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Education Interrupted: Enrollment, Attainment, and Dropout of Syrian Refugees in Jordan

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Abstract: The children affected by the Syrian conflict are at risk of becoming a “lost generation” due to interruptions in their schooling, including among the large population of Syrian refugee children hosted in neighboring countries. Host countries’ policy response to refugee education plays a critical role in whether and for how long refugee children resume schooling after displacement. This paper assesses how educational enrollment, attainment, and dropout of Syrian refugees in Jordan have been affected by conflict, displacement, and educational opportunities and experiences after arrival to Jordan. We rely on nationally representative survey data from Jordan in 2016 and in-depth interviews with Syrian refugee youth. Syrian refugees in Jordan faced disrupted schooling in Syria due to the conflict, followed by a number of multidimensional supply- and demand- side barriers to education in Jordan. Yet ultimately enrollment rates, at least through 2016, have recovered to pre-conflict levels for basic education among the group of Syrians in Jordan, with important lessons for other countries struggling to protect refugee children’s education.

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1. Introduction

Exposure to violence and conflict hinders children's educational attainment (Buvinić, Das Gupta, and Shemyakina 2014; Chamarbagwala and Morán 2011; Diwakar 2015; Valente 2014). The risk of children dropping out of school is substantially higher in conflict-affected countries than elsewhere in the world (UNESCO 2011). Deficits in school enrollment rates and other educational outcomes often persist among conflict-affected children that become forcibly displaced. Globally, UNHCR estimates that over half of refugee children are not in school, with 61% of refugee children in primary school and 23% of adolescents in secondary school (UNHCR 2017b). However, there is wide variation in refugee enrollment rates across host countries (Dryden-Peterson 2015). Although many supply- and demand-side factors affect refugee children's school enrollment (Justino 2016) this cross-national variation is in part reflective of the impact that host countries' policy response to refugee education has on children's educational access and persistence.

As of 2017, 5.5 million Syrians, including 1.9 million school-age children, had been forced to relocate from Syria to escape the violence that began in 2011 (Brussels II Conference 2018). The large majority of these children are hosted in neighboring countries in the Middle East and North Africa (MENA) region. Turkey, Lebanon, and Jordan, the three main host countries for Syrian refugees, have adopted very different policy approaches to Syrian refugee education. Understanding how each of these policy responses has affected educational outcomes among refugee children is critical not only for improving the future provision of education for Syrian refugees, for whom no durable solution is in sight, but also for global best practices in refugee education. In this paper we use a combination of nationally representative survey data from Jordan in 2016 and qualitative interviews with Syrian refugee youth in Jordan to assess school enrollment, attainment and dropout among the Syrian refugees in Jordan pre- and post-conflict. We focus in particular on how supply- and demand-side factors influenced re-enrollment and persistence in school in Jordan among young people who were displaced during their educational careers. Our key finding is that enrollment rates among the population of Syrians in Jordan in 2016 had recovered to pre-conflict rates, which we attribute to the strength of Jordan's efforts to integrate Syrian refugees into the public school system, particularly where access and documentation are concerned. Key challenges that remained included integration between Syrian and Jordanian children in schools, and demand-side barriers, especially poverty, that create disincentives to schooling.

Research has emphasized the adverse impact of exposure to conflict the number of years children spend in school, as well as grade progression (Akresh and de Walque 2008; Buvinić, Das Gupta, and Shemyakina 2014; Chamarbagwala and Morán 2011; Diwakar 2015; Justino, Leone, and Salardi 2014; Shemyakina 2013; UNESCO 2011; Valente 2014). Yet the impact of armed conflict on schooling depends on the gender of the child, her age at the time of the conflict, and the intensity and nature of the violence. For example, in some settings, boys' educational attainment is more negatively impacted than girls' due to factors such as recruitment to armed groups or increases in child labor (Betancourt et al. 2008; Rodriguez and Sanchez 2012). In other settings, girls' education may be more impacted because increased security concerns make parents reluctant to send them to school (Shemyakina 2011). In lower-intensity conflicts, there may be little impact on overall educational attainment but negative impacts on shorter-term outcomes such as attendance (Buvinić, Das Gupta, and Shemyakina 2014). In Palestine, for

example, exposure to violence during the Second Intifada had negative impacts on test scores (Brück et al. 2014).

Examining the impacts of forced migration on educational outcomes is extremely challenging. As with studies of other outcomes among forced migrants (Hugo, Abbasi-Shavazi, and Kraly 2018), examining educational trajectories among refugees is complicated by selection and often by the lack of comparable data from the country of origin. We address this challenge in our study through the use of detailed, retrospective educational histories, as well as comparisons with national survey data from Syria in 2009. We complement this quantitative analysis with qualitative data that provides greater detail on the nature of the challenges faced by Syrian refugees in integrating into the Jordanian education system.

2. Refugee education and education policy

2.1. Education in Syria

While Syrian refugees in Jordan have been profoundly affected by conflict, displacement, and Jordan's policy environment for refugee education, there are also demand (population) – side factors that affect refugees' education. First, refugees' educational outcomes are influenced by the education system in their country of origin, and the educational composition of the Syrian population that fled to Jordan. Enrollment rates in basic education in Syria were fairly high prior to the conflict. The national enrollment rate for ages 5-17 in 2009 (pre-conflict) in Syria was 83%.⁷ As of 2009, enrollments were 94% or higher at ages 6-11 (through the first cycle of basic education), but lower for ages 12-14 (70%) and still lower for ages 15-17 (45%) (League of Arab States and Syrian Arab Republic 2011). By 2013, when most of the Syrians in Jordan arrived in the country, 40% of all registered students in basic education in Syria had dropped out of school (United Nations Security Council 2014). Conflict had thus substantially impacted the schooling of refugee children and youth while they were still in Syria. However, it is also important to note that there was substantial regional variation in conflict occurrence in Syria during this period (UCDP 2019), and refugee children from some areas were more likely to have been affected than others.

There was also substantial sub-national variation in pre-conflict enrollment rates and adult educational attainment in Syria (CBS, UNICEF, and PAPFAM 2008; PAPFAM 2009). In addition to refugees being from areas that were particularly affected by conflict, the adult Syrian refugee population in Jordan is less educated than the national population in Syria pre-conflict (Sieverding, Krafft, Berri, and Keo 2018), which may affect demand for education among refugees due to intergenerational persistence in educational attainment.

2.2. Comparative policy environment for Syrian refugee education

Global literature demonstrates that there are three main challenges refugee children face in integrating into education following displacement: (1) disrupted and limited opportunities to attend school, (2) instructional challenges in school, and (3) discrimination (Dryden-Peterson 2015). The first point, school access, has been a key difference in the policy response to Syrian

⁷ Calculated from the PAPFAM 2009 discussed below.

refugee education across Jordan, Lebanon and Turkey. Of the three countries, only Turkey is party to the 1951 Convention that obliges host countries to provide refugees with access to primary education and encourages them to provide other levels. However, both Jordan and Lebanon have made efforts to incorporate refugees into the national educational systems.

The two main models of service provision for refugee populations is through a parallel system (e.g. separate services for refugee populations) or through integration into existing systems (Rowley, Burnham, and Drabe 2006). Previously, the UNHCR promoted parallel education systems to encourage learning and progression that was aligned with the education system in refugees' countries of origin, which is important should they return (Dryden-Peterson 2016). However, as the humanitarian system has shifted away from encampment and refugee populations are increasingly in situations of protracted displacement where they are dispersed among the host population – as is the case with Syrians in Jordan⁸ – this policy has changed. Since 2012, UNHCR has adopted a new approach that aims for the integration of refugee children into host country education systems (UNHCR 2012).

Integration of Syrian children into the public education system has been the dominant model pursued by Jordan, Lebanon and Turkey, particularly given the large percentage of Syrians in all three countries who live outside camps. However, the approach to ensuring education access varied across the three countries, as well as the rapidity of the initial education response when refugees began arriving in large numbers in 2013. Differences in the host countries' policy response are one contributor to the sizeable variation in enrollment rates of Syrian school-aged (registered) refugee children. As of December 2017, in Lebanon 42% of school-aged⁹ children were in school, compared to 56% in Jordan and 63% in Turkey (Brussels II Conference 2018). Enrollment rates in Jordan among registered refugee children fluctuated between 54% and 65% over 2013-2017.¹⁰

In Jordan, the policy response for refugee education was rapid and comprehensive early on in the crisis. Since April 2012, basic and secondary education have been provided to Syrian refugees through the public Ministry of Education system, free of charge (Culbertson et al. 2016). The majority of Syrian students in Jordan subsequently joined the existing Jordanian public school system. Within host communities, Syrian refugees may enroll in Jordanian public schools with enrollment priority given to Jordanian students (Culbertson et al. 2016). Double shift schools were created when there were not sufficient spots in schools to include Syrians in a single shift. There were, as of 2017/18, 209 double shift schools in host communities and 45 in camps (Brussels II Conference 2018). For Syrian refugee children in formal camps, UNICEF provides

⁸ Most Syrians live in host communities in Jordan; only 13% live in official refugee camps (Krafft et al. 2018).

