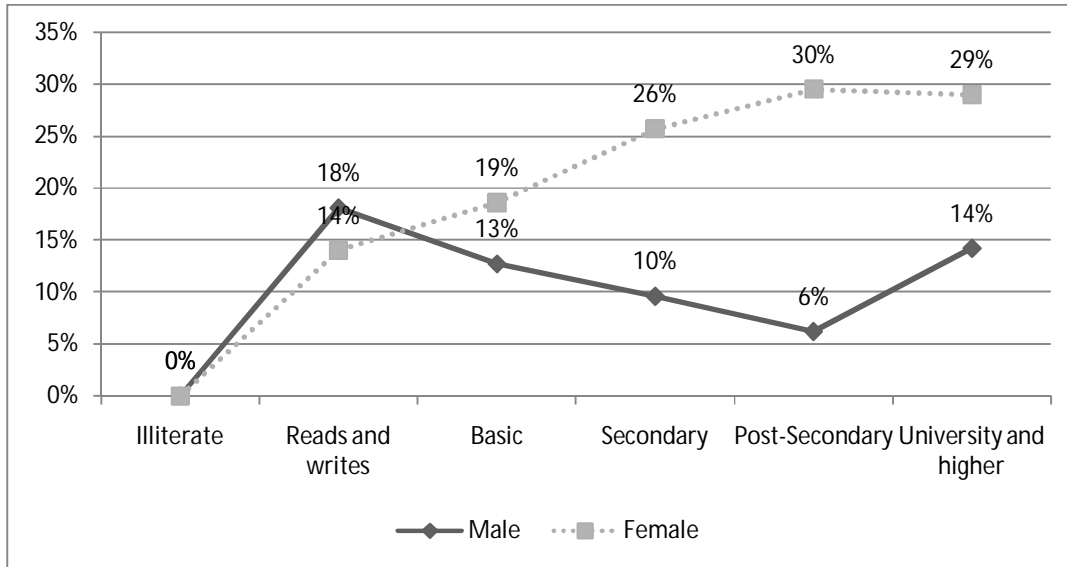
Source: JLMPS 2010

Figure 6: Unemployment Rate by Age Group and Gender



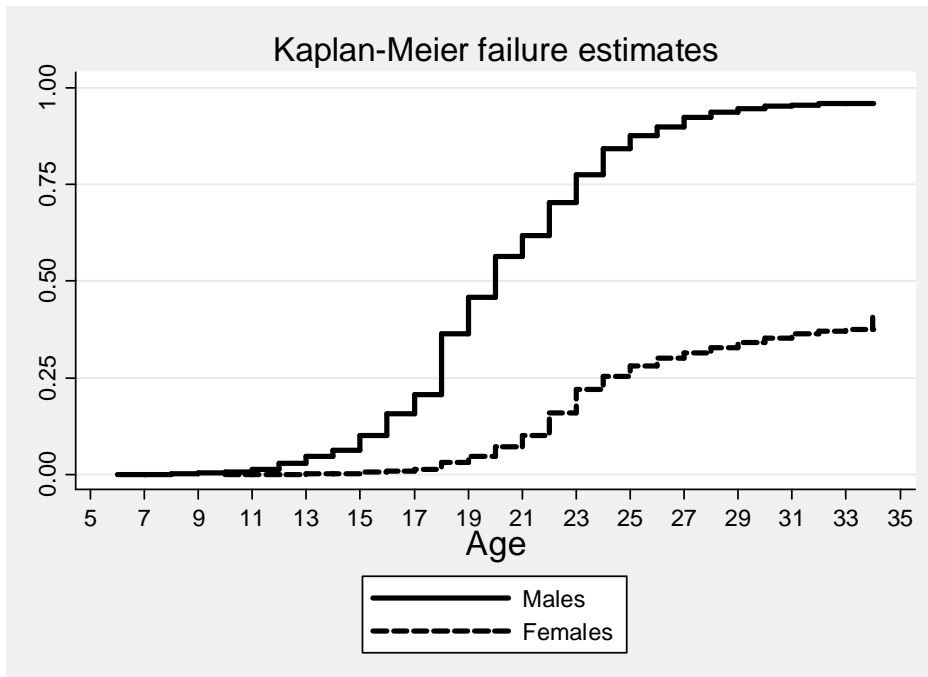
Source: JLMPS 2010

Figure 7: Unemployment Rate by Educational Attainment and Gender, 15-34



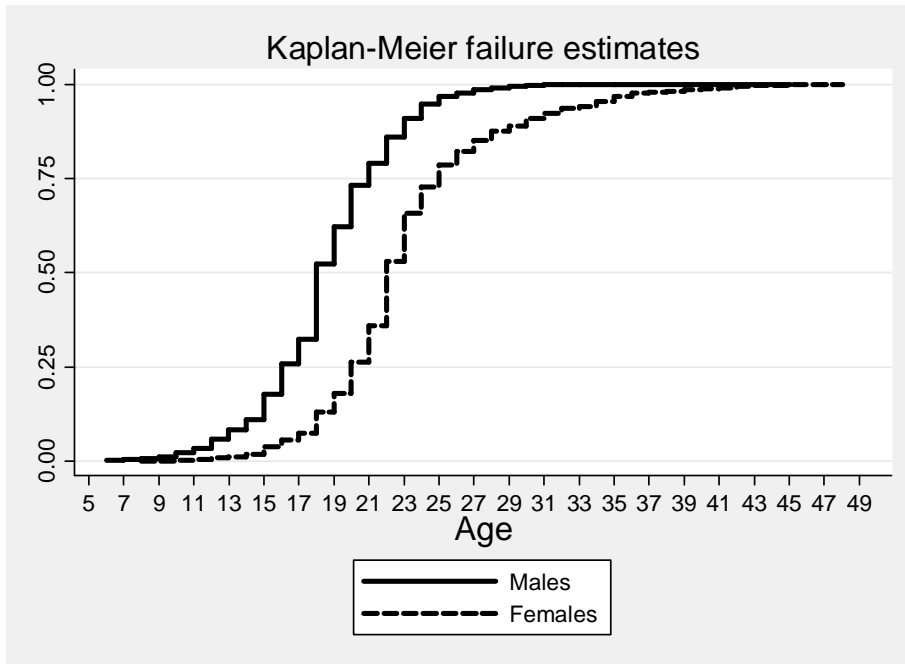
Source: JLMPS 2010

Figure 8: Cumulative Probability of Obtaining a First Job Conditional to Age by Gender, Ages 15-34 in 2010



