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SCHOOL-TO-WORK TRANSITION IN JORDAN, 2010-2016

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Abstract

This paper presents an analysis of the school-to-work transition in Jordan from 2010 to 2016 in a context of a demographic shock due to a massive influx of Syrian refugees. It examines the trend of youth unemployment and labor force participation, first labor market status and transitions over 4 years after school. The results show sharp increases in male and female unemployment rates and in unemployment duration. In parallel, youth male labor force participation declined and women with post-secondary education are less active. The school-to-work transition has deteriorated between 2010 and 2016 as young Jordanians are less active after leaving school and when they enter the labor market they take a longer time to work after school. Furthermore, the Jordanian labor market is very segmented as transitions between different types of employment (public, formal and informal private jobs) are scarce. Public employment is also less frequent after unemployment or inactivity.

JEL Classifications: J13, J21, J6, J64

Keywords: Youth, Labor force participation, Unemployment, NEET, School-to-work transition, Jordan.

ملخص

تقدم هذه الورقة تحليلا للانتقال من المدرسة إلى العمل في الأردن في الفترة من 2010 إلى 2016 في سياق صدمة ديمغرافية بسبب التدفق الهائل للاجئين السوريين. وتدرس الورقة اتجاه بطالة الشباب ومشاركة القوى العاملة، بدأ بوضع سوق العمل إضافة إلى التحولات التي تحدث لمدة تقرب من الأربع سنوات بعد المدرسة. تظهر النتائج زيادات حادة في معدلات بطالة الذكور والإناث وفي فترة البطالة. وبالتوازي مع ذلك، انخفضت مشاركة الشباب في القوى العاملة، وكانت النساء اللواتي حصلن على تعليم بعد المرحلة الثانوية أقل نشاطًا. كما تدهور الانتقال من المدرسة إلى العمل بين عامي 2010 و2016، حيث أن الشباب الأردني أصبحوا أقل نشاطًا بعد تركهم المدرسة وعندما دخولهم سوق العمل يأخذوا وقتًا أطول للعمل بعد ترك المدرسة. علاوة على ذلك، فإن سوق العمل الأردني مقسم إلى شرائح حيث أن عمليات الانتقال بين أنواع العمل المختلفة (الوظائف بالقطاع العام والوظائف الرسمية وغير الرسمية) نادرة. كما أن التشغيل بالقطاع العام أقل تواترا بعد فترات البطالة أو عدم النشاط.

Introduction

This paper aims to present the changing characteristics of young Jordanians' insertion into the labor market between 2010 and 2016 and to better understand the transitions from school to work. The wealth of data in the Jordan Labor Market Panel Surveys (JLMPS) of 2010 and 2016, and particularly its sections concerning the employment history, makes it possible to understand these phenomena (Krafft and Assaad, 2018)[2]. Previous studies based on data from the JLMPS 2010 survey (Amer, 2014, Assaad, 2014 and Mryyan, 2014) have shown that the unemployment rate of the most educated Jordanian youth is high, especially for women. Moreover women face more challenges to enter the labor market; female participation is low, although it reaches relatively high levels among the most educated women.

The demographic, economic and social context has changed substantially since 2010. Jordan is one of the countries with the largest number of Syrian refugees who have fled the war, which has led to high population growth (Assaad, Krafft and Keo, 2018). Also, Jordan's economic growth has been negatively affected by a slowdown in the economic growth of the Gulf countries, reducing migration opportunities to these countries. The comparison of the 2010 and 2016 rounds will show how the changing demographic and economic conditions have affected the school-to-work conditions.

This paper is divided into four parts. The first one examines the changing socio-economic conditions and labor market characteristics of young people (aged 15-34 years). It takes into account the demographic trend, changes in school enrollment and educational levels, labor force participation, unemployment, and young people not in education nor employment. All indicators are disaggregated by gender, age groups and educational level. The second part presents a survival analysis of the age and time to first job and the time to the first formal job taking into account the differences across gender and educational attainment. The third part focuses on the main trends in male and female first employment status after leaving/finishing school. Finally, the fourth section presents male and female early career trajectories, 1, 2, 3 and 4 years after exiting school or after entering the labor market. In order to take into account the change in the economic and demographic contexts, this part compares the situation of young people who finished their education between 1995 and 2005 to that of young people who finished their education between 2006 and 2016.

1. Socioeconomic Characteristics of Youth Labor Market Outcomes

1.1 Demographics of Youth

All nationalities combined, the population of young adults has risen sharply between 2010 and 2016. Out of a total population of 9.5 million, the population of young adults (aged 15-29 years) grew from 1.7 million in 2010 to 2.6 million in 2016, i.e. an increase of 54.1%. As shown in Figure 1, the population aged 15 to 34 also experienced a similar growth, rising from 2.1 million in 2010 to 3.3 million in 2016, an increase of 57.0%. On the other hand, the share of these two age groups in the total population remained stable over the 6-year period of analysis. That of young adults (15-29 years old) remained around 28% (specifically 28.3% in 2010 and 27.5% in 2016) and that of people aged between 15 and 34 remained around 35% (35.2% in 2010 and 34.9% in 2016).

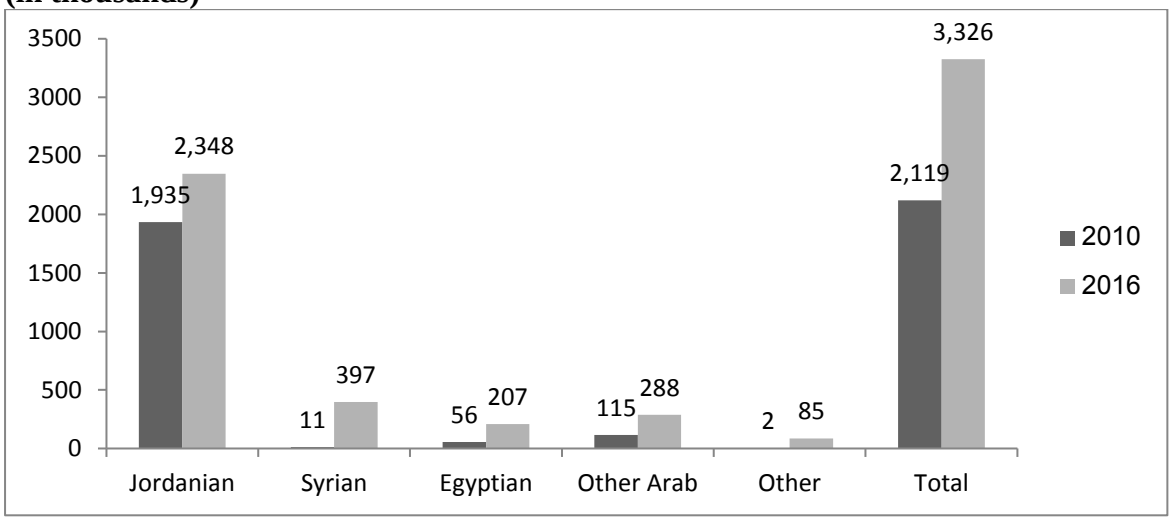
The most important change observed between the two rounds of JLMPS is undoubtedly that related to the distribution of the population of Jordan according to the different nationalities. The share of foreigners in the total population more than tripled between 2010 and 2016. This is explained by the massive influx of Syrian refugees whose total population increased by 1.2 million. The share of Syrians in the total population of Jordan has indeed increased from 0.4% in 2010 to 13.3% in 2016. The share of foreigners of other nationalities also increased

[2] The Jordan Labor Market Panel Survey 2016 is publicly available since May 2018 from the Economic Research Forum Open Micro Access Data Portal: http://www.erfdataportal.com/index.php/catalog/139

substantially between 2010 and 2016. The share of Egyptians more than tripled (from 2.0% in 2010 to 6.7% in 2016) and residents from other Arab nations increased substantially (from 5.0% in 2010 to 8.7% in 2016).

Figure 1 shows that while Jordanian youth have grown from 1.9 million in 2010 to 2.3 million in 2016, the number of Syrian youth has increased substantially from 10,548 in 2010 to 386,229 in 2016. While the Jordanian youth increased by 21.3%, that of the Syrians was multiplied by 47.1.

Figure 1: Youth population of Jordan by nationality, ages 15-34, 2010 and 2016 (in thousands)



Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

Therefore, as presented in Table 1, the share of Jordanian nationals among the youth (15-34) fell between 2010 and 2016. It went from 91.3% in 2010 to only 70.6% in 2016. In parallel, during this period the share of Syrians among the youth increased from 0.5% in 2010 to 11.9% in 2016, slightly less than the national average (13.3%). The share of other nationalities also increased substantially over the period of analysis.

Table 1: Distribution of the youth population by nationality, ages 15-34, 2010 and 2016 (percentages)

	2010	2016
Jordanian	91.3	70.6
Syrian	0.5	11.9
Egyptian	2.6	6.3
Other Arab	5.4	8.7
Other	0.1	2.6
Total	100.0	100.0

Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

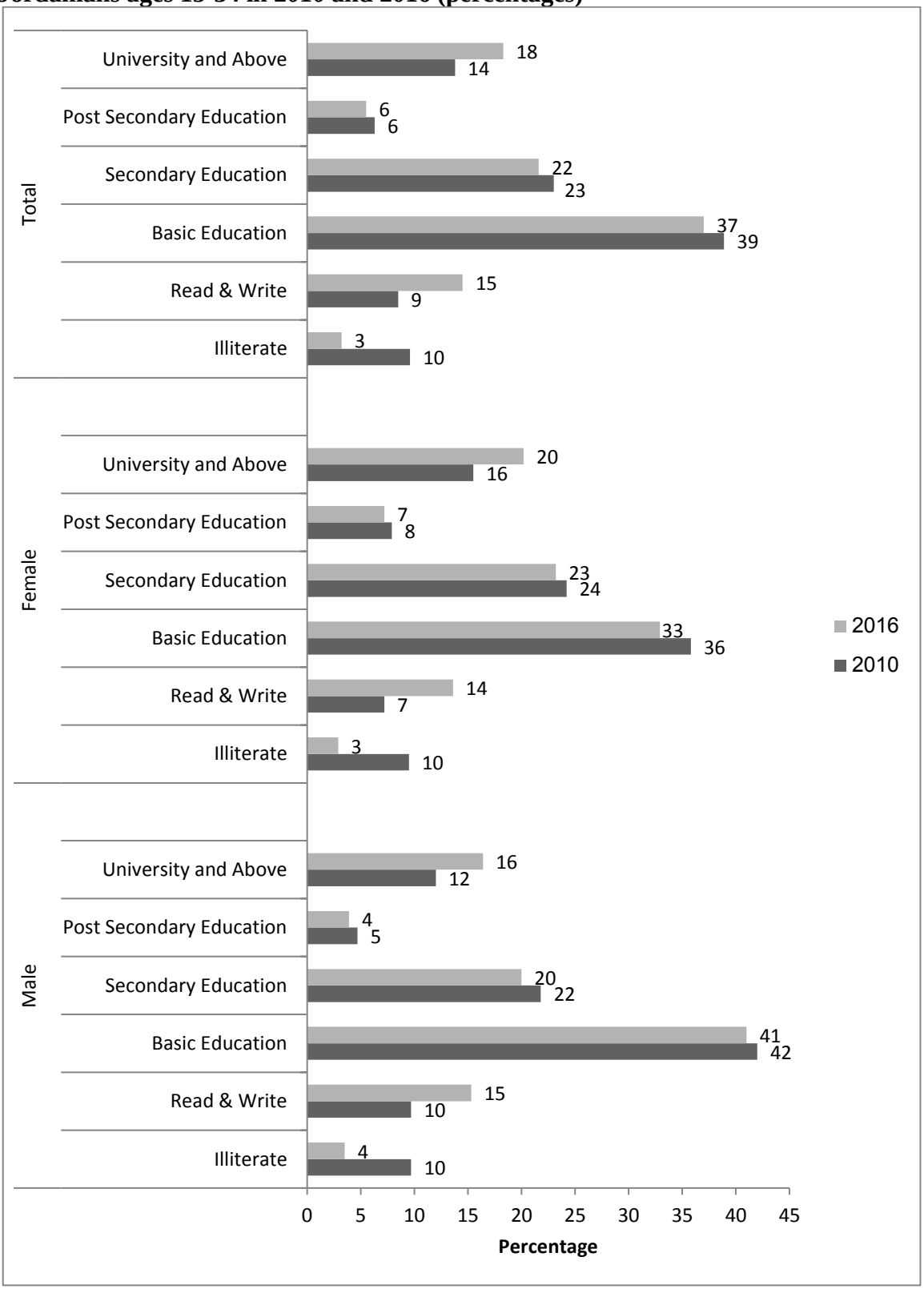
The following analysis is limited to Jordanians in order to avoid comparing the labor market status of individuals of different nationalities and statuses (resident/refugee). However, changes in the distribution of the population by nationality may have had an impact on the transitions from school to work. Additionally and unless otherwise indicated this paper uses the standard market definitions of labor force and unemployment. Thus employment comprises only those who are involved in market economic activities, excluding those who are involved in subsistence activities. The standard definition of unemployment requires that the individual

is not working, desires to work, is available for work and is searching for a job (thus excluding the discouraged unemployed).

1.2 Educational Attainment

As shown in Figure 2, the educational level of Jordanians aged between 15 and 34 improved between 2010 and 2016. The share of illiterates fell sharply from 9.6% in 2010, disappearing almost completely in 2016 (3.2%). This drop has been translated into a sharp rise of the share of those who read and write (from 8.5% in 2010 to 14.5% in 2016). In parallel the share of university graduates increased from 13.8% to 18.3% with a decrease in those with basic and secondary education. Between 2010 and 2016 women's educational levels have increased faster than men's. As a result, educational gaps between men and women have increased slightly in favor of women.

Figure 2: Distribution of youth by educational attainment and gender, Jordanians ages 15-34 in 2010 and 2016 (percentages)



1.3 Youth Labor Market Outcomes

This section provides a quick overview of the two main performance indicators in the labor market: labor force participation rate and unemployment rate by gender, age group and educational attainment.