⁹ School-aged covers ages 3-18 in Lebanon, 5-17 is used otherwise. Throughout this paper, we define school as formal schooling, not non-formal education.

¹⁰ Calculated based on:

In 2017, 233,052 school-age registered Syrian refugees in Jordan and 130,668 enrolled (56%) (Brussels II Conference 2018).

In 2016, 232,868 school-age registered Syrian refugees in Jordan and 126,127 enrolled (54%) (Brussels II Conference 2018),

In 2015, 223,301 school-age registered Syrian refugees in Jordan (UNHCR 2016) and 145,458 enrolled (Ministry of Education 2018b) (65%).

In 2014, 214,199 school-age registered Syrian refugees in Jordan (UNHCR 2015b) and 129,058 enrolled (Ministry of Education 2018b) (60%).

In 2013, 220,000 school-age registered Syrian refugees in Jordan (Ministry of Planning and International Cooperation (MoPIC) 2014) and 120,557 enrolled (Ministry of Education 2018b) (55%).

education infrastructure and the Ministry of Education (MOE) has committed Jordanian teachers to teach the Jordanian curriculum (Salemi, Bowman, and Compton 2018).

However, Syrian children can enroll in Jordanian schools only under certain conditions related to documentation and learning. Prior to 2016, children were required to have a service card (be registered as a refugee and with the Ministry of Interior) to enroll in school. The requirement to have documentation was temporarily waived starting in fall of 2016 (Jordan Times 2016) and the waiver was made permanent in fall of 2017 (Al Abed 2017). In 2017, the Ministry of Education (MOE) also exempted Syrian children from tuition and textbook fees (Brussels II Conference 2018). However, refugee children who are three or more years older than the age that corresponds to their expected grade level cannot enroll in formal education and need to take alternative forms of education (Education Sector Working Group 2015). Since the majority of Syrian refugees in Jordan arrived in 2013 (Krafft et al. 2018), when documentation requirements were still in place, those who initially lacked documentation may have aged out of eligibility for formal schooling.

In contrast, in Lebanon, it was not until 2014 that the Ministry of Education and Higher Education (MEHE) launched a policy framework for refugee education (Buckner, Spencer, and Cha 2017). In 2012, during the early stages of the influx of refugees into Lebanon, the MEHE gave instructions to schools to register Syrian children free of charge, regardless of their legal status, at the primary level and to waive tuition fees (MEHE 2014). At this point, Syrian refugees were allowed to enroll in day shifts with Lebanese students.¹¹ In 2014, when the MEHE began taking a more active role in education for Syrians and international aid was provided to support existing public schools and to accommodate Syrians, Lebanon created a second, afternoon school shift and Syrian refugees were relegated solely to these second shifts. Syrians are only allowed to enroll in the first shift after they have completed the 10th grade (UNHCR, UNICEF, and UNESCO 2018). Thus, while Lebanon has integrated Syrian students into the physical public schools, the system is not truly integrated because the shifts are segregated by nationality. Secondary school access has also been a challenge for Syrian refugees in Lebanon; it was not until after 2016 that secondary school fees were waived (MEHE 2014; UNICEF 2015) and documentation barriers for Syrians wishing to sit for the secondary level exam are prevalent (UNHCR, UNICEF, and UNESCO 2018).

In Turkey, the Ministry of Education has been the leader in the policy response for Syrian refugee education since 2013. As of 2014, Syrian refugees could obtain an international protection ID, which allowed access to free primary and secondary education. Syrian students could either attend Temporary Education Centers (TEC) or public schools in Turkey. Students who did not have IDs could attend classes at TECs but could not receive diplomas and grade reports or be placed in public schools (Aras and Yasun 2016). Arabic is the language of instruction in the TECs, which are run by different community organizations and teach an adapted Syrian curriculum (Dorman 2014). Students desiring to transfer to Turkish schools are

¹¹ An important difference between the Lebanese and Jordanian public school systems is that, while most Jordanians attend public schools, in Lebanon the education system is highly privatized and only 30% of Lebanese children attend public school. The public school system thus tends to cater to the most disadvantaged Lebanese (MEHE 2014). During the period when MEHE was not taking an active role in leading the refugee education response, many non-formal schools were created that served Syrian refugee children. With the more concerted policy in place, MEHE has been pressuring these programs to shut down or to serve only as a route into the formal education system (Buckner, Spencer, and Cha 2017).

placed in the nearest school to their residence (Aras and Yasun 2016). The Turkish government is committed to gradually integrating all Syrian children into the national education system and closing the TECs (UNHCR 2017a).

2.3. Challenges around educational integration

Physical integration in the school system does not necessarily mean social integration or academic success. Refugee children often face instructional challenges in the educational systems of their host countries (Dryden-Peterson 2015). One challenge in language; for Syrians in Jordan this issue is relatively minimal, as both countries speak similar dialects of Arabic. However, both the Jordanian and Lebanese systems have more foreign language instruction than was the case in Syria, which can be a challenge for Syrian students. In host community educational systems, refugee students globally often do not have skills that are matched to their expected grade for age level (Dryden-Peterson 2015). This has been noted by several reports as a challenge for Syrian refugees in Jordan and elsewhere (Culbertson et al. 2016; Brussels II Conference 2018).

Finally, refugee children are vulnerable to harassment and discrimination within school settings, including bullying from peers and prejudicial behavior from teachers and peers (Dryden-Peterson 2015). Bullying and harassment have been noted as problems for Syrian students in Jordan and elsewhere (Culbertson and Constant 2015; Culbertson et al. 2016), and the relationship with shift schools in Jordan may be complex. While students may feel safer from bullying in Syrian-only second-shifts (Salem 2018), separation between Syrian and Jordanian students may exacerbate lack of integration (Salem 2018).

Finally, additional factors related to the context of their displacement in Jordan may affect demand for schooling among refugees. Key among these is poverty, which may hinder refugee households' ability to pay for books and transportation even when schooling itself is free (UNICEF 2017). Poverty may also raise the demand for child labor, leading to withdrawal of children from school to support the household (Justino 2014). Work has been cited as a reason for refugees' non-enrollment in school in Jordan and elsewhere (Ahmadzadeh et al. 2014; Aras and Yasun 2016; Education Sector Working Group 2015).¹² In Jordan, an estimated 86% of Syrian refugees live below the poverty line (UNHCR 2015). Among Syrian refugee girls, marriage is a factor that may reduce demand for schooling, as marriage is widely viewed to be incompatible with education, and 18% of refugee girls aged 15-19 are already married (Sieverding, Berri, and Abdulrahim 2018). Finally, the returns to education in a context of conflict and displacement may also be low or perceived to be low (Justino 2014); for instance, in Jordan, refugees can only legally work in sectors that are predominantly low skilled (Razzaz 2017). The value of a Jordanian education upon possible return to Syria or migration to a third country may also be uncertain, reducing the incentive for refugee households to invest in education while they are in Jordan.

3. Data

¹² Based on the JLMPS 2016 data, we calculate that 10% of Syrian male youth aged 15-19 work and 48% of Syrian men aged 20-24.

Our analysis in this paper relies on a combination of quantitative and qualitative data on Syrian refugees in Jordan collected in 2016 – 2017. For some outcomes, we also compare our quantitative results with data from Syria in 2009, pre-conflict.

3.1. Quantitative data and analysis

We use the nationally representative 2016 Jordanian Labor Market Panel Survey (JLMPS 2016) to analyze education outcomes of Syrians¹³ in Jordan. The JLMPS 2016 over-sampled areas with a high proportion of non-Jordanians in order to be able to examine outcomes for the Syrian population in Jordan (as well as other migrant groups). This sampling strategy is incorporated into the sample weights, which are used in our descriptive statistics (but not our multivariate models). The JLMPS includes a full educational history that allows us to assess the education experiences of Syrian refugees who were in Jordan in 2016 even when they were back in Syria, both during and prior to the conflict. To complement this dataset, we also use the 2009 Syria Pan Arab Project for Family Health (PAPFAM) survey to illustrate educational trends nationally in Syria prior to the conflict (when comparable data are available).¹⁴ It is important to remember that the PAPFAM national trends are not necessarily representative of the experiences of the Syrians who fled to Jordan; the Syrian refugees in Jordan are a select group and may be different than the national pre-conflict average.

Our quantitative multivariate analysis focuses on attainment/timing of school exit, which exploits the retrospective data in the JLMPS 2016 to assess the impact of conflict and displacement on progression and school exit. We further contextualize these outcomes by descriptively examining measures such as enrollment,¹⁵ interruption of schooling and delays in schooling.