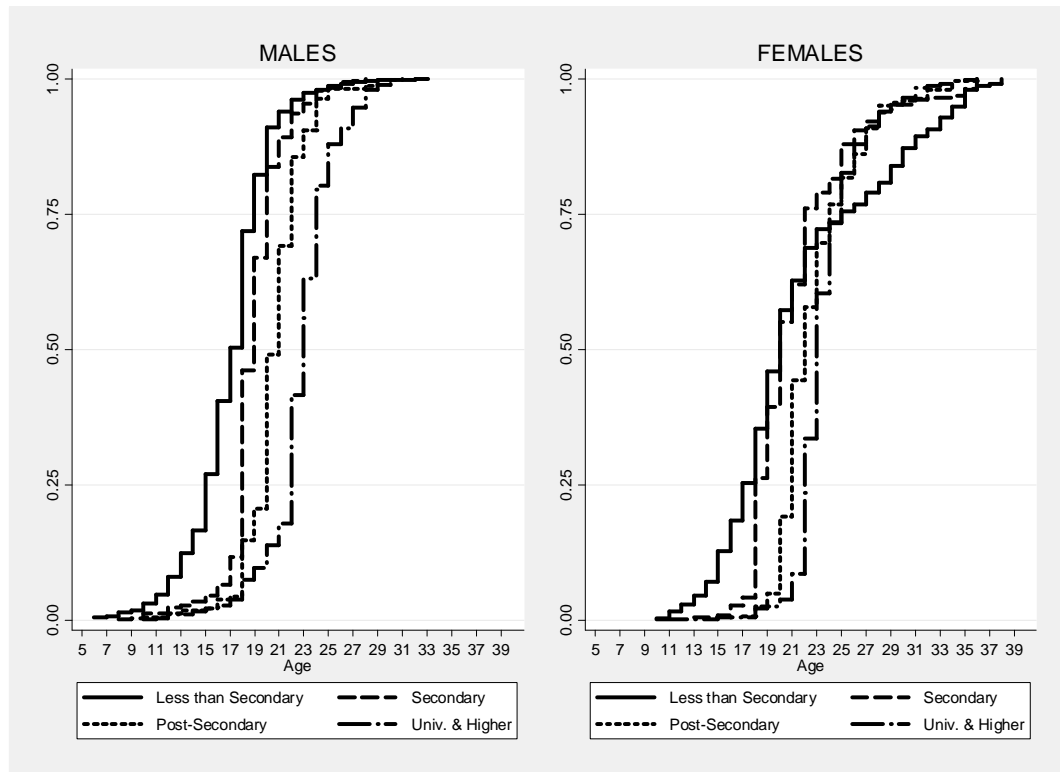
Source: JLMPS 2010

Figure 9: Cumulative Probability of Obtaining a First Job Conditional to Age by Gender, Ages 15-49 in 2010 (Women who ever Worked)



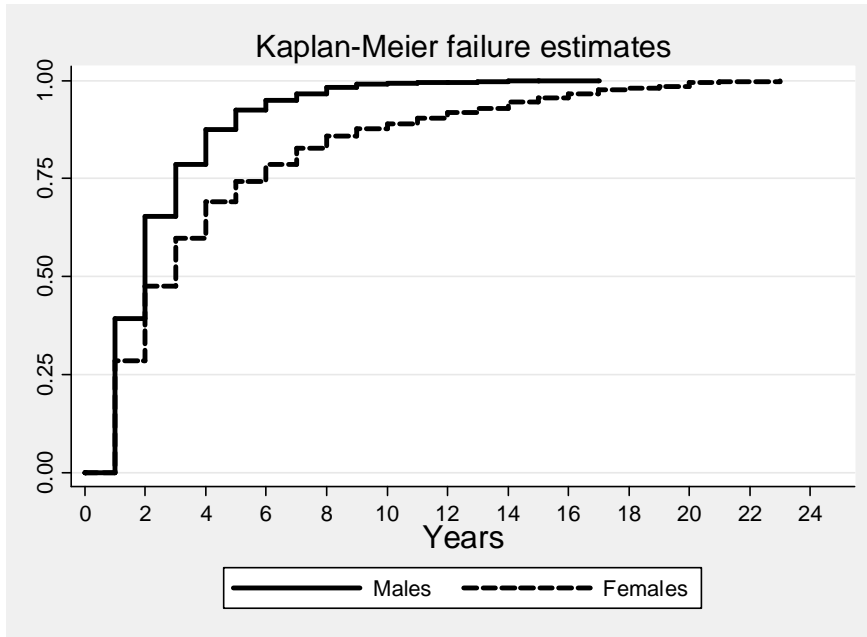
Source: JLMPS 2010

Figure 10: Cumulative Probability of Obtaining a First Job Conditional to Age by Gender and Educational Level, Ages 15-39 in 2010 (Women who Ever Worked)



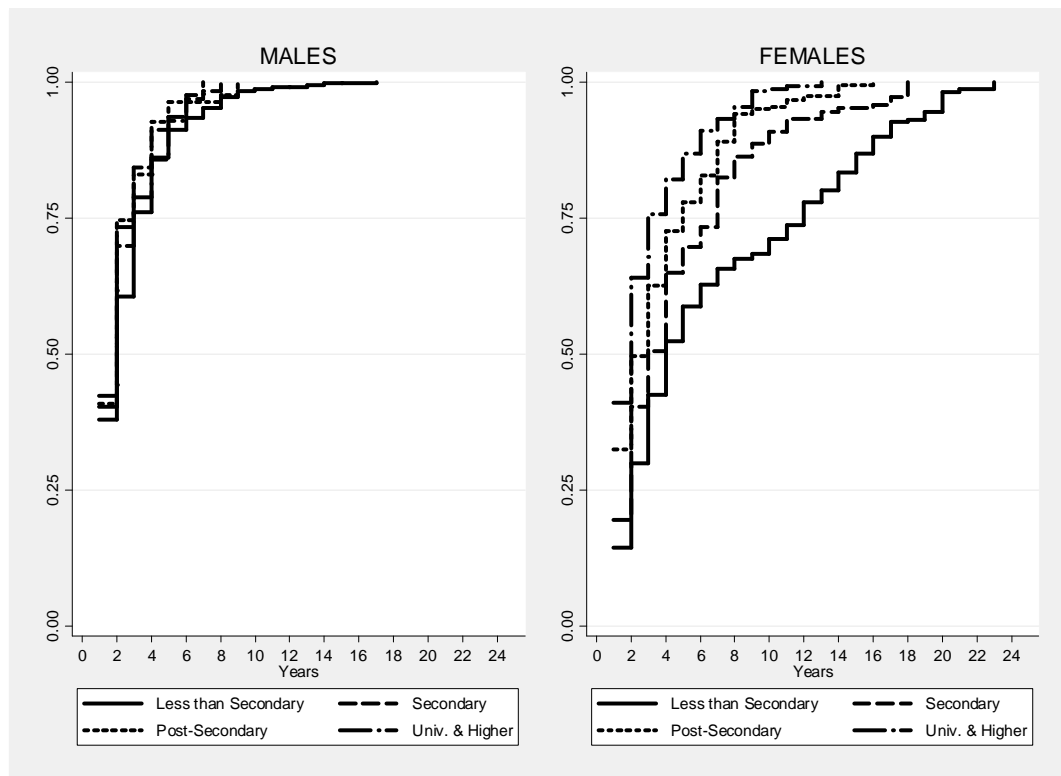
Source: JLMPS 2010

Figure 11: Conditional Probability of Obtaining a First Job to Years after School by Gender, Ages 15-39 in 2010 (Women who ever Worked)



