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Abstract

In this paper we use the Jordan Labor Market Panel Surveys (JLMPS) of 2010 and 2016 to examine recent change in marriage and fertility outcomes among Jordanians, as well as among the Syrian refugee population in Jordan. The new data from the JLMPS 2016 demonstrates considerable continuity in marriage practices among Jordanians. Jordanian men and women have seen very modest increases in median age at first marriage of one or two years over recent cohorts. Education is the main factor associated with later ages at marriage and, correspondingly for women, later ages at first birth. The cost of marriage in real terms has declined since 2010, so marriage costs are unlikely to be a major contributor to recent trends in the age at marriage. Despite the relatively small increase in age at first marriage, the JLMPS 2016 data suggest a resumed fertility decline in Jordan after a long period of stall, with a total fertility rate of 3.3 births per woman in 2016 compared to 3.9 in 2010. As compared to the Jordanian population, Syrian refugees generally experienced an earlier transition to marriage and a higher total fertility rate of 4.4 in 2016. This is lower than the fertility rate of the refugee population prior to the conflict and their arrival in Jordan, which was 4.9 births per woman as of 2009. The marriage and fertility patterns of Syrian refugees in Jordan are consistent with this population being highly selected on factors associated with earlier marriage ages and higher fertility rates in Syria. Syrian refugees in Jordan were more disadvantaged in their marriage outcomes, including lower expenditures on marriage and lower rates of nuclear family residence. Women who married before age 18, both Syrian and Jordanian, also experienced poorer outcomes upon marriage than those who married at older ages, including larger age and education gaps with their husbands.

JEL Classifications: J12, J13

Keywords: Marriage, Fertility, Jordan, Syrian Refugees

ملخص

نستمين في هذه الورقة بالمسوحات التتابعية لسوق العمل الأردني 2010 و2016 لبحث التغيرات الأخيرة في نتائج الزواج والخصوبة بين الأردنيين، وكذلك بين اللاجئين السوريين في الأردن. تظهر البيانات الجديدة من مسح 2016 استمرارية كبيرة في ممارسات الزواج بين الأردنيين. شهد الرجال والنساء الأردنيون زيادات متواضعة في متوسط العمر عند الزواج الأول من سنة أو سنتين مقارنة بجماعات حديثة. والتعليم هو العامل الرئيسي المرتبط بالأعمار المتأخرة عند الزواج، وبالمثل بالنسبة للنساء، يوجد ارتباط بين التعليم وزيادة في الأعمار عند الولادة الأولى. وانخفضت تكلفة الزواج بالقيمة الحقيقية منذ عام 2010، ولذلك من غير المرجح أن تكون تكاليف الزواج مساهما رئيسيا في الاتجاهات الحديثة في سن الزواج. على الرغم من الزيادة الصغيرة نسبيًا في العمر عند الزواج الأول، فإن بيانات مسح سوق العمل الأردني في 2016 تشير إلى انخفاض الخصوبة المستأنف في الأردن بعد فترة طويلة من المماطلة، مع معدل خصوبة إجمالي معرف انتقالاً مبكل المرأة في عام 2016 مقارنة بـ 9.9 في عام 2010. وبلامقارنة بالسكان الأردنيون، شهد اللاجئين السوريون عموماً انتقالاً المرأ و ومعدل خصوبة إجمالية أعلى بلغ 4.4 في عام 2010. وهذا أقل من معدل خصوبة السكان اللاجئين السوريين في الأردن تتفق مع هذا العدد الكبير من السكان الذين تم اختيارهم على أساس العوامل المرتبطة بعمر الزواج والخصوبة لدى اللاجئين السوريين في الأردن تتفق مع هذا اللاجئون السوريون في الأردن أقل حظا في نتائج زواجهم، بما في ذلك انخفاض الإنفاق على الزواج وانخفاض معدلات الإقامة في الأسرة النواق كما أن النساء اللواتي تزوجن قبل سن 18 عاماً، سواء من السوريات أو أدنيات، تعرضن أيضاً لنتائج أكثر سوءاً عند الزواج من أو الذين تزوجوا في سن أكبر، بما في ذلك الفجوات الأكبر في السن والتعليم مع أزواجهن.

1. Background

In the Middle East and North Africa (MENA) region, marriage is nearly universal and a major life event. It is considered a rite of passage to adulthood, and a precondition for legitimate sexual relationships and formation of a family (Dhillon, Yousef, and Dyer 2009). Yet practices around marriage and fertility are changing in the region. In Jordan and throughout the MENA, delayed marriage has become more common, influenced by an array of social and economic factors, including difficult economic conditions, but also rising levels of women's education (Singerman 2007; Kanaan and Hanania 2009). At the same time, traditional practices such as kin marriage have been declining and nuclear family living arrangements upon marriage are more common, reflecting changing ideals about marriage among other factors (Singerman 2007; Salem 2012). Marriage practices are also closely related to fertility, as childbearing takes place almost exclusively within the context of marriage in Jordan as elsewhere in the region. Fertility declined substantially in Jordan during the 1980s and 1990s, with the total fertility rate falling to 3.8 births per woman. However, since the late 1990s Jordan has experienced a fertility stall, with rates remaining fairly constant at this level (Cetorelli and Leone 2012).

The arrival of the large Syrian refugee population in Jordan since 2011 has also raised concern regarding high rates of early marriage and prevalence of unregistered marriages and births among refugees (Save the Children 2014; UNICEF 2014; Higher Population Council [Jordan] 2017). Studies conducted among Syrian refugees in Lebanon and Jordan have argued that early marriage of girls is occurring at a higher rate among refugees due to poor economic conditions, and as a way to preserve families' and girls' honor in the context of insecurity (Cherri et al. 2017; UNICEF 2014). The occurrence of early marriage and unregistered marriages within the Syrian refugee community may also stem in part from the continuation of practices in Syria (UN Women 2013).

In terms of fertility, the total fertility rate (TFR) in Syria prior to the conflict followed a similar pattern of decline as in Jordan, at 5.1 births per woman during the period from 1991 through 1995, but declining to 3.5 births per woman by 2009 (PAPFAM 2002, 2009). Understanding marriage and fertility patterns of the Syrian refugee population since arrival in Jordan is indispensable to local governments and the international community as it helps inform future policies and humanitarian responses. Yet representative data has been lacking to address these questions on the national scale, so there is little information about current fertility rates among Syrian refugees.

In this paper, we draw on data from the nationally representative Jordan Labor Market Panel Survey (JLMPS) 2010 and 2016³ to analyze recent trends in marriage and fertility outcomes among the Jordanian population and Syrian refugees in Jordan. Particularly for fertility measures, we also compare our results with the report of the sixth and latest Jordan Population and Family Health Survey (JPFHS), which was carried out in 2012 by the Jordanian Department of Statistics and is part of the global Demographic and Health Surveys Program (JPFHS and ICF International 2012). Furthermore, taking advantage of the oversampling of areas with high concentrations of non-Jordanians in the JLMPS 2016 (Krafft and Assaad 2018), we also examine marriage and fertility outcomes among Syrian refugees. Where possible, we compare outcomes for the refugee population since arrival to Jordan with their outcomes in Syria pre-conflict (for the period from 2005-2009). We also compare our results with the report of the second and latest

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³ The JLMPS 2016 data are publicly available as of May 2018 from the Economic Research Forum Open Access Microdata Initiative at: http://www.erfdataportal.com/

Syrian Family Health Survey (referred to hereafter as the PAPFAM 2009), which was carried out in 2009 and is the most recent nationally representative data available from Syria (PAPFAM 2009).