Attainment, the level or grades of school completed, is the key outcome of our analyses. Right censoring is an issue when calculating grades completed because we know that currently enrolled students may attain additional grades of schooling. Since our outcome of grades completed is right censored, survival analysis methods are required. For survival analyses, we structured the dataset as individual-grade observations, including grade “zero” for entry. We first estimate progression through grades (grades completed) with the Kaplan-Meier survival estimate, S_g , where exit from school is denoted at a specific grade, g , as the event T_g :

$$S_g = \Pr(T_g > g) \quad (1)$$

This allows us to estimate the probability of still being enrolled (continuing) past a specific grade in school. If an individual has never attended school, their highest year in school was set to grade zero, and that is when they exited. If an individual had previously attended school, yet is currently out of school, their grade of exit is the highest year they completed. Those currently in

¹³ In this paper we treat “Syrians” as synonymous with “Syrian refugees” for the case of Jordan. The percentage of Syrians in Jordan that either (1) are currently registered as a refugee and arrived in Jordan in 2011 or later, or (2) left a previous residence in 2011 or later due to violence, persecution, or lack of security is 93% (Krafft et al. 2018). The remainder may have entered Jordan for economic reasons but not returned to Syria due to conflict.

¹⁴ For more information on the PAPFAM 2009, see League of Arab States and the Syrian Arab Republic (League of Arab States and Syrian Arab Republic 2011). For more information on the JLMPS 2016, see Krafft & Assaad (Krafft and Assaad 2018). The PAPFAM 2009 data are available on request from the Pan Arab Project for Family Health. The JLMPS 2016 data are available from the Economic Research Forum’s Open Access Microdata Initiative (OAMDI) at www.erfdataportal.com

¹⁵ We calculate basic and secondary net enrollment ratios (NERs) for years before and since arrival in Jordan based on retrospective data on educational history and residential mobility.

school are right-censored (have no exit), yet we know how many years they have persisted through schooling thus far and this information is incorporated into our estimates.

We estimate a discrete time hazards model for grade (years of school completed). The hazard function, h_{ig} , describes the probability of an individual i exiting school in a particular grade if he or she has not already left (Jenkins 1995):

$$h_{ig} = \Pr(T_g | T_g \geq g) \quad (2)$$

Discrete time models allow the outcome variable (school exit) and the covariates, X_{ig} , to vary with grade (and thus time). We use a complementary log-log model, which is a proportional hazards model where a covariate proportionately raises (or lowers) the hazard of exiting school (Jenkins 1995):

$$h_{ig} = 1 - \exp \{- \exp[\theta(g) - \beta X_{ig}]\} \quad (3)$$

or

$$\log(-\log(1 - h_{ig})) = \theta(g) + \beta X_{ig} \quad (4)$$

The term $\theta(g)$ denotes the baseline hazard, the probability of exiting school at each grade level (for the reference individual, when covariates are included). The estimated coefficients, when exponentiated, characterize how the hazard (ratio) changes with a one-unit increase in the covariate. Hazard ratios greater than one mean a higher hazard of school exit, less than one mean a lower hazard of exit.

Since we are interested in how educational outcomes changed before and during the conflict, as well as after arrival to Jordan, we limit the sample in our multivariate analyses to those aged 6-24 as of the end of December of the survey year. We use age at end of December of the survey year for all our analyses since children enter school (on time) in Jordan in the year when they are aged six by end of December (Ministry of Education 2018b). We further limit our analyses to the years 2006-2016, since going further back in time gives us a diminishing sample size of Syrians. With these samples, we can compare those who completed their course of schooling in Syria to those whose schooling was disrupted by the conflict and those whose schooling started in Jordan. In the JLMPS 2016, our sample for multivariate analysis is 1,111 Syrians.

We are particularly interested in the impact the conflict has had on educational progression. We therefore identify the calendar year an individual was in each grade.¹⁶ We initially estimated our models with only the baseline hazards for each grade in school (e.g. grade 3). We then aggregated some of the grades with similar baseline hazards (grades 1-5, 6-8, and 9-12). Thereafter, grades are also interacted with sex to account for differential patterns of dropout by sex. We then estimate calendar year (e.g. 2014) effects. Subsequently, we aggregated some of the calendar years (into 2006-2010 (pre-conflict), 2011-2013 (conflict and displacement), and 2014-2016 (at which point the majority of refugees were in Jordan)). These estimates test the

¹⁶ To map grades to calendar years, we use variables on the year that basic education was started, the year basic was completed, the year secondary was completed, the year higher education was started, the year higher education was completed, the year post-grad was completed, and the year all schooling was completed. If an individual has never attended school, we impute that their grade zero occurred during the calendar year they were 6 years old. We assume individuals progressed annually from their start year and then adjust their end year of levels where we have end data, if the dates differ from annual progression. If there was an interruption of schooling (the question in the JLMPS 2016 captures interruptions of about six months or longer) the starting and ending years that the individual experienced an interruption from school were used to adjust the calendar year corresponding to subsequent grades.

impact of the conflict and relocating to Jordan on dropout. In the models with covariates, we control for mother's and father's education, and number and composition of siblings interacted with sex.

3.2. Qualitative data and analysis

The qualitative component of this mixed methods research was based on in-depth interviews designed to complement the JLMPS 2016. The interview guide adopted a modified life-history approach,¹⁷ beginning with a brief discussion of respondents' lives in Syria and their experience of arrival to Jordan. Then, respondents were asked about each location in which they had lived since their arrival to Jordan and their experiences with schooling, employment, marriage and use of health services in each location.

The qualitative fieldwork was conducted in two Jordanian governorates that host the highest percentage of registered Syrian refugees living in host communities (UNHCR 2018). Mafraq is located in the North near the Syrian border and near the Zaatari refugee camp, through which most refugees entered Jordan. The second site was in Eastern Amman, on the outskirts of the capital city. Interviews were conducted in November 2017.¹⁸ Respondents were Syrians aged 15 – 29 who had arrived in Jordan since 2011.¹⁹ Our target sample size within each study site was 36 interviews, evenly divided between male and female youth. In order to capture diversity within the sample, we adopted a purposive sampling strategy based on gender, age group, and youths' experiences of the transition to adulthood in terms of education, marriage and employment. Within the 15 – 19 age group, we sampled for both youth who were in and out of school. Within both the 15 – 19 and 20 – 29 age groups, we aimed to capture diversity in whether youth were working and whether they were married.

A total of 71 young people were interviewed, of which 35 resided in East Amman and 36 in Mafraq; the large majority arrived in Jordan between 2012 and 2013. The qualitative sample includes 35 young women and 36 young men. About half (33) were in the 15-18 age group, followed by the 19-23 (24) and 24-29 (14) age groups. Only 15 respondents were still in school at the time of the interview, but 23 had previously attended school in Jordan. The number of young men and women who were or had been in school in Jordan was about equal.

The field team transcribed the interviews verbatim in their original language (the Syrian and Jordanian dialects of Arabic). To develop the thematic codebook, the coding team separately coded a small subset of interviews using an open coding approach in which codes were derived from the data. We then reviewed the initial codebook together to identify common codes across the interviews, discuss a common understanding of codes, and group codes into families and themes. We proceeded to code the full set of interviews in Dedoose, adding codes as needed until saturation was reached. From the thematic analysis, we focus on code families (groups of codes) related to youths' own educational experiences, including barriers to and facilitators of education

¹⁷ For more information see Sieverding et al. (Sieverding, Krafft, Berri, Keo, et al. 2018a)

¹⁸ Ethical approval for the qualitative study was obtained from the Institutional Review Board (IRB) at the American University of Beirut and the data collection firm obtained data collection permissions from the Jordanian Department of Statistics and Ministry of Interior. For more information on recruitment and ethical approvals see Sieverding et al. (Sieverding, Krafft, Berri, Keo, et al. 2018a).

¹⁹ Due to ethical considerations, we did not ask qualitative respondents about their legal registration status in Jordan. We therefore did not apply an inclusion criteria based on official refugee status.

in Jordan, and formal school experiences in Jordan (including sub-code groups for academic experience, school interruption experiences, school environment and interpersonal relationships with teachers and peers).

We also used memos to summarize the life story of each respondent from the time of their arrival in Jordan. In order to compare trajectories better across respondents, we also kept an Excel sheet tracking each residential move the respondent made while in Jordan and their school, work, and marital status in each location. We further analyzed the educational trajectories of the qualitative respondents by age group and gender in order to account for the differential impact of conflict and displacement on sub-groups of youth. In this analysis, we focused in particular on timing of leaving school relative to the conflict, re-enrollment decisions after arrival to Jordan, and reasons for dropout after arrival in Jordan for those who ever re-enrolled in school.