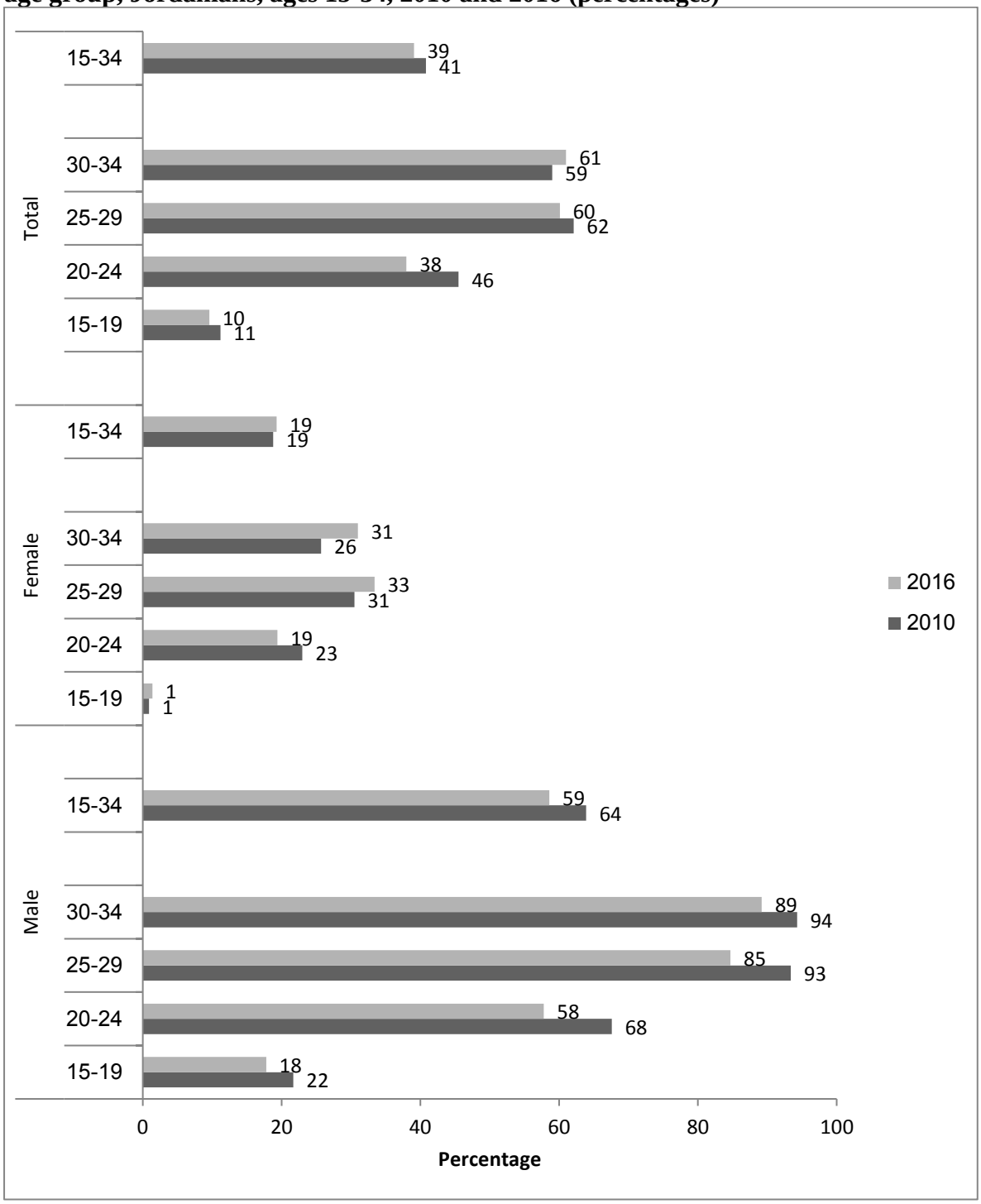
The size of the labor force (among those aged 15-34) increased from 789,044 individuals in 2010 (613,205 men and 175,840 women) to 912,979 individuals in 2016 (689,022 men and 223,957 women), which corresponds to a growth rate of +15.7%. This increase is however smaller than the growth of the total labor force, which indicates that the share of the Jordanians among the total labor force aged 15 to 34 (including all nationalities) has decreased from 90.1% in 2010 to 76.1% in 2016. It is the male Jordanian labor force (ages 15-34) that is the most affected as its share has decreased from 88.8% in 2010 to 71.6% in 2016. The share of Jordanian women in the total labor force has slightly decreased from 95.0% in 2010 to 94.0% in 2016.

As shown in Table A1 and Figure 3, the labor force participation of those aged 15 to 34 decreased from 40.8% in 2010 to 39.1% in 2016. In 2016, female labor force participation is much lower (19.3%) than the male labor force participation rate (58.6%). The decline in the participation rate between 2010 and 2016 is due to the fall in the male participation rate (which went from 63.7% to 58.6%). Female participation increased slightly (from 18.1 % to 19.3%). The male participation rate declined at all ages (although more sharply among the younger age groups, 15-19 and 20-24 year olds, than among the older ones). Female participation increased among the older age groups and in particular among women aged 30 to 34 (from 25.7% to 31.0%). However it decreased among the 20-24 year-olds from 23.0% to 19.4%.

Figure 4 shows the participation rate by sex and level of education in 2010 and 2016. The male and female activity rates increase with the level of education except among high school graduates (because a substantial proportion pursue university studies). The male participation rate is much higher than the female participation rate regardless of educational level. However, gender gaps are smaller among the most educated. For example, in 2016, among those with basic education (primary and preparatory education), the male participation rate is 60.2% whereas it is only 6.9% for women. In the same year, among university graduates, the male participation rate is 76.5% compared to 58.2% for women.

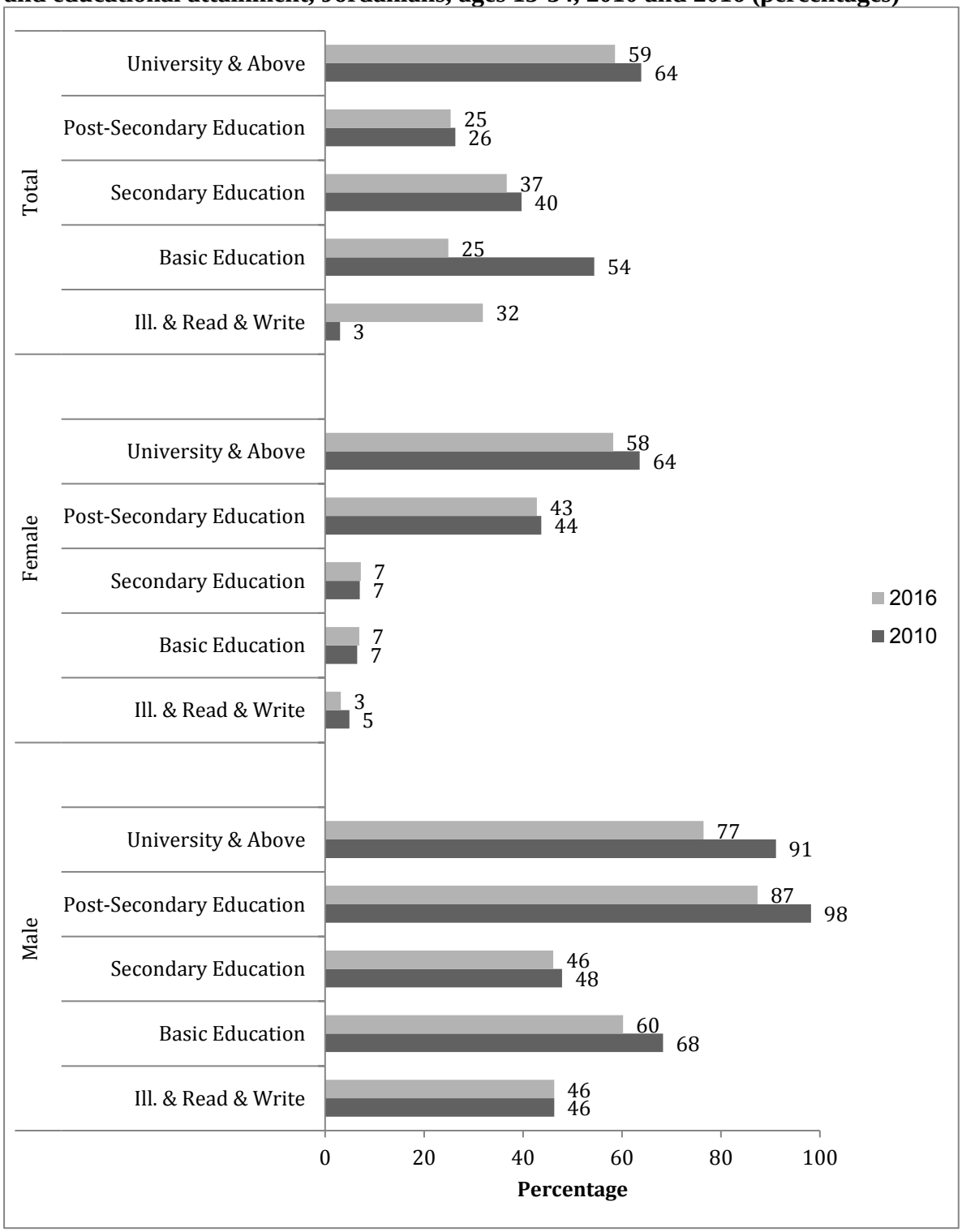
A comparison of 2010 and 2016 data shows that the male participation rate has declined at all educational levels, particularly sharply among university graduates (-16.0%), those with basic education (-11.9%) and those with a post-secondary diploma (-11.0%). As for the female participation rate it has declined among illiterates and those who can read and write, university graduates (-8.5%) and slightly among post-secondary graduates (-2.1%). It has remained stable among basic and secondary graduates.

Figure 3: Labor force participation rate, standard market definition, by gender and age group, Jordanians, ages 15-34, 2010 and 2016 (percentages)



Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

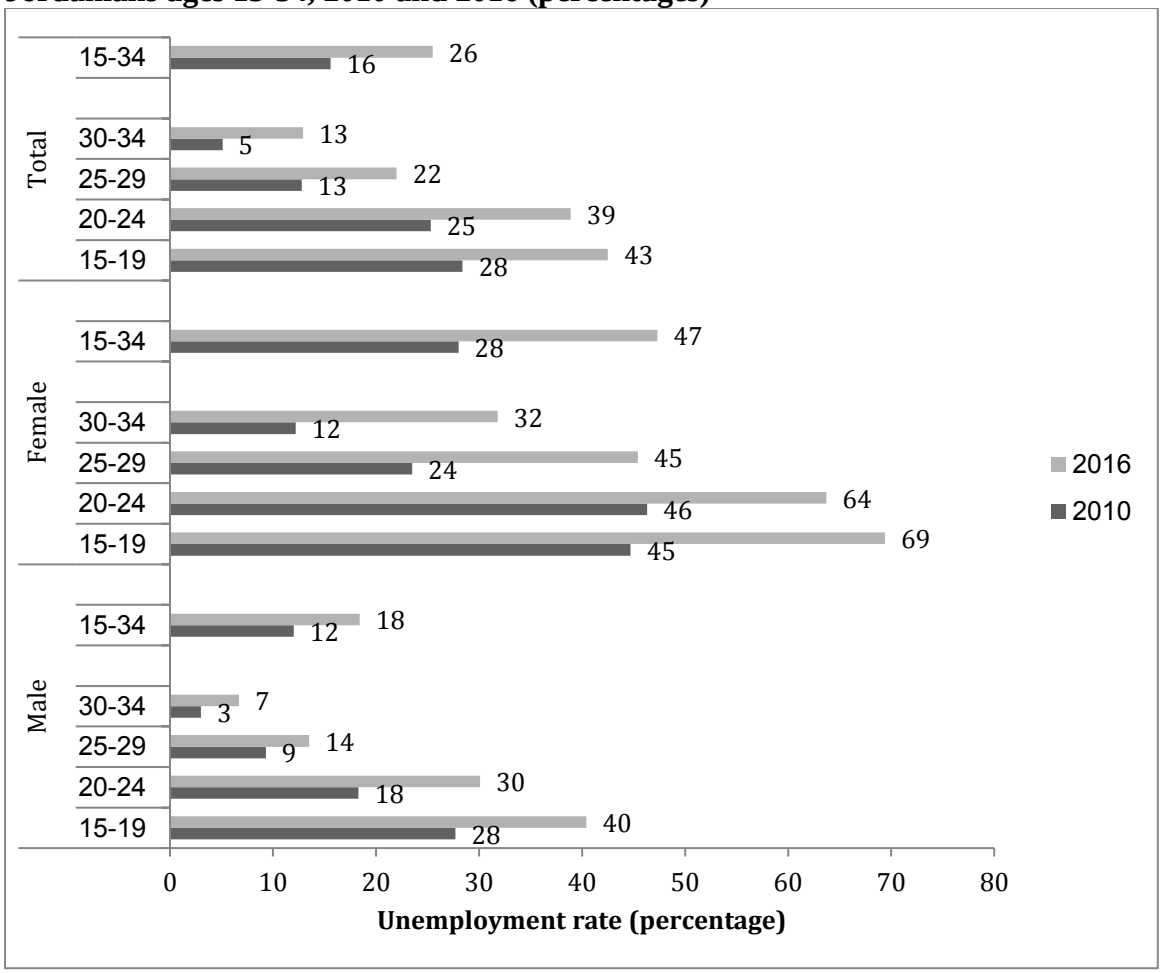
Figure 4: Labor force participation rate, standard market definition, by gender and educational attainment, Jordanians, ages 15-34, 2010 and 2016 (percentages)



One of the most important changes that occurred in the Jordanian labor market between 2010 and 2016 is certainly the exceptional rise in the unemployment rate between 2010 and 2016. Figure 5 shows that the unemployment rate of those aged 15 to 34 has substantially risen (+63.5%) from 15.6% in 2010 to 25.5% in 2016. It has progressed substantially for men and women although more rapidly for women. Indeed it has increased for men from 12.0% to 18.4% (+53.3%) and from 28.0% to 47.3% for women (+68.9%).

The unemployment rate decreases with age. It is particularly high among the youngest age groups. In 2016, it reached 42.5% and 38.9% respectively among those aged 15 to 19 and those aged 20 to 24. Then it declines progressively to reach 12.9% among the 30-34 year-olds. This seems to reflect the difficulty of these youngest in entering the labor market. The female unemployment rate is very high. In 2016 it is at least twofold that of men for each age group category except among those aged 15-19. It reaches more than 60% among women aged 15-24.