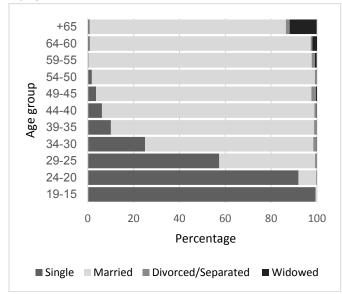
2. Marriage trends among Jordanians

2.1 Marital status by age group for Jordanians

Figure 1 displays the marital status of Jordanian men and women by age group. Three main differences by gender can be observed from the figure. First, marriage began earlier for women as compared to men. Whereas 8% of 15-19 year old girls and 40% of 20-24 year old women were married, marriage before age 20 was almost non-existent among boys and only 8% of 20-24 year old men were married. The transition to marriage among men was concentrated in the ages from 25 to 34. Second, the distribution of marriage in middle adulthood differed between women and men. The percentage of women who were married increased with age and plateaued around 80% from ages 35 through 59, with 10% of women at the end of their reproductive years (aged 45-49) never having married. This rate of never marriage was slightly higher than in the JLMPS 2010 (7%) (Salem 2012) and JPFHS 2012 (8%) (JPFHS and ICF International 2012). For men, in contrast, the percentage married continued to increase with age such that almost all 55-59 year old men (97%) were married. Thus, while marriage remains practically universal in Jordan, never marriage is considerably more common among women than men.

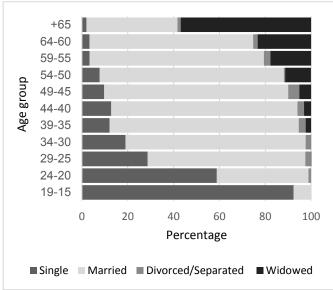
Finally, widowhood began to rise early for Jordanian women, with almost 11% of 50-54 year old women and more than half of those aged 65 years or older reporting being widowed. Widowhood was almost non-existent for Jordanian men at every age group except for men who were 65 years of age or older, among whom only 12% were widowed. This pattern is likely affected by differential mortality as well as higher remarriage rates among men as compared to women.

Figure 1A: Marital status by age group (percentage), Jordanian men aged 15+, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

Figure 1B: Marital status by age group (percentage), Jordanian women aged 15+, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

2.2 Median age at first marriage for Jordanian men and women

In 2016, median age at first marriage was higher for Jordanian men, at 27 years old, than for Jordanian women, at 22 years old (Table 1). In comparison with the results from JLMPS 2010, this represents an increase in the median age at first marriage for both genders. However, the JPFHS 2012 found that the median age at first marriage among Jordanian women was also 22 years in 2012 (JPFHS and ICF International 2012), so the JLMPS 2010 data may be underestimating marriage age somewhat. The JFPHS does not report median age at first marriage for men.

For both men and women, median age at first marriage was stable across most background characteristics, and did not differ by region or urban versus rural residence in either year. The main factor associated with age at first marriage was education for both genders in both survey years. In 2016, whereas men with less than basic or basic education married at 25 and 26 years of age, respectively, those with secondary or more than secondary education married at age 27. Similarly, women with less than basic or basic education had a median first age at marriage of 19 and 20, respectively, whereas those with secondary and more than secondary education married at older ages (median age at first marriage of 21 and 24, respectively).

To examine change in age at marriage over time, we begin by comparing the median age at first marriage across age groups for those aged 25 and older in each survey year. The age at first marriage among women was constant across age groups in 2016 and fluctuated between 20 and 21 years in 2010. The JPFHS 2012 found a median age at marriage of 22 among women aged 35 and older at the time, and 23 among those aged 25-34 (JPFHS and ICF International 2012). With some variation, the data from all three surveys thus suggest a very modest increase of one or two years in median age at marriage among Jordanian women over recent cohorts.

Among men in 2016, median age at first marriage was 26 years among those in the 45-49 age group, increasing to 28 years among men in the 35-39 age group, before declining again to 25 among younger men in the 25-29 age group. The data from 2010 show a similar pattern.

⁴ Younger age groups are not included in this analysis due to censoring, as less than 50% of individuals had married by the beginning of the age group. Increasing the lower age bound for the analysis of men's median age at marriage to 27 or 30 years of age did not change the results.

Table 1: Median age at first marriage by socio-demographic characteristics, Jordanian men and women aged 25-49, JLMPS 2010 and 2016

		Ien	Women					
	2010		2016	2016			2016	
	Median age	N	Median age	N	Median age	N	Median age	N
Educational attainment								
Less than basic	23	604	25	895	18	733	19	858
Basic	24	1,261	26	1,427	19	1,035	20	1,077
Secondary	25	623	27	648	20	660	21	582
Higher education	27	889	27	1,078	23	1,087	24	1,471
Region								
Middle	25	1,668	26	1,971	20	1,787	22	1,939
North	25	1,182	27	1,384	21	1,163	22	1,353
South	25	527	27	753	21	565	22	736
Residence								
Urban	25	2,456	27	3,228	20	2,507	22	3,126
Rural	25	921	27	880	21	1,008	22	902
Age groups								
25-29	24	775	25	1,016	21	766	22	933
30-34	25	804	27	1,052	21	868	22	962
35-39	26	751	28	787	20	849	22	790
40-44	25	658	27	712	21	647	22	744
45-49	25	389	26	541	20	385	22	599
Total		3,377		4,048		3,515		3,988
Median age at marriage	25		27		20		22	

2.3 Change in age at marriage over time among Jordanians

Another way of looking at change in age at marriage is by examining the percentage of the population that marries before they reach a given age. Figures 2 and 3 present the percentage of women and men, respectively, who married before various ages, by their current age group. Figure 2 demonstrates the decline in early marriage (before reaching age 18) among Jordanian women over time, although marriage before age 20 remained relatively common. Whereas 7% of women aged 55-59 in 2016 were married before reaching age 15 and 12% before age 16, marriage before age 16 is very uncommon in Jordan today. Among 18 and 19 year-olds in 2016, fewer than 1% had married before reaching age 16, and 7% married before age 18, as compared to the quarter of 55-59 year old women who had married before age 18. Marriage before age 20 has also declined substantially among Jordanian women over time, to 20% of women aged 20-24 in 2016. Rates of marriage before ages 25 and 30 have also declined somewhat across cohorts, which is consistent with modest increases in median age at marriage over time. However, the majority of women still transition to marriage by their mid-20s.

