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**SYRIAN REFUGEES IN JORDAN:
DEMOGRAPHICS, LIVELIHOODS,
EDUCATION, AND HEALTH**

**Caroline Krafft, Maia Sieverding,
Colette Salemi, and Caitlyn Keo**

Working Paper No. 1184

SYRIAN REFUGEES IN JORDAN: DEMOGRAPHICS, LIVELIHOODS, EDUCATION, AND HEALTH¹

By Caroline Krafft,² Maia Sieverding,³ Colette Salemi,⁴ and Caitlyn Keo⁵

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Abstract

Since 2011, Jordan has been hosting a substantial number of refugees from Syria. This paper profiles the Syrian refugee population in Jordan in terms of demographic characteristics, participation in the labor market, education, and health outcomes. Syrian refugees are disproportionately young, with half the refugee population under age 15. Despite the availability of work permits, less than a fifth of refugees are working, and those who do work are primarily in informal employment and working without permits. Enrollment rates are well below universal, with many refugee children not returning to school after an interruption, which was often caused by the conflict. Low enrollment rates also suggest that refugees face challenges in persisting in school in Jordan through basic education. Refugees have limited access to health insurance and although most do access health services, they are more likely than Jordanians to rely on charitable organizations and pharmacies as their usual source of care. Despite food supports, refugees, particularly those residing in camps, also suffer from higher levels of food insecurity.

JEL Classifications: F22, O15, J21, I20, I10

Keywords: Refugees, Syrians, Jordan, Demographics, Labor Markets, Education, Health

ملخص

منذ عام 2011، يستضيف الأردن عددًا كبيرًا من اللاجئين من سوريا. تتناول هذه الورقة السكان اللاجئين السوريين في الأردن من حيث خصائصهم الديموجرافية، ومشاركتهم في سوق العمل، والتعليم، والنتائج الصحية. اللاجئين السوريون صغار بشكل غير متناسب مع عددهم نظرًا لأن نصفهم دون سن 15 عامًا. وبالرغم من توافر تصاريح العمل، فإن أقل من خمس اللاجئين يعملون، وأولئك الذين يعملون يشغلون بشكل أساسي في عمل غير رسمي ويعملون بدون تراخيص. كما أن معدلات الالتحاق أقل بكثير من المعدل العالمي، مع عدم عودة العديد من الأطفال اللاجئين إلى المدرسة بعد انقطاع يرجع في الغالب إلى النزاع. وتشير معدلات الالتحاق بالتعليم المنخفضة أيضًا إلى أن اللاجئين يواجهون تحديات في الاستمرار في المدرسة في الأردن من خلال التعليم الأساسي. ولا يحصل اللاجئين إلا على فرص محدودة من التأمين الصحي. وبالرغم من أن معظمهم يحصلون على الخدمات الصحية، فإنهم أكثر عرضة من الأردنيين للاعتماد على المنظمات الخيرية والصيديات كمصدر رعايتهم المعتاد. وعلى الرغم من الدعم الغذائي، يعاني اللاجئون، لا سيما أولئك المقيمون في المخيمات، من مستويات أعلى من انعدام الأمن الغذائي.

1. Introduction

Jordan has experienced multiple waves of refugees throughout its history. The forced displacement of Palestinians, particularly in 1948 and 1967, led to a substantial influx of refugees that has shaped the demographics of Jordan ever since (Turner 2016). More recently, in the mid-2000s, hundreds of thousands of Iraqis fleeing conflict arrived in Jordan (Turner 2016). Since 2011, these refugees have been followed by another wave of refugees fleeing the ongoing civil war in Syria. While some refugees from the Syrian conflict have been settled in camps, most reside in Jordanian (host) communities.

It is difficult to estimate the exact number of Syrian refugees in Jordan due to documentation and registration challenges. As of March 2018, there were 659,063 registered Syrian refugees, 140,288 of whom resided in camps (UNHCR 2018). However, for a variety of reasons, not all Syrian refugees are fully registered. Since 2014, those who do not go through the formal bailout process to exit a camp cannot re-register with the UNHCR in host communities. Palestinians from Syria are banned from seeking asylum in Jordan, and those who did enter the country using false documents are unable to proceed further with registration. Among Syrians in host communities with UNHCR status, the potential costs of securing the documents required to register with the Ministry of the Interior means that many are only partially documented (Salemi, Bowman, and Compton 2018).

The November 2015 Jordanian Census estimated that there were 1,265,514 Syrians in the country, almost all of whom arrived in the previous five years, including 953,289 officially defined as refugees of Syrian origin (Department of Statistics (Jordan) 2015a; b). This was relative to a total population of 9.5 million in Jordan, of whom 6.6 million were Jordanian (Department of Statistics (Jordan) 2015c). This more recent population of Syrian refugees thus accounts for nearly half of the foreign population in Jordan and a tenth of the population overall. Understanding the demographics and socioeconomic and health outcomes of this population, which is living in a context of substantial uncertainty, is therefore critical for developing evidence-based policies and programmatic investments in Jordan. In this paper, we aim to provide a basis for such efforts by presenting a profile of Syrian refugees in Jordan based on nationally representative survey data.

Using the Jordan Labor Market Panel Survey (JLMPS) of 2016,⁶ we examine key characteristics of the Syrian refugee population in Jordan and outcomes related to the policy and programmatic response to their displacement. The JLMPS 2016, a follow-up to the JLMPS 2010 wave, was specifically designed to have a 3,000 household refresher sample that over-sampled areas identified as having a high proportion of non-Jordanians in the 2015 census. The sampling was stratified at the neighborhood level between neighborhoods with high and low shares of non-Jordanian households, as well as on governorate and location (urban, rural, and camp) lines. This ensures a sizeable and representative sample for understanding the status of refugees. Sample weights were based on the population as of the 2015 census, taking into account attrition of the 2010 wave and the 2016 refresher sampling strategy. The weights were based on the governorate-urban/rural/camp-nationality specific household distribution from the 2015 census.

In what follows, we examine demographic characteristics of the Syrian refugee population as they compare to Jordanian nationals. We begin with a discussion of how we define refugees

⁶ The JLMPS 2016 data are publicly available as of May 2018 from the Economic Research Forum Open Access Microdata Initiative at: <http://www.erfdatabportal.com/>
For more information on the JLMPS 2016 data, see Krafft & Assaad (2018).

based on the JLMPS data, then present the age and sex distribution of refugees, their locality of residence, year and reasons for entry into Jordan, and the current composition of their households. We then turn to the labor market status of refugees, including an examination of work characteristics and work permit status. Access to basic services is also of critical importance to this population. We specifically examine educational enrollment and learning patterns for school-age children, as well as access to healthcare and indicators of food security for all Syrian refugees.

2. Demographic profile of Syrian refugees in Jordan

Under international law, refugees are those fleeing their country of origin due to fear of persecution (World Bank 2016). However, operationalizing this definition from the JLMPS or other surveys is not necessarily straightforward, as individuals may understand persecution differently and different members of a household may move across the border at different times or for different reasons. The most direct way to measure refugee status in the JLMPS is based on official registration as a refugee, a question that was asked of all non-Jordanians aged 15-59 not born in Jordan. However, this measure not only overlooks unregistered asylum-seekers, but due to the age restriction on the survey question, misses the large population of children or older adults who may have fled their country of origin.

The other measure available to operationalize refugee status is self-reported experience of persecution, through a question about why the individual left any previous place of residence (asked of those aged 6+), which included an answer option for “violence/persecution/(lack of) security.” The disadvantage of this measure is that it cannot be assumed to match the legal determination of refugee status made in Jordan, nor does it capture small children or household members who may have crossed the border for family reunification.

As our interest in this paper is the wellbeing of Syrians seeking refuge in Jordan rather than the legal definition of a refugee per se, we adopt the broadest possible definition and measure refugee status at a household level. We define refugee households as those who had at least one adult household member who either (1) is currently registered as a refugee and arrived in Jordan in 2011 or later, or (2) who left a previous residence in 2011 or later due to violence, conflict, or a lack of security. We then consider all other members of the household to also be refugees. Under this definition, 93% of Syrians in Jordan are considered refugees according to the JLMPS 2016 data.