Source: JLMPS 2010

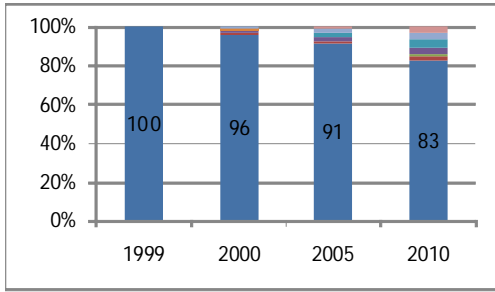
Figure 12: Conditional Probability of Obtaining a First Job to Years after School by Gender and Educational Level, Ages 15-39 in 2010 (Women who ever worked)



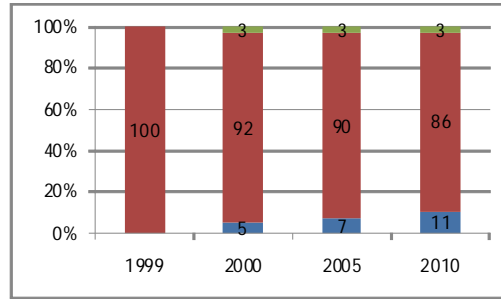
Source: JLMPS 2010

Figure 13: Distribution of Male Employment Status in 2000, 2005 and 2010 According to Employment Status in 1999, Ages 26-40 in 2010 (in Percent)

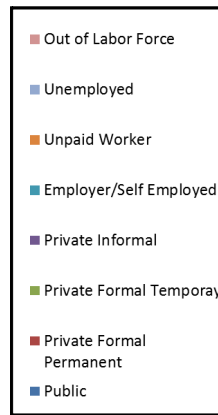
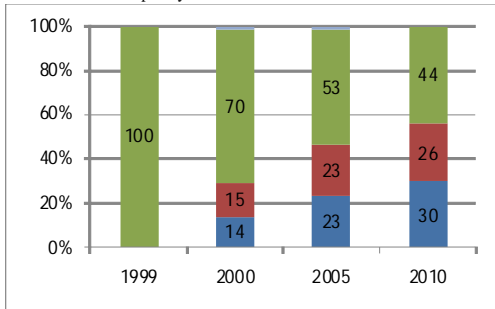
Public Job in 1999



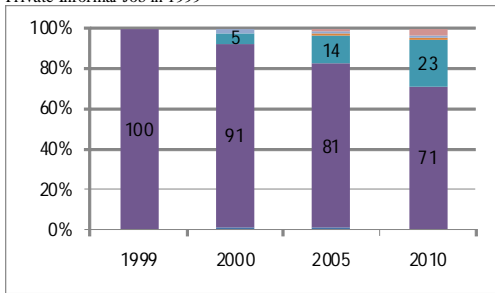
Private Formal Permanent Job in 1999



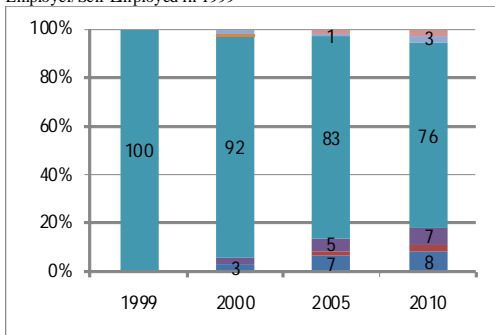
Private Formal Temporary Job in 1999



Private Informal Job in 1999



Employer/Self Employed in 1999



Unemployed in 1999

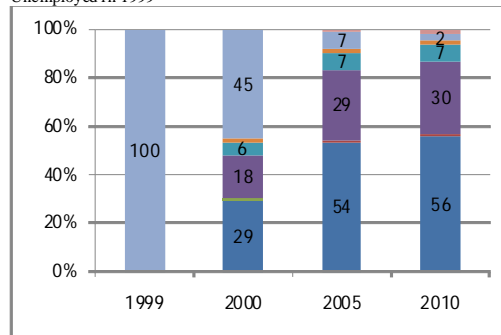
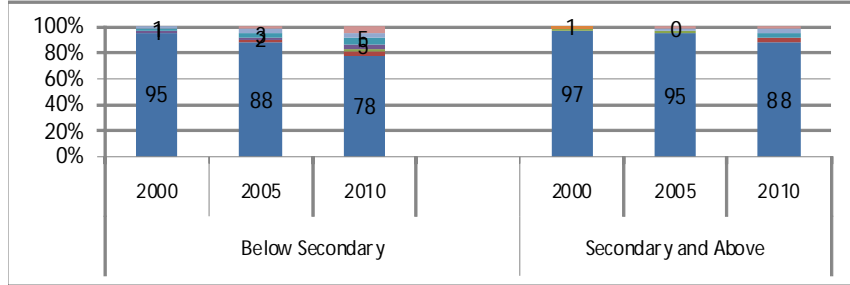
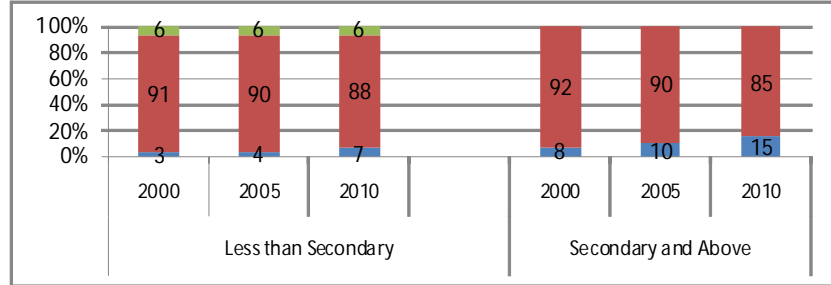


Figure 14: Distribution of Male Employment Status in 2000, 2005 and 2010 by Educational Level According to Employment Status in 1999, Ages 26-40 in 2010