Figure 5: Unemployment rate, standard definition, by gender and age group, Jordanians ages 15-34, 2010 and 2016 (percentages)



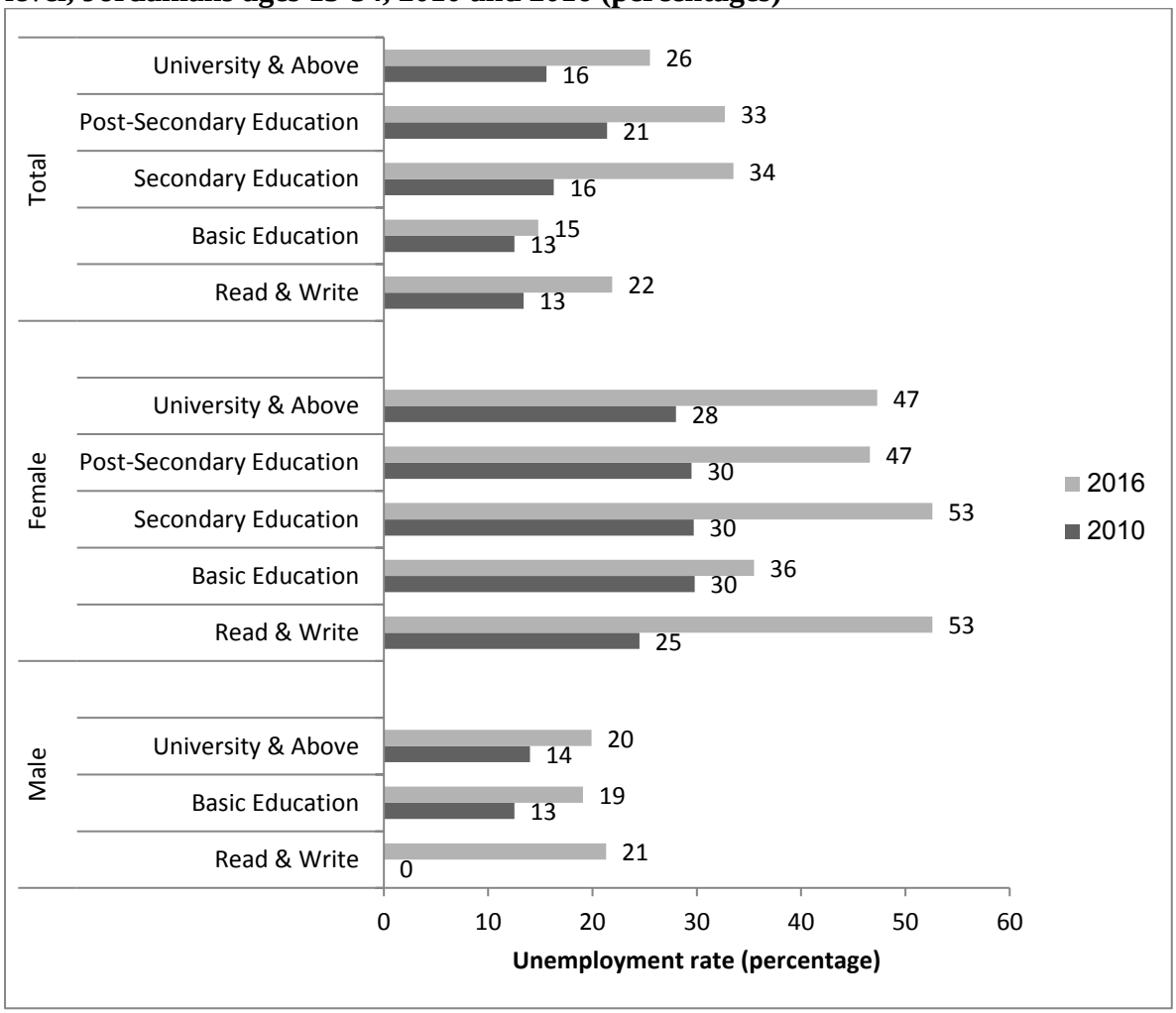
Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

As shown in Figure 6, the most educated young people are also the most affected by unemployment. Unemployment rates are high at all levels of education (ranging from 14.8% among secondary graduates to 33.5% among university graduates)[3]. The unemployment rate decreases with education then increases among post-secondary and university graduates. The

[3] There are too few observations (25 or less) among the illiterates, female who read and write and with secondary education (in 2010), and among male post-secondary graduates to estimate unemployment rate at these educational levels.

pattern of unemployment by education does not differ between 2010 and 2016. However, the unemployment rate has increased substantially for all levels of education over the 6-year period. It has risen the most (almost doubled) for those with post-secondary education, basic education and university education. The female unemployment rate is at least twofold the male unemployment rate. In 2016 it reaches more than 45% among the university graduates and more than 50% among those with basic and post-secondary education.

Figure 6: Unemployment rate, standard definition, by gender and educational level, Jordanians ages 15-34, 2010 and 2016 (percentages)

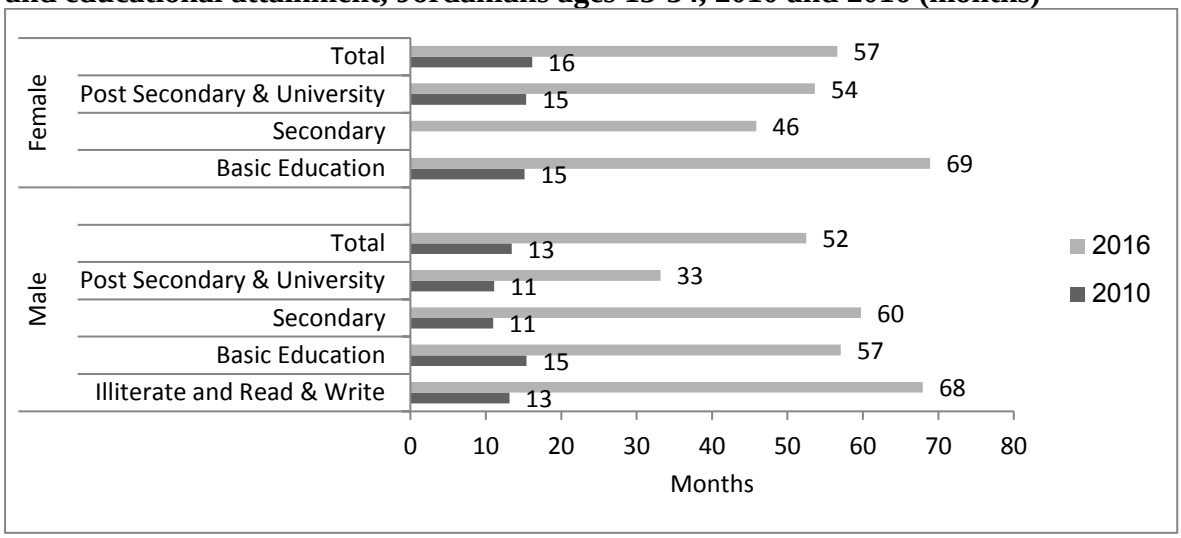


Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

Figure 7 presents the average duration of current unemployment for young people aged 15 to 34 by sex and educational level[4]. This figure clearly shows a surge in unemployment duration between 2010 and 2016 from 16 to 57 months for women and from 13 to 52 months for men. That is almost a fourfold increase in the average duration of unemployment. This considerable rise is observed at all educational levels. In 2016 the average male unemployment duration is 33 months for university graduates and is larger among the least educated (it varies between 57 months and 68 months). Female duration of unemployment ranges between 46 months and 69 months depending on educational levels.

[4] Current unemployment duration corresponds to the duration of unemployment spell (right censored) of persons unemployed during the reference week.

Figure 7: Mean of current unemployment duration, standard definition, by gender and educational attainment, Jordanians ages 15-34, 2010 and 2016 (months)



Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

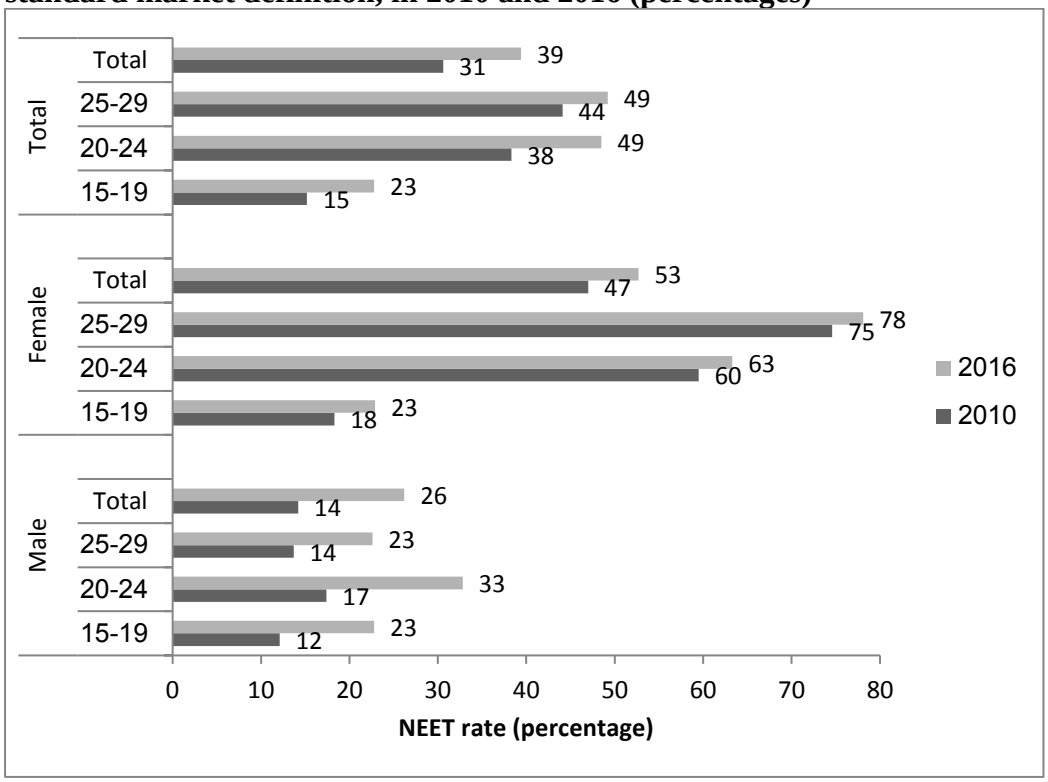
1.4 Young People not in Employment nor in Education (NEET)

This section presents the trend in the share of young adults (aged 15 to 29) who are neither employed nor enrolled in the education system (NEET) [5]. They are then either unemployed searching for a job (standard definition), discouraged unemployed (desire to work, available for work but not searching for a job) or out of the labor force. The NEET rate estimates the proportion of NEET individuals according to a certain age group. Here the analysis is restricted to those aged 15 to 29 as almost all Jordanians have left school by the age 29.

Figure 8 shows that the NEET rate for those aged 15-29 is 39.4% in 2016. It is much higher for women than for men. In 2016 half of the women are neither employed nor enrolled in the education system compared to 26.2% of men. The male NEET rate increases with age, reaching a peak of 32.8% among those aged 20 to 24 years and then decreases to 22.6% among those aged 25 to 29. The female NEET rate increases gradually and substantially with age from a rate of 22.8% among those aged 15 to 19 to 63.3% among those aged 20 to 24 and finally to a rate of 78.1% among those aged 25 to 29. Figure 8 also shows that the NEET rate increases substantially between 2010 and 2016. It almost doubles for men while it increases only by 12.1% for women.

[5] The acronym NEET refers to young people who are not employed, neither in education nor in training. Since the 2010 and 2016 JLMPS data do not provide information regarding whether or not young people are in training, in this paper the NEET rate corresponds only to those who are not employed nor enrolled in school.

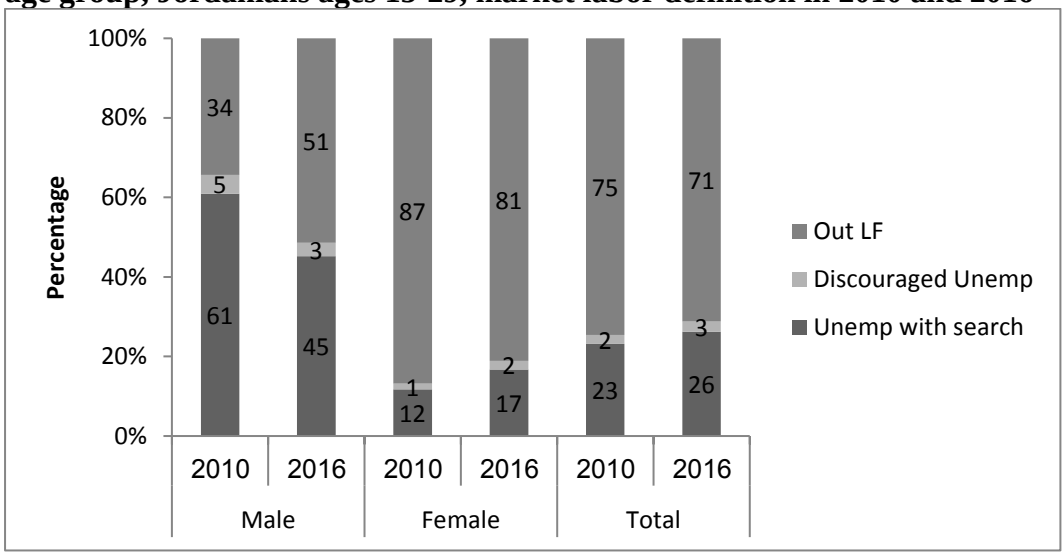
Figure 8: NEET rate by gender and age group, Jordanians ages 15-29, standard market definition, in 2010 and 2016 (percentages)



Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

Figure 9 completes the analysis by breaking down the labor market status of young adults who are neither employed nor in school. NEET youth can then be either unemployed or inactive. The unemployed are broken down into two categories: the unemployed searching for work and the discouraged unemployed not searching for work. Figure 9 shows that the distribution of employment status among men in NEET changed between 2010 and 2016. While in 2010 men not working nor in school were mostly (65.8%) unemployed (61.1% searching for a job), 34.2% were inactive. This situation was almost reversed in 2016: 45.1% were unemployed (42.0% were searching for work) and 54.9% were inactive. The distribution of NEET women according to the labor market status differs substantially from that of men. More than three-quarters of women are inactive and only a quarter are unemployed. Between 2010 and 2016 the share of unemployed women increased (from 20.0% to 25.4%) to the detriment of inactive women, which decreased from 86.9% to 80.0%.