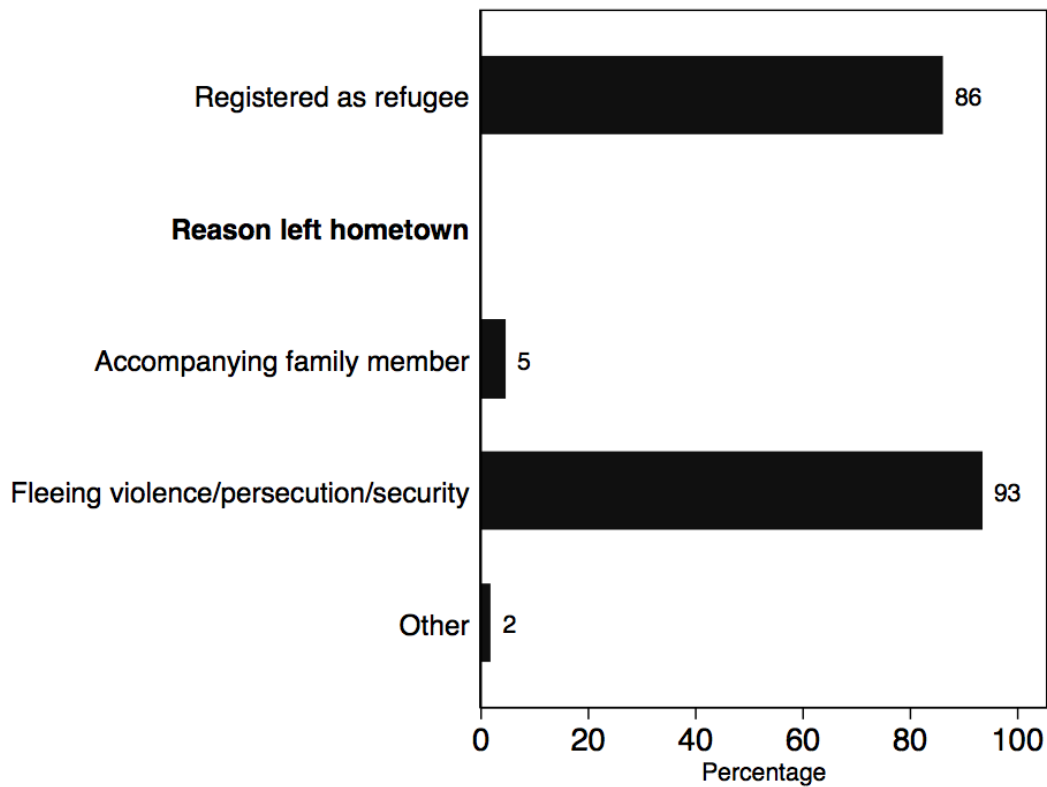
Figure 1 shows that among the group we identify (on the household level) as Syrian refugees aged 15-59,⁷ 86% of individuals were registered as a refugee. Since the JLMPS sample weights were derived from the Census and are nationality-specific, the total number of Syrians (1,265,514) is necessarily identical overall. The rate of registration among Syrians in the JLMPS was slightly higher than the share of Syrians who were refugees in the Census, which was 75% (Department of Statistics (Jordan) 2015a; b). This suggests that, relative to the Census, respondents may have over-reported registration in the JLMPS.⁸ The fieldworkers who collected the data communicated that all information from the survey was confidential by force of law. However, since fieldworkers were government employees, and because many refugee households who lack residency documentation are fearful of deportation, it is possible that such households misreported their registration status (Salemi, Bowman, and Compton 2018).

⁷ The group for which we can examine both components of the definition.

⁸ Even for those who were not actually registered, indicating that you were registered signals that the person *ought* to be registered, which would suggest that they were indeed a refugee.

Figure 1 also examines refugees' reasons for migration. The majority (93%) of Syrian refugees aged 15-59 left their country of birth due to violence, persecution, or security reasons. In this sample of 15-59 year-old individuals for whom we can compare the different criteria for our refugee definition, there was substantial overlap between the registration and fleeing persecution criteria that we use to define the refugee population. A further 5% of refugees were accompanying a family member. Although a small sample to analyze, those accompanying family members were registered as refugees at similar rates to those fleeing violence. This result suggests that our definition of refugees at the household level as either registered or fleeing violence is accurate for capturing those displaced and affected by conflict.

Figure 1. Refugee registration and reason for leaving hometown (percentage), Syrian refugees (per JLMPS operationalized definition) aged 15-59, 2016



Source: Authors' calculations based on JLMPS 2016

2.1 The refugee population

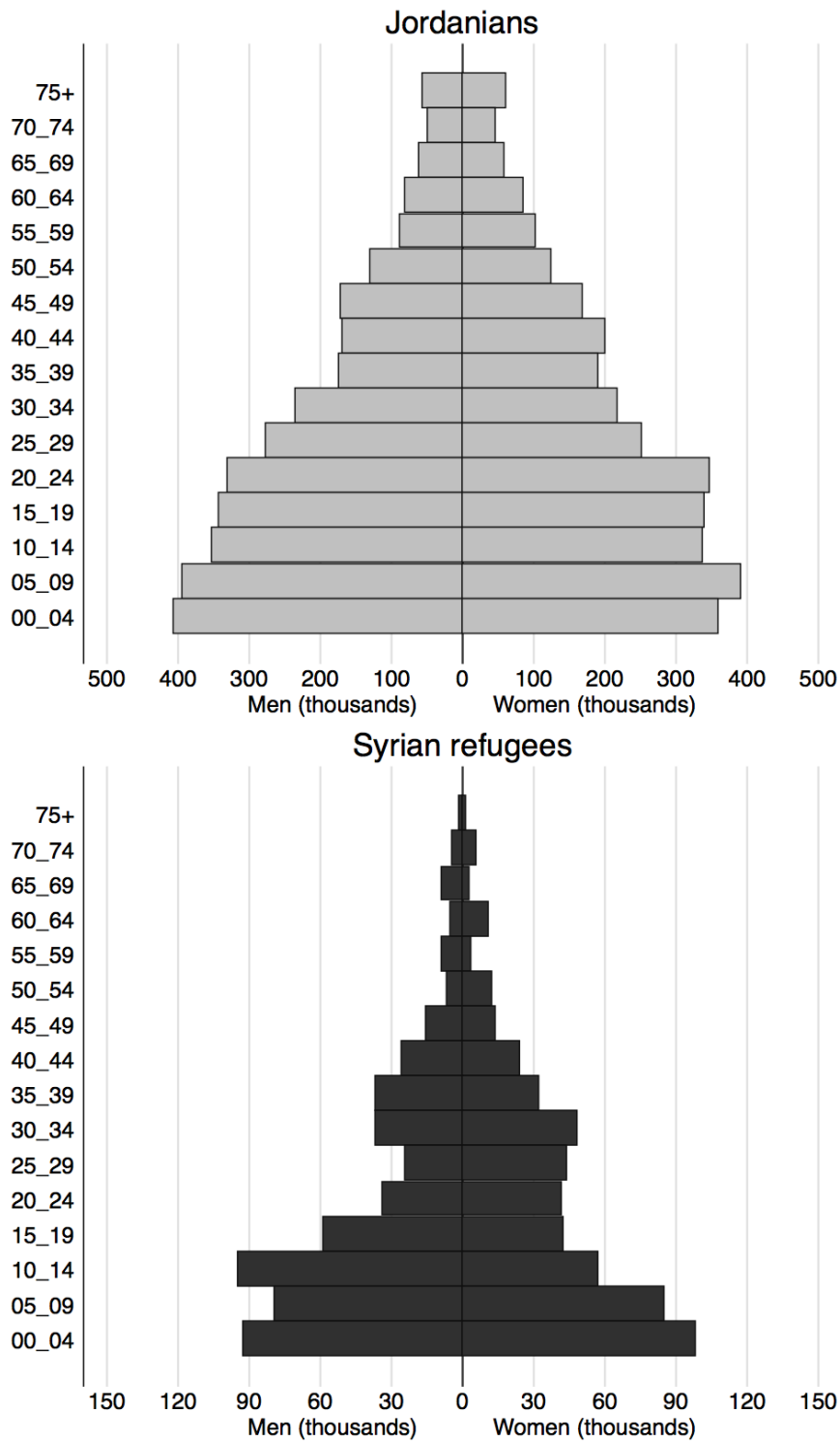
Figure 2 shows the population structure of Syrian refugees in Jordan as compared to the population of Jordanians. Jordanians were a young population in 2016, with children aged 0-14 making up the largest age cohorts. However, fertility rates appear to have declined recently, with a smaller population of 0-4 year olds as compared to 5-9 year olds.⁹ Among Syrian refugees, children aged 0-14 made up the largest age cohorts by far. In 2016, 48% of Syrian refugees were

⁹ This result was confirmed by the census; whether it represents a long-term decline in fertility or a temporary shift in response to adverse economic conditions remains to be seen (Department of Statistics (Jordan) 2015c). Sieverding, Berri, and Abdulrahim (2018) discuss recent fertility patterns in Jordan in more detail; Krafft & Sieverding (2018) explore potential reasons for the shift in fertility.

under the age of 15. There were notably few older adults among Syrian refugees. There were also important gender differences; men aged 20-34 were under-represented relative to women, potentially due to their decision to remain in Syria to fight, differential mortality rates in the course of the conflict, or men choosing to claim asylum elsewhere.¹⁰ In the analyses that follow, it is important to keep in mind both the age and sex distribution of refugees, and that the group of Syrian refugees who fled to Jordan represent a selected group of Syrians, who may have had different outcomes from the national average even in Syria. For example, Syrian refugees in Jordan were disproportionately from rural areas in Syria (Stave and Hillesund 2015).

¹⁰ For example, young males without children may be more willing to journey to Europe, which was likely a riskier choice in the years before the Jordanian government closed its northern border with Syria.