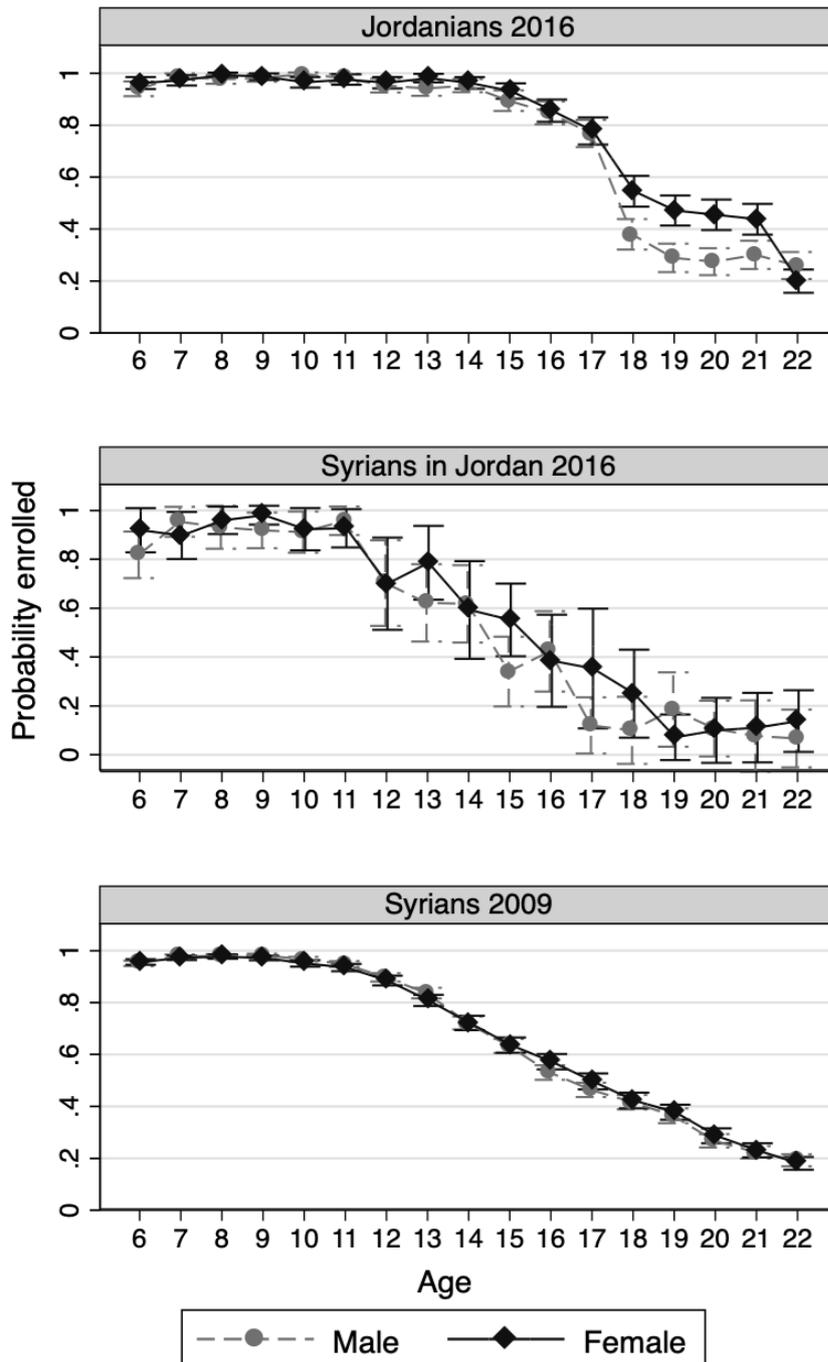
4. Results

4.1.1. Enrollment rates among Syrian youth in Jordan

Syrian school-aged children and youth in Jordan in 2016 had lower school enrollment rates than either Syrians in 2009 or Jordanians in 2016. Figure 1 shows predicted enrollment and 95% confidence intervals for Syrians in 2009, Jordanians in 2016, and Syrians in Jordan in 2016 based on a model with interactions by age and sex for those aged 6-22 (at the time of the survey). This figure also allows us to test for significant differences across groups, by sex, and within groups, across sex, in enrollments at each age. Although noisy, the patterns in Jordan in 2016 suggest that Syrian boys are disadvantaged compared to girls. The differences between girls and boys for Syrians in Jordan in 2016 have joint statistical significance, but only one of the age-specific interactions (at age 15) is individually significant. This means that while we know that the patterns for girls are different than boys, we cannot say much about exactly when differences occur.

Whereas enrollment rates for Jordanians in 2016 and Syrians in 2009 were high at early ages, Syrians in Jordan in 2016 have some gaps at early ages (6-7) possibly indicating delayed school entry. The probability of enrollment for six-year-old Syrian boys in Jordan in 2016 is significantly lower for than for Jordanians or for Syrians in 2009. Regardless of sex, Syrians in Jordan in 2016 and Syrians in 2009 both exhibit declining enrollment rates starting around age 10. By comparison, Jordanians overall had nearly universal enrollment through the early teens. For Syrian boys in Jordan in 2016, enrollments were significantly lower than for Jordanian boys from age 10 and thereafter, and significantly lower than national enrollment rates in Syria in 2009 for age 12 and thereafter. For Syrian girls in Jordan in 2016, enrollments were significantly lower than for Jordanian girls from age 12 and thereafter. Syrian girls in Jordan in 2016 had lower enrollments starting at 12 as well compared to girls in Syria in 2009, but differences were significant only for ages 19 and 20. However, the population of Syrians in Jordan in 2016 is a select (and disadvantaged) group (Stave and Hillesund 2015; Sieverding, Krafft, Berri, and Keo 2018); the lower enrollment rates of Syrians in Jordan in 2016 compared to in Syria in 2009 may be due to conflict and displacement, but may also be a continuation of pre-existing trends among this sub-population.

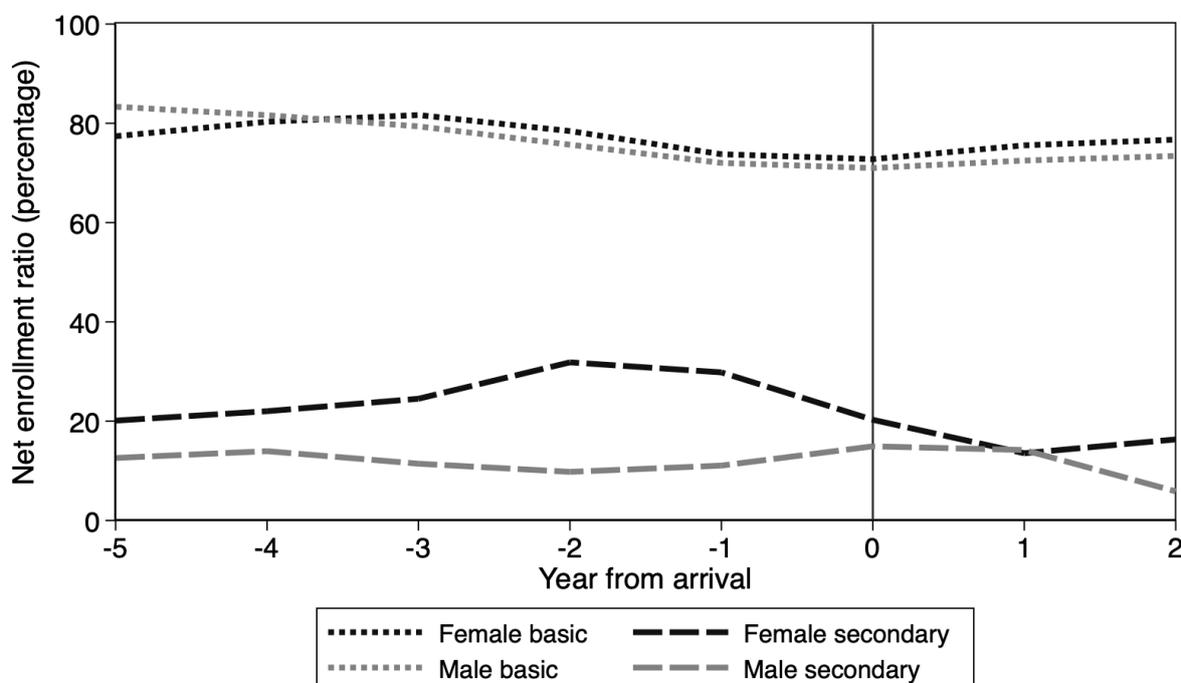
Figure 1. Probability of enrollment by nationality and survey, sex, and age, aged 6-22 at time of survey



Notes: Based on a logit model with triple interactions for nationality and survey, sex, and age.
 Source: Authors' calculations based on JLMPS 2016 and PPFAM 2009

With the JLMPS data, we can also look at enrollments relative to the year of arrival in Jordan for net enrollment rates (NERs). In Figure 2, year zero is the year of arrival in Jordan. Years one and two signify time post-arrival in Jordan, while years -1 to -5 signify time pre-arrival (in Syria). The NERs for basic education fell somewhat in the two years prior to arrival (during the conflict in Syria), then stabilized or increased slightly, indicating successful transition of students at this level into the Jordanian school system, although possibly with some delays in progression. NERs for secondary are very low post-arrival, due to delays in progression and possibly non-reentry among students at this level of schooling after arrival in Jordan. The stabilization of the NER for basic education is a positive indication of younger Syrian refugee children’s ability to return to school after arrival in Jordan, although youth at the secondary level appear to have faced greater challenges in school return and (on-time) progression.