Figure 9: Distribution of youth by labor market status among NEET by gender, age group, Jordanians ages 15-29, market labor definition in 2010 and 2016



Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

This section highlighted many changes over the period 2010-2016 in the population of young people between the ages of 15 and 34. First of all, the size of the population has increased substantially and its distribution by nationality has been modified due to the massive influx of Syrians. Second, the situation of young Jordanian men and women has deteriorated dramatically. Whatever the educational level or the age group the unemployment rate has increased sharply. The male participation rate has decreased considerably at all ages and all educational levels and female participation rate decreased among the most educated. Unemployment is also more persistent as the duration of unemployment has risen sharply. As a result, the inactivity of young men and young women has increased.

2. Survival Analysis of the Duration to Employment

The previous section showed that the unemployment rate and the share of NEET strongly increased. This part examines whether the duration (of unemployment and/or inactivity) to obtain a job after the end of studies has changed between 2010 and 2016. Survival analyses by gender, educational level, and school exit cohorts are therefore presented.

2.1 Unemployment Duration to First Job

Unemployment data showed deterioration not only in the unemployment rate but also in the duration of unemployment for individuals who reported being unemployed at the time of the JLMPS 2010 and JLMPS 2016 surveys. The purpose of this section is to extend the analysis of this phenomenon by presenting a study of the duration of unemployment before the first job using survival analysis. It estimates the probability of exit from unemployment (and thus of obtaining a job[6]) according to the duration of unemployment. Unemployment duration is constructed from two types of information depending on whether the individual eventually got a job or is still searching for a job. For people who have obtained a first job the unemployment duration is obtained from the job mobility module that provides the date (month and year) of the first job and the date (month and year) of completion of studies[7] and that informs whether the individual had an unemployment spell between the date he left school and the date of the first job. The duration of unemployment is thus the difference between these two dates. For

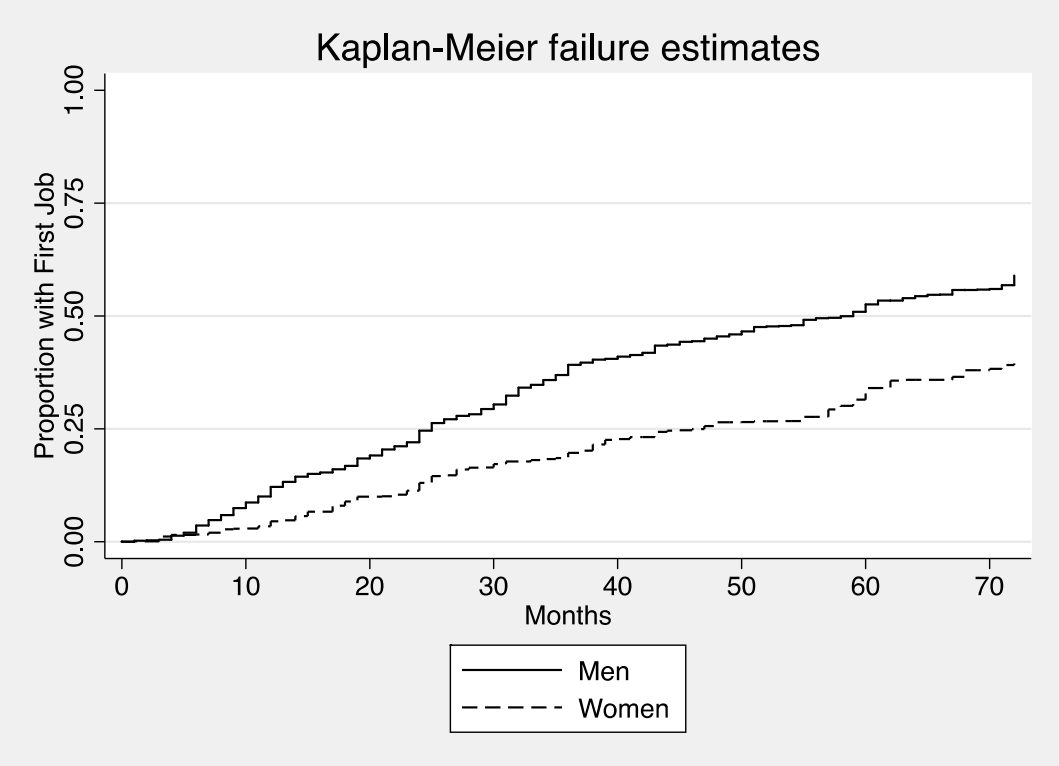
[6] To be more precise currently (at the time of the survey) unemployed individuals could exit from unemployment either to employment or to inactivity.

[7] The date of leaving school is indicated twice in the JLMPS 2016 survey. It is provided in the life calendar section and in the job mobility section. When these two dates differ, the earliest date has been taken into account. The date of end of schooling is set at age 15 when the individual has never been to school or has left the education system before the age of 15.

individuals who have never worked but who reported being unemployed at the time of the survey, the section on unemployment indicates the right-censored duration of unemployment. The duration of unemployment is measured in number of months. This analysis is limited to the 2016 JLMPS data because it alone makes it possible to determine whether the duration of non-employment between the end of school and the first job corresponds to an unemployment spell or to a period of inactivity.

Figure 10 shows the probability of exit from unemployment according to the duration of unemployment for people aged 15 to 34 in 2016. It shows that although the probability of leaving unemployment increases with the duration of unemployment it remains fairly stable and low for both men and women. After 12 months, only 12% of men and 5% of women leave unemployment. After 24 months, the proportions increase to 25% and 13% respectively for men and women. After 59 months only half of the men eventually get a job and only 31% of the women will also find a job. The female likelihood of exit from unemployment is much lower than the male one at each unemployment duration. This can be explained by the fact that women take longer to find a job that suits them, but also because many women never enter the labor market and will eventually withdraw from the labor market.

Figure 10: Proportion obtaining a first job by unemployment duration to first job and gender, Jordanians ages 15-34, standard unemployment definition in 2016



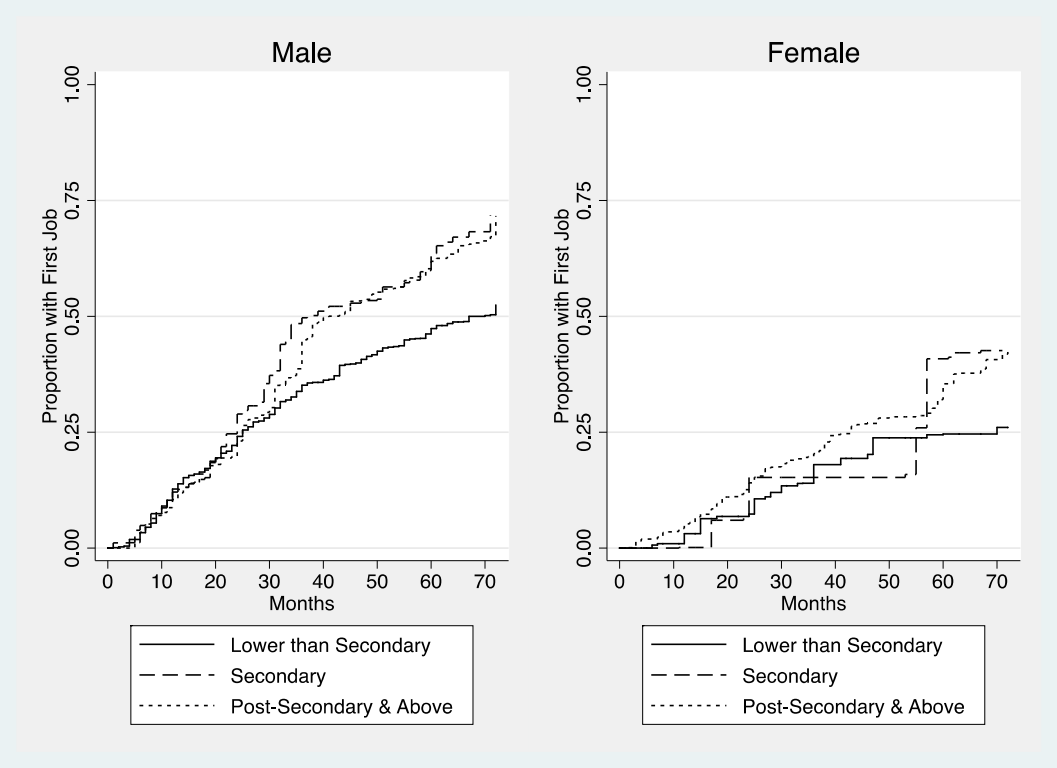
Source: Author's calculations based on JLMPS 2016

Figure 11 presents the failure estimates by education level and sex for young people aged 15 to 34 in 2016. It shows that the more men and women are educated (post-secondary graduates or university graduates) the more rapidly they exit from unemployment. The probability of leaving unemployment remains much higher for men than for women at any level of education. For men, the probability of exiting unemployment within 24 months from school exit ranges between 22% (lower than secondary education) and 25% (university education). After 2 years of unemployment the probability of finding a job for the less educated (lower than secondary) becomes lower than for the most educated. For example, half of male university graduates find

a job after 42 months of unemployment, compared to 51 months for secondary graduates and 72 months for those with less than secondary education. This result is counterintuitive to the extent that one might expect that the less educated people are not only less demanding in terms of conditions and of quality of employment but also more financially vulnerable to remain longer in unemployment.

The female failure estimates follow the same male pattern according to education but with lower exit probabilities. For example, one-quarter of university-educated women exit from unemployment after 39 months, compared to 48 months for secondary school graduates and 57 months for less-educated graduates. The interpretation of lower unemployment exit rates for less educated women can be explained by the fact that the inactivity rate of women with a secondary or lower education is very high.

Figure 11: Proportion obtaining a first job by unemployment duration to first job and gender and educational attainment, Jordanians ages 15-34, standard unemployment definition in 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2016

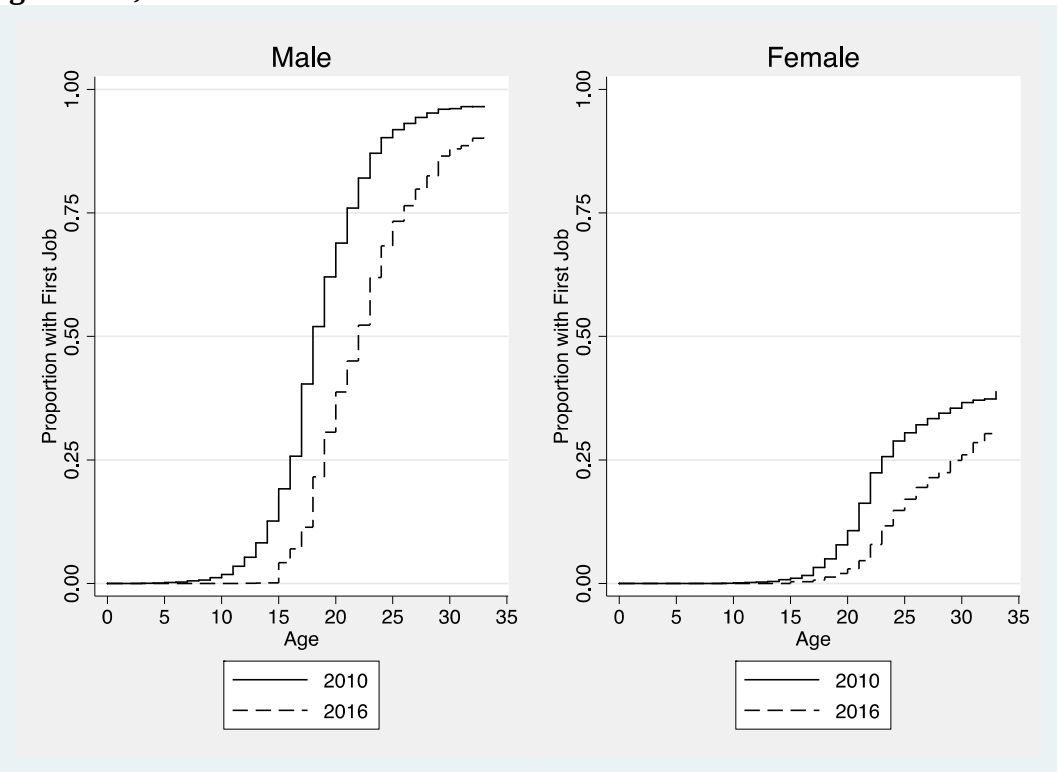
2.2 Age of First Job

Figure 12 and Figure A1 display the probability of getting a first job (for those who left the education system) by age in 2010 and 2016. Age at first job is directly given by the JLMPS 2010 and JLMP 2016 surveys. This figure shows that for both men and women the probability of working increases with age but that the age at first job is greater in 2016 than in 2010.

The probability of obtaining a job increases sharply with age for men but it deteriorated in 2016. In 2010 almost 50% of men work at the age of 17-18 while in 2016 it is only at the age of 22 that half of the men work. Also, while in 2010 employment is universal for men at age 30 (98% are employed), in 2016 the probability of finding a job reaches a plateau of 90%-93% from the age 40. Men therefore delay their entry into the labor market and a bigger share is never going to work. This might be explained by longer studies (as education attainment has improved) but also by a rise in male inactivity (other than education) as shown in section 1.

The female curve shows that although the proportion of working women increases with age, this proportion reaches a maximum of 36% in 2010, and only 25% in 2016. The age at first job is higher in 2016 than in 2010. In 2010, at the age of 25 one fourth of women work versus only 12% in 2016. As for their male counterparts, women delay entry into the labor market, but a much higher proportion will not enter it in 2016 as compared to 2010. This result is particularly worrying given that the most educated women are more active and that the level of education of women (especially at university level) has increased between the two surveys 2010 and 2016.