Figure 2. Population pyramids for Jordanians and Syrian refugees, 2016



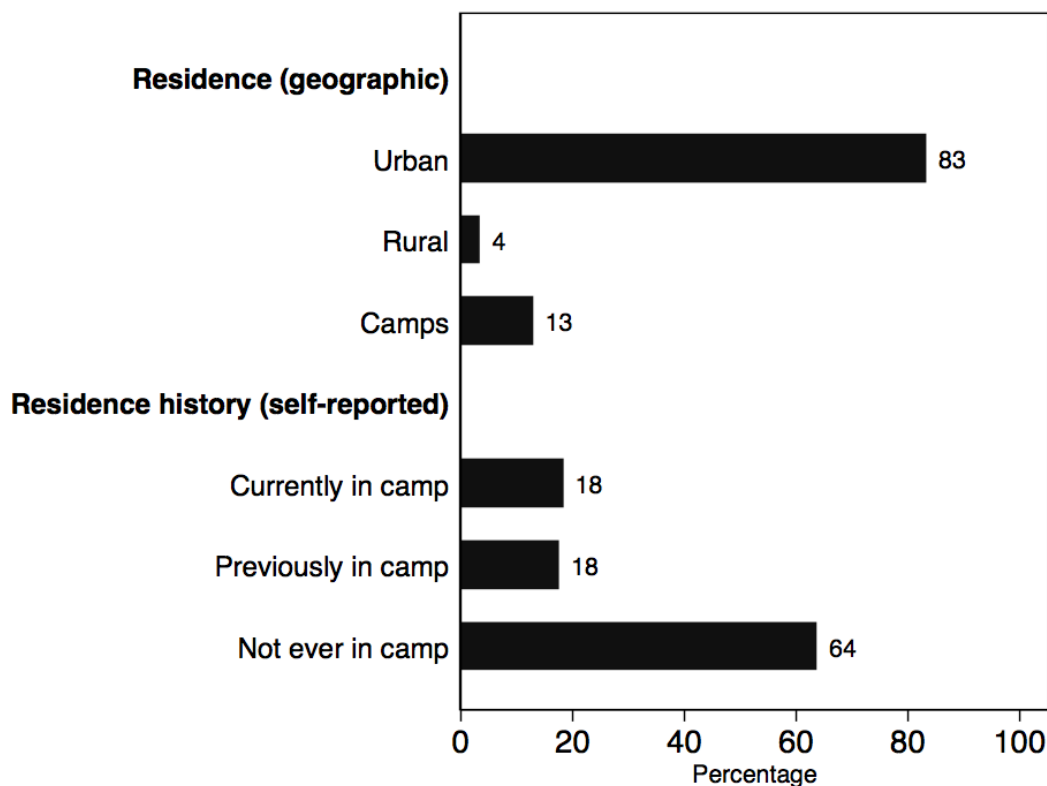
Source: Authors' calculations based on JLMPS 2016

Figure 3 shows residence in 2016 for Syrian refugees aged 15-59. The first panel displays their geographic residence based on official definitions of refugee camps. The large majority of Syrian refugees (83%) lived in Jordanian host communities in urban areas, compared to 4% in host

communities in rural areas and 13% in official camps. Given the very small share of Syrian refugees residing in rural areas, hereafter we distinguish between only camps and host communities, with the host communities encompassing both rural and urban areas.

The percentage of Syrian refugees who lived in camps in 2016 differed when using refugees' self-reports of current or historical residence in camps. At the time of the JLMPS, 18% of Syrian refugees self-reported that they were living in camps. There was thus a five-percentage point difference between those who lived in official geographically-defined camps and self-reported camp residence. Persons with this discrepancy may be living in “unofficial” camps or informal tented settlements (REACH 2014). Residential history shows an additional 18% of Syrian refugees self-reported previously living in a camp, whereas almost two-thirds (64%) reported never living in a camp. This may not, however, capture very short periods of time that some refugees spent in camps upon their arrival in Jordan.

Figure 3. Refugee residence (percentage), Syrian refugees aged 15-59, 2016



Source: Authors' calculations based on JLMPS 2016

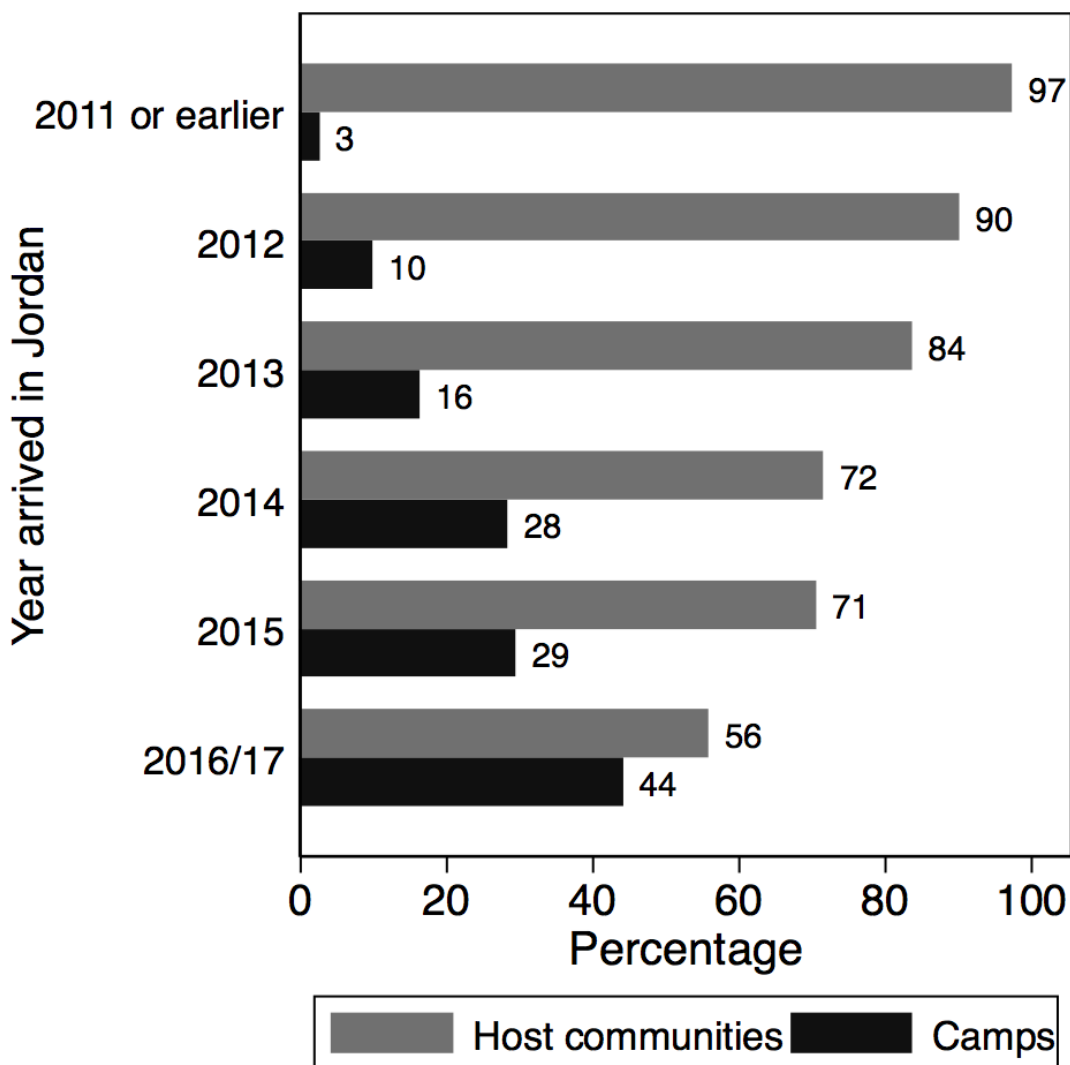
Consistent with UNHCR registration trends (UNHCR 2018), in the JLMPS the majority (51%) of Syrian refugees (aged 6+) arrived in 2013. Nine percent of refugees arrived at the onset of the conflict in 2011, followed by 28% in 2012. Only 13% of Syrian refugees arrived in 2014 or later, partly due to the Jordanian government's decision to close its northern border to asylum-seekers in 2015. Thus, as of 2016, most refugees had been in Jordan for several years, which is likely to have important effects on their wellbeing and ability to access services.

Refugees' location of settlement also varied by year of arrival. Figure 4 shows residence in 2016 by year of arrival among Syrian refugees aged 6+. Almost all (97%) of those who arrived in

2011 lived in host communities in 2016. The percentage of Syrian refugees residing in official camps, as of 2016, rose for later arrivals: 10% of 2012 arrivals, 16% of 2013 arrivals, 28-29% of 2014 and 2015 arrivals, and 44% of the small number of 2016/17 arrivals resided in camps. These patterns reflect two policy-level factors. First, as the Jordanian government and humanitarian organizations managing the Syrian refugee influx mobilized and organized in 2012, the border authorities became more adept at directing asylum-seekers directly to one of the formal camps (Salemi, Bowman, and Compton 2018). Second, the conditions for leaving residence in a camp are restrictive, and the requirements for an authorized “bailout” have become more difficult.¹¹

¹¹ Prior to 2014, a Jordanian citizen could pay a fee and sponsor a Syrian to be released from the camp. Those who departed the camps without permission were also able to re-apply for UNHCR documentation as a non-camp resident. The Jordanian government changed this policy in 2014, such that a Syrian camp resident must be bailed out by a relative. The program was then suspended (temporarily) in 2015 (CARE International in Jordan 2015). Moreover, those who leave the camps without gaining official permission are no longer eligible to reapply for UNHCR documentation once they depart, and hence are also unable to register for a Ministry of Interior service card, leaving them undocumented (Human Rights Watch 2016).