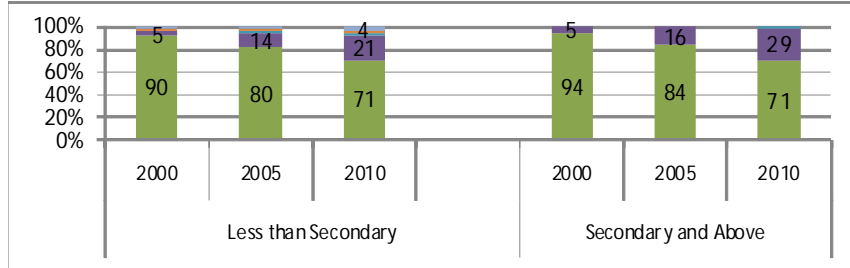
Public Job in 1999



Private Formal Permanent Job in 1999



Private Informal Job in 1999



Unemployment in 1999

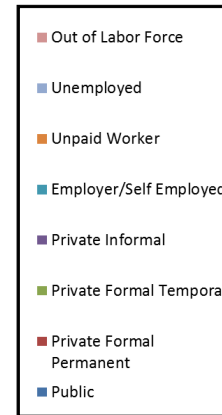
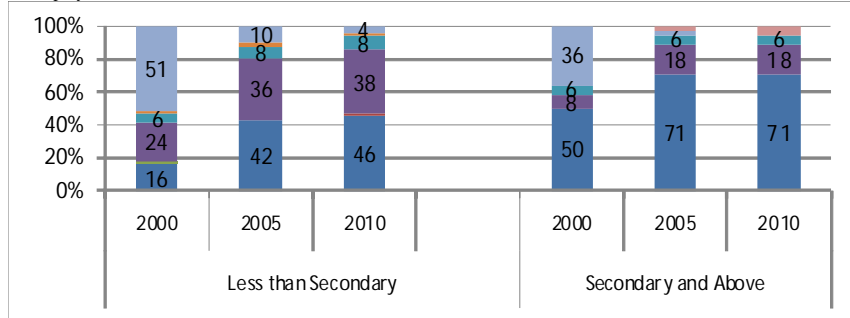
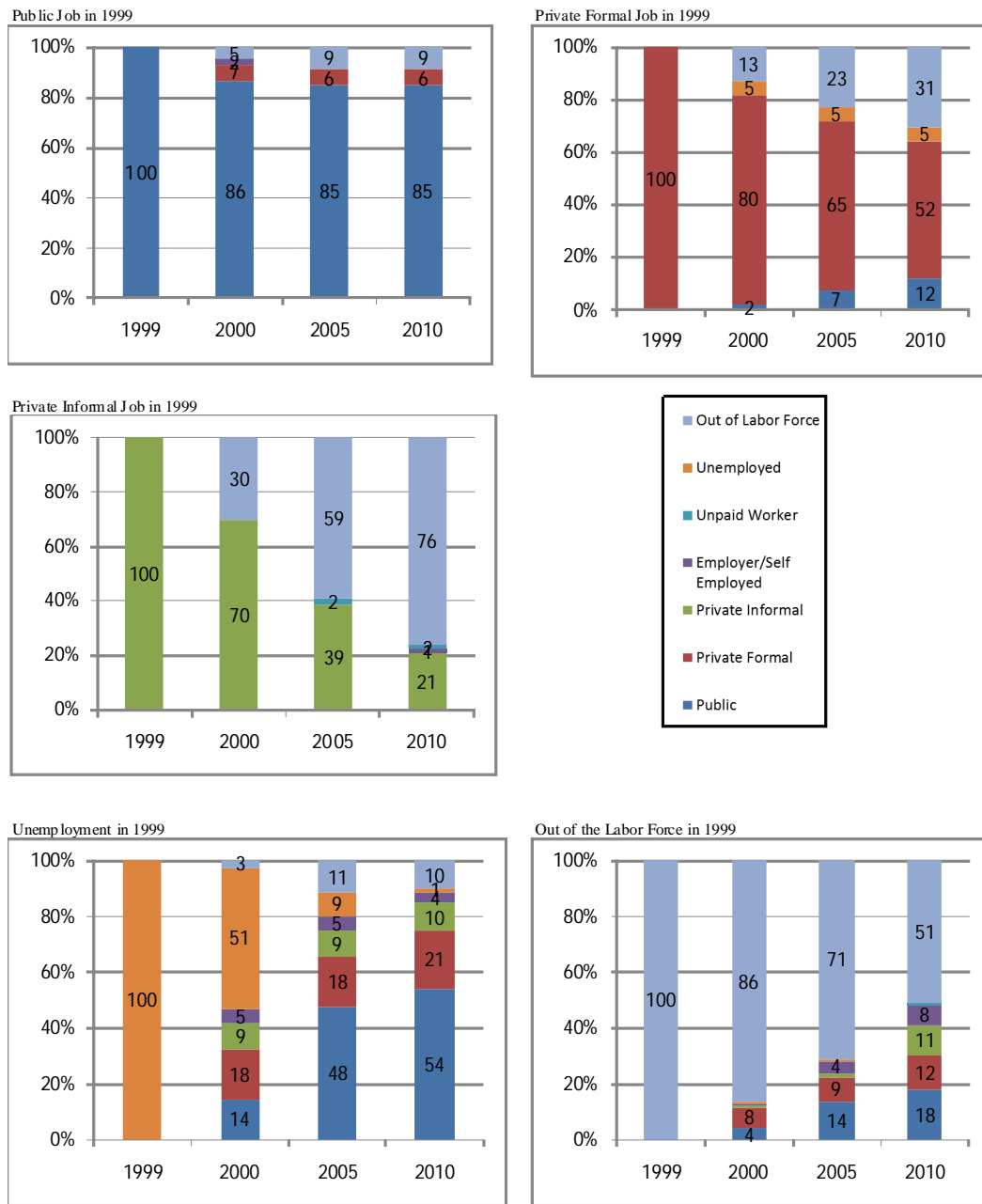


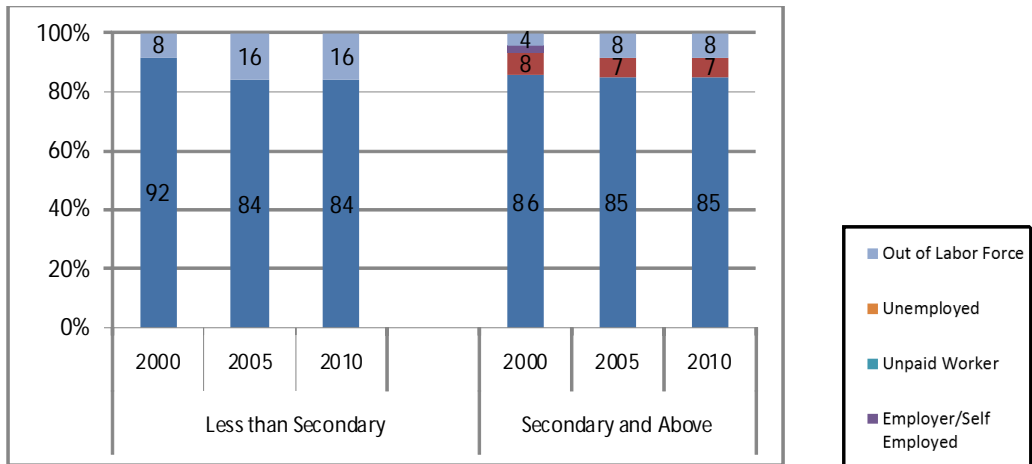
Figure 15: Distribution of Female Employment Status in 2000, 2005 and 2010 According to Employment Status in 1999, Ages 26-40 in 2010



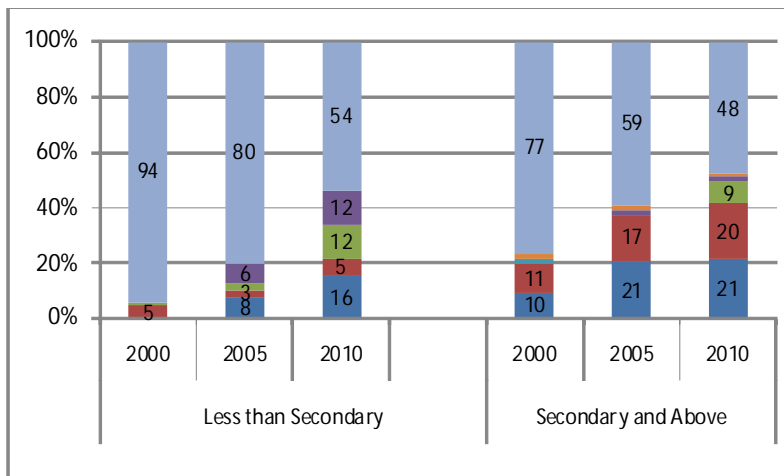
Source: JLMPS 2010

Figure 16: Distribution of Female Employment Status in 2000, 2005 and 2010 by Educational Level According to Employment Status in 1999, Ages 26-40 in 2010