Figure 12: Proportion obtaining a first job by age and gender, Jordanians ages 15-34, standard market definition in 2010 and 2016*



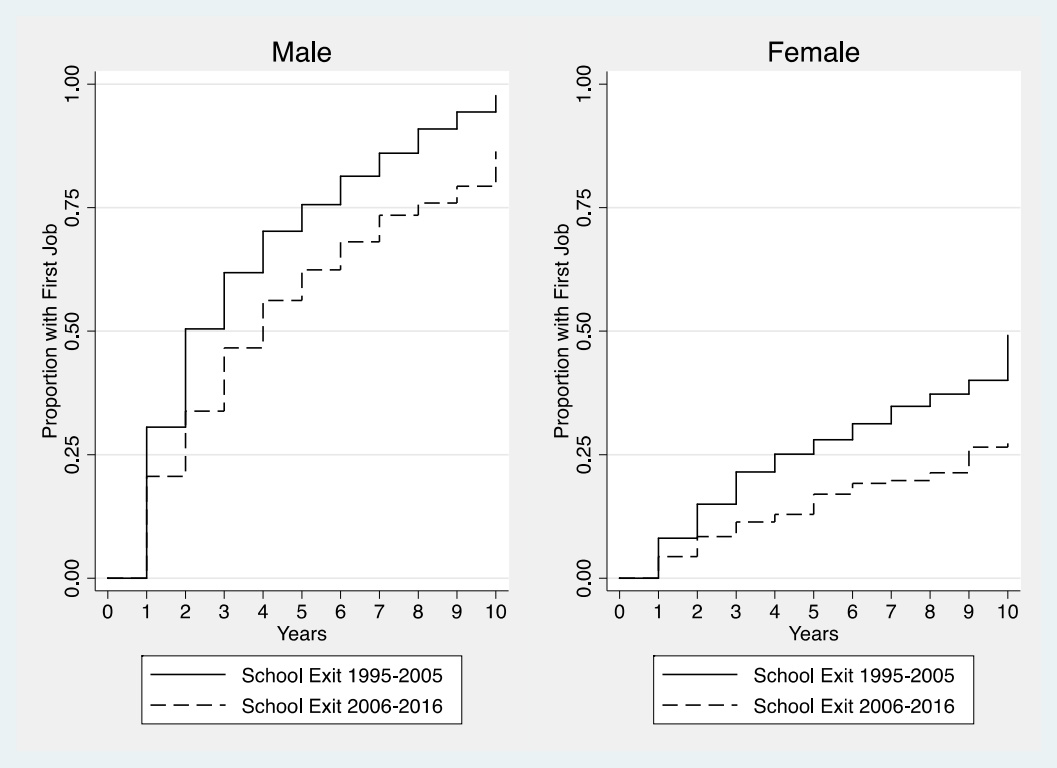
*Kaplan-Meier failure curves

2.3 Time to First Job

Figure 13 completes the age at first job analysis by presenting the duration (measured in years) between the end date of school and the date of the first job by period of school exit. This duration may be an unemployment spell or a period of inactivity or both.

Men and women who exited school between 2006 and 2016 take longer to get a job than those who exited school between 1995 and 2005. Indeed, 50% of men who exited school between 2006 and 2016 obtain a job within 4 years as compared to only 2 years for those who left school between 1995 and 2005. The trend is similar for women but the gap between the school exit cohorts is more important and it increases with the duration of non-employment.

Figure 13: Proportion obtaining a first job by time to first job, gender and school exit cohort, Jordanians ages 15-34, standard market definition, 2016*

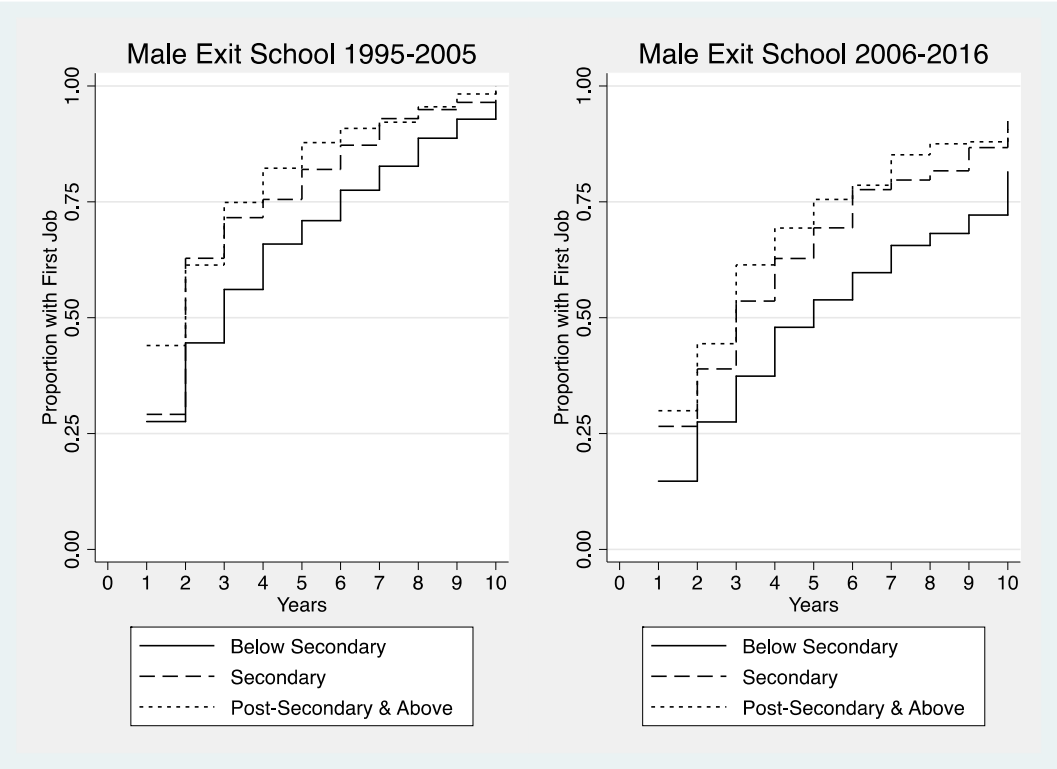


*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2016

The male proportion obtaining a job by duration to first job, educational level and school exit cohort is presented in Figure 14. The results show that, whatever the period of exit from school, the more educated the men are, the sooner they get a job. The least educated (less than secondary education) are particularly disadvantaged. Indeed, among those who left school between 1995 and 2005, half of men with a secondary school diploma or higher find a job 2 years after school against 3 years for the less educated.

The duration to find a job increases at all educational levels among those who left school between 2006 and 2016 and particularly sharply for those with no secondary education as compared to those who left school between 1995 and 2005. University and high school graduates find a job one year later; while less educated men find a job three more years later. For example, 50% of men with a university degree work 3 years after school if they left school between 2006 and 2016 as compared to 2 years if they left school the previous decade. Half of men with lower than secondary education work 6 years after school if they left school during the period 2006-2016 as compared to only 2 years if they left school during the period 1995-2005.

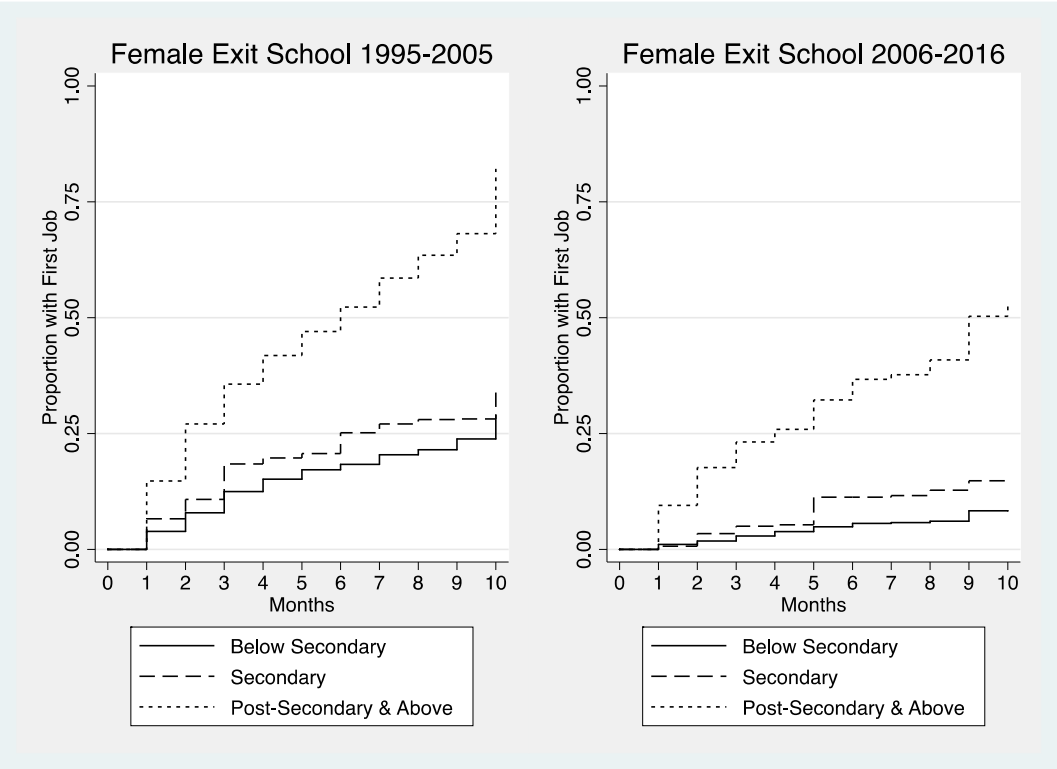
Figure 14: Proportion obtaining a first job by time to first job according to educational attainment and school exit cohort, Jordanian men ages 15-34, standard market definition in 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

Figure 15 illustrates the estimates of time to obtain a job by level of education and school exit cohort for women aged 15 to 34 in 2016. It shows that women with a university degree have a much higher probability of working than other women. Thus, among the school exit cohort 1995-2005, 2-3 years after school 25% of female university graduates work against less than 10% of women with a secondary education and less than 5% of women with lower than secondary education and. On the other hand, while nearly 75% of women with a university degree will end up working, this only affects 25% of women with less education. This confirms the fact that the participation rate of Jordanian women increases with the level of education and that it is particularly high for women who have pursued studies after secondary education. As for men, the probability of working decreases at all educational levels among women who left school between 2006 and 2016 as compared with women who left school a decade earlier. For example, 25% of female university graduates will take 4 to 5 years to get a job if they exited school between 2006 and 2016 as compared to only 2 to 3 years if they exited school between 1995 and 2005. Moreover, the proportion of women who eventually work also decreases over time. While 60% of women with a university degree end up getting a job if they completed their education from 1995 to 2005, they are only 50% if they completed their education a decade later. Similarly, only 8% of women with a secondary degree end up finding a job if they left school between 2006 and 2016 as compared to 16% if they left school between 1995 and 2005.

Figure 15: Proportion obtaining a first job by time to first Job according to educational attainment and school exit cohort, Jordanian women ages 15-34, standard market definition, in 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

2.4 Duration to Formal Job

This section presents the results of the survival analysis of the duration to obtain a formal job after leaving the education system among individuals who ever worked. In this paper a formal job is defined as a job with a written contract or social security whereas an informal job is defined as a job without a written contract nor social security. This analysis is restricted to the JLMPS 2016 data as it better captures the successive types of jobs obtained after leaving school[8].

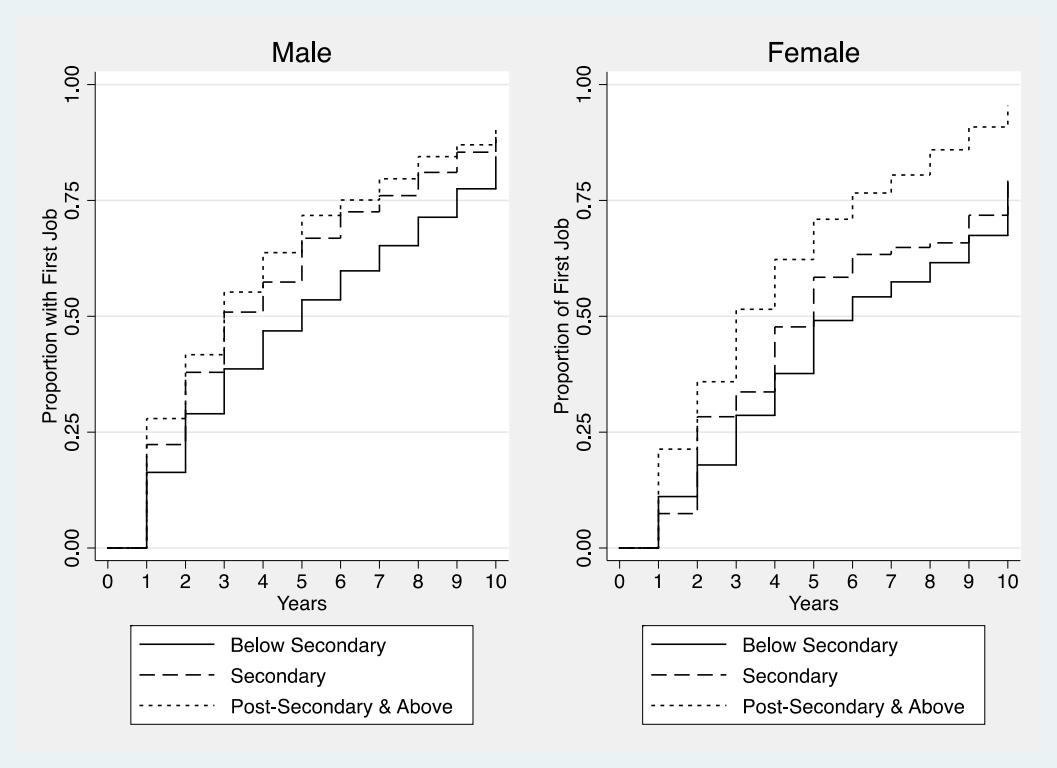
Figure 16 presents estimates of time to obtain a formal job versus an informal job among people aged 15-34 who ever worked. The failure estimates show that the vast majority of men end up in formal employment regardless of their educational level. However, the proportion of men who obtain formal employment over a 10-year period after leaving school, varies by level of education. The more men are educated, the more likely they are to obtain formal employment: 90% of university graduates, 85% of secondary school graduates and only 78% of men with lower secondary education. Moreover, the more men are educated the sooner they get a formal job. In fact, half of men with a university degree obtain a formal job within 2-3 years after school, as compared to 3 years for those with a secondary school diploma and 4-5 years for those with lower education level.