Figure 4. Refugee residence (percentage), by year of arrival, Syrian refugees aged 6+, 2016

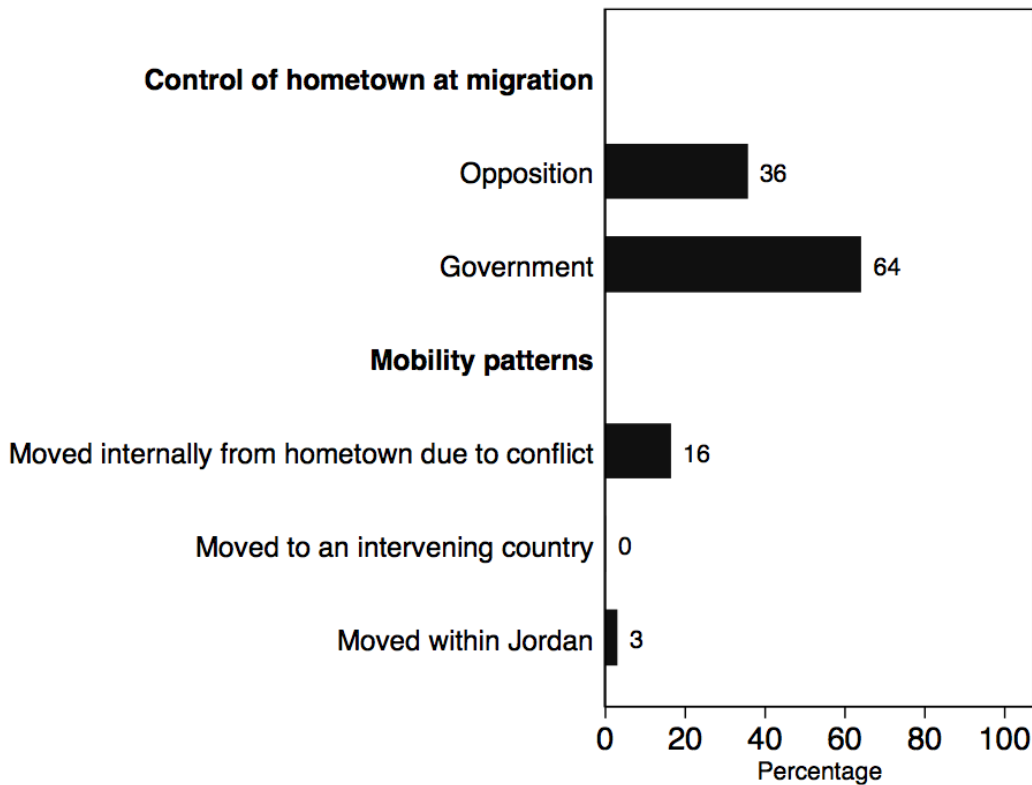


Source: Authors' calculations based on JLMPS 2016

Notes: Based on geographic residence. Since refugee status was defined on the household level, there were a few individuals who arrived earlier than 2011 among Syrian refugee households.

Migration experiences of refugees can be very complex (Figure 5). Among those who stated that they left Syria due to violence, persecution, or security, 64% stated that at the time of their migration the government controlled their hometown and 36% stated that the opposition controlled it. Less than 1% of these individuals spent six or more months in an intervening country before Jordan. However, a number (16%) moved internally in Syria due to violence, persecution, or security before coming to Jordan. Among those who moved internally, the median number of moves within Syria was 1, the mean 2.9, and the 75th percentile 5. After arriving, 3% reported moving within Jordan, with a move being defined based on being in two distinct locations, each for at least six months. This figure does not match the 18% of refugees who reported previously living in a camp, which may reflect either short stays in camps upon arrival or different understandings of which areas constitute camps, as noted above.

Figure 5. Refugee mobility (percentage), Syrian refugees aged 15-59, 2016



Source: Authors' calculations based on JLMPS 2016

2.2 Refugee household composition

The size of Jordanian and Syrian refugee households differed slightly in 2016 (Figure 6). Syrian refugees had larger households on average, with 5.2 members, while Jordanian households had 4.6 members on average. Syrian refugee households had a mode of five members, compared to a mode of four for Jordanian households. Jordanian households more often had one to four members in comparison to Syrian households. These differences in household size were not driven by differences in what constitutes a household across these populations; for both Jordanians and Syrian refugees, households were predominantly nuclear. Just 3% of household members in Jordanian households were not part of the nuclear family (parents and their children), and only 5% for Syrian refugee households. As we see below, larger household sizes among Syrian refugees were primarily driven by a larger number of children in the household.

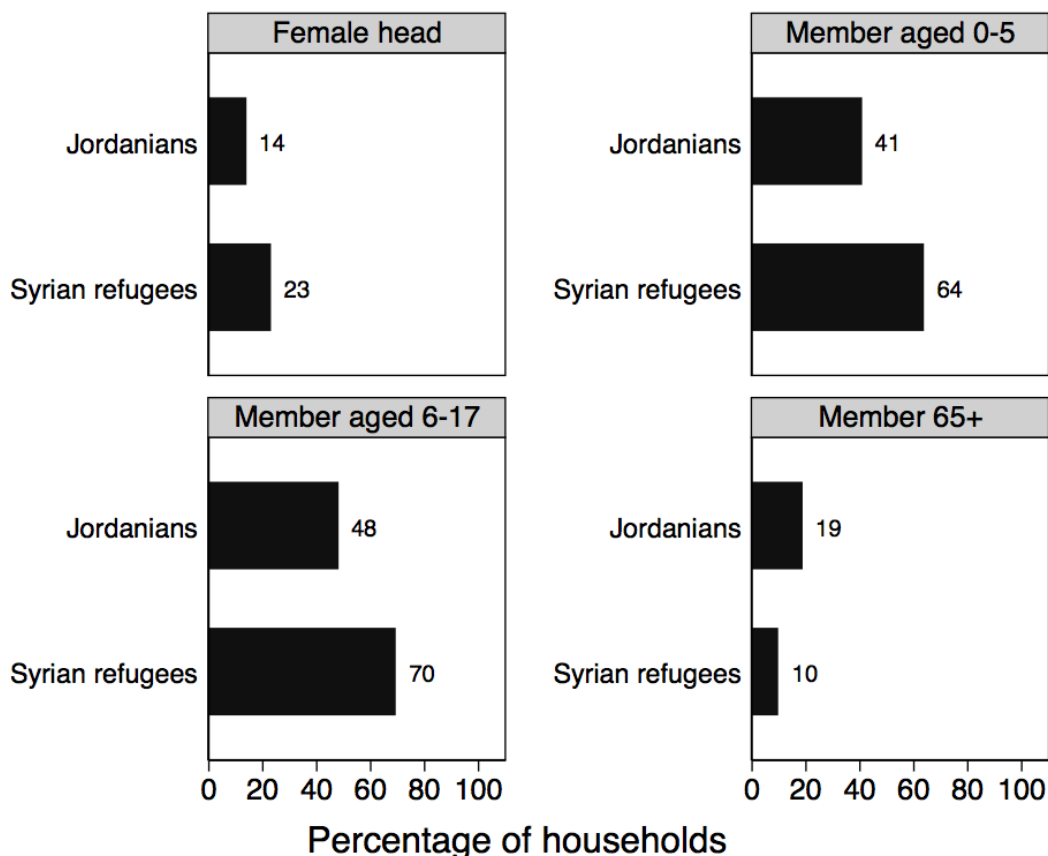
Figure 6. Household size (total number of individuals in the household as a percentage of households), Jordanians and Syrian refugees, 2016



Source: Authors' calculations based on JLMPS 2016

Comparing Jordanians and Syrian refugees, there were notable differences in terms of the head of household and inclusion of children or elderly household members (Figure 7). It is crucial that policy makers are aware of these differences in order to provide each population with appropriate resources and consider the targeting of different age-based social support and safety nets. Syrian refugee families were more likely to have a female head of household than Jordanian families. In 2016, a female head led 14% of Jordanian households and 23% of Syrian refugee households.