Figure 2. Net Enrollment Ratios (NER, percentage) by year from arrival by education level and sex, Syrians in Jordan in 2016



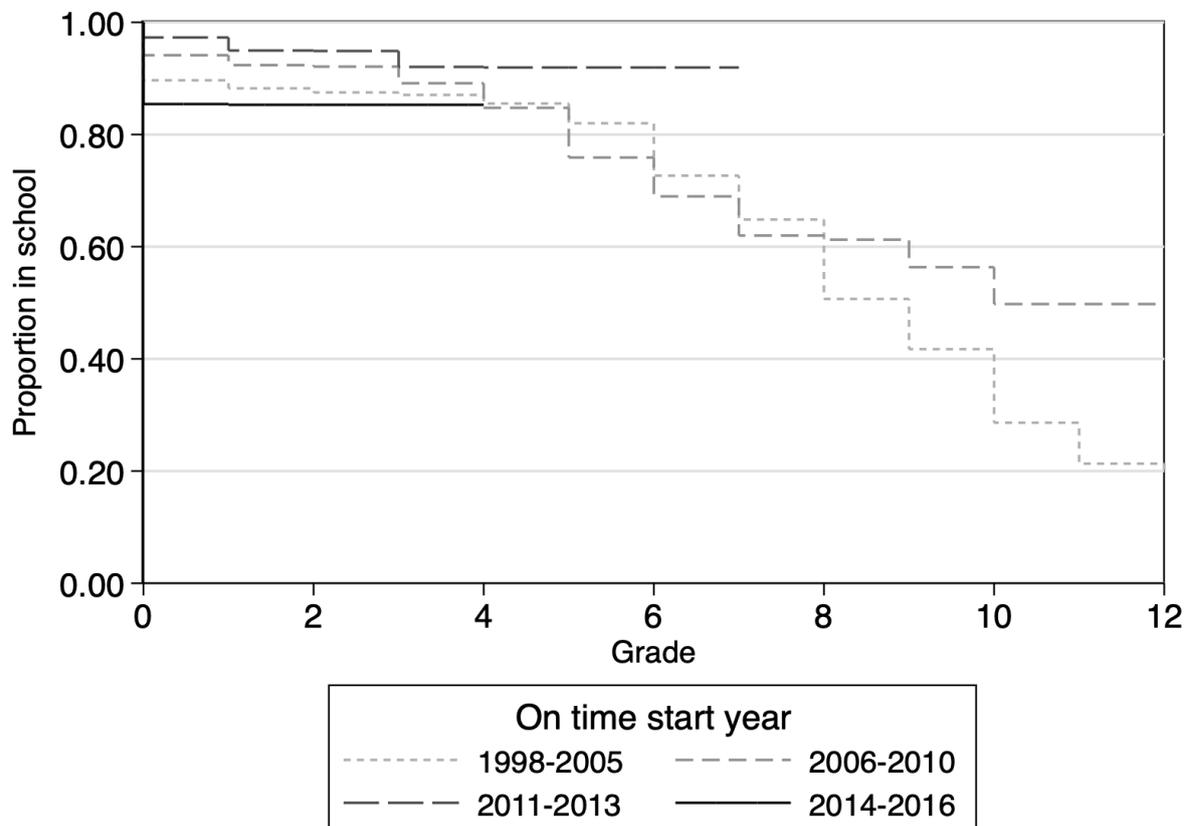
Source: Authors’ calculations based on JLMPS 2016

Note: Number of secondary age children each year ranges from 21 (boys in year -5 from arrival) to 51 (boys in year 2 from arrival). Smoothed based on a locally weighted regression using lowess (bandwidth=2).

4.1.2. School exit timing among Syrian youth

In this section, we first examine patterns of entry and exit from school for Syrians in Jordan in 2016 by cohort, with cohorts measured by on-time start year, or the year a child would have entered school if she entered on time, at age six. For example, a child born in 2000 would have an on time start year of 2006. This approach allows us to examine how the educational persistence of Syrian youth may have been changed over time, depending on their age at the time of conflict and displacement. Figure 3 estimates a Kaplan-Meier survival function showing the proportion of students who persist (remain in school) by grade, for the sample of Syrians aged 6-24 in Jordan in 2016. The analyses here do not account for whether school entry or exit was in Syria or Jordan.

Figure 3. Proportion in school by grade and on time start year, Syrians in Jordan in 2016, aged 6-24 at time of survey



Notes: Showing through grade 12 based on ages 6-24 in 2016. Based on Kaplan-Meier survivor function.

Source: Authors' calculations based on JLMPS 2016

Beginning with the youngest, those Syrian refugee children in Jordan in 2016 who should have started school in 2014-2016 (after most arrived in Jordan) have the lowest rates of entry. However, additional analyses (not shown) suggest that there may also be some delay in entry, which may lead to an increase in school entry after 2016 among this group. For those who did start school in 2014-2016, there is very little drop out, although we only observe the first few grades of school. Among those children who should have started schooling in 2011-2013, the period of arrival for most of the refugees in the JLMPS, we see the highest rates of entry and the lowest proportion who exited (through the grades we observe). Thus, despite conflict and displacement, the Syrian refugees in Jordan in 2016 from cohorts which should have started their schooling during the peak years of conflict exposure and displacement persisted through the early grades at rates higher than their peers from older cohorts did.

The Syrians in Jordan in 2016 who would have started school (if on time) in 2006-2010 (in Syria immediately pre-conflict) show high rates of entry and good persistence in the first few years of school. However, we observe lower persistence and more exit in the later grades of basic (4-8) for this cohort compared to the next oldest cohort. This may be due to disruptions at this stage of schooling due to conflict. While the Syrians who entered in 1998-2005 (in Syria 6-13 years prior to the start of the conflict) had greater persistence through grade 8, they were much less likely to persist through the end of basic and secondary; this may also be due to conflict affecting them at later schooling stages, or an overall trend of rising educational attainment over time, which means lower attainment for earlier cohorts. With the descriptives here we cannot disentangle cohort differences and conflict effects. We further explore these dynamics in our multivariate models, below, which can incorporate time varying covariates to separately estimate the impact of, for example, starting school in Syria in 2010, but then being exposed to conflict subsequently.

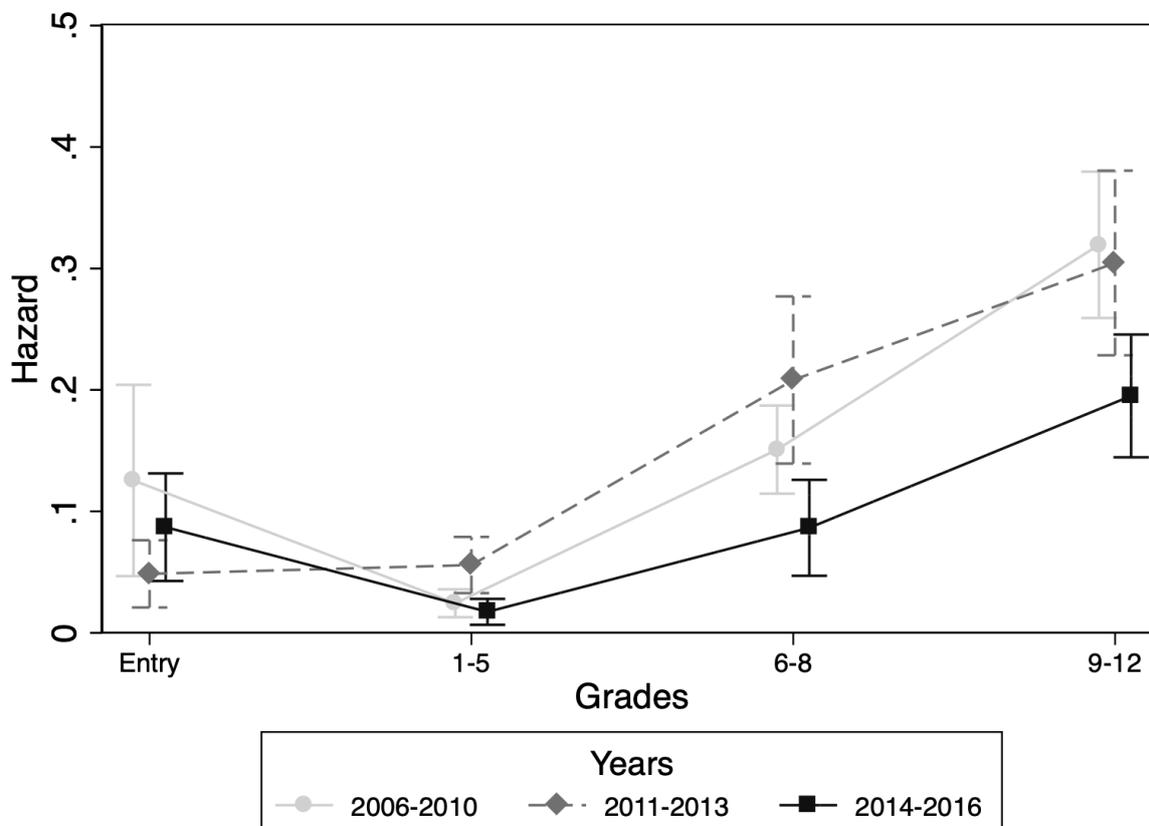
4.1.3. Multivariate models of school exit timing

In order to examine the effect of conflict we estimate models that include calendar time, the hazard ratios for which are shown in specification 1 of Table 1 (at the end of the document). There may be differential effects of the conflict on school entry or exit during different grades in school. We therefore fully interact the grouped years and grade segments in Figure 4. The results are noisy, but suggest that never-entry fell from 2006-2010 to 2011-2013 before rising slightly in 2014-2016 (significantly so comparing the hazard in 2011-2013 to the other years, but differences between 2006-2010 and 2014-2016 were not significant²⁰). The 2014-2016 result must be interpreted with caution, as, since children aged six and older in 2016 are included, they may enter but with delay.