Public Employment in 1999



Out of the Labor Force in 1999



Source: JLMPS 2010

Figure 17: Distribution of Male Employment Status in 1999, 2000 and 2010 According to Employment Status in 2010

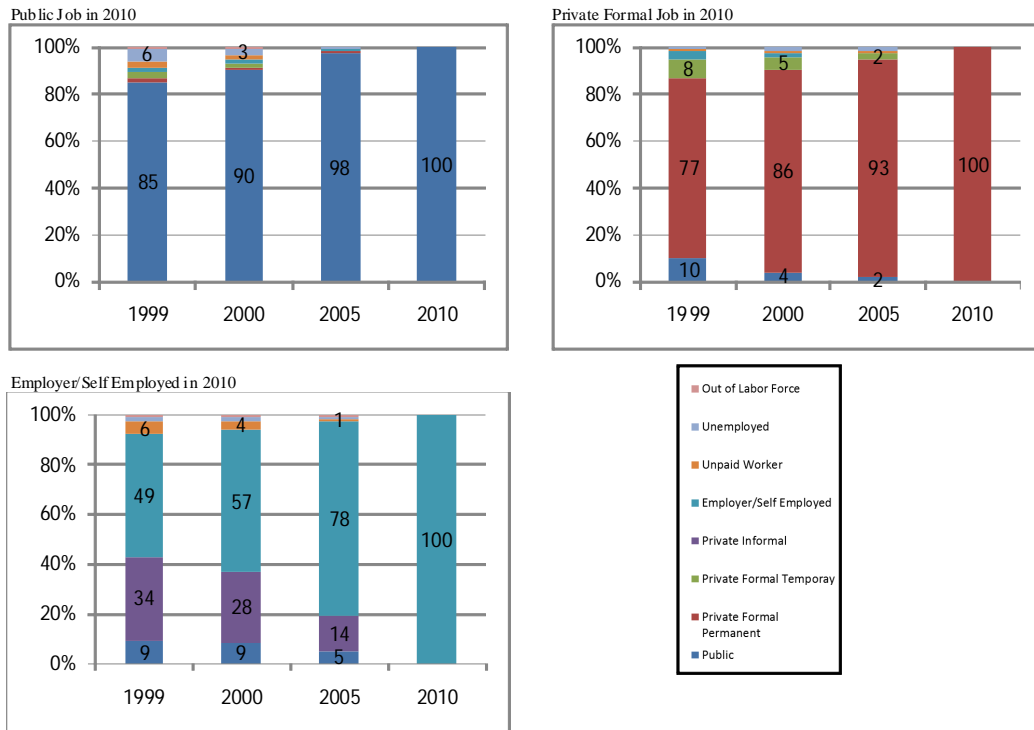


Figure 18: Distribution of Female Employment Status in 1999, 2000 and 2010 According to Employment Status in 2010



Table 1: Distribution of Unemployed by Age Group and Gender in 2010 (in Percent)

	Male	Female	Total
0-14	0.5	-	0.3
15-19	17.8	2.4	12.5
20-24	30.0	47.4	36.0
25-29	18.0	27.5	21.3
30-34	5.1	11.0	7.1
35-39	8.2	8.2	8.2
40-49	15.2	3.6	11.2
50-59	4.7	-	3.1
60-65	0.4	-	0.3
65+	0.1	-	0.1
15-34	70.9	88.2	76.9
Total	100.0	100.0	100.0

Source: JLMPS 2010

Table 2: Distribution of First Employment Status after School by Educational Level and Gender (in Percent)

	Male				Female			
	Less than secondary	Secondary	Post-secondary and University	Total	Less than secondary	Secondary	Post-secondary and University	Total
Public	11.6	21.7	22.1	15.6	0.2	1.5	10.9	4.1
Private Formal	12.4	16.2	29.9	17.2	1.6	3.9	18.5	7.8
Private Informal	31.9	18.8	9.8	24.6	2.8	2.9	3.8	3.2
Employer/Self Employed	1.9	1.8	3.1	2.2	0.0	0.4	0.1	0.1
Unpaid Worker	6.3	3.0	2.2	4.8	0.3	0.0	0.6	0.4
Unemployed	27.8	31.7	31.1	29.2	4.4	5.3	29.6	13.2
Out of Labor Force	8.2	6.8	1.9	6.5	90.7	86.0	36.5	71.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0

Source: JLMPS 2010

Table 3: Distribution of the Number of Episodes by Gender from 1999 to 2010, Ages 26-40 in 2010 (in Percent)

Number of Different Episodes	Male	Female	Total
1	66.0	45.9	61.6
2	31.0	47.13	34.5
3	3.0	7.0	3.9
Total	100.0	100.0	100.0
Sample Size	1,435	401	1,836

Source: JLMPS 2010

Table 4: Distribution of Male Employment Status in 1999 by Gender, Ages 26-40 in 2010 (in Percent)

Employment Status in 1999	
Public	35.9
Private Formal Permanent	8.4
Private Formal Temporary	3.4
Private Informal	29.8
Employer/Self Employed	11.1
Unpaid Worker	4.4
Unemployed	6.1
Out of Labor Force	0.9
Total	100.0
Sample Size	1,639

Source: JLMPS 2010

Table 5: Persistency Rate by Employment Status over the Period 1999-2010, Ages 26-40 in 2010 (in Percent)

Employment Status in 1999	Persistency Rate	Sample Size
Public	82.8	594
Private Formal Permanent	86.3	90
Private Formal Temporary	44.0	36
Private Informal	68.7	296
Employer/Self Employed	76.3	121
Unpaid Worker	0.0	42
Unemployed	2.4	65
Out of Labor Force	26.2	9

Source: JLMPS 2010

Table 6: Distribution of Male Employment Status in 1999 by Educational Attainment, Ages 26-40 in 2010 (in Percent)

Employment Status in 1999	Below Secondary	Secondary and Above	Total
Public	32.4	41.8	35.9
Private Formal Permanent	6.5	11.5	8.4
Private Formal Temporary	2.8	4.4	3.4
Private Informal	35.7	20.0	29.8
Employer/Self Employed	10.2	12.7	11.1
Unpaid Worker	5.4	2.9	4.4
Unemployed	5.8	6.5	6.1
Out of Labor Force	1.3	0.3	0.9
Total	100.0	100.0	100.0
Sample Size	1,069	570	1,639

Source: JLMPS 2010

Table 7: Distribution of Female Employment Status in 1999 by Gender, Ages 26-40 in 2010 (in Percent)

Employment Status in 1999	
Public	16.8
Private Formal Permanent	5.4
Private Formal Temporary	5.4
Private Informal	9.8
Employer/Self Employed	2.0
Unpaid Worker	1.7
Unemployed	14.3
Out of Labor Force	44.7
Total	100.0
Sample Size	473

Source: JLMPS 2010

Table 8: Female Employment Status Persistency Rate over the period 1999-2010, Ages 26-40 in 2010 (in Percent)