Figure 7. Percentage of households with female heads or dependents, Jordanians and Syrian refugees, 2016

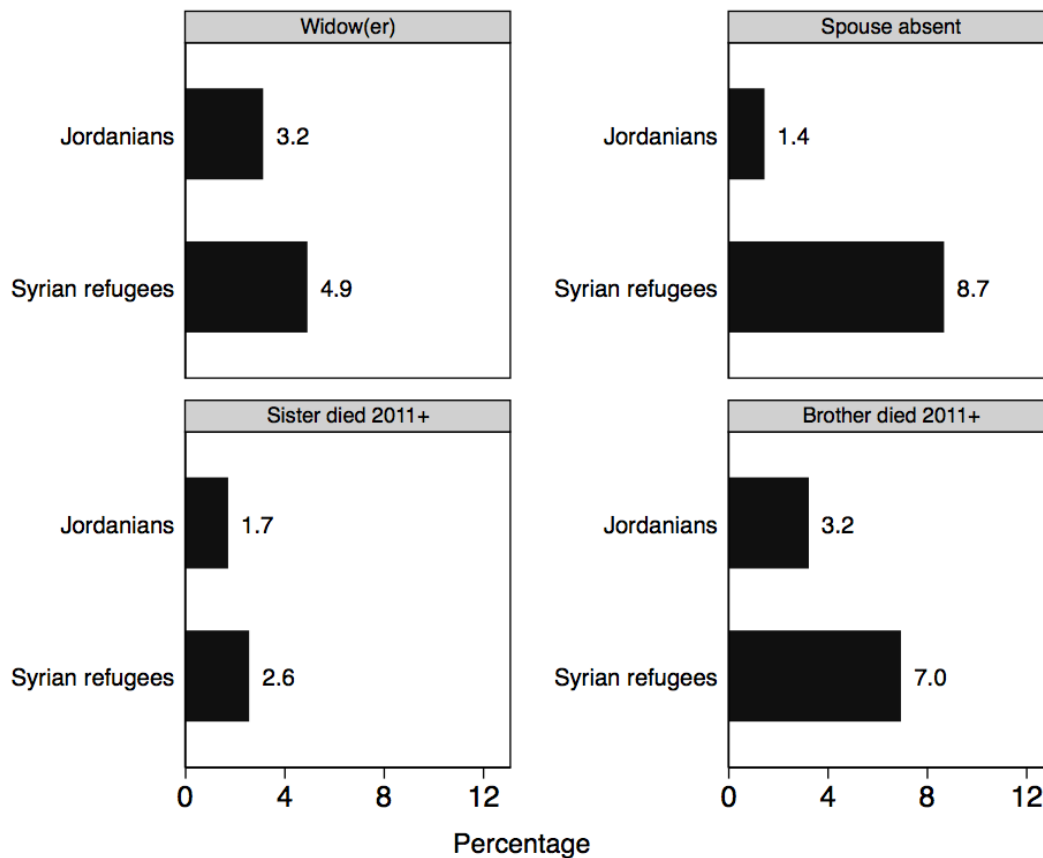


Source: Authors' calculations based on JLMPS 2016

As shown in Figure 7, Jordanian and Syrian refugee households also differed in the age composition of household members. Young children, aged 0-5, were present in 64% of Syrian refugee households compared to 41% of Jordanian households. Older children, aged 6-17, were present in 70% of Syrian refugee households and 48% of Jordanian households. The presence of children in Syrian refugee households makes the provision and accessibility of quality services in education and health imperative for the future of this young generation. In contrast, while 19% of Jordanian households had an elderly member (aged 65+), only 10% of Syrian refugee households had an elderly member.

Refugees have experienced a great deal of loss and trauma, which has important implications for the services and programs to which they need access. To understand the effects that the conflict has had on family loss among refugees who have resettled in Jordan, Figure 8 shows loss and absence of a spouse (separately). Furthermore, it looks at the loss of a sibling in 2011 or later among those who had a brother or sister. Among ever-married adults aged 15-64, 4.9% of Syrian refugees were widow(er)s, compared to 3.2% of Jordanians. Rates of widowhood were particularly high among Syrian refugee women (Sieverding, Berri, and Abdulrahim 2018). Syrian refugees were also more likely to have endured the prolonged absence of a spouse. Among currently married Syrian refugees, 8.7% had an absent spouse. This was considerable in comparison to the 1.4% of Jordanians whose husband or wife was absent.

Figure 8. Family member absence and loss (percentage), Jordanians and Syrian refugees aged 15-64, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: Widow(er) was the percentage of ever married adults aged 15-64, spouse absent was among those currently married aged 15-64, sister/brother died 2011+ was among those who had a sister/brother.

Syrian refugees with siblings were more likely to have lost a brother than a sister since 2011. Among adults who had a brother, 7.0% of Syrian refugees and 3.2% of Jordanians had a brother who died in 2011 or later. Loss of a sister ranged from 1.6% of Jordanians to 2.6% of Syrian refugees. Based on the relatively younger population of Syrian refugees, the higher rate of loss of a brother was presumably driven by mortality in the Syrian conflict.

3. Refugee participation in the labor market

3.1 Policy environment for refugee employment

Prior to 2016, the overwhelming majority of Syrian refugees in Jordan were unable to acquire work permits. Because many households struggled to make ends meet on the cash assistance and food coupon programs offered by humanitarian actors, many worked without permits in the informal private sector. Engaging in these activities entailed some risk. If caught, a refugee could be sent from a host community to a formal camp or even deported back to Syria (Amnesty International 2016).

In early 2016, the Jordanian government and the European Union (EU) arrived at a bilateral agreement, referred to as the Jordan Compact, which stipulated that Jordan would create a work permit program for Syrian refugees in exchange for improved terms of trade and increased aid

commitments from EU states (European Commission 2016). With the support of a sponsor (employer), the permit program allows a Syrian refugee to apply for official permission to participate in wage labor at the sponsor's business (Kelberer 2017). The longer-term goal of the permit scheme is to enroll 200,000 Syrian refugees (Razzaz 2017). In order to register for a work permit, a refugee must have UNHCR documentation as well as the service card provided by the Ministry of Interior. Permits must be renewed on an annual basis and only allow work in certain sectors, mainly agriculture, construction, and manufacturing (Kelberer 2017).¹² These sectors already had large or dominant migrant worker groups prior to allowing refugees access (Razzaz 2017).

3.2 Labor market status of Syrian refugees

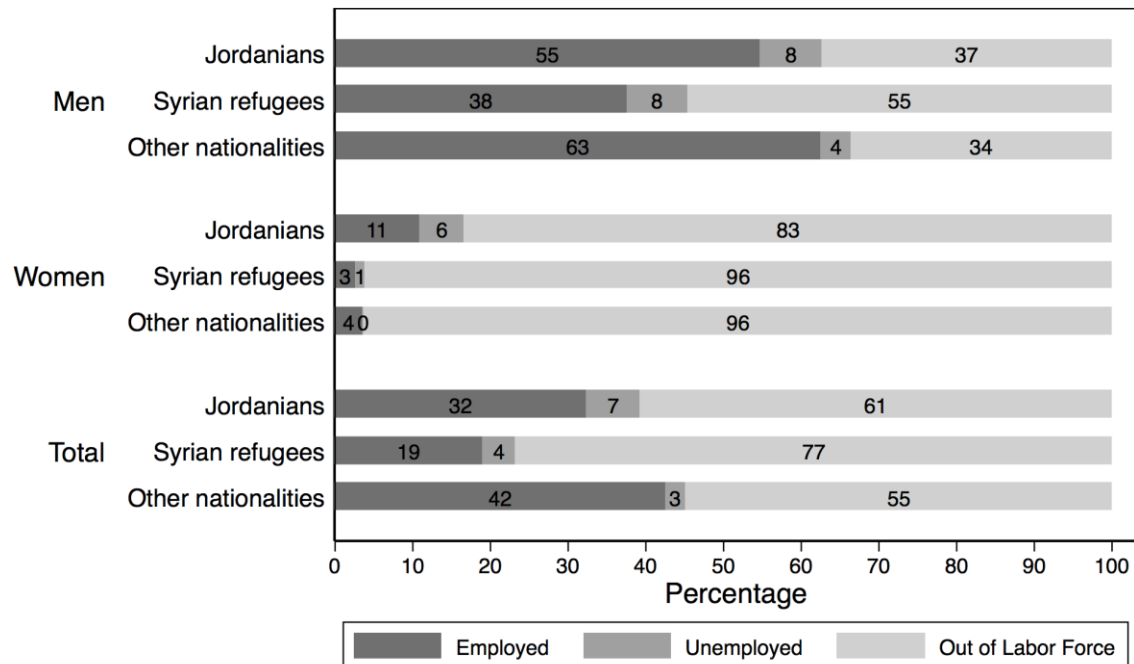
The market labor force definition used in this paper includes all individuals engaged in economic activity for the purposes of market exchange as well as those seeking such opportunities. An important distinction in quantifying the labor force is that unemployment requires that an individual did not work the preceding week (not even for one hour), wants to work, is ready to work, and could start within two weeks if a job were available. Moreover, the standard definition of unemployment, used in this paper, requires that an individual searched for work (in Jordan, this definition is based on search within the past four weeks, in line with national statistics).

In Figure 9, it is clear that the overwhelming majority of working-age refugee adults (aged 15-64) were out of the labor force. In 2016, 55% of Jordanian men were working,¹³ and 38% of Syrian refugee men. In contrast, men from other nationalities (who were primarily migrant workers) were predominantly employed (63%). Among women, just 11% of Jordanian women, 3% of Syrian refugee women and 4% of women of other nationalities were working. Unemployment is shown here as a share of the population (*not* an unemployment rate). For men, unemployment *shares* were similar across Jordanians and Syrian refugees, but because of lower employment rates, unemployment *rates* (not shown) were higher for Syrian refugees. There was a 17% unemployment rate for Syrian refugee men, versus 13% for Jordanian men. Men of other nationalities were much less likely to be unemployed, with an unemployment rate of 6%.

¹² There are generally application fees for work permits, but they have been repeatedly waived for Syrian refugees (Salemi, Bowman, and Compton 2018).

¹³ See Assaad, Krafft, and Keo (2018) for an in-depth investigation of labor supply among Jordanians.

Figure 9. Labor market status (percentage), by sex, Jordanians, Syrian refugees, and other nationalities aged 15-64, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: Using 7-day standard (search required) market definition of labor force.