There was a significantly higher hazard of dropping out in grades 1-5 in 2011-2013 compared to 2006-2010 or 2014-2016 (but 2006-2010 and 2014-2016 were not significantly different). In other words, students who were in the early stages of basic education at the time that the conflict in Syria began and during the period in which most refugees arrived in Jordan experienced higher hazards of dropout than those who were in the same levels of education during the periods immediately prior to the conflict or after arrival in Jordan. In the period after displacement, hazards of drop out for grades 1-5 in Jordan were similar to pre-conflict in Syria.

²⁰ Since the model includes both main effects and interactions between time and grade segment, the marginal effects (predicted hazards, shown in the figure) of different combinations are tested for equivalence or significant differences.

Figure 4. Hazards of exit by nationality and (grouped) year, Syrians in Jordan 2016



Notes: Bars indicate 95% confidence intervals. See Table 1, specification 3, for the coefficients. Models include controls for sex, parents' education, and siblings. Source: Authors' calculations based on JLMPS 2016

There was a not a significantly higher hazard of dropping out in 2011-2013 compared to 2006-2010 in grades 6-8. However, the hazards in 2014-2016 for grades 6-8 were significantly lower than both 2006-2010 and 2011-2013. This means that children in grades 6-8 in 2014-2016, a period when nearly all were already in Jordan, were more likely to persist in school than those in grades 6-8 during the conflict or in Syria pre-conflict. The Syrian youth who made it to grade 9-12 had the lowest hazards of drop out in 2014-2016, significantly so compared to the other two periods. However, this group would be particularly selected, as relatively fewer of them would have made it through the preceding years of basic.

4.1.4. Interruption and re-enrollment in Jordan

A mixed pattern of non-re-entry, delayed re-entry, and relatively quick re-entry is visible in terms of interruptions reported in the JLMPS data. Interruptions are defined as being out of school for six months or longer, followed by a return (stopping and not returning is an exit or

dropout). Shorter periods of school interruption are therefore not captured in the data. Among those who were aged 6-24 and ever went to school, starting grade 1 between 2005-2010, and were currently enrolled or left school in 2011 or later (thus, exposed to the conflict and displacement while in education), 15% of Syrians in Jordan in 2016 experienced long interruptions but returned and were still students in 2016, while just 2% had interruptions, returned, and subsequently dropped out. If they returned, students thus appeared to persist for some time. However, a third (33%) of Syrians in this group dropped out all together without a (six-month or longer) interruption. In contrast, half (51%) had experienced no interruptions (of six months or more) in schooling and were currently enrolled as of 2016, suggesting that transitions to school in Jordan were relatively swift and successful for many of these Syrians. However, for those with disruptions, as well as due to differences in the school system, Syrian youth may have skills below the grade level expected for their age and thus be placed in a lower grade than expected for their age, another form of delay.²¹

4.2. Drivers of enrollment decisions

In this section we seek to understand the factors that have contributed to Syrian refugees' enrollment in school or the reasons for not enrolling, and drop out decisions by looking at the instructional environment and socioeconomic factors, using the qualitative data. We first discuss enrollment experiences among the qualitative sample, and then distinguish between the supply-side and demand-side factors driving enrollment decisions.

4.2.1. School status in Syria during the conflict and upon arrival to Jordan

None of the youth aged 24-29 in the qualitative sample had attended school in Jordan. Among this cohort of youth, most of the young women and a few of the young men had dropped out of school prior to the war, mostly around 9th or 10th grade. These respondents viewed this as a common age to leave school in their communities, and had done so due to lack of interest in school, to help their families financially, and in the case of the young women most got married around the same age. Youth in the 24-29 age group who had still been studying at the time the conflict began were nearly all men who had been in university when the conflict started, and none were able to resume university education in Jordan.

Youth aged 19-23 (corresponding roughly to the on-time start year cohort 1998-2005 in Figure 3), had the most varied experiences in terms of how conflict impacted their educational trajectories. A few youth in this age group had dropped out of school prior to the start of the conflict, yet among the majority who were still in school at the time the conflict began, about half never reenrolled after arriving in Jordan. Among the young men who had not reenrolled in Jordan, most had not even considered attending school because they needed to work to support their families. Two of the young women who never returned to school had gotten married and another was working. Similarly, a couple of the young women in this age group who had reentered school in Jordan and then dropped out had married. Challenges in accessing secondary education, the *tawjihi*, which we discuss in more detail below, were also a particular barrier for this age group in terms of continuing education in Jordan.

²¹ See Sieverding et al. (2018b) for an examination of age-for-grade and grade repetition which shows Syrians in Jordan were slightly older than their expected grade at some points in their trajectory, especially during latter basic and secondary, but did not repeat grades.

With only one exception, all of the qualitative respondents who were still attending school at the time of the interview were in the age group 15-18 (corresponding roughly to the on-time start year cohort 2006-2010 in Figure 3). All had been studying at the time the conflict began in Syria (at which point they would have been around age 9-12). About a quarter of the respondents in this age group had never reenrolled in school after arrival to Jordan; about half of the remaining students had reenrolled and subsequently dropped out, such that less than half of the respondents in this age group were still in school at the time of the interview. As with the older cohorts, financial pressures to work were a backdrop to non-enrollment or dropout decisions among many of the boys in this age group. Yet it was this younger age group whose educational persistence was perhaps most affected by factors related to the Jordanian educational system, including the impact of interruptions on grade for age, academic difficulties, and relationships with their teachers and peers.

The large majority of respondents had been attending school at the time the conflict in Syria began (over six years prior to the interview) and experienced at least some school interruption due to the conflict. Most of these respondents said they had left school while still in Syria due to insecurity, including direct attacks on schools, dangers or roadblocks on the way to school, particularly for those who were attending secondary school or university outside their immediate neighborhood, internal displacement within Syria, and fears about kidnapping of girls.

“I was in 10th grade in Syria, I studied for 3 months, until our school was bombarded while we were in class. I stopped going to school, the whole area was affected and without schooling opportunities.” Young man, 19 years old, East Amman, attending school in Jordan.

“There was war, they started kidnapping girls from schools and taking them as hostages” Young woman, 16 years old, East Amman, attending school in Jordan.

4.2.2. Supply-side barriers to education in Jordan: regulations, academic factors, and discrimination

Only a few respondents did not leave school until the time of their relocation to Jordan. Some respondents therefore experienced an extended period of school interruption even prior to their arrival in the country. Among those youth who had reentered school at some point after arrival to Jordan, all attended a public school. The large majority were attending or had attended the upper basic level (grades 5-10), with only a few having had experience with the tawjihi (secondary level). The majority of those who eventually returned to school also experienced a period of time after arrival in Jordan during which they were out of school, ranging from a few months to a few years. A variety of factors contributed to delayed enrollment in Jordan, including the fact that most respondents spent a period of time in Zaatari refugee camp before relocating to a host community, a few further delayed enrollments while they waited to settle in a permanent location in Jordan, and some were unable to enroll mid-school-year.

“We came in in January 2014. The school year had already begun. So, they (school administration) told me to wait until the next academic year.” Young woman, 20 years old, Mafraq, previously attended school in Jordan.

In terms of the enrollment process, most respondents reported that the process was simple and smooth. Those for whom the enrollment process was more difficult generally faced two types of challenges: lack of needed documentation and resistance from the school administration. Those respondents who lacked the required documentation were missing documentation of refugee status in Jordan, or family books or school records from Syria. However, in all of these cases that came up within the qualitative sample, the respondents were eventually able to overcome the lack of documentation with help from UNHCR and enroll in school. The qualitative interviews were consistent with the quantitative results in indicating that those youth who wanted (and were able in terms of their household situation) to reenter school after arrival in Jordan were in fact able to do so from the perspective of administrative requirements and school availability.

“Once we obtained the UNHCR registration card, we were then able to enroll in school despite the missing family book.” Young man, 17 years old, East Amman, attending school in Jordan.