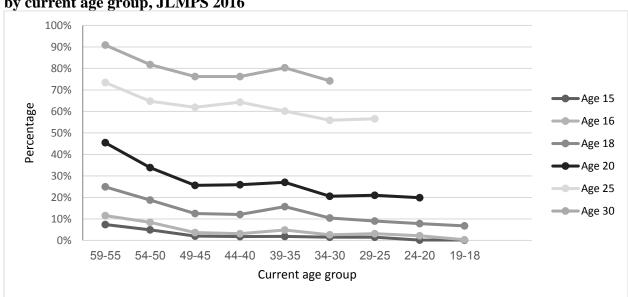
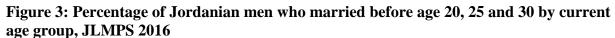
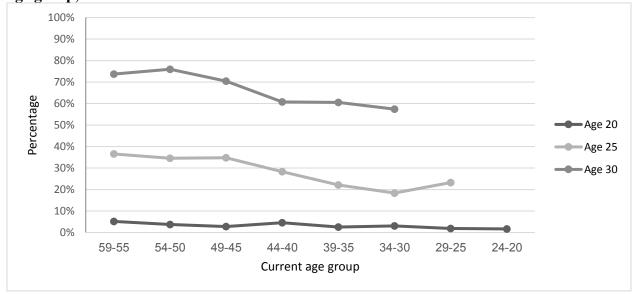


Figure 2: Percentage of Jordanian women who married before age 15, 16, 18, 20, 25 and 30 by current age group, JLMPS 2016

Source: Authors' calculations based on JLMPS 2016





Source: Authors' calculations based on JLMPS 2016

Among Jordanian men, Figure 3 shows that rates of marriage before age 20 were very low across cohorts. Among the oldest age groups in 2016, just over a third of men married before age 25. This declined to a low of 18% among 30-34 year olds before increasing again slightly among those who were 25-29 in 2016. The percentage of men married before age 30 has also declined among younger cohorts.

2.4 Characteristics of recent Jordanian marriages

In the subsequent sections we focus on recent trends in marriage practices among Jordanians. To do so we focus on two periods, comparing between marriages formed in the five years prior to the JLMPS 2010 (marriages formed in 2005 through 2009, as captured in the 2010 data) and those formed in the five years prior to the JLMPS 2016 (marriages formed in 2012 through 2016, as captured in the 2016 data). Whereas the previous analyses of marriage focused on change over age cohorts, in this analysis we focus on time periods that included marriages to people across different ages. In most analyses, we examine the characteristics of marriages from the perspective of the wife, so that each new union is only counted once in the analysis.

Figure 4 presents spousal ages for Jordanian marriages formed during these two periods. The wife's mean age at marriage increased slightly from 22.2 years in 2012 to 23.7 years in 2016; similarly, husband's mean age at marriage increased slightly from 26.8 years to 27.4 years across the two periods. The mean husband-wife age gap, from the perspective of the wife, decreased slightly from 5.9 to 5.4 years; in other words, men's age advantage in marriage decreased by about half a year between the two periods.

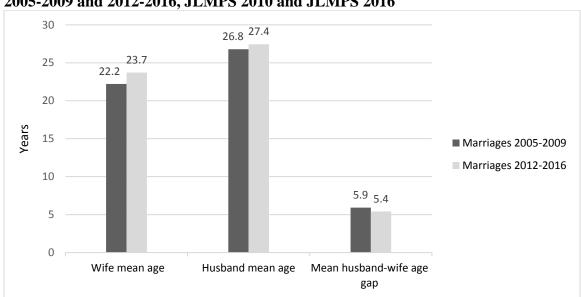


Figure 4: Spouse mean ages and mean age gap, Jordanian marriages formed in 2005-2009 and 2012-2016, JLMPS 2010 and JLMPS 2016

Source: Authors' calculations based on JLMPS 2010 and JLMPS 2016

As shown in Figure 5, mean ages at marriage and the spousal age gap varied by the wife's background characteristics for marriages formed between 2012 and 2016. Consistent with the data on median age at marriage, the wife's mean age at marriage in recently formed unions increased with higher education attainment. The age gradient for men's mean age at marriage by education was not as consistent; husband's mean age at marriage was higher among men with more than secondary education but similar for those with less than basic, basic, or secondary education. Similar patterns were seen among marriages formed between 2005 and 2009 as captured in the JLMPS 2010.

The mean husband-wife age gap was highest among women with less than basic education (7.5 years) and lowest among women with secondary education (3.9 years). This represented a

decline in the mean age gap compared with 2005-2009, when the mean age gap among marriages of women with post-secondary education was 4.6 years, although this was still the smallest average gap by education (data not shown). Mean ages at marriage, and thus the mean age gap, did not differ considerably by rural or urban residence in 2012-2016. The mean age at first marriage was 23.6 years for urban women and slightly higher for rural women, at 24.1 years. However, men in urban areas were on average older when they married than men in rural areas.

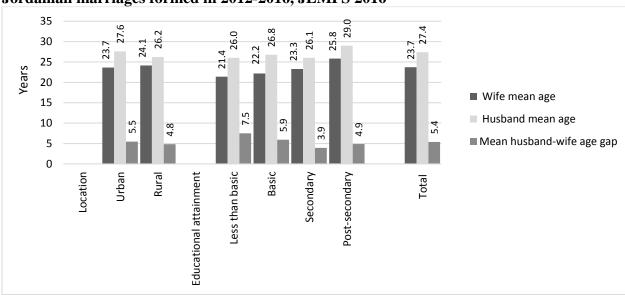


Figure 5: Spouse mean ages and mean age gap by education, and rural or urban residence, Jordanian marriages formed in 2012-2016, JLMPS 2016

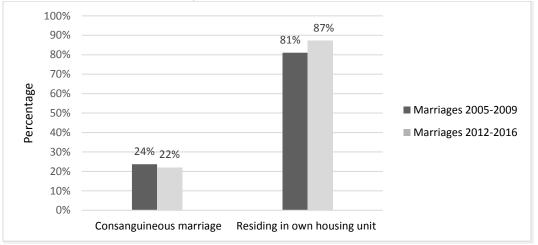
Source: Authors' calculations based on JLMPS 2016

Figure 6 displays two additional characteristics of Jordanian marriages – percentage of marriages that are consanguineous⁵, and percentage of married couples residing in their own housing units (nuclear residence) as opposed to in an extended family living arrangement. Nuclear residence upon marriage is increasingly preferred among young couples in MENA and is generally a marker of a better economic situation upon marriage (Singerman 2007). Consanguinity was common in Jordanian marriages (24% of marriages overall were consanguineous). A slightly lower percentage of marriages formed between 2012 and 2016 (22%) were consanguineous as compared to marriages formed in 2005-2009 (24%). The majority of Jordanian couples who got married between 2005 and 2009 resided in their own housing unit (81%); this percentage increased among those married between 2012 and 2016 (87%).

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⁵ Generally, marriages between two family members who are second cousins or closer are considered consanguineous (Hamamy 2012). The JLMPS 2016 asked respondents whether they were "related to their spouse by blood or affinity" prior to marriage. We code all "yes" responses as a consanguineous marriage.

Figure 6: Percentage of marriages that are consanguineous and percentage of marriages residing in their own housing unit, Jordanian marriages formed in 2005-2009 and 2012-2016, JLMPS 2010 and JLMPS 2016



2.5 Cost of marriage for Jordanian marriages

Figure 7 shows data on the cost of Jordanian marriages formed between the same periods 2005-2009, as captured in the JLMPS 2010, and 2012-2016, as captured in the JLMPS 2016. Although the role of the cost of marriage in contributing to delayed marriage transitions in MENA has been a subject of considerable popular and academic discussion (Singerman 2007; Dhillon, Yousef, and Dyer 2009; Salem 2012), once adjusted for the Consumer Price Index (CPI), the median value of the dowry (*mahr*) and various components of the total cost of marriage decreased between 2005-2009 and 2012-2016 (Figure 7).