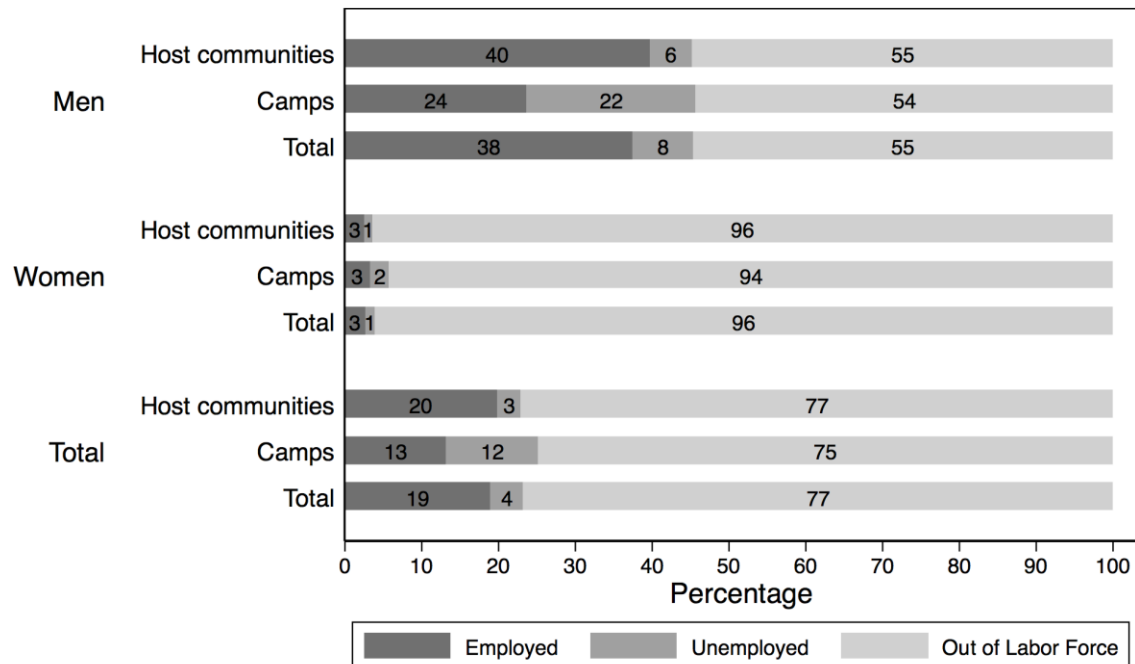
Additional analyses examined the issue of child labor among Syrian refugees in Jordan (not shown). Using the 7-day market definition of work, no children aged 6-9 were engaged in work. Among children aged 10-14, no girls were engaged in work. While less than 1% of Jordanian boys aged 10-14 were engaged in work, 2% of Syrian refugee boys aged 10-14 were engaged in work.¹⁴

Next, we look at whether labor market status differed by residence among Syrian refugees (Figure 10). Residence is geographically defined as host communities or an official refugee camp. Among male Syrian refugees, 40% in host communities were employed compared to 24% in camps. Unemployment was particularly high among men in refugee camps. This is unsurprising as there were limited opportunities to work in these settings.¹⁵

¹⁴ Unweighted N=6 boys working out of 213 Syrian refugee boys aged 10-14.

¹⁵ A minority of camp residents have obtained cash-for-work jobs with NGOs providing services for the camp population, and when agricultural opportunities are available nearby, some residents obtain permission to leave the camp for finite periods of time in order to work. A handful of camp residents may also be engaged in the small informal economies that have emerged to serve in-camp consumers. However, for the most part, job availability is highly constrained (Salemi, Bowman, and Compton 2018).

Figure 10. Labor market status (percentage), by location and sex, Syrian refugees aged 15-64, 2016



Source: Authors' calculations based on JLMPS 2016
 Notes: Using 7-day standard (search required) market definition of labor force.

Figure 11 examines the type of work that employed men do, comparing Syrian refugees, Jordanians, and other nationalities. We omit women due to how few work.¹⁶ There are six types of work considered in this analysis: (1) self-employed or unpaid family worker, (2) employer, (3) irregular wage work, (4) informal¹⁷ private regular wage work, (5) formal private regular wage work, and (6) public sector work. Among Syrian refugees who were employed, the most common type of work was informal private regular wage work. In 2016, 53% of employed Syrian refugee men reported working an informal regular wage job. The next most common status among Syrian refugee men was irregular wage work (28%). Informal and especially irregular wage work provides very little economic security and no social protection benefits. Relatively few Jordanian men engaged in such irregular or informal work (6% irregular and 13% informal). However, men of other nationalities had similar work patterns to Syrian refugees; 53% were informal private regular wage workers and 12% were irregular wage workers.

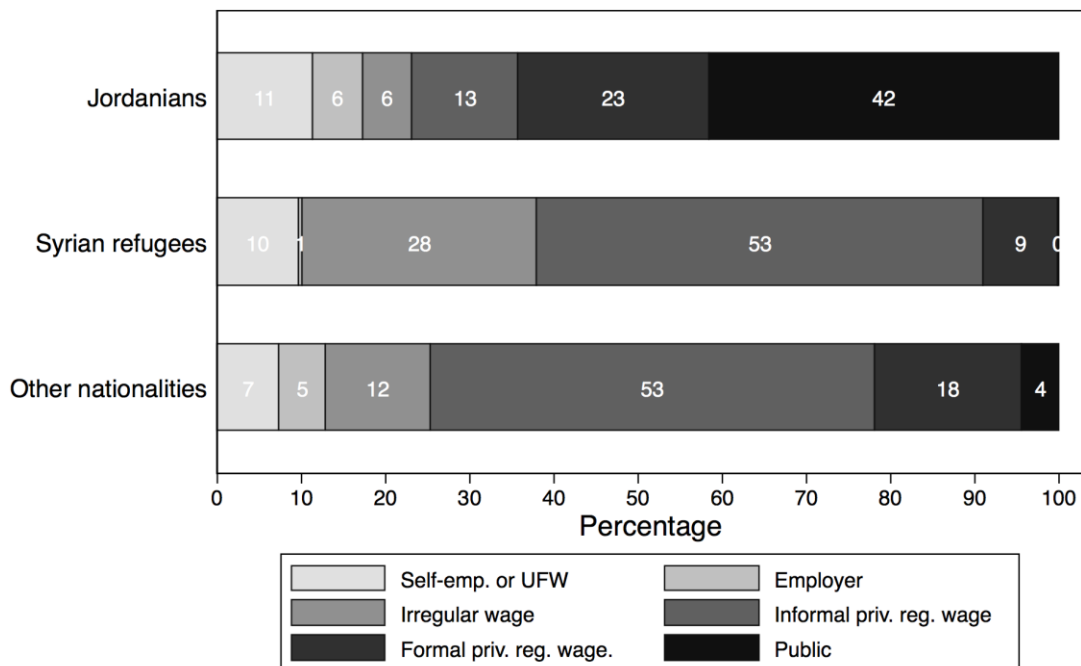
Only 9% of Syrian refugee men were engaged in private formal wage work, compared to 23% of Jordanian men and 18% of men of other nationalities. Jordanian men were primarily engaged in public sector wage work (42%), which Syrians cannot access. Comparing the types of work, occupations, and economic activities of Jordanians, Syrians, and other nationalities shows that, to a certain extent, Jordanians and non-Jordanians are segmented into different parts of the labor market. Syrians may be competing with other migrant workers more so than Jordanians. Those

¹⁶ See Assaad & Salemi (2018) for additional investigations into employment characteristics by nationality.

¹⁷ Formality here means possessing either a work contract or social insurance.

Jordanians competing in the same sectors as Syrian refugees and other nationalities are likely to be the poorest and least educated (Razzaz 2017).¹⁸

Figure 11. Type of work (percentage), Jordanians, Syrian refugees, and other nationalities, employed men aged 15-64, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: Employed based on 7-day market definition of employment. N=162 for Syrian refugee men; estimates may be imprecise.¹⁹

Among employed Syrian refugees, 43% had a permit to work (Figure 12). Among the (small) group employed in the formal sector, 73% had a permit, while 40% of Syrian refugees in the informal sector had a permit. Using the weights of the JLMPS, we can roughly estimate the number of workers these statistics represent. There were approximately 92,000 Syrian refugees working in the informal sector. Of these, 37,000 had permits. There were approximately 11,000 Syrian refugees working in the formal sector. Of these, 8,000 had permits. In total, our statistics suggest there were 44,000 permit holders.²⁰ With up to 200,000 work permits available, this raises the question of why permit uptake has been low among Syrian refugees. Other research suggests that, while refugees saw the benefits of permits in terms of protection from being sent to a camp or back to Syria, they were also concerned that it would be costly²¹ and bind them to a

¹⁸ Although Syrian refugees are more likely to be competing with less educated Jordanians working in certain sectors, research suggests that even among the less educated, there is not a negative impact on Jordanians from Syrian refugees in the local labor market (Fallah, Krafft, and Wahba 2018).