Registration challenges appeared to be somewhat more commonly experienced among those who arrived in 2012 as opposed to later years. At the time most of the qualitative respondents arrived in Jordan, in 2012 and 2013, school enrollment policies were changing and the documentation requirements that have since been waived were still in place. A number of respondents reported school principals not wanting to admit them due to lack of space, or, in a few cases, implied bias against Syrian students. In some cases respondents – or family members helping them to register – were able to overcome this resistance through persistence. A few other respondents went to the Ministry of Education to intervene and reported that the MOE obliged the school to enroll them.

“When I came from Syria, I brought with me my certificate of birth, but the school principal did not agree to enroll me because there was no policy to enroll Syrians in schools as she said. We tried several times to convince her, but she would not agree to it. Therefore, we went to the Ministry of Education, I complained to the Ministry, who contacted the school principal to tell her to enroll me and every other Syrian student applying.” Young woman, 16 years old, Mafraq, attending school in Jordan.

The combination of school interruptions, differences in the Jordanian and Syrian school systems, timing of arrival relative to the start of the school year, and lack of places contributed to the fact that some of those who returned to school in Jordan were placed into a grade level below that expected for their age. For several respondents, the gap in the grade they would have been placed in relative to their age was a main factor contributing to the decision not to enroll in school after arrival to Jordan.

“I wanted to go back to school, but they wanted to place me in 7th grade while I should have been in 11th grade. That is a 5-year difference. So I did not want to enroll.” Young woman, 18 years old, East Amman, never attended school in Jordan.

The resulting gap in age relative to their classmates was one of several challenges that young people faced in adjusting to school in Jordan. Others mentioned the difficulty of adapting to a school in a new environment, with a new curriculum and classmates they did not know.

“At first school was hard and I wanted to stop, I didn’t want to study. I didn’t know anything and the girls were younger than I was.” Young woman, 22 years old, Mafraq, previously attended school in Jordan.

The language of instruction being English rendered the curriculum harder, and some respondents reported not understanding the subject at hand or that it took them more time to understand the topic because in Syria, Arabic was the language of teaching.

Curriculum difficulty was a particular concern for the few respondents – primarily in the 19-24 age group - who had reached the tawjihi or had already been at the secondary school level when they arrived to Jordan. These respondents reported that they needed additional support classes after school to be able to prepare for the tawjihi exam and successfully pass it.

“They rely a lot on extracurricular classes, it is mandatory to enroll in such classes to pass the exam. I did not have the financial means, I studied alone, my parents helped me too but still I failed it.” Young woman, 18 years old, East Amman, previously attended school in Jordan.

Several respondents dropped out at the tawjihi level for this reason, whereas others had attempted the tawjihi, but since they could not afford these extracurricular classes, failed the exam.

Yet more so than instructional factors, discrimination and interpersonal challenges at school emerged as an important theme for many respondents who had attended school in Jordan. There were no clear patterns by age or sex in experiences of discrimination, which seemed to vary by school and sometimes by individual teacher. Those who had positive relationships with their teachers described them as cooperative, showing interest in the future of the student, and not tolerating differentiation between Jordanians and Syrians.

“Teachers are not discriminating. They do not mention nationality; they encourage us Syrians and Jordanians to be one and not separated.” Young man, 15 years old, East Amman, attending school in Jordan.

Those who reported a negative relationship with their teachers said that the teachers were verbally and physically abusive. A couple of students dropped out of school because they could not tolerate this kind of treatment.

“I dropped out... they used to hit me for no obvious reason...last time they summoned me to the administration where someone slapped me on the face, they accused me of stealing!” Young man, 15 years old, Mafraq, previously attended school in Jordan.

A few respondents also mentioned discriminatory attitudes on the part of the school principal or administration, who denied registration for invalid reasons or making it clear they were not welcome in Jordanian schools. In terms of their school peers, the majority of respondents formed friendships with their Syrian peers, especially among girls. A few also managed to become good friends with Jordanians. Yet many respondents were bullied by their Jordanian peers, felt unwelcomed and avoided mixing with them.

“Many girls used to tell us [Syrians] that Jordan is for them Jordanian nationals, others on the contrary they were very helpful and did not allow others at school to bully us.” Young woman, 18 years old, East Amman, previously attended school in Jordan.

The majority of bullied students said that they ignored their peers’ comments in an attempt to avoid quarrels. Very few said they would reply or fight back if they were hit. Physical violence was very uncommon, however it contributed to a couple of students dropping out of school.

“I was new to the school and I knew nothing about its system, school shifts, or the way to dress. The girls got a hold on me and they told me very nasty stuff, I was shocked, so I went to the school principal and asked her to call mom. My mom came and the other girls’ moms were called to sort things out.” Young woman, 16 years old, Mafraq, at school.

4.2.3. Demand side barriers to education in Jordan: socioeconomic factors, early marriage

In our qualitative data, respondents emphasized their households’ difficult economic situation and lack of financial resources as the main demand-side challenge to school enrollment in Jordan. A few respondents said that their parents could not afford school fees and supplies,²² so they either postponed school enrollment or gave up on the idea. More so than direct costs of education, difficult economic conditions kept male respondents out of school, as many were working to support their family.²³ This was particularly the case when they were either the eldest in the family or the only source of financial support to the family. Young men mentioned specifically that they worked so they could help to pay for the family’s accomodation, the largest portion of expenditure seeming to be on house rent, electricity, and water bills, while food was covered by vouchers.

“I did not inquire about education in Jordan. We had newly rented a house and there was no one but me to work and pay.” Young man, 23 years old, never attended school in Jordan.

A very few young men worked while studying, and found it to be exhausting. They either worked during night shifts or on weekends, or ultimately dropped out of school.

As for young women in the qualitative sample, marriage was also an impediment to schooling as some had to drop out of school after getting engaged (all of the female youth who had married in Jordan did so before the age of 18²⁴). Married female respondents could not be at school and manage a household simultaneously or their families did not consent. A few other female

²² It was only in 2017 that the Ministry of Education (MOE) also exempted Syrian children from tuition and textbook fees (Brussels II Conference 2018).

²³ Calculations from the JLMPS 2016, using the 3-month reference period and market definition of work, indicate that only 6% of male Syrian youth aged 15-19 were working. Among male Syrian youth aged 20-24, approximately 36% were working. Additional youth were searching for work; using the same definition of work and a standard (search required) definition of unemployment to define the labor force, 14% of Syrian male youth aged 15-19 were in the labor force and 44% of Syrian male youth aged 20-24 were in the labor force.

²⁴ Early marriage was one of our sampling criteria for the qualitative sample, however, and this result is not representative. See Sieverding et al. (Sieverding, Berri, and Abdulrahim 2018) for further analysis of marriage outcomes among the refugee population.

respondents were out of school to take care of family members, or because their parents would not let them attend due to perceptions of insecurity in Jordan.

Besides financial challenges, a few youth mentioned that there was no value in education in the long run in Jordan, either because they could not use their education in the Jordanian labor market, or due to a general loss of hope in the future.

“My future was lost with Syria’s destruction and the events. I was putting high hopes on having an education and later a decent job. When I stopped my education, my aspirations vanished.” Young man, 23 years old, Mafraq, never attended school in Jordan.

Despite the difficult circumstances, some youth perceived education as an achievement in one’s life and wanted to continue or return to education. In this respect, parental encouragement (and sometimes requirement) for youth to stay in school was an important facilitator of education, as well as individual motivation.

“All of my siblings are educated, my mom urges us to study and repeats how education is very important.” Young man, 17 years old, Mafraq, attending school in Jordan.

5. Discussion and Conclusions

Education is critical to the integration of refugees into their host countries, as well as mitigating human capital loss among conflict-affected populations, yet refugee children hosted in developing countries are some of the most marginalized in the world in terms of access to education (Dryden-Peterson 2015). Substantial efforts have been made to provide access to education to Syrian refugee children by the countries hosting the largest refugee inflows, namely Turkey, Lebanon and Jordan. Each country has pursued different, and evolving strategies towards refugee education (Culbertson and Constant 2015; Culbertson et al. 2016). Understanding how these different strategies may have impacted enrollment rates, which remain well below 100% in all three contexts, is thus critical not only for improving educational access for the Syrian refugee children who remain in a situation of increasingly protracted displacement, but also for informing responses to future refugee crises.

In this paper, we investigated attainment and dropout among Syrian refugee youth in Jordan, examining a range of demand- and supply-side factors that may contribute to children and youth’s persistence in school. Our findings concur with those of assessments carried out earlier in the refugee crisis (Ahmadzadeh et al. 2014; Culbertson et al. 2016; Culbertson and Constant 2015; Education Sector Working Group 2015) in indicating that the reasons for non-enrollment of a substantial portion of Syrian refugee children are multidimensional. The dynamics of dropout and non-enrollment also differ for different cohorts of children and youth, who were affected by conflict and displacement at different points in their educational trajectories, as well as for girls and boys.