The median total cost of marriage, which includes jewelry, housing, furniture and celebration costs but not the *mahr*, decreased substantially in real terms from 7,000 Jordanian Dinars (JD) to 6,000 JD across the two periods. Surprisingly, a large percentage of respondents in both periods reported having no housing costs upon marriage (74% of 2012-2016 marriages, and 65% of 2005-2009 marriages). The median expenditure on housing was thus zero in both periods. This was despite the fact that 69% of Jordanian women who married in the 2012-2016 period reported that the couple owned their residence upon marriage, compared to 27% who said that they rented.⁶ Renters were more likely to report zero housing costs upon marriage (81%), but a substantial percentage of owners (71%) also reported that they did not having housing expenditures. Among the subsample of new marriages that did report housing costs (renting or owning), the median expenditure was 5000 JD in 2012-2016 and 2400 JD in 2005-2009. Housing therefore does not appear to be the driver of the decline in marriage costs. Among the other components of the total cost of marriage, the decline in celebration costs between 2005-2009 and 2012-2016 was particularly large (Figure 7).

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⁶ The ownership status of the couple's dwelling upon marriage was not asked in the JLMPS 2010. In the JLMPS 2016, an additional four percent of respondents reported that their housing was in-kind or a gift, or "other," which included that housing was free of charge or with relatives upon marriage.

8000 7000 7000 6000 6000 5300 Jordanian Dinars 5000 5000 4000 ■ Marriages 2005-2009 2400 3000 ■ Marriages 2012 -2016 1800 1800 2000 1500 1000 1000 Median Median Median Median Median value mahr value celebration cost total cost of jewelry cost furniture marriage

Figure 7: Median cost (JD) of marriage components, Jordanian marriages formed in 2005-2009 and 2012-2016, JLMPS 2010 and JLMPS 2016

Notes: Median total cost of marriage includes the jewelry, housing and furniture costs, and celebration costs, but does not include the *mahr*. Costs for marriages formed in 2005-2009 were adjusted for CPI and rounded to the nearest hundred.

For marriages formed in 2012-2016, the median total cost of marriage was higher for non-consanguineous (6,000 JD) than consanguineous marriages (5,300 JD). A similar pattern was seen for marriages formed in 2005-2009 (Table 2). Unsurprisingly, the *mahr*, jewelry, and total cost of marriage increased in a step-wise manner with increasing wealth, as well as with education, which is highly correlated with wealth. In 2012-2016, the median total cost of marriage was almost twice as high for women with more than secondary education (7,000 JD) than those with less than basic education (4,000 JD). Similarly, the median total cost of marriage was 7,000 JD for women in the richest wealth quintile compared to 3,500 JD for those in the poorest wealth quintile. The highest median total cost of marriage was observed in the South region (6,500 JD) and the cost of marriage was, surprisingly, higher in rural (6,200 JD) as compared to urban (6,000 JD) areas. The groom and his family contributed almost all of the cost of marriage in Jordanian marriages, ranging from 93-99% of the total cost across characteristics.

Table 2: Cost of marriage (JD) of Jordanian marriages formed in 2005-2009 and 2012-2016, by consanguinity, education, wealth, region and residence, JLMPS 2010 and JLMPS 2016

	Marriages	formed betwe	een 2005 and 2009	9	Marriages formed between 2012 and 2016			
	Median value <i>mahr</i>	Median value jewelry	Median total cost of marriage*	Mean groom contribution (%)	Median value mahr	Median value jewelry	Median total cost of marriage*	Mean groom contribution (%)
Consanguineous	marriage							
Yes	4700	1100	6500	96	5000	1500	5300	98
No	5600	1700	7000	97	5000	2000	6000	96
Education								
Less than basic	4100	1100	4600	97	3000	1200	4000	94
Basic	4700	1100	6100	97	5000	1500	5000	96
Secondary	5300	1100	7400	98	4000	1888	6500	96
Higher education	5900	1700	8800	95	5500	2000	7000	97
Wealth								
Lowest	4100	1100	4200	96	2500	1000	3500	93
Second	4900	1700	5900	98	5000	1100	4500	97
Middle	5900	1700	7600	96	5000	1500	5500	96
Fourth	5900	1600	8800	97	5000	2000	7500	97
Highest	5900	0	11200	96	5000	2000	7000	97
Region								
Middle	5300	0	6100	97	3000	1888	5500	96
North	4800	1700	7600	96	8000	1500	6000	98
South	4700	2300	8600	95	5500	2000	6500	94
Residence								
Urban	5300	1100	7000	96	5000	1500	6000	96
Rural	4700	1700	8200	97	5000	1500	6200	99

Notes: Median total cost of marriage includes the jewelry, housing and furniture costs, and celebration costs, but does not include the *mahr*. Costs for marriages formed in 2005-2009 were adjusted for CPI and rounded to the nearest hundred.

3. Marriage patterns among Syrian refugees in Jordan

In this section of the chapter, we turn to marriage patterns among the large population of Syrian refugees who have arrived in Jordan since 2011. Marriage patterns among Syrian refugees are affected both by the age distribution of the refugee population and the fact that refugees are not representative of the Syrian population as a whole. The Syrian refugee population in Jordan is very young, with nearly half under the age of 15. The age structure of the adult population is also not regular, with men in the key marriage ages of 20-34 underrepresented, and a relatively small population above age 40 (Krafft et al. 2018). Previous surveys also indicate that, as of 2014, nearly 60% of the Syrian refugee population living in host communities and 90% of those residing in Zaatari refugee camp originated in rural areas of Syria. A large percentage of refugees

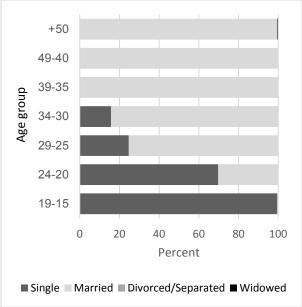
also come from a few Syrian governorates, particularly Dar'aa and Homs, with smaller percentages from rural and urban Damascus and Aleppo (Stave and Hillesund 2015).⁷

3.1 Marital status by age group for Syrian refugees

Current marital status by age group for Syrian refugee men and women is shown in Figures 8A and 8B. Due to the small sample size of older Syrian refugees, for this population we merge the two age groups from 40-49, and all age groups from age 50 and above. Several key differences from the Jordanian population can be seen. First, Syrian refugees generally made an earlier transition to marriage. The percentage of 15-19 year old Syrian refugee girls who were married was 18%, which is more than double the percentage among Jordanian girls of the same age group (8%). As with Jordanians, marriage among 15-19 year old Syrian refugee boys was very low (<1%), but a higher percentage of Syrian refugee men in the 20-24 age group were married (30%) as compared to Jordanian men (8%). Marriage prevalence thus increased rapidly among refugee men in the third decade of life, reaching 75% for the 25-29 age group and near universality by age 35. Marriage increased with age for refugee women as well; over half of 20-24 year olds and about 85% of 25-29 year olds had ever been married. However, another difference with the Jordanian population is the relatively earlier increase in widowhood; about 17% of women in 35-39 age group were widowed, and nearly a third (31%) of those who were 50 years of age or older. These high rates likely reflect both mortality among men due to the Syrian conflict and lower rates of remarriage among women as compared to men. Very few Syrian refugee men reported being widowed, although this may similarly be affected by differential remarriage rates. Divorce and separation were more common than widowhood among women in the 40-49 age group, however this may be affected by the relatively small sample sizes of the older age groups of Syrian refugees.