Employment Status in 1999	Persistency Rate	Sample Size
Public	84.8	83
Private Formal	52.1	60
Private Informal	20.6	31
Employer/Self Employed	48.0	9
Unpaid Worker	28.7	7
Unemployed	1.3	51
Out of Labor Force	50.9	135

Source: JLMPS 2010

Table 9: Distribution of Female Employment Status in 1999 by Educational Attainment, Ages 26-40 in 2010 (in Percent)

	Below Secondary	Secondary and Above	Total
Public	4.3	24.9	16.8
Priv. Formal Perm.	1.4	8.0	5.4
Priv. Formal Temp.	0.8	8.4	5.4
Priv. Informal	15.6	6.0	9.8
Emp./Self. Emp.	1.8	2.1	2.0
Unpaid Worker	4.4	0.0	1.7
Unemployed	10.4	16.8	14.3
Out LF	61.3	33.8	44.7
Total	100.0	100.0	100.0

Source: JLMPS 2010

Appendix

Table A1: Distribution of the Population by Age Group, 2010

	Male		Female		Total		Cumulated Percentage
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage	
0-14	1137491	37.7	1106925	37.0	2244416	37.3	37.3
15-19	336610	11.1	336918	11.3	673528	11.2	48.6
20-24	285875	9.5	271338	9.1	557213	9.3	57.8
25-29	241097	8.0	230983	7.7	472080	7.9	65.7
30-34	205704	6.8	208531	7.0	414235	6.9	72.6
35-39	186967	6.2	194727	6.5	381694	6.4	78.9
40-49	293098	9.7	279580	9.4	572678	9.5	88.4
50-59	146081	4.8	174365	5.8	320446	5.3	93.8
60-64	64311	2.1	62465	2.1	126776	2.1	95.9
65+	123346	4.1	124124	4.2	247470	4.1	100.0
15-29	863582	28.6	839239	28.1	1702821	28.3	
15-34	1069286	35.4	1047770	35.0	2117056	35.2	
Total	3020580	100.0	2989956	100.0	6010536	100.0	
Sample Size	13027		12942		25969		

Source: JLMPS 2010

Table A2: Distribution of Youth by Gender, Urban/Rural Location, Age Group and Educational Level, 2010 (%)

	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-19									
Illiterate	1.6	0.8	1.2	0.5	0.6	0.6	1.4	0.7	1.1
Read & Write	26.1	24.7	25.4	27.7	28.9	28.3	26.4	25.5	26.0
Basic	55.4	52.8	54.1	57.7	53.3	55.5	55.8	52.9	54.3
Secondary	16.6	21.8	19.1	14.0	17.2	15.6	16.1	20.9	18.5
Post-Secondary	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
University and Higher	0.4	0.0	0.2	0.0	0.0	0.0	0.3	0.0	0.2
20-24									
Illiterate	1.2	0.5	0.9	0.5	3.2	1.8	1.1	1.0	1.0
Read & Write	1.6	0.9	1.3	1.1	1.0	1.0	1.5	0.9	1.2
Basic	38.9	34.4	36.7	48.3	31.6	40.5	40.8	33.9	37.5
Secondary	41.8	36.4	39.1	32.9	37.5	35.0	40.0	36.6	38.3
Post-Secondary	5.4	8.6	7.0	2.4	7.2	4.6	4.8	8.4	6.5
University and Higher	11.0	19.1	15.0	14.7	19.5	17.0	11.8	19.2	15.4
25-29									
Illiterate	2.3	2.4	2.3	2.2	5.7	3.8	2.3	3.0	2.6
Read & Write	1.2	3.1	2.2	3.2	1.9	2.6	1.6	2.9	2.2
Basic	45.4	33.6	39.6	49.1	34.9	42.5	46.2	33.8	40.1
Secondary	18.2	21.5	19.9	17.6	17.8	17.7	18.1	20.9	19.4
Post-Secondary	9.1	11.6	10.4	2.8	12.5	7.3	7.9	11.8	9.8
University and Higher	23.7	27.7	25.7	25.0	27.3	26.1	24.0	27.7	25.8
30-34									
Illiterate	2.1	1.9	2.0	1.3	4.8	3.2	2.0	2.4	2.2
Read & Write	3.5	2.6	3.1	6.3	5.5	5.8	4.0	3.1	3.5
Basic	50.3	40.3	45.4	60.3	48.9	54.1	52.0	41.9	46.9
Secondary	17.8	18.9	18.4	19.2	15.0	16.9	18.0	18.2	18.1
Post-Secondary	9.7	16.0	12.8	2.4	7.8	5.3	8.5	14.4	11.5
University and Higher	16.5	20.3	18.4	10.5	18.0	14.6	15.5	19.9	17.7
Total 15-34									
Illiterate	1.8	1.3	1.5	1.1	3.2	2.1	1.6	1.6	1.6
Read & Write	9.6	9.3	9.5	10.8	11.4	11.1	9.8	9.7	9.8
Basic	47.8	41.3	44.6	53.4	43.1	48.3	48.9	41.6	45.3
Secondary	23.8	25.0	24.4	21.1	21.9	21.5	23.3	24.4	23.8
Post-Secondary	5.4	8.0	6.7	1.8	6.0	3.9	4.7	7.6	6.2
University and Higher	11.6	15.2	13.4	11.9	14.3	13.1	11.6	15.0	13.3

Source: JLMPS 2010

Table A3: Labor Force Size by Gender, Urban/Rural Residency, Age Group and Economic Activity Definition, 2010

	Urban			Rural			Total		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
15-29									
Market and Search	397358	107149	504507	99891	25193	125084	497248	132343	629591
Extended and Search	398534	108384	506919	100112	27049	127160	498646	135433	634079
Market No Search	401866	112167	514033	100822	27226	128049	502688	139393	642082
Extended No Search	403351	114004	517354	101043	29082	130125	504394	143085	647479
15-34									
Market and Search	559886	149276	709161	131687	35653	167340	691573	184929	876502
Extended and Search	561063	151942	713005	131908	38788	170696	692970	190731	883701
Market No Search	564650	155111	719762	133115	37989	171104	697765	193100	890865
Extended No Search	566135	158380	724514	133336	41123	174459	699471	199503	898974