The results of the quantitative models show that there was accelerated dropout at the basic education level during the peak conflict years (2011-2013) when most refugee children were still in Syria or in the process of moving to Jordan. However, persistence in school among the Syrian refugees in Jordan after displacement was comparable to among this population pre-conflict.

This positive finding must nevertheless be placed in the context of the Syrian refugees in Jordan coming from an educationally disadvantaged population within Syria; net enrollment rates at the basic level remain around 80%, well below universal. Enrollment in secondary schooling is thus very low and has not recovered even to the low rate of pre-conflict participation in secondary schooling among the population of Syrians who are now in Jordan. However, those highly selected youth who managed to successfully transition to secondary school appear to persist at higher levels than pre-conflict.

Among the youngest cohorts of children who are entering school for the first time in Jordan, further research is needed to better understand the causes behind our concerning finding of delayed or possibly non-entry. For the wide age group of children and adolescents who are now of basic education age, different strategies are needed for those who remain in school and those, mostly adolescents, who have already dropped out. For those in school, our findings concur with other studies (Salem 2018; Education Sector Working Group 2015) in indicating that interpersonal aspects of schooling, and particularly bullying by peers, are a key factor affecting school experience and contributing to dropout decisions among adolescents. Particularly for boys, in the face of financial pressures to work, a negative school environment can serve as an extra push to leave school. There is an urgent need to test the efficacy of different interventions to improve integration of Syrian and Jordanian students in schools, and to involve teachers in efforts to improve the school environment. Although we are not able to rigorously assess quality of schooling with our data, the qualitative data are consistent with reports indicating that school quality varies widely (Education Sector Working Group 2015; Ahmadzadeh et al. 2014) and is thus a key area of intervention for all students, whether refugee or nationals.

Particularly for boys, the need to work was a key reason for being out of school at both the upper basic and secondary school levels. For girls, the demand-side factors limiting school enrollment were more mixed, but included marriage and family responsibilities. Removal of the three-year rule would be one important step towards opening school opportunities to these youth (Human Rights Watch 2016a), but will not solve the issue of age for grade gaps that now affect many young people in this category. Non-formal education, which we return to below, is a key strategy for this group.

Similar demand-side barriers to education were also key at the secondary level of schooling, by which time many Syrian refugees have already left the formal school system. In addition, the secondary schooling (tawjihi) level was the school level at which academic challenges emerged most systematically among the few who transitioned or attempted to transition to this level. In order to improve secondary school retention rates, targeted academic support for Syrian refugee students may be needed, in addition to broader efforts to address poverty, which lies at the root of many of the demand-side challenges to enrollment among this age group. The decision in 2017 to waive textbook and tuition fees (Brussels II Conference 2018) may help reduce the barriers created by poverty, although other costs, such as transportation, reliance on tutoring and the need to support families, will remain an issue.

For young people who are unable, for whatever reason, to return to the formal education system, non-formal education programs are critical. There are already a number of non-formal programs that support refugee children in Jordan. Catch-up programs are designed to cover additional material rapidly, for children aged 9-12, to track them back in to the formal schooling system. Out-of-school adolescents and youth (13-18 for boys, 13-20 for girls) may attend dropout

programs (Ministry of Education 2018a). There are also learning support services (informal education) offered by a number of partners. The largest are Makani centers, operated by UNICEF, which offer learning support for in-school children and learning opportunities for out-of-school children (UNICEF Jordan 2017). These programs, however, remain targeted primarily to children and, with the exception of Makani centers, have not reached a large scale. Particularly as displacement becomes increasingly protracted, there is clear need for designing educational services for older youth, particularly youth who did not acquire foundational numeracy or literacy skills. Creating services that are reconcilable with youths' other responsibilities towards their families is a particular challenge.

The experiences of refugee youth – primarily at the basic education level – in reenrollment in school after arrival in Jordan also provide critical policy lessons for refugee access to education in other contexts. Although other reports have noted documentation challenges as a reason for refugee children's non-enrollment in school (Education Sector Working Group 2015), all of the respondents in our qualitative study who faced documentation challenges – as well as difficulties with individual school administrations, also noted by previous reports (Human Rights Watch 2016a) – were able to overcome these challenges through assistance by UNHCR or the Ministry of Education. Our sample is not representative and this is not to say that documentation challenges or administrative reluctance did not serve as a challenge to enrollment for other children and youth. Rather, in addition to the importance of removing documentation requirements, as Jordan has recently done, our findings point to the critically important role that supportive institutions play in ensuring consistent policy implementation across regions and schools.

Several other aspects of our results highlight lessons for refugee education globally. The recovery in Syrians' enrollments and progression, quantitatively, along with the qualitative results, highlight how a clear policy mandate for including refugees in local education systems combined with a Ministry of Education that actively supports that mandate can substantially improve access to education. Yet regulations around documentation, fees, and age of placement can still act as barriers even in an otherwise supportive environment, underlining the importance of the details of inclusion. Even once lifted, the barriers posed by these documentation requirements can persist for those cohorts that were most affected. The quality of the school environment and interactions with fellow students and teachers are critically important determinants of education on the supply side, and in the case of Jordan, where Syrian refugees' displacement is becoming increasingly protracted, programs to support integration are greatly needed. On the demand side, multidimensional supports are needed as refugees face multifaceted challenges in pursuing education after conflict and displacement. Key among these supports are policies that are supportive of refugee livelihoods in general, such as the right to work, which increase the perceived and tangible benefits of education for young people and their families in a context of displacement.

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Table 1. Discrete time hazard model of school exit, Syrians in Jordan in 2016, ages 6-24 at time of survey

	<u>Spec. 1</u>	<u>Spec. 2</u>	<u>Spec 3.</u>
Grades (entry omit.)			
1-5	0.367*** (0.108)	0.353*** (0.105)	0.179*** (0.079)
6-8	2.046* (0.633)	1.967* (0.606)	1.280 (0.462)
9-12	3.106*** (0.984)	3.178*** (0.991)	2.436* (0.872)
Year (2010 omit.)			
2006	0.423* (0.144)		
2007	0.465** (0.132)		
2008	0.471** (0.108)		
2009	0.626* (0.127)		
2011	0.735 (0.153)		
2012	0.978 (0.210)		
2013	0.768 (0.199)		
2014	0.472*** (0.104)		
2015	0.471*** (0.093)		
2016	0.405*** (0.084)		
Years (2006-2010 omit.)			
2011-2013		1.331 (0.239)	0.400** (0.121)
2014-2016		0.722* (0.106)	0.680 (0.203)
Grades and years int.			
1-5 # 2011-2013			6.418*** (2.742)
1-5 # 2014-2016			1.198 (0.653)
6-8 # 2011-2013			4.171***

	Spec. 1	Spec. 2	Spec 3.
			(1.489)
6-8 # 2014-2016			0.974 (0.457)
9-12 # 2011-2013			2.713* (1.063)
9-12 # 2014-2016			1.010 (0.397)
Sex (male omit.)			
Female	0.668 (0.305)	0.693 (0.311)	0.719 (0.317)
Grade and sex int.			
1-5 # Female	0.998 (0.351)	1.005 (0.355)	0.984 (0.341)
6-8 # Female	0.765 (0.256)	0.762 (0.253)	0.741 (0.243)
9-12 # Female	1.464 (0.559)	1.473 (0.554)	1.421 (0.538)
Mother ed. (illit omit.)			
Read & write	0.661 (0.147)	0.664 (0.146)	0.663 (0.146)
Basic+	0.620 (0.164)	0.597* (0.153)	0.595* (0.152)
Father ed. (illit. omit.)			
Read & write	0.833 (0.189)	0.837 (0.187)	0.834 (0.186)
Basic+	0.434** (0.126)	0.442** (0.125)	0.446** (0.126)
Siblings main effects			
Have older brother	0.857 (0.145)	0.883 (0.147)	0.877 (0.147)
Have older sister	1.293 (0.291)	1.294 (0.284)	1.349 (0.300)
Have younger brother	1.403 (0.245)	1.401 (0.241)	1.421* (0.250)
Have younger sisters	1.042 (0.237)	1.045 (0.235)	1.063 (0.242)
No. siblings (living and dead)	1.048 (0.053)	1.040 (0.050)	1.037 (0.049)
Sibs. and sex int.			
Female # Have older brother	1.016 (0.325)	0.986 (0.306)	0.984 (0.310)
Female # Have older sister	0.806	0.815	0.786

	Spec. 1	Spec. 2	Spec 3.
	(0.267)	(0.268)	(0.262)
Female # Have younger brother	0.640*	0.642*	0.643*
	(0.137)	(0.137)	(0.136)
Female # Have younger sisters	0.778	0.783	0.794
	(0.198)	(0.196)	(0.202)
Female # No. siblings (living and dead)	1.109*	1.104*	1.108*
	(0.054)	(0.053)	(0.054)
N obs.	4462	4462	4462

Notes: *p<0.05; **p<0.01; ***p<0.001.

Cells are hazard ratios, standard errors in parentheses. Standard errors clustered on the primary sampling unit (PSU) level.

Source: Authors' calculations based on JLMPS 2016