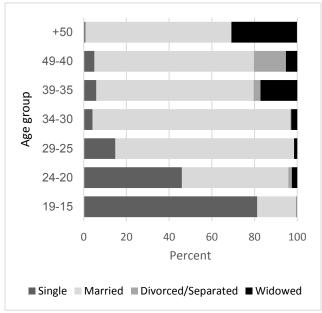
⁷ While not nationally representative, the survey referenced covered Amman, Irbid and Mafraq governorates, which together hosted about three-quarters of the Syrian refugees in Jordan in 2014 (Stave and Hillesund 2015).

Figure 8A: Marital status by age group (percentage), Syrian refugee men aged 15+, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

Figure 8B: Marital status by age group (percentage), Syrian refugee women aged 15+, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

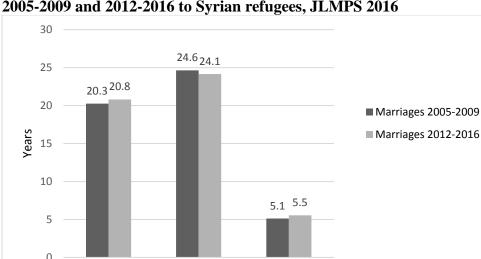
Among Syrian refugees, the overall median age at first marriage for those aged 25-49 in 2016 (most of whom would have married in Syria) was 25 for men and 20 for women. Due to the small sample size of refugees, we do not analyze median age at first marriage by socio-demographic characteristics or birth cohort. However, by comparison, the national singulate mean age at first marriage in the 2009 Syria PAPFAM survey was 25 years for women and 29 years for men (PAPFAM 2009). Although a different measure of age at first marriage, the substantial difference between the two surveys suggests that the Syrian refugee population is selected on factors related to earlier ages at marriage.

3.2 Characteristics of Syrian refugee marriages formed since 2005

As with Jordanians, the characteristics of Syrian refugee marriages formed in the 2005-2009 and 2012-2016 periods are compared in Figure 9. However, as the Syrian refugee population was not observed in the JLMPS 2010, in this analysis data for both periods are taken from the JLMPS 2016. It is therefore important to keep in mind that marriages to refugees during the 2005-2009 period took place in Syria prior to the conflict, and data on these marriages are likely subject to greater recall bias – particularly in terms of reporting marriage costs – due to the amount of time that has passed since the marriage was formed. For marriages to Syrian refugees in the 2012-2016 period, we restrict the analysis to marriages that were formed during or after the year of arrival in Jordan. Since the large majority of refugees arrived in 2012 and 2013 (Krafft et al. 2018), this captures the majority of marriages to Syrian refugees in period, but avoids grouping marriages that took place in Syria under conditions of conflict with those that took place in a context of displacement in Jordan, where the drivers of marriage decisions may be quite different. From the perspective of the wife, the analysis thus compares 100 marriages that took

place to current Syrian refugees in Syria, prior to the conflict, between 2005-2009, and 84 marriages to Syrian refugees after arrival in Jordan.⁸

As shown in Figure 9, the wife's mean age at marriage changed only slightly between the 2005-2009 and 2012-2016 periods (20.3 and 20.8 years, respectively) among Syrian refugees. Husband's mean age at marriage similarly did not change across the two periods (24.6 and 24.2 years respectively), and the mean spousal age gap increased by less than half a year from 5.1 years in the 2005-2009 period to 5.5 years in the 2012-2016 period.



Husband mean

age

Figure 9: Spouse mean ages and mean age gap, marriages formed in 2005-2009 and 2012-2016 to Syrian refugees, JLMPS 2016

Source: Authors' calculations based on JLMPS 2016

Wife mean age

Figure 10 shows that consanguineous marriages also decreased from 42% to 26% among Syrian refugees between the 2005-2009 and 2012-2016 periods. The substantial decline in the rate of consanguinity after 2012 is likely due to the fact that many extended families have been separated due to the conflict. The percentage of Syrian couples who lived in their own residence was higher among marriages formed in Syria prior to the conflict, at 65%, and decreased to 51% among marriages formed after arrival in Jordan.

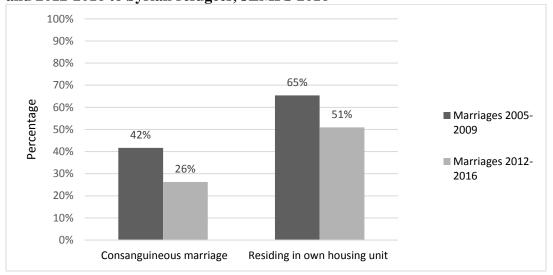
Mean husband-

wife age gap

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⁸ The large majority of marriages to Syrian refugees since arrival in Jordan were to other Syrians. Of the 73 marriages formed to refugee women in 2012 since arrival where nationality data for both spouses was complete, 6 were to Jordanians and 67 to other Syrians.

Figure 10: Percentage of marriages that are consanguineous and percentage of marriages residing in their own housing unit, marriages formed in 2005-2009 and 2012-2016 to Syrian refugees, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

3.3 Cost of marriage of Syrian refugee marriages formed since 2005

The cost of marriage was substantially lower for Syrian refugee as compared to Jordanian marriages (Table 3). Similar to Jordanian marriages, the cost of refugee marriages has in fact decreased between 2005-2009 and 2012-2016 when costs are adjusted for CPI; this reflects a decrease in the median value of *mahr*, jewelry, and total cost of marriage between the two time periods. Whereas the median total cost of marriage was 1,800 JD for marriages among Syrian refugees that occurred in Syria between 2005-2009, this dropped to 1,500 JD in 2012-2016. However, we are unable to determine how accurately or consistently respondents converted marriage costs incurred in Syria to Jordanian Dinars. It is therefore impossible to tell whether the decline in marriage costs among Syrian refugees is due to the currency conversion, displacement and economic hardship reducing marriage expenditures, or similar social and economic factors to those driving the decline in marriage costs among Jordanians.

Table 3: Cost of marriage (JD) of Syrian refugee marriages formed in 2005-2009 and 2012-2016, JLMPS 2016

	Marriages formed between 2005 and 2009	Marriages formed between 2012 and 2016
Median value mahr	1800	1500
Median value shabka	600	500
Median total cost of marriage*	1500	1100
Mean groom contribution (%)	99	100
Total N marriages	100	84

Notes: * Not including mahr

All values are in Jordanian Dinar (JD). Costs for marriages formed in 2005-2009 were adjusted for CPI

and rounded to the nearest hundred.

Source: Authors' calculations based on JLMPS 2016

4. Early marriage

Although the median age at marriage among Jordanian women has increased slightly and early marriage has been declining, as shown in Figure 2, there is a still a non-negligible percentage of girls who marry before age 18. Reports and recent census data indicating high rates of early marriage among Syrian refugee girls (UNICEF 2014; Higher Population Council [Jordan] 2017) also highlight the continued importance of understanding early marriage practices in the MENA region, particularly as, globally, early marriage is associated with a wide range of negative outcomes for women and their children (UNICEF 2005).