Female failure curves illustrate also that the more women are educated, the higher the probability of finding a formal job, and the sooner they find a formal job. For example, half of women with a university degree find a job within 2-3 years after school and women with less education within 4-5 years. Also the proportion of women obtaining a formal job 10 years after graduation is 91% for women with a university degree, 80% for women with a secondary

[8] Or at age 15 if the individual was never enrolled in school or left school before the age of 15.

school diploma and 70% for women with a lower education level.

Figure 16: Proportion of obtaining a formal job by time to first formal job according to gender and educational attainment, Jordanians ages 15-34, standard market definition, individuals who ever worked, 2016*

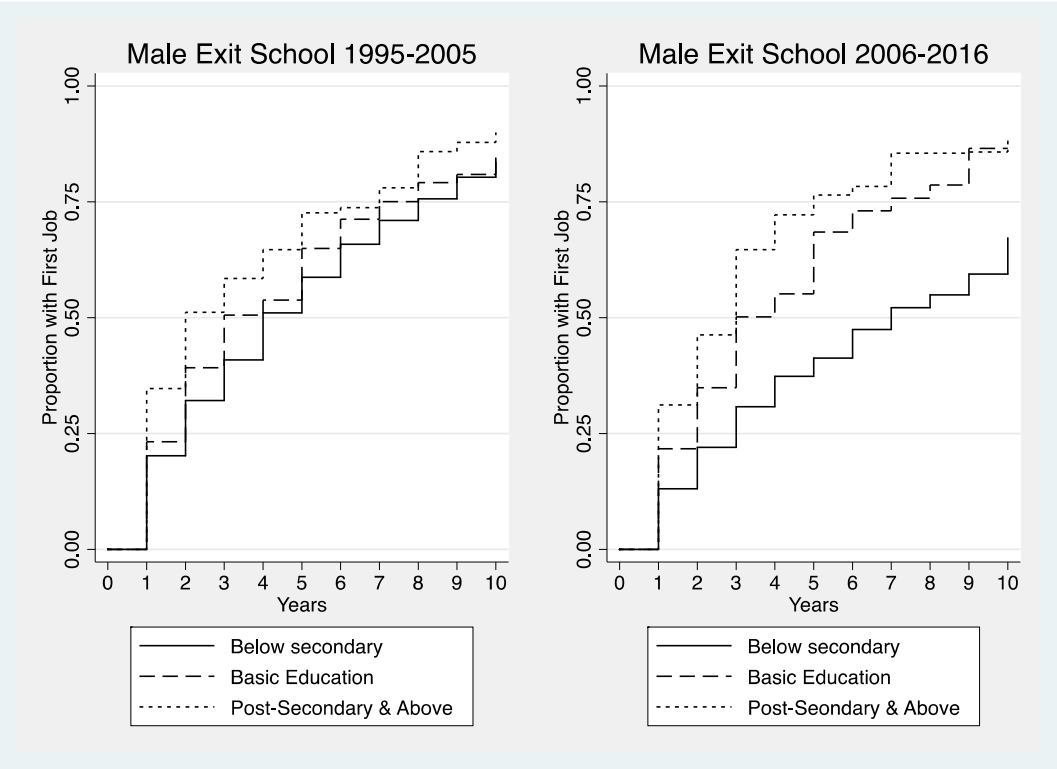


*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2016

In order to take into account the changes in time, Figure 17 and Figure 18 present the results of the survival analysis of the duration to a formal job according to educational level but also according to the end of school period. Two cohorts are taken into account: those who left school in 1995-2005 and those who finished their education between 2006 and 2016. These two figures present the probability of obtaining a formal job for people who have worked or never worked in their lifetime.

Figure 17 displays the failure estimates for men. The comparison of the two end-of-study cohorts shows a disparity between men with at least a secondary school diploma and those with a lower education level. The situation of the former is almost identical (secondary level) or better (university and higher level) for those who completed their studies between 2006 and 2016 as compared to those who left school between 1995 and 2005. On the other hand, men with lower education attainment take longer to get a formal job if they completed their education in 2006-2016 compared to those who completed their studies between 1995 and 2005. Moreover, a smaller proportion of men with lower education obtain formal employment if they finished their studies during the most recent decade. Thus, the gap across educational levels has greatly increased for the cohort of men who completed their studies between 2006 and 2016. The lower their educational level is, the more difficult and the longer it is to find formal employment.

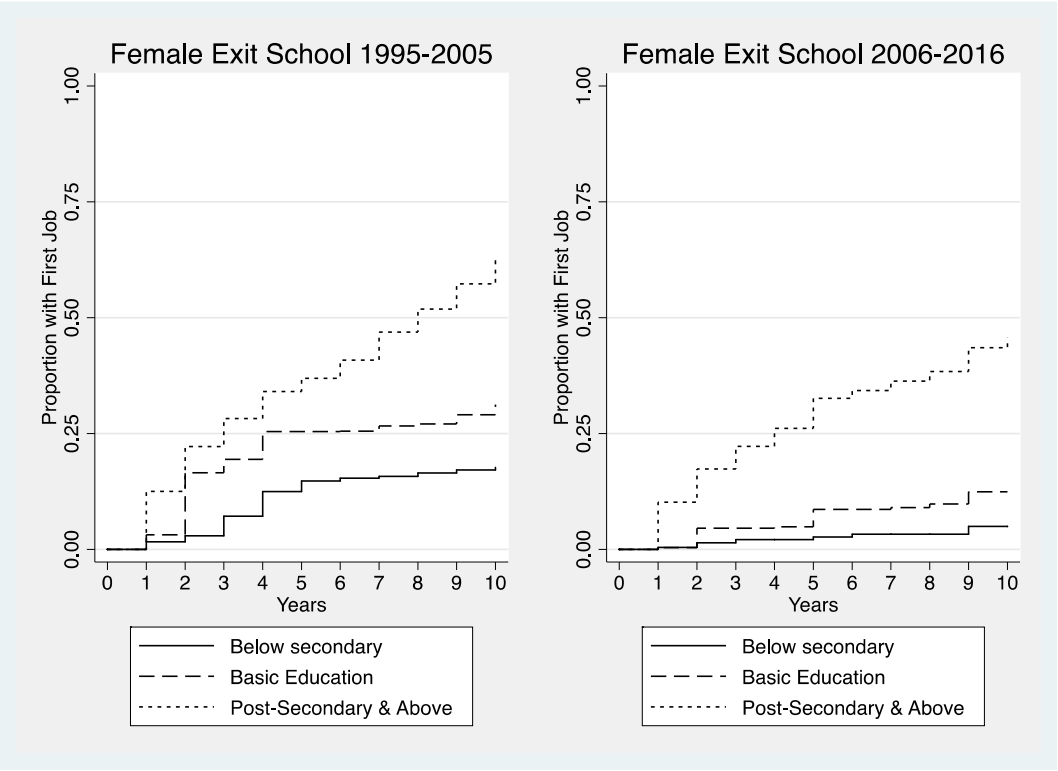
Figure 17: Proportion of obtaining a formal job by time to first formal job according to gender and educational attainment, Jordanian men who ever or never worked, standard market definition, 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2016

Figure 18 illustrates the estimates of time to obtain a formal job for women by level of education and by end of school cohort. It shows that the failure curves patterns are very different depending on whether women have a university degree or not. A substantial proportion of university graduates end up in formal employment a few years after graduation, while very few women with lower education obtain one. In contrast to men, the probability of obtaining formal employment for women declined sharply for all levels of education for those who completed their education between 2006 and 2016 compared to those who completed their studies between 1995 and 2005. The most recent graduates also take longer to obtain formal employment. For example, nearly 70% of women with a university degree and having completed their studies between 1995 and 2005 end up in formal employment. This proportion falls to less than 50% for those who have completed their studies a decade later. Similarly, nearly 25% of women with a secondary school diploma and having completed their education between 1995 and 2005 obtain formal employment as compared to less than 10% for their counterparts who completed their education 10 years later.

Figure 18: Proportion of obtaining a formal job by time to first formal job according to gender and educational attainment, Jordanian women who ever or never worked, standard market definition, 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2016

3. Trend in First Labor Market Status

3.1 Methodology

The first employment status variable after leaving school was created using the information obtained from the mobility section of the JLMPS 2016. This section presents retrospectively the history of employment/non employment of individuals. Individuals surveyed inform about their first labor market status and all the successive labor market statuses. To generate the first labor market status after the end of school, it was necessary to compare the dates of obtaining the first labor market status with the date of end of school[9]. For people who have never been to school or have completed/left the education system before the age of 15, it is assumed that the first labor market status is the one when they were 15 years old.

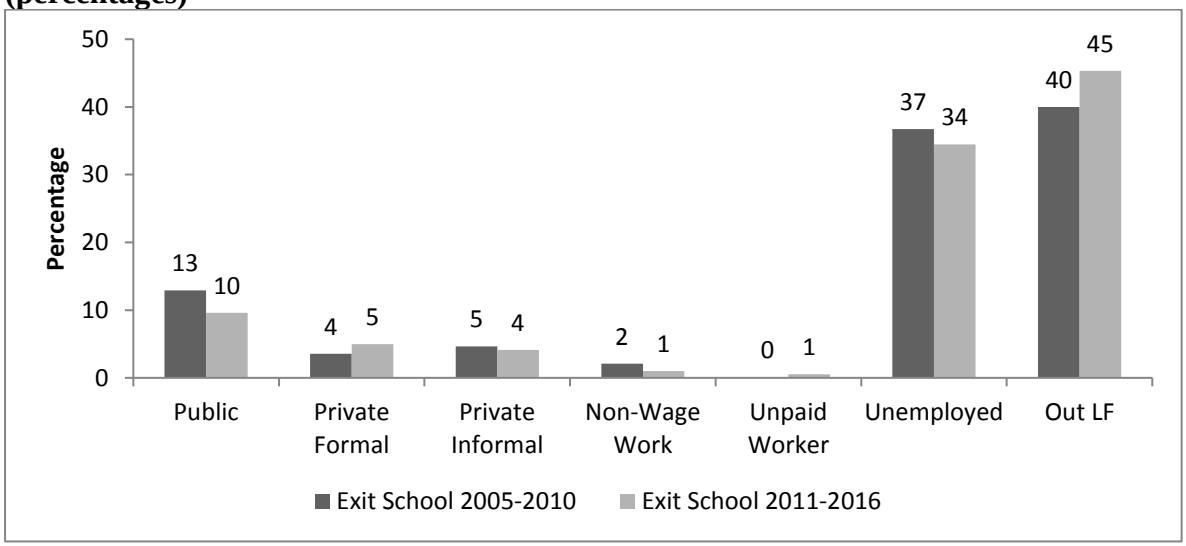
Only individuals who have ever worked in their lifetime provide information about their labor market history. This is why it is assumed in this paper that individuals who have never worked after leaving the education system have always been in the same labor market status (unemployment or inactivity). The labor market statuses considered here are as follows: public employment (comprising employment in government bodies and employment in public enterprises), private formal employment (private sector employment with a written employment contract and/or social security), private informal employment (private sector employment without a written employment contract nor social security), non-wage work (including employers and self-employed), unemployment, and inactivity. In order to analyze the evolution of the first labor market status, two cohorts are compared: those who left school between 2005 and 2010 and those who left school between 2011 and 2016.

[9] Whatever the reason for leaving school is (completed the cycle of education or dropped out).

3.2 Trend in Male First Labor Market Status

Figure 19 shows that the distribution of the first labor market status of young men changed according to the period of school exit. Among those who left school between 2005 and 2010, less than a quarter (23%) obtained a job: primarily a formal job (13% in the public sector and 4% in the private sector). Very few young men are non-wage workers or unpaid family workers. The others were either inactive (40%) or unemployed (37%). Those who left school more recently, between 2011 and 2016, are less active. Only a fifth (20%) found a job and in particular the proportion of public employment decreased substantially from 13% to 10%. While unemployment decreased from 37% to 34%, inactivity increased substantially from 40% to 45%.

Figure 19: Male first labor market status by school exit cohort, Jordanians (percentages)



Source: Author's calculations based on JLMPS 2016

Table 2 also shows that the higher the educational level is, the more young men obtain a protected employment (in both public and private sectors) although this share is lower for those who exited school between 2011 and 2016 as compared to those who left school between 2005 and 2010. Moreover, men with secondary and above education who exited school recently are much less likely to get a public job as compared to those who left school between 2005 and 2010. Among those who left the education system between 2005 and 2010 the more they were educated the less they were unemployed or out of the labor force. However, the evolution of unemployment and inactivity by cohort of school exit differs according to whether men have an educational level lower than or equal to secondary. Jordanian men with an educational level less than or equal to secondary and who left school between 2011 and 2016 are less unemployed and more inactive than those who left school earlier. On the contrary, those with post-secondary or university education are more likely to be unemployed but less inactive if they have left school more recently.