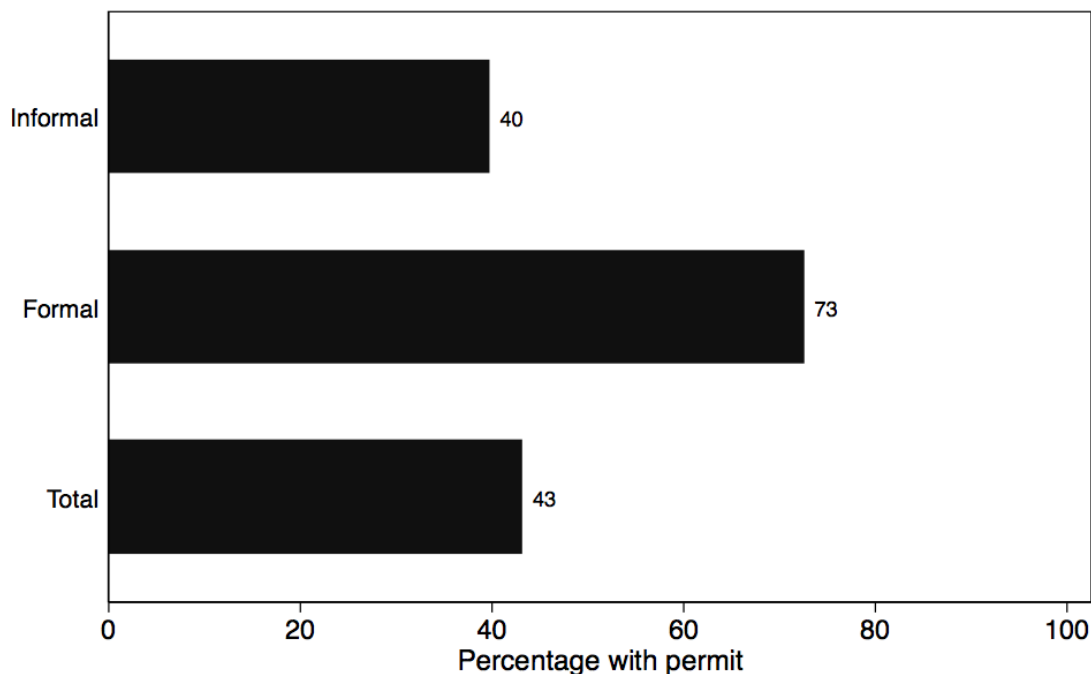
¹⁹ We note sample sizes in figure notes when examining small subgroups (such as employed Syrian men).

²⁰ Our statistics were similar to official statistics from the Ministry of Labor, which indicated there were 37,000 permits issued between January 1, 2016 and January 1, 2017 (Ministry of Labour Syrian Refugee Unit 2017).

²¹ Research suggests that many Syrian workers believed they would lose their UNHCR cash benefits if they enrolled in the permit program, although UNHCR has guaranteed that this would not happen. Others were concerned that as permit-holders they would have to pay towards the Jordanian social security system even though they may not retire in Jordan (Bellamy et al. 2017).

single employer (their sponsor) and thus potentially worsen, rather than improve, their working conditions (Razzaz 2017).

Figure 12. Percentage of workers with a work permit, by job formality, employed Syrian refugees aged 15-59, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: Employed and formality based on 7-day market definition of employment. N/A combined with no permit. N=36 for formal jobs, N=125 for informal jobs; estimates may be imprecise.

4. Educational attainment and access among refugees

4.1 Policy environment for refugee education

Schooling in Syria prior to the conflict was primarily public and low-cost, and enrollment rates were nearly universal at the primary level, with 94-97% of 6-11 year olds enrolled in school in 2009. These rates began to drop at age 12, but remained over 70% through age 14. Among 16 and 17 year-olds, enrollment rates were around 50%. There was no gender gap in enrollment, and girls had a small advantage in enrollment beginning from age 14 (PAPFAM 2011). However, Syrian young people's schooling has been widely disrupted by conflict and displacement, putting this generation at risk of a wide range of poor long-term outcomes. Enrolling Syrian refugees in formal schools has thus been a policy priority for the Jordanian government.

To meet growing demand for schooling, the Jordanian government has hired additional teachers and lobbied the donor community for funding to improve the built environment of schools. In partnership with UNICEF in the formal camps, the Ministry of Education has committed Jordanian teachers to provide schooling using the Jordanian curriculum. Basic and secondary schooling are free both in camps and host communities (Jordan Response Platform for the Syria Crisis 2016). Outside of camps, Syrians are in some cases segregated into a school's second shift, but the majority have been integrated into Jordanian classrooms. In such cases, schools maintain priority enrollment for Jordanian students and register Syrian children until the school

hits maximum capacity. At the time of the JLMPS, Syrian children were required to be registered with the UNHCR and hold a Ministry of Interior service card in order to enroll in public schools (Salemi, Bowman, and Compton 2018).²²

4.2 School enrollment and literacy among refugee children and youth

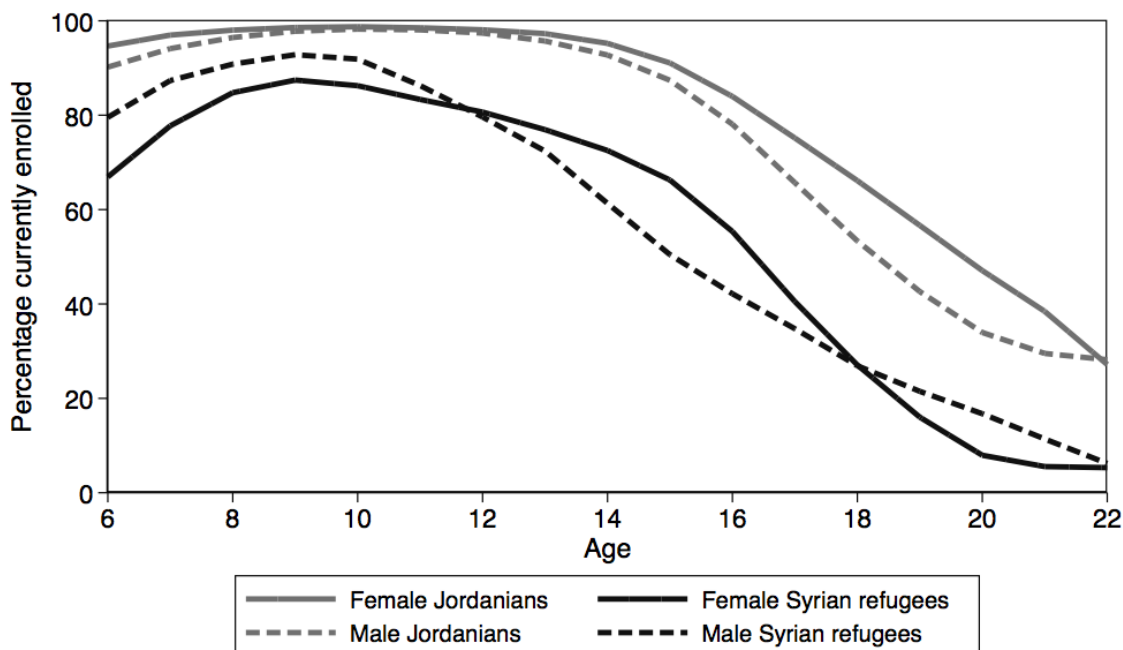
Despite substantial efforts to include refugees in Jordan's education system, Figure 13 shows that Syrian refugees between the ages of 6 and 22 were enrolled in school at much lower rates than Jordanians.²³ In 2016, less than 60% of six year-old girls and less than 80% of six year-old boys from Syrian refugee households were enrolled in school. This share rose substantially by the age of eight and the gender gap diminished, however, enrollment peaked around ages 9-10 at 80-90% of Syrian refugee children and declined for those at older ages. The enrollment rates in the early teens through age 16-17 were comparable to or slightly lower than those in Syria prior to the conflict (PAPFAM 2011).²⁴ Although Syrian refugee girls were less likely to be enrolled in school at young ages, they were more likely to be in school in their early and mid-teens than Syrian refugee boys. At all ages, Syrian refugees were worse off in enrollments than Jordanians. The enrollment gap widened considerably and persisted for those older than 10 years.

²² Starting in the 2017 academic year, the Ministry of Education began allowing Syrian children to register in school without a service card (Education Sector Working Group 2017)

²³ Those who are three years older than their grade level age are ineligible to enroll in public schools and instead must learn through an alternative education channel (see Salemi, Bowman, and Compton 2018). Here we show enrollment by age regardless of grade level.

²⁴ Additional analyses (not shown) using the JLMPS retrospective education data to look at the patterns of enrollment among Syrian refugees in Syria prior to the conflict and after their arrival in Jordan suggest that while there was a small dip in enrollment around 2011, enrollment rates in Jordan were not very different from enrollment rates in Syria for this group pre-conflict.