We follow UNICEF in defining early marriage as marriage before age 18.⁹ The JLMPS 2016 captured 125 marriages between 2012 and 2016 in which the wife was under age 18 at the time of marriage and of either Jordanian (N=91) or Syrian (N=34) nationality.¹⁰ Due to the small sample size, we do not disaggregate additional outcomes for these early marriages by nationality. Rather, we compare all early marriages to marriages to Jordanian and Syrian women over age 18 that were formed in the same period from 2012-2016 (N=1,187; 1,106 marriages to Jordanian women and 81 to Syrian women).

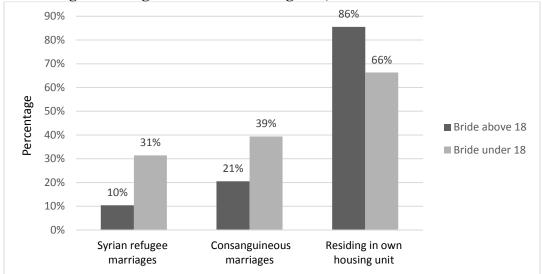
Although we do not disaggregate further outcomes by nationality, it is important to note that Syrian girls are overrepresented among early marriages formed during the 2012-2016 period. Whereas 31% of the early marriages were to Syrian refugee girls, only 10% of non-early marriages were to refugee women (Figure 11). Yet this does not necessarily indicate a change in early marriage practices among Syrian refugees. Returning to our comparison of Syrian refugee marriages formed in 2005-2009 in Syria and those formed in 2012-2016 after arrival in Jordan, the percentage of wives under age 18 was higher among marriages formed in the 2005-2009 period (33%) than those formed in the 2012-2016 period (28%). In contrast, the percentage of wives who were under age 20 at the time of marriage was higher in 2012-2016 (62%) than in 2005-2009 (43%). This suggests a compression in the distribution of the age at first marriage among Syrian refugee women, with many young women marrying at ages 18 and 19. However, these figures may also be affected by the uneven age distribution of the refugee population.

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⁹ https://www.unicef.org/protection/57929 58008.html. See also Higher Population Council [Jordan] on the application of this definition in Jordan (2017).

¹⁰ The number of early marriages given is unweighted. There were an additional five early marriages to girls of other nationalities, which we exclude from this analysis due to the very small sample size.

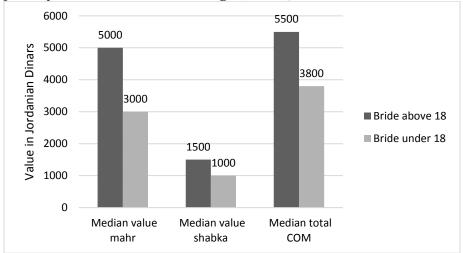
Figure 11: Characteristics of marriages formed between 2012 and 2016 in which the bride was under age 18: Percentage of marriages to Syrian refugees, percentage of marriages that were consanguineous, and percentage of marriages residing in their own housing unit, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

Early marriages also differed consistently from non-early marriages in terms of other marriage outcomes. A higher percentage of early marriages were consanguineous (39%) compared to non-early marriages (21%; Figure 11). A lower percentage of couples in which the woman married before age 18 resided in their own housing unit (66%) compared to the percentage of couples in which the bride married at age 18 or above (86%). Marriage expenditures were also consistently lower in early marriages. As shown in Figure 12, the median *mahr*, jewelry and total cost of marriage were considerably lower in early marriages compared to marriages where the bride was older than 18.

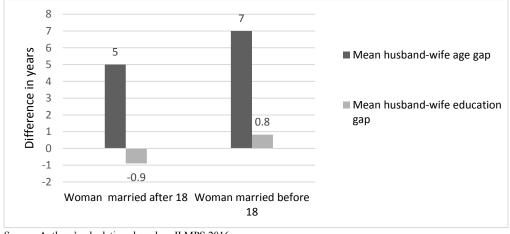
Figure 12: Cost of marriages formed between 2012 and 2016 in which the bride was under age 18: median value of the *mahr*, jewelry and total cost of marriage (COM), JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

Finally, the mean husband-wife age gap was higher in marriages where the bride was less than 18 years of age (7 years) compared to marriages where she was 18 years or older (5 years; Figure 13). There are also differences in the mean husband-wife education gap by age at marriage. For early marriages, the husband had, on average, 0.8 more years of schooling than his wife; in marriages where the bride was 18 years or older, the husband had, on average, 0.9 less years of schooling than his wife. Together, these measures demonstrate that women who marry before age 18 tend to experience worse marriage outcomes than those who marry at older ages.

Figure 13: Mean husband-wife age gap and education gap, marriages formed between 2012 and 2016 in which the bride was under age 18, JLMPS 2016



Source: Authors' calculations based on JLMPS 2016

5. Fertility

We calculate fertility rates for both Jordanians and Syrian refugees by using retrospective data on birth histories from ever-married women aged 15 through 59 collected in the JLMPS 2016, and

for Jordanians from the JLMPS 2010.¹¹ Fertility data in both JLMPS surveys were collected in two sections. First, each woman was asked a series of questions on the number of sons and daughters living with her, the number living elsewhere, and the number who had died. Second, for each live birth, she was asked to report the sex, date of birth, and whether the birth was single or multiple. We focus our analysis on two fertility indicators derived from these birth histories. The first is age-specific fertility rates (ASFR), which are the number of live births per 1,000 women in a specific age group (typically 5-year age groups) for a specified geographic area and for a specific period of time. The second is the total fertility rate (TFR) which is calculated based on the ASFRs, and is the average number of children a woman would have if she lived from age 15 to age 49 assuming that current age-specific fertility rates remain constant throughout her childbearing years.¹²

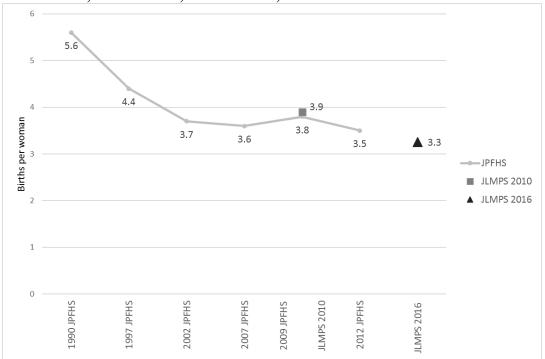
5.1 Fertility trends among Jordanians

Figure 14 presents TFR among Jordanian women for three-year periods prior to the JLMPS 2010 and JLMPS 2016 and, for comparison, the fertility trend recorded in the JPFHS surveys from 1990 through 2012. According to the JLMPS 2016, TFR in Jordan in 2016 was 3.3 births per woman. This represents a decrease of 15% in TFR between the JLMPS 2010 and JLMPS 2016 (from 3.9 to 3.3 births per woman). This resumed declining trend in TFR from the JLMPS surveys is consistent with data from the JPFHS 2012, which found a TFR of 3.5 births per woman.

¹¹ We follow standard practice in calculating fertility rates for women of reproductive age (15-49) in a given year. The expanded age range of the birth histories collected in the JLMPS surveys is used to calculate retrospective fertility rates for Syrian refugees from the JLMPS 2016 data (based on women who were aged 15-49 in each year).