Table 2: Male first labor market status by educational level and period of exit from school, Jordanians (percentages)

School Exit 2005-2010

	Lower than Secondary	Secondary	Post-secondary and University	Total
Public	6.9	15.8	21.2	12.9
Private Formal	2.3	3.6	5.6	3.6
Private Informal	5.6	6.0	2.3	4.7
Non-Wage Work	2.2	1.1	2.5	2.1
Unpaid Worker	0.1	0.0	0.0	0.0
Unemployed	40.1	34.7	32.5	36.8
Out LF	42.8	38.8	36.0	40.0
Total	100.0	100.0	100.0	100.0
Sample Size	*708*	*198*	*385*	*1,291*

School Exit 2011-2016

	Lower than Secondary	Secondary	Post-secondary and University	Total
Public	7.3	9.1	14.0	9.6
Private Formal	2.3	3.8	10.2	5.0
Private Informal	3.3	4.3	5.5	4.1
Non-Wage Work	1.1	1.3	0.7	1.0
Unpaid Worker	0.9	0.1	0.1	0.5
Unemployed	33.3	29.2	38.8	34.5
Out LF	51.9	52.3	30.7	45.4
Total	100.0	100.0	100.0	100.0
Sample Size	*857*	*186*	*496*	*1,539*

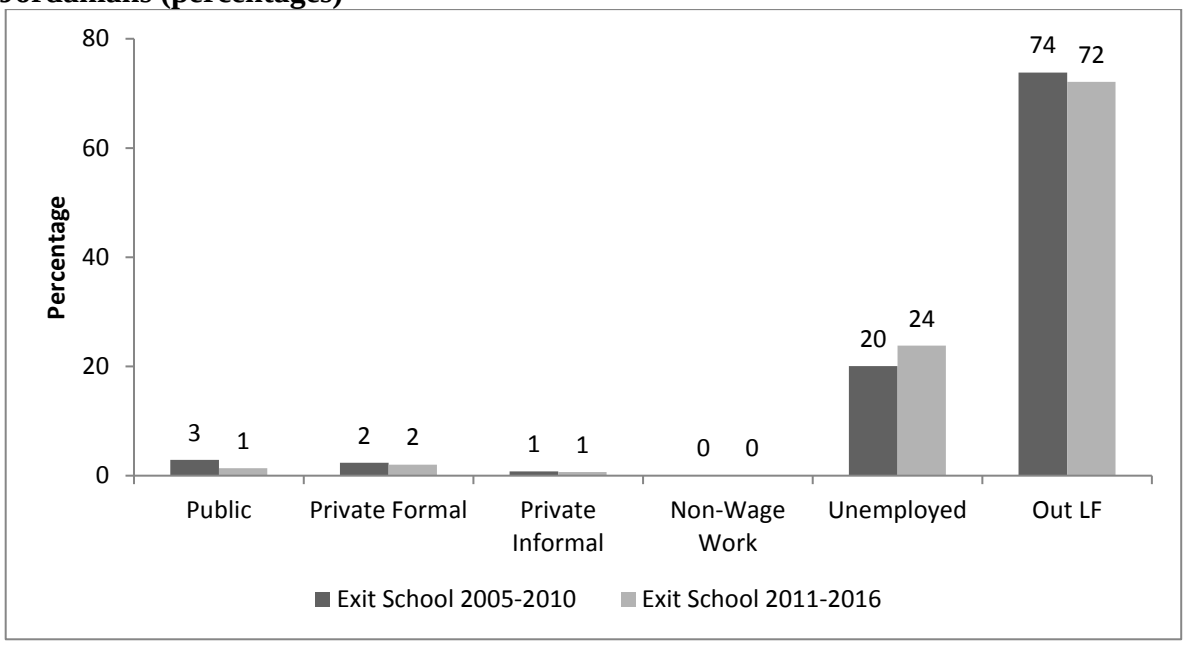
Source: Author's calculations based on JLMPS 2016

2.3 Trend in Female First Labor Market Status

Figure 20 illustrates that after exiting school women are largely not employed. They are mainly inactive (74% if they left school between 2005 and 2010 and 72% if they left school between 2011 and 2016) or to a lesser extent unemployed (20% if they left school between 2005 and 2010 and 24% if they left school between 2011 and 2016). Employment thus occupies a very small share of the first labor market statuses (6.% if they exited school between 2005 and 2010 and only 4% if they exited school between 2011 and 2016). Employment is limited to formal employment (mostly in the public sector) as informal jobs or non-wage work is quasi

nonexistent. The share of unemployment increased while the shares of employment and inactivity decreased for those who left school more recently.

Figure 20: Female first labor market status by school exit cohort, Jordanians (percentages)



Source: Author's calculations based on JLMPS 2016

The distribution of the first labor market status differs substantially according to whether women have an educational level lower or higher to secondary (See Table 3). Women who have not reached post-secondary level are almost all inactive after leaving the education system; the proportion varies between 86% and 91% for those who left school between 2005 and 2010 between 89% and 93% for those who left school more recently. Women with a higher education degree (post-secondary or university diploma) are much less inactive and are more unemployed or, to a lesser extent, more employed. For example, among women with a university degree who exited school between 2011 and 2016, 8% are employed (exclusively in public or private protected employment), 46% are looking for a job and 46% are inactive. However, the share of unemployment among the most highly educated women who left school more recently has risen while the shares of employment and inactivity have decreased, as compared to women who left school between 2005 and 2010.

Table 3: Female first labor market status after school by school exit cohort, Jordanians (percentages)

	School Exit 2005-2010			
	Lower than Secondary	**Secondary**	**Post-secondary and University**	**Total**
Public	0.3	3.0	5.4	2.9
Private Formal	0.9	0.7	4.4	2.4
Private Informal	0.6	2.9	0.3	0.8
Non-Wage Work	0.1	0.0	0.1	0.1
Unemployed	7.1	7.7	36.9	20.0
Out LF	91.0	85.7	53.0	73.8
Total	100.0	100.0	100.0	100.0
Sample Size	*503*	*186*	*548*	*1,237*

	School Exit 2011-2016			
	Lower than Secondary	**Secondary**	**Post-secondary and University**	**Total**
Public	0.1	0.0	3.1	1.4
Private Formal	0.4	1.7	3.7	2.0
Private Informal	0.0	0.0	1.5	0.7
Unpaid Worker	0.0	0.0	0.1	0.0
Unemployed	5.9	9.0	45.5	23.8
Out LF	93.6	89.3	46.2	72.1
Total	100.0	100.0	100.0	100.0
Sample Size	*617*	*178*	*756*	*1,551*

Source: Author's calculations based on JLMPS 2016

4. Pathways to the Labor Market

This section looks at the early career trajectories of Jordanian men and women. It tracks individuals over 1, 2, 3, and 4 years after the date they exit the education system. It estimates the transition rates between various first labor market statuses and the employment statuses 1, 2, 3 and 4 years after.

4.1 Methodology

The first labor market status in this section has been retrieved from the JLMPS 2016 mobility section that provides very rich information on the successive labor market statuses (whether it is employment, unemployment or inactivity) and the date of start and date of end of these successive labor market statuses if the individual ever worked. The labor market status at time 0 is the employment status that begins at the date of exit from school or the date when the individual is 15 if he/she never went to school or if he/she dropped out from before the age of 15. Some assumptions have been made in order to determine the labor market status 1, 2, 3 and 4 years after the end of schooling. First, if the individual never worked and is not enrolled in school/university it is assumed that the first labor market status is the current labor market

status (either unemployment or inactivity) and that it never changed[10]. Second, if the individual worked before the end of his/her studies the date of entry in the labor market is defined as the date of end of school. Third, if the date of the first job is more than one year later than the date of exit from school and that the individual did not report that he/she was unemployed or out of the labor force after school it is assumed that he/she was out of the labor force between the date of exit from school and the date of the first job. Finally, when the reported date of end of school differs in the life calendar section and in the mobility section it is assumed that the date of end of school is the earlier one.

In order to take into account the demographic and economic changes since 2011 (influx of Syrian refugees and slowdown of economic growth), transitions rates are calculated for two groups of individuals: those who exited school over the period 1995-2005 and those who exited school over the period 2006-2016. Seven labor market statuses are distinguished: public employment, formal private employment, informal private employment, non-wage work, unpaid work, unemployment, and inactivity.

4.2 Male Early Career Trajectories

Figure 21 shows the 1, 2, 3 and 4-year transition rates between men's labor market statuses based on a given labor market status in time 0 (i.e. at the date of exit from school)[11]. This figure shows that Jordanian men are not very mobile. They very rarely change their employment status over a period of four years after exiting school.

The first two labor market statuses considered are extremely persistent (Figure 21a and Figure 21b). Whatever the period of school exit, Jordanian men who have worked as formal wage workers from the beginning of their entry into the labor market do not change their employment type. Indeed, more than 95% of men who worked as protected wage workers in the public sector or in the private sector retained the same labor market status in the next 4 years. As presented in Figure 21c, the vast majority of men who entered the labor market as informal wage workers stay in the same labor market status over a period of 4 years. However the persistency rate for those who entered the labor market over the 2006-2016 period is lower (77%) than for those who entered the labor market a decade earlier (87%). Very few (11%) end up obtaining a formal private job 4 years after they left school. Thus there are almost no transitions between public and private jobs or transitions between formal and informal jobs. The Jordanian labor market appears to be extremely segmented between different types of jobs.

Figure 21d and Figure 21e also show that men who started their entry into the labor market by a period of unemployment or inactivity are more mobile. A minority of young Jordanian men who have been unemployed after leaving school end up getting a job a few years later (mostly protected jobs in the private or in the public sector). However, those who have exited school more recently (between 2006 and 2016) are less likely to find a job 4 years after graduation. Indeed, 46% of those who entered the labor market between 1995 and 2005 obtain a job 4 years after their entry (26% a public job, 10% a private formal job and 8% a private informal job) while only 39% find a job (18% a public job, 9% a private formal job and 9% an informal job) if they entered the labor market a decade later. Moreover, the transition from unemployment to public employment has dropped from 26% for those who left school between 1995 and 2006 to 18% for those who left school more recently, between 2006 and 2016.

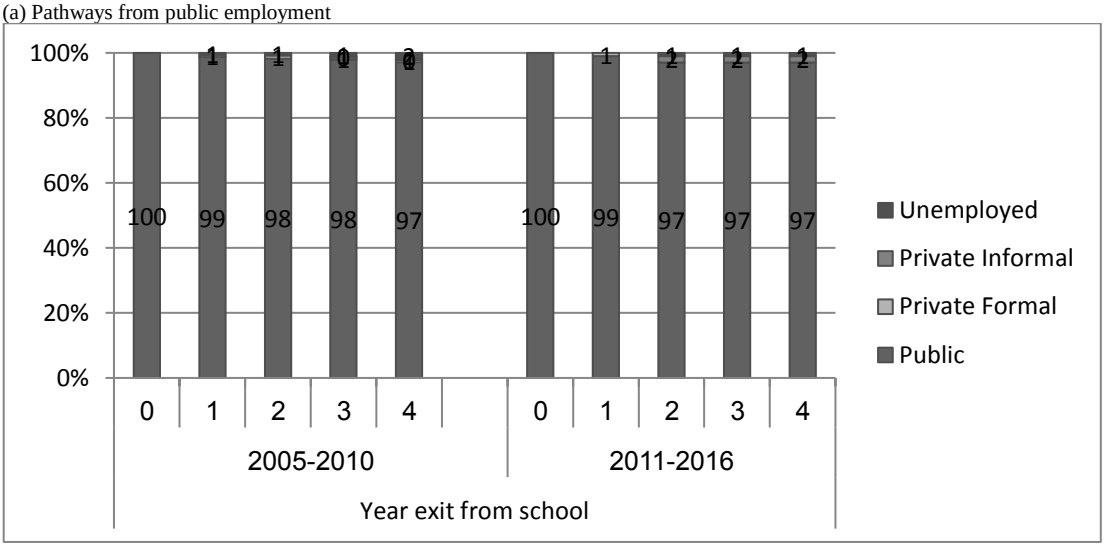
Transitions from inactivity are quite similar to those from unemployment (See Figure 21e). A small majority (54%) of those who left school between 1995 and 2005 find a job within 4 years. They end up with a protected job (29% in the public sector and 16% in the private sector); very rarely they work informally (4%) or become non-wage workers. A smaller share of those who

[10] Transitions between unemployment and inactivity are thus not taken into account in the case individuals never worked.
[11] Due to too few observations (less than 50) transitions from non-wage work and unpaid work are not presented.

left school a decade later find a job: only one third find a job 4 years after school. The majority of jobs obtained are formal jobs: 12% in the public sector and 14% the private sector. However, between the two periods of school exit the share of informal employment doubles (from 4% to 8%) to the detriment of public employment, whose share has fallen from 29% to only 12%.

Figure 21: Male transitions rates over 1,2, 3 and 4 years from exit from school by first employment status and period of exit from school, Jordanians