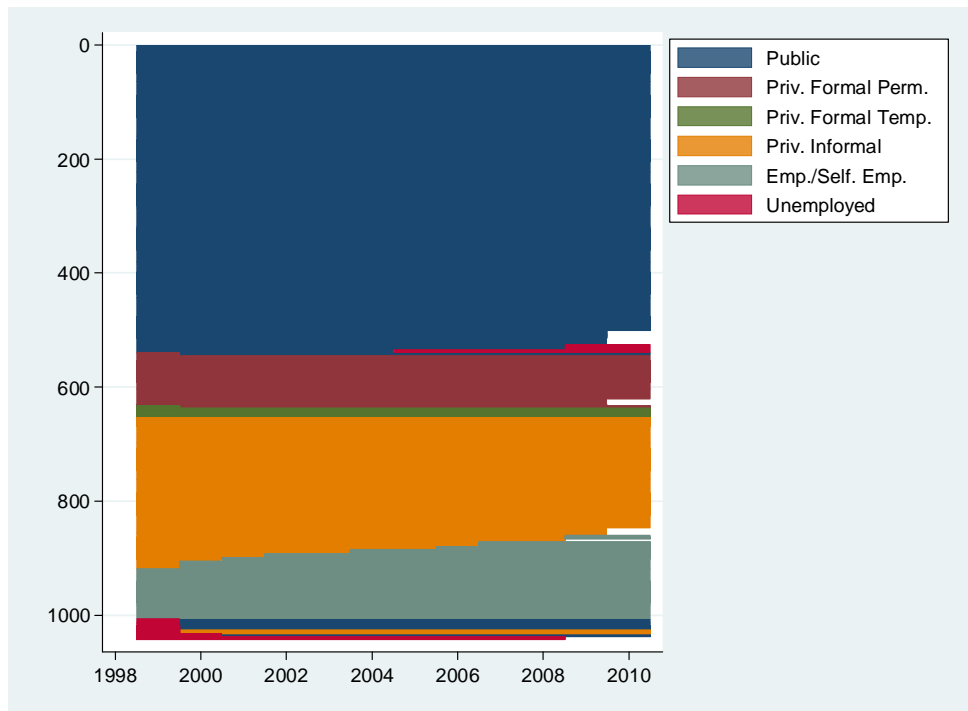
Source: JLMPS 2010

Table A4: Labor Force Participation by Gender, Educational Level, Urban/Rural Residency and Economic Activity Definition, 2010

	Male			Female			Total		
	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Illiterate	0.300	0.488	0.323	0.094	0.083	0.090	0.214	0.186	0.207
Reads and writes	0.194	0.178	0.190	0.027	0.047	0.032	0.112	0.112	0.112
Basic Education	0.721	0.722	0.721	0.067	0.097	0.073	0.421	0.447	0.426
Secondary	0.501	0.555	0.510	0.081	0.087	0.082	0.288	0.319	0.294
Post-Secondary	0.976	0.970	0.975	0.429	0.495	0.439	0.652	0.604	0.646
University and higher	0.908	0.900	0.906	0.606	0.685	0.620	0.738	0.783	0.746
Total	0.646	0.651	0.647	0.178	0.197	0.182	0.414	0.427	0.417

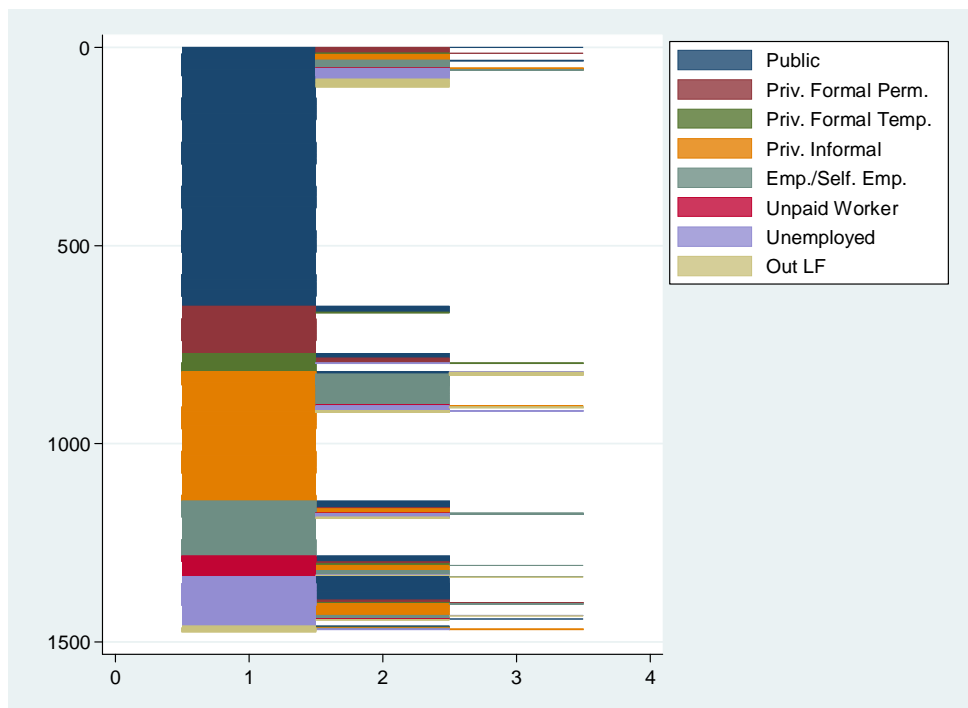
Source: JLMPS 2010

Figure A1: The 20 Most Frequent Male Sequences over the Period 1999-2010, Ages 26-40 in 2010



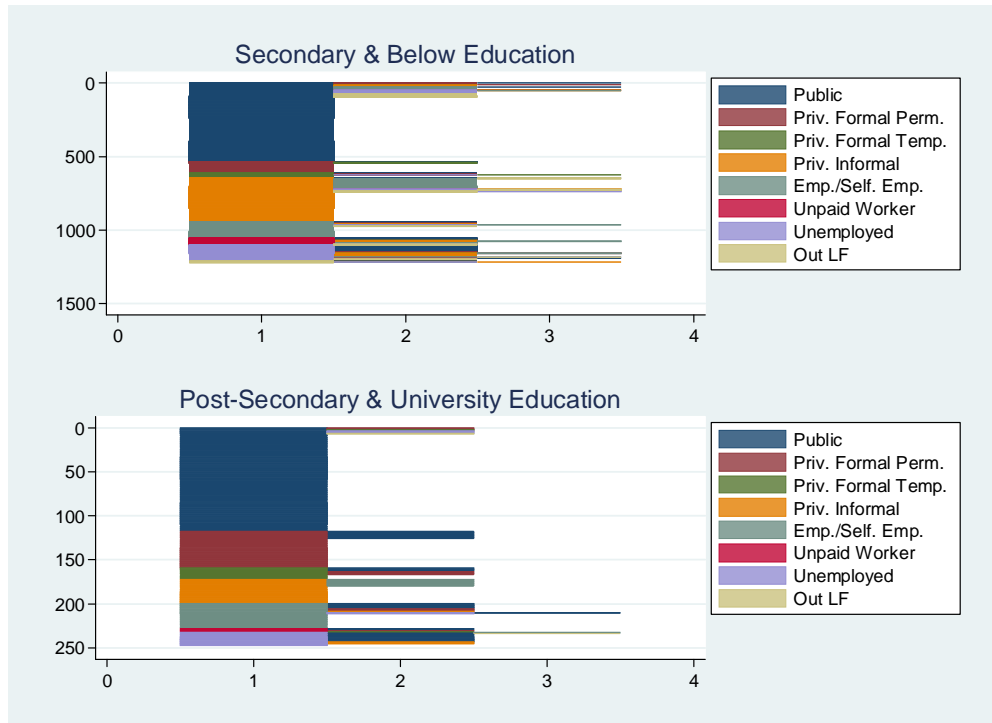
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Figure A2: Male Ordered Sequences over the Period 1999-2010, Ages 26-40 in 2010