¹² Total fertility rates were calculated using the tfr2 package in STATA (Schoumaker 2013).





Notes: TFR is calculated for the three-year period prior to each survey. TFR: Total Fertility Rate expressed per woman. Source: Author's calculations based on JLMPS 2010, JLMPS 2016, and the DHS Stat compiler for Jordan (JPFHS 1990, JPFHS 1997, JPFHS 2002, JPFHS 2007, JPFHS 2009, JPFHS 2012) https://statcompiler.com/en/

An examination of change in the age schedule of fertility between the JLMPS 2010 and 2016 can provide a more detailed picture of the decline in TFR over this period. As shown in Figure 15, age-specific fertility rates declined for all age groups between age 25 and 44; fertility among the youngest and oldest age groups was already very low. The decline in fertility was particularly large among women in their late 20s and late 30s; there was a 16% drop in age-specific fertility among women aged 25-29 (from 223 births per 1,000 women in 2010 to 186 in 2016) and a 45% drop among women aged 35-39 (from 125 births per 1,000 women to 89). The relatively smaller decline in ASFR for the age group 30-34 suggest that there may be some postponement of births to women in their late 20s, which are now being shifted to the early 30s. Nevertheless, the ASFR was highest among women in the 25-29 year age group in both time periods.

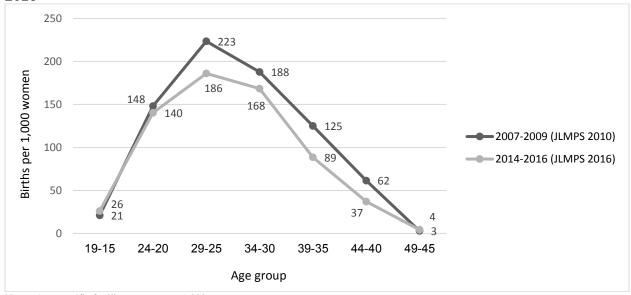


Figure 15: Age-specific fertility rates among Jordanian women, JLMPS 2010 and JLMPS 2016

Notes: Age-specific fertility rates are per 1,000 women.

Source: Authors' calculations based on JLMPS 2010 and JLMPS 2016

5.2 Fertility differentials by background characteristics among Jordanian women

Table 4 shows the differentials in fertility rates among the Jordanian population based on residence, region, education level, and wealth quintiles. In 2016, urban women had on average 0.7 fewer children than rural women; the fertility decline between 2010 and 2016 was also greater in urban areas than rural ones. Fertility was highest in the North (3.7 children per woman), followed by the South and the Central (3.6 and 3.0 children per woman) regions. Fertility decline was greatest in the Central region, where the largest urban area, Amman, is located. These regional fertility patterns are similar to JPFHS 2012 findings.

In the JLMPS 2016, as is commonly found in other contexts, Jordanian women who had the least education had the highest fertility (3.9 births per woman), in contrast to women with secondary and post-secondary education who had the lowest fertility (2.9 and 3.0 children per woman, respectively). This trend is different from the unusual trend observed in the JPFHS 2012, when women who had secondary education had the highest fertility (4.2 births per woman). In the JLMPS 2010, women with basic education had the highest fertility at 4.4 children per women.

In both JLMPS 2010 and 2016, the TFR varied considerably according to wealth quintile in an inverse pattern. In 2016, fertility declined as household wealth increased, from 4.4 births per woman among women in the poorest households to 2.5 children among women in the richest households, with the exception of women in the middle quintile who had 3.6 children on average. The same pattern was observed in JLMPS 2010. Although the overall trend in both surveys was similar to the findings of the JPFHS 2012, the higher fertility rate among women in the middle wealth quintile was not found in the JPFHS 2012.

Table 4: TFR among Jordanian women by background characteristics, JLMPS 2010, JPFHS 2012, and JLMPS 2016

Background Characteristics	Total fertility rate JLMPS 2010	JPFHS 2012	Total fertility rate JLMPS 2016	
Residence				
Urban	3.8	3.4	3.2	
Rural	4.1	3.9	3.9	
Region				
Central	3.8	3.4	3	
North	4	3.8	3.7	
South	3.7	3.7	3.6	
Education				
Less than basic	4.1	3.0 (No education)	3.9	
Basic	4.4	3.8 (Preparatory)	3.5	
Secondary	3.4	4.2	2.9	
Higher education	3.8	3	3	
Wealth quintile				
Lowest	4.4	4.4	4.4	
Second	4	3.9	3.1	
Middle	4.5	3.6	3.6	
Fourth	3.8 3.1		3.3	
Highest	2.5	2.6	2.5	
Total	3.9	3.5	3.3	

Notes: TFR is per woman and for the three-year period prior to the JLMPS 2010, JPFHS 2012 and JLMPS 2016 Source: Authors' calculations based on JLMPS 2010, JLMPS 2016, and data from 2012 cited from the JPFHS 2012 report (JPFHS and ICF International 2012)

5.3 Age at first birth

The onset of childbearing is an important indicator of fertility. Similar to our analysis of the percentage of women married by exact ages, Table 5 shows the percentage of women, by current age group, who gave birth by exact ages. As we expect given that marriage and fertility are closely linked in Jordan, the trend follows that of marriage by exact age, but at somewhat lower levels throughout. For example, seven percent of 18-19 year olds in 2016 had married before reaching 18, and three percent had given birth. Among the 25-29 age group, 57 percent had married by age 25, and 47 percent had given birth.

The percentage of women in the age group who have ever given birth accounts for women who began childbearing in the age group, and thus is higher at each age. This measure indicates that about a third of women aged 20-24 had begun childbearing. Most women had begun childbearing by age 30, and around 80 percent of those in age groups 35 and above had ever given birth, which is consistent with the small but measurable percentage of women who never married.

Table 5: Percentage of Jordanian women aged 18-49 who gave birth before age 15, 16, 18, 20, 25 and 30, percentage who have ever given birth, and median age at first birth, by current age group, JLMPS 2016

Current age group 15	Percentage who gave birth before age					Percentage	Median age	Number of	
	15	16	18	20	25	30	ever given birth	at first birth	women
18-19	0	0	3	-	-	-	8.7	a	552
20-24	0	0	2.5	11.8	-	-	32	a	1,537
25-29	0.1	0.2	3.6	12.5	47.3	-	63.9	23	1,168
30-34	0.2	0.7	4.1	14.9	50.6	72.5	72.7	23	952
35-39	0.1	0.8	7.9	19.3	53	77.2	80.7	23	780
40-44	0.5	0.5	5.4	14.5	58	75.6	76.3	23	740
45-49	0.8	1.2	4.2	13.9	55.6	76.4	81.2	23	690

Notes: ^a Data not given because less than 50% of women gave birth before reaching the age group. Authors' calculations based on JLMPS 2016

Women under age 25 were not included in the calculation of median age at first birth, because fewer than half of women in younger age groups had ever given birth. Overall, for women from the age group 25-29 and older in 2016 years, median age at first birth had not changed and was 23 years (Table 5). This is consistent with trends as seen from different surveys; median age at first birth in the JLMPS 2010 was also 23 (Table 6) and in the JFPHS it was 24 years of age (JPFHS and ICF International 2012). Table 6 also presents the differentials in median age at first birth among women aged 25 through 49 in the JLMPS 2010 and 2016. As with marriage, education was the major factor associated with delayed childbearing among Jordanian women. The median age at first birth varied from 20 years among women with less than basic education to 22 years among women with basic and secondary education to 25 years among women with secondary education and above.