(a) Pathways from public employment



(b) Pathways from formal private employment

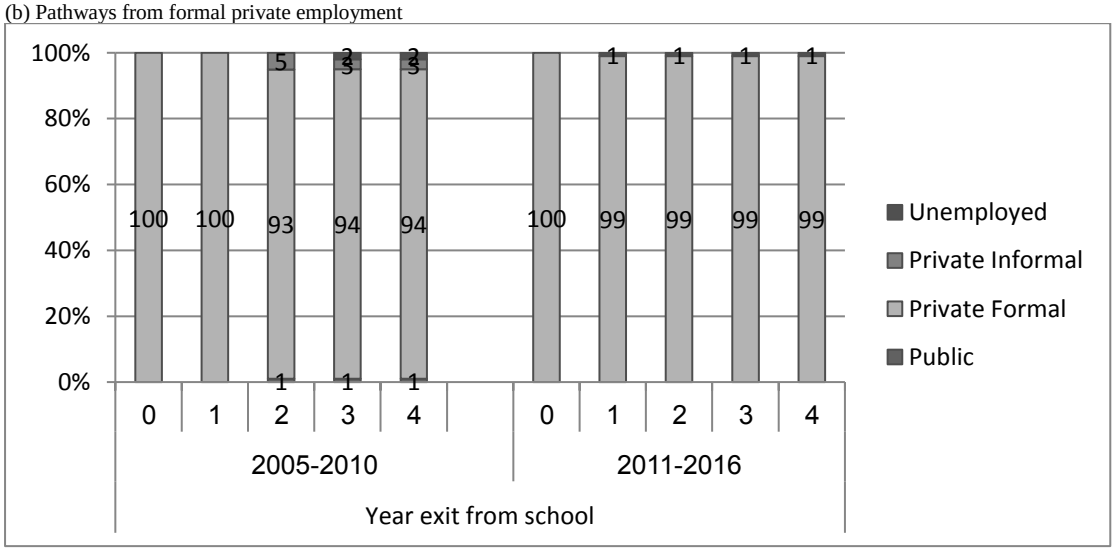
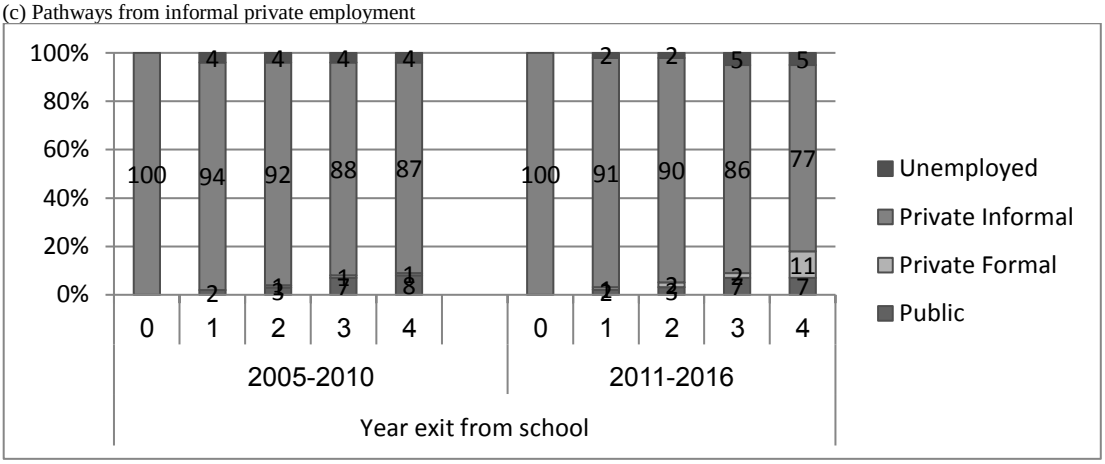
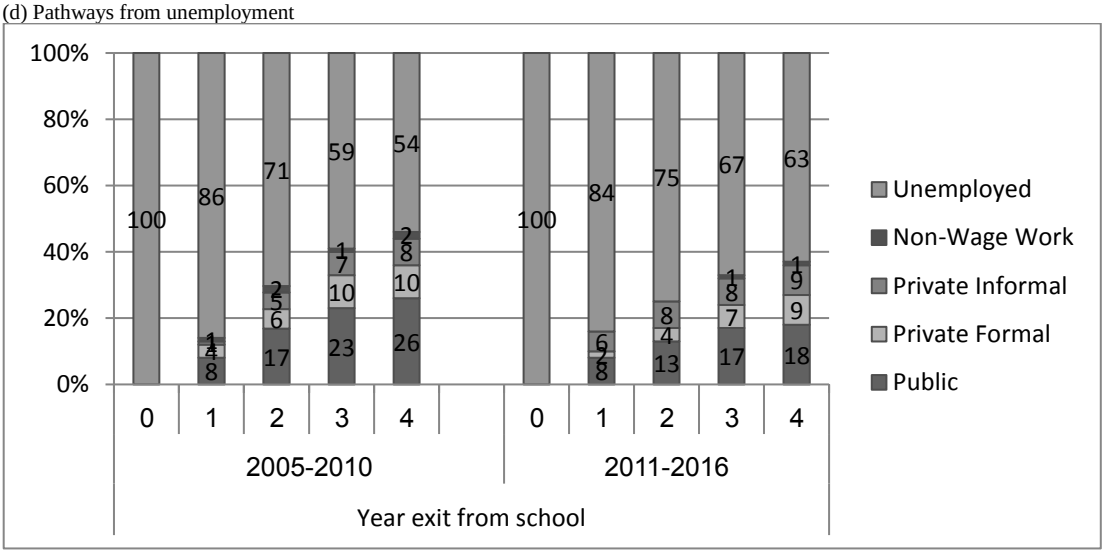


Figure 21 (continued): Male transitions rates over 1,2, 3 and 4 years from exit from school by first employment status and period of exit from school

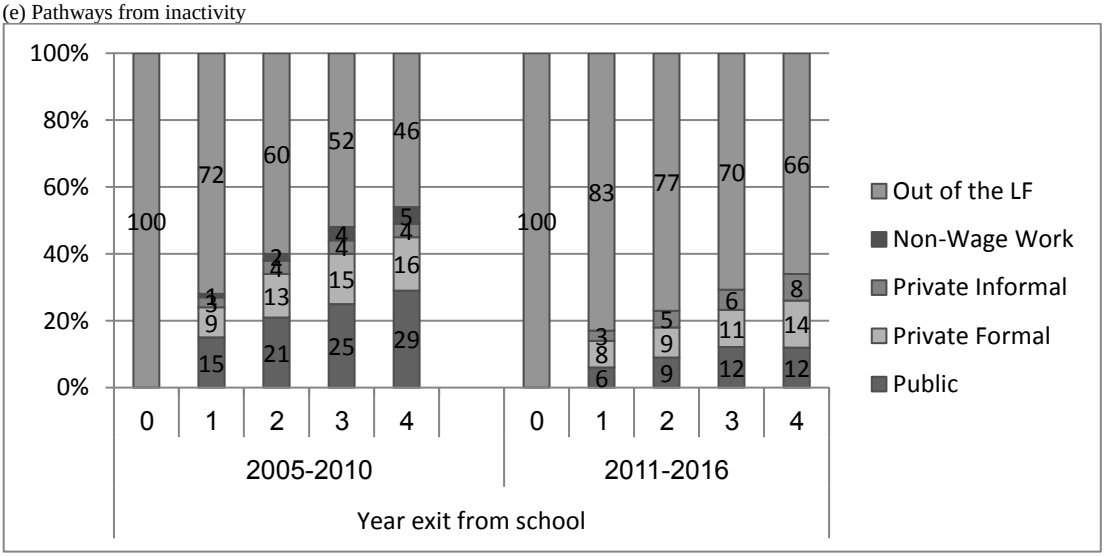
(c) Pathways from informal private employment



(d) Pathways from unemployment



(e) Pathways from inactivity



Source: Author's calculations based on JLMPS 2016

4.2 Female Early Career Trajectories

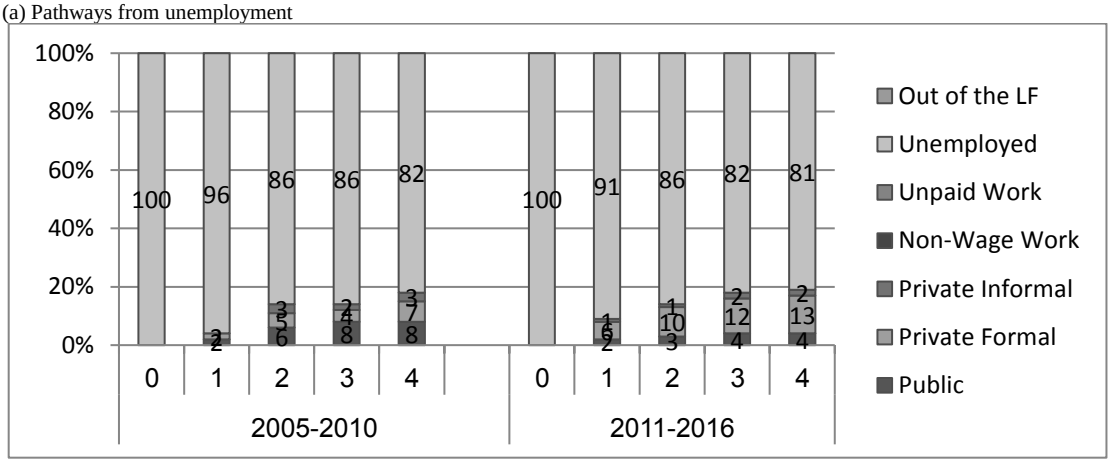
Figure 22 shows the transition rates from the first employment status of women (whether it is unemployment or inactivity) to other employment statuses for those exiting school between 1995 and 2005 and between 20006 and 2016. Only transitions from unemployment and from inactivity are presented because the number of observations of women obtaining a job at the date of end of school is very small (less than 50 observations).

Women are very rarely mobile as unemployment and inactivity are very persistent. Indeed, more than 80% of women who are unemployment after school remain unemployed during 4 years. The persistency rate is even more acute (more than 90%) among women who are inactive after school. Moreover the persistency rate in unemployment and in inactivity does not vary with the period of exit from school (1995-2005 or 2006-2016).

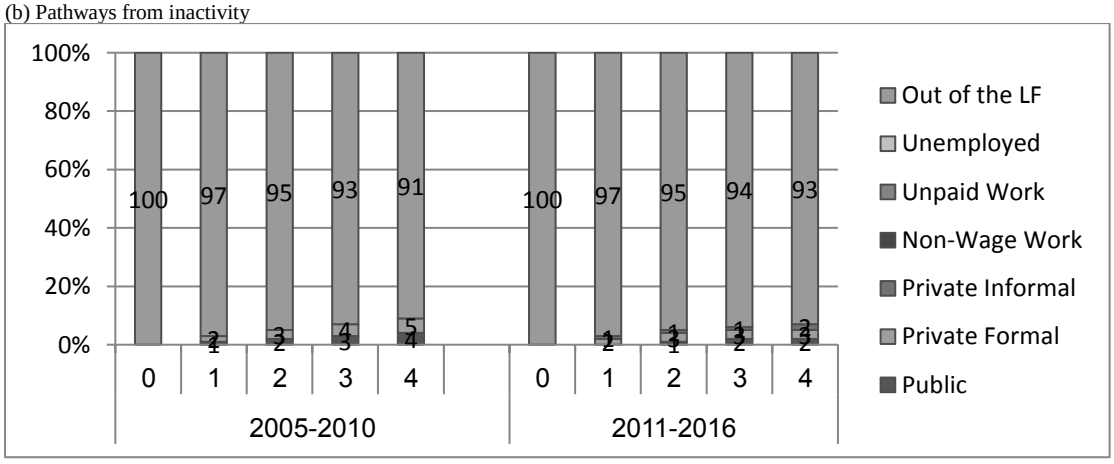
The few women who exit from unemployment obtain a formal job: 15% if they left school between 1995 and 2005 and 17% if they left school between 2006 and 2016. The only change that occurred between the two exit school periods if the fact the proportion of public employment has been halved (as it decreased from 8% among those who exited school between 1995 and 2005 to only 4% among those who left school more recently) to the benefit of private formal employment which share rose from 7% to 13%.

Figure 22: Female transitions rates over 1, 2, 3 and 4 years from exit from school by first employment status (unemployment or inactivity) and period start of first job in 2005-2010 and 2011-2016

(a) Pathways from unemployment



(b) Pathways from inactivity



Source: Author's calculations based on JLMPS 2016

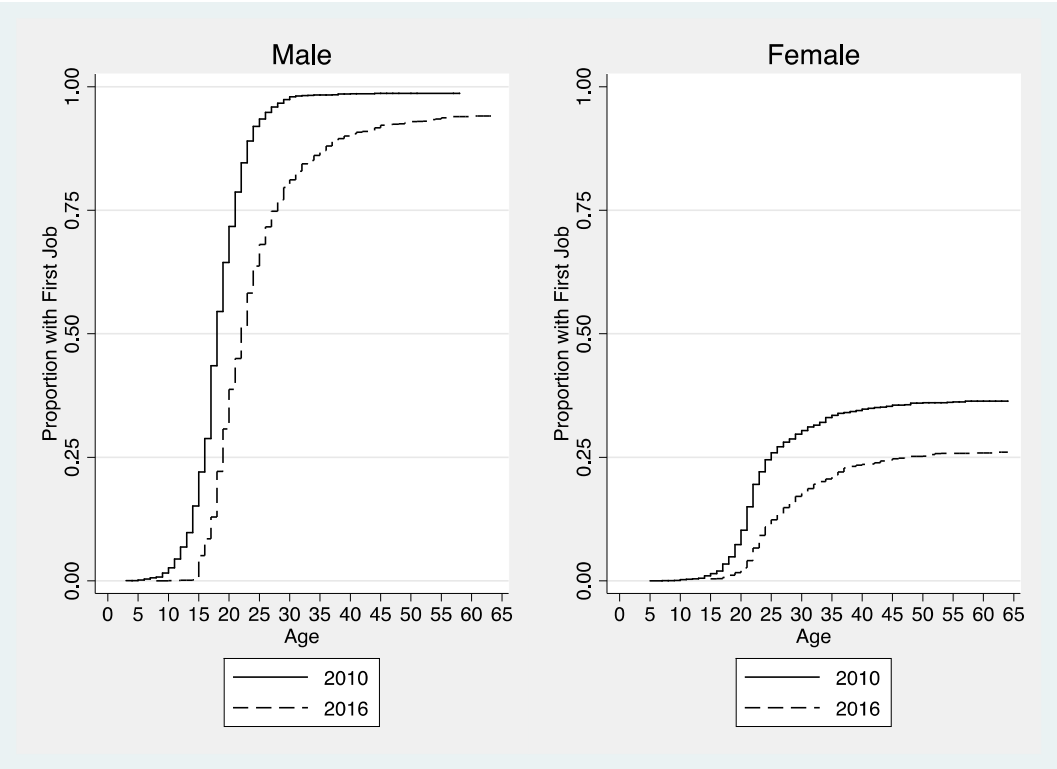
Conclusion

The Jordanian economy has experienced a major shock with the massive influx of Syrians fleeing war in their country. This has altered the Jordanian distribution of its population. Despite a general improvement of the educational attainment of Jordanian youth between 2010 and 2016, the unemployment rate has risen sharply, for both men and women at all educational levels and for all age groups. Moreover, labor force participation of young men declined sharply for all age groups and at all educational levels. Female labor force participation decreased among the segment of the most active women, the post-secondary and university graduates. It is also worrying that over the 2010-2016 period the proportion of NEET among young people has increased, particularly sharply among young men. The study of the trend in the first employment status has shown a similar phenomenon: a larger proportion of young men and women are unemployed or inactive after leaving the education system. The survival analysis of the duration to the first job showed that the entry in the labor market has been delayed for both men and women and that a greater proportion does not enter the labor market in 2016 as compared to 2010.

The analysis of early career paths revealed three lessons. In the first place, young Jordanians are very immobile in the labor market and are more so if they left the educational system in the last decade. They only change their employment status when they are initially unemployed or inactive (for men). Secondly, the Jordanian labor market is segmented: there is almost no transition between the three main types of employment: public employment, formal private employment and informal private employment. Finally, an initial unemployment or inactivity spell after exiting school leads less to public employment for both men and women.

Appendix

Figure A1: Proportion obtaining a first job by age and gender, Jordanians ages 15-64, standard market definition in 2010 and 2016*



*Kaplan-Meier failure curves
Source: Author's calculations based on JLMPS 2010 and JLMPS 2016

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