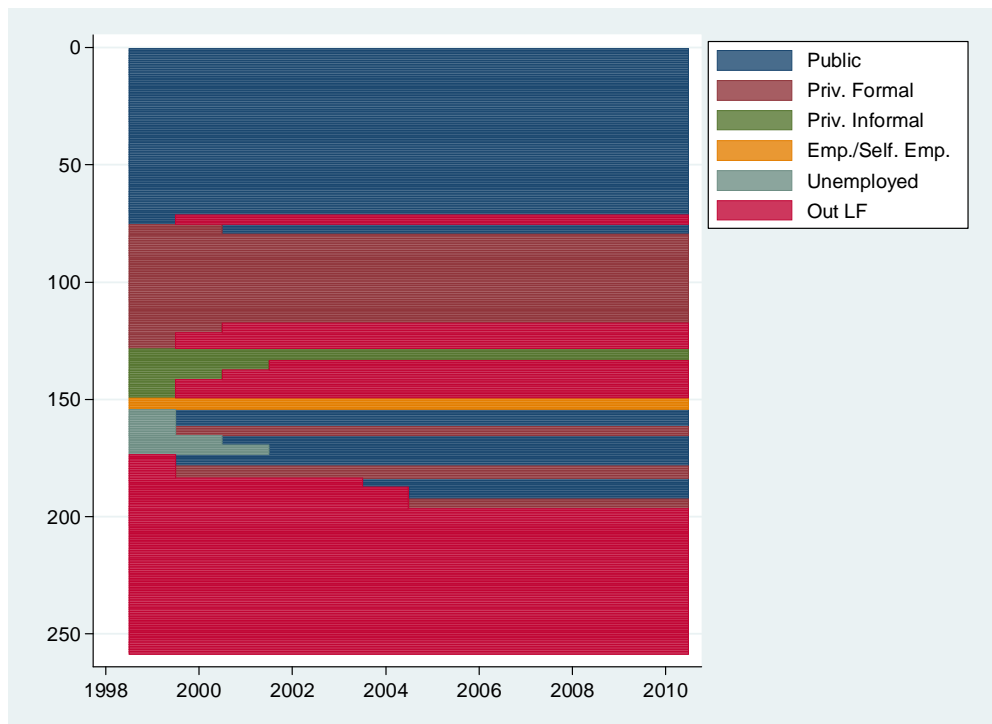
Source: JLMPS 2010

Figure A3: Male Ordered Sequences over the Period 1999-2010, Ages 26-40 in 2010



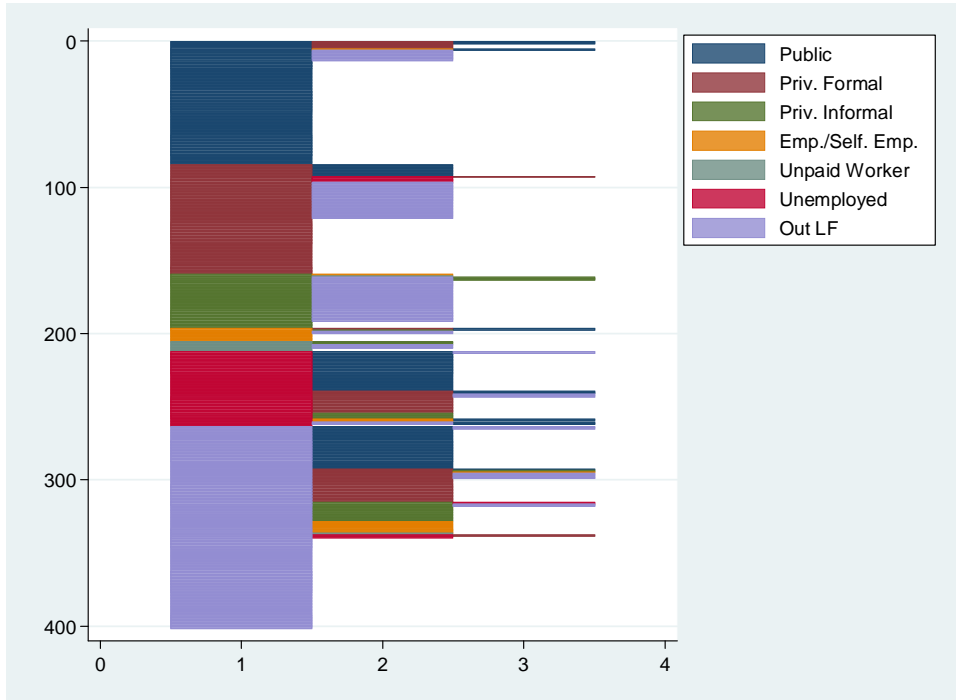
Source: JLMPS 2010

Figure A4: The 20 Most Frequent Female Sequences over the Period 1999-2010, Ages 26-40 in 2010



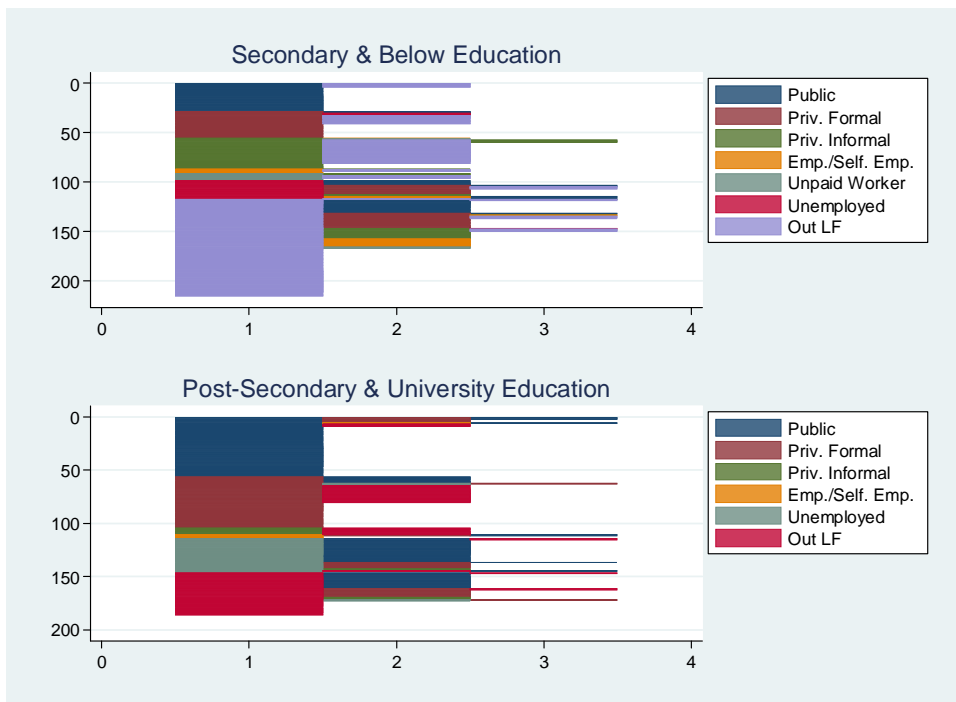
Source: JLMPS 2010

Figure A5: Female Ordered Sequences over the Period 1999-2010, Ages 26-40 in 2010



Source: JLMPS 2010

Figure A6: Female Ordered Sequences by Educational Level over the Period 1999-2010, Ages 26-40 in 2010



Source: JLMPS 2010