Table 6: Median age at first birth among Jordanian women aged 25-49 by background characteristics, JLMPS 2010 and JLMPS 2016

	JLMP	S 2010	JLMPS 2016			
Background Characteristics	Median age at first birth	Total women	Median age at first birth	Total women		
Residence						
Urban	23	2,507	23	3,126		
Rural	23	1,008	24	902		
Region						
Central	23	1,787	23	1,939		
North	23	1,163	23	1,353		
South	23	565	23	736		
Education						
Less than basic	20	733	20	858		
Basic	21	1,035	22	1,077		
Secondary	22	660	23	582		
Higher education	25	1,087	25	1,471		
Total	23	3,515	23	3,988		

5.4 Fertility among Syrian refugees in Jordan

Figure 16 shows the ASFRs among Syrian refugee women for the three-year periods 2007-2009 and 2014-2016. Rates for both time periods are calculated from the JLMPS 2016 since the Syrian refugee population was not yet present in Jordan at the time of the 2010 survey. The fertility rates for 2007-2009 therefore indicate pre-conflict fertility rates for the population of Syrian women who have migrated to Jordan; in addition to this being a selected population, rates from earlier time periods may be more affected by recall bias and errors in year of birth reporting.

For comparison, we plot the ASFRs for these two periods from the JLMPS 2016 against the ASFRs for the 2005-2009 period from the 2009 PAPFAM report (PAPFAM 2009). The ASFRs from the PAPFAM follow a typical smooth trend, with similar fertility levels among women in the 20-24 through 30-34 age groups. By comparison, the ASFRs for Syrian refugees in Jordan for the same years as derived from the JLMPS 2016 show much higher fertility levels among younger age groups from 15-19 through 30-34. This resulted in an overall higher TFR; whereas the national TFR from the PAPFAM was 3.5 in 2009, among the population of Syrian refugees now in Jordan, it was 4.9. This is likely a result of the selectedness of the Syrian population in Jordan. Fertility rates in Syria prior to the conflict were higher in rural (TFR 3.9) than urban (TFR 3.1) areas (PAPFAM 2009), and as noted above the majority of the Syrian refugee population in Jordan is of rural origins (Stave and Hillesund 2015). There was also considerable subnational variation in fertility rates in Syria by province, with particularly high rates in a few provinces including Dar'aa (Rashad and Zaky 2013) that is overrepresented among the refugee population (Stave and Hillesund 2015).

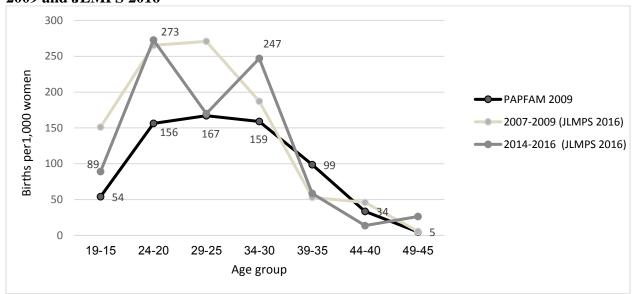


Figure 16: Age-specific fertility rates among Syrian refugee women in Jordan, PAPFAM 2009 and JLMPS 2016

Notes: Age-specific fertility rates are per 1,000 women. Rates are for the 2007-2009 and 2014-2016 periods are based on JLMPS 2016. PAPFAM 2009 depicts rates for the 2005 to 2009 period.

Source: Authors' calculations based on JLMPS 2016, data from 2009 cited from PAPFAM 2009 report (PAPFAM 2009).

As of 2016, the fertility rate among Syrian refugees in Jordan was lower than the pre-conflict level in Syria. TFR among refugee women for the 2014-2016 period was 4.4. As seen in Figure 16, the age schedule of fertility was also irregular, with much lower rates among the 25-29 age group than would be expected from the 2007-2009 pattern. As the percentage of women in this age group who reported being widowed or never married was low, this may be due to family separation or be an artifact of the data given the relatively small number of women in each age group.

6. Conclusion

The results of the Jordan Labor Market Panel Survey 2016 demonstrate continuity of recent trends in marriage practices among Jordanians. Our results are consistent with those of other recent surveys showing very modest increases in median ages at marriage for both men and women over recent cohorts (Salem 2012; JPFHS and ICF International 2012). Although insufficient income among youth relative to the high cost of marriage has been cited as a reason for marriage delay (Kanaan and Hanania 2009), our results are also consistent with trends found in the JLMPS 2010 in showing a decline in the real cost of marriage over time, despite increasing rates of nuclear residence upon marriage (Salem 2012). There is thus no evidence of strong upward pressures on ages at marriage. Median ages at marriage also remain quite stable across socio-demographic characteristics, with education the most consistent factor associated with higher ages at marriage, and correspondingly, among women, higher ages at first birth. The transition to marriage in Jordan is thus quite compressed, such that women overwhelmingly marry in their 20s and men tend to marry in their late 20s and early 30s. At the same time, there is evidence of a small increase in the percentage of women who never marry, whereas never marriage is very uncommon among men.

Despite the relative stability in marriage ages, Jordan's fertility transition appears to have resumed after a decade of stall. The substantial fertility decline since the JLMPS 2010, which is consistent with the findings of the most recent JPFHS survey, is a result of lower age-specific fertility throughout much of women's reproductive years, but there may also be some postponement of births to women's early 30s. At this point it is too early to tell whether the decline in TFR represents a long-term resumption of the fertility decline or a temporary effect due to postponement. However, the fact that women's median age at marriage has not changed substantially suggests that at least part of the fertility decline may be due to women having fewer children overall.

Among the Syrian refugee population in Jordan, both men and women made an earlier transition to marriage on the whole. Rates of early marriage (before age 18) among Syrian refugee women in particular were quite high, although there is no evidence that this represents a change from marriage practices among this population when they were in Syria. On the other hand, there does seem to be some increase in the rate of marriage before age 20. Similarly, fertility among Syrian refugees was higher than among the Jordanian population, but TFR among this population was half a birth lower, at 4.4, in 2016 than in Syria prior to the conflict. Comparing with the most recent nationally representative data available from Syria, marriage and fertility patterns among Syrian refugees in Jordan are consistent with this population being a highly selected group from the Syrian population overall, and particularly with refugees being primarily from parts of Syria where earlier marriage and higher fertility rates were common prior to the conflict.

The high rates of early marriage among Syrian refugees and continuation of early marriage among a small percentage of Jordanian girls are still concerning given the evidence that marriages in which the bride is under 18 – regardless of her nationality – are disadvantaged on a number of dimensions. Jordanian and Syrian girls who marry before age 18 have larger age and education gaps with their spouses, a lower likelihood of having a nuclear living arrangement and a higher likelihood of being related to their spouse, factors that are negatively associated with empowerment (UNICEF 2005). The cost of early marriages is also lower, which indicates a less secure financial status for girls who marry young. Policies and interventions to address early marriage thus remain critical in the Jordanian context.

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