Figure 13. Current enrollment in school (percentage enrolled), by sex and age, Jordanians and Syrian refugees aged 6-22, 2016

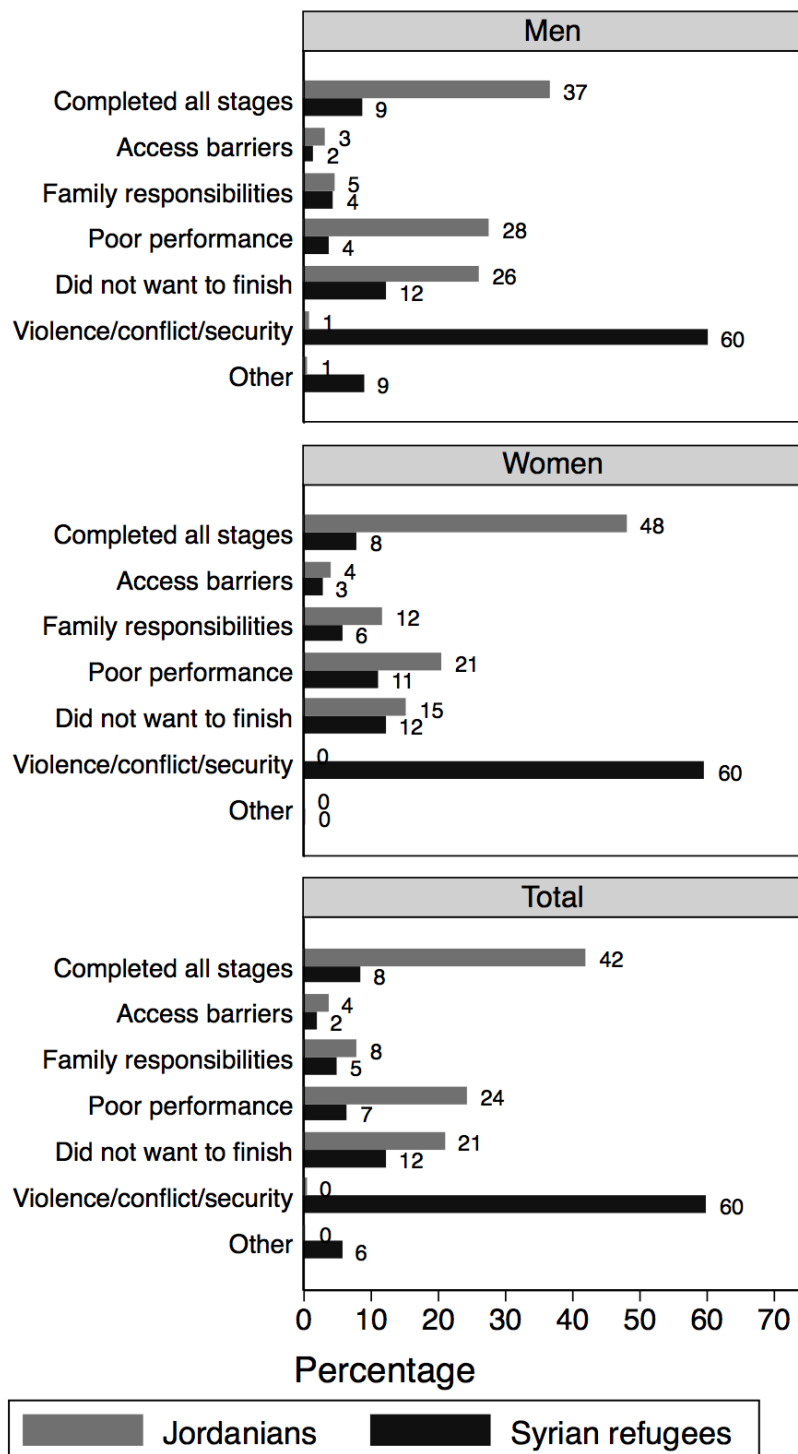


Source: Authors' calculations based on JLMPS 2016
 Notes: Lowess smoother with 0.5 bandwidth

Children who were enrolled in school were slightly more likely to be in shift schools if they were Syrian refugees (not shown). While 11% of Jordanian children enrolled in basic schools were in shift schools, 28% of Syrian refugees were in shift schools for basic schooling.

Violence and conflict were the predominant reason Syrian refugees left school. Figure 14 shows that among those who left school in 2011 or after, 42% of Jordanians compared to 8% of Syrian refugees reported they left because they completed all stages of their education. The most common reason for leaving school among Syrian refugees was violence, conflict, or security (60% for both male and female refugees). As we might expect, these reasons for dropout post-conflict were very different from those reported in Syria before the war, when the nationally representative PAPFAM survey found that the most common reasons for dropout among 6-14 year-olds were lack of interest in school (48%) and poor academic performance (17%) (PAPFAM 2011).

Figure 14. Reason for leaving school (percentage), by sex, left school in 2011 or later and out of school in 2016, Jordanians and Syrian refugees, 2016



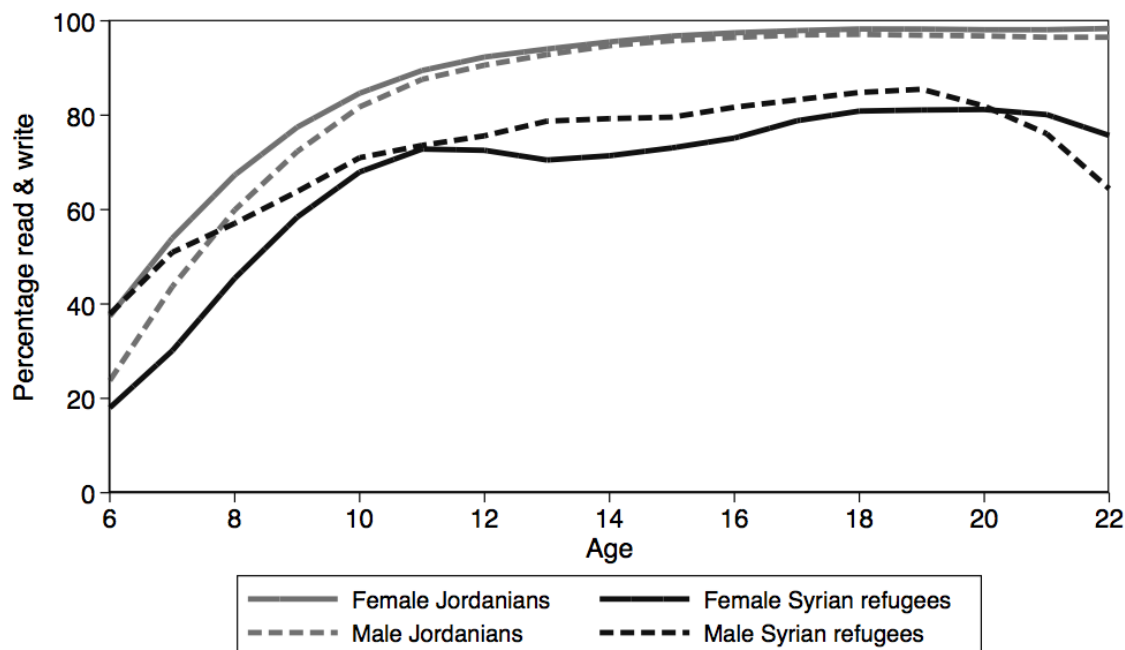
Source: Authors' calculations based on JLMPS 2016

Notes: Restricted to those who were previously enrolled in school. Access barriers include (1) disease, disability (2) poverty (3) family disintegration (4) school is too far (5) difficulty of transport and (6) high tuition costs. Family reasons include (1) marriage (2) had to help at home (3) work and (4) pregnancy and giving birth. Poor performance includes (1) did not do well in school (2) repeated failure and (3) behavioral reasons. Other includes don't know. N=127 for male Syrian refugees and N=100 for female Syrian refugees.

An important dynamic in terms of enrollment among Syrian refugees was that they typically did not return to school once they left. We measure an interruption as an exit from school for six months or more followed by a return. Among Syrian refugee children who started school for the first time in 2005 to 2010 (pre-conflict) and who were still in school in 2010, 50% reported being continuously enrolled in 2016 without an interruption. In contrast, 34% of Syrian refugees in this group had dropped out, with no intervening interruption, and 16% had experienced an interruption but returned. Only 8% of Jordanians who started school (for the first time) in 2005 to 2010 (and were still enrolled in 2010) had dropped out (without an interruption) and less than 1% had experienced interruptions. Although dropout rates among Syrians in Syria pre-conflict were higher than for Jordanians (PAPFAM 2011), this indicates that the predominant school exit pattern was dropping out—primarily due to conflict (Figure 14)—and not returning. In other words, many refugee children whose schooling was interrupted by the conflict or displacement never reenrolled in school after arriving in Jordan. At the time of the JLMPS, non-formal education programs, which are designed to reach these youth who have interrupted their schooling or dropped out, were relatively small in scale. However, there are plans to increase access to such programs for out-of-school young people (UNICEF Jordan 2017).

Even among those enrolled, schooling and learning are not equivalent. A student may attend school without making tangible gains learning basic skills, such as reading and writing. Figure 15 examines the ability to read and write for those aged 6 to 22. Around 90% of Jordanians over the age of 11 could read and write. Although at younger ages literacy among Syrian refugees was only slightly lower or comparable to Jordanians, past age 11 Syrian refugees were less likely to be able to read and write, with a particular deficit among those aged 11-16, whose early school years and literacy acquisition may have been affected by the conflict and displacement. Syrian refugees in their late teens and early twenties also had less than universal literacy, likely due to gaps in enrollment and learning in Syria pre-conflict.

Figure 15. Ability to read and write (percentage), by sex and age, Jordanians and Syrian refugees aged 6-22, 2016



Source: Authors' calculations based on JLMPS 2016
 Notes: Lowess smoother with 0.5 bandwidth

5. Refugees' health and food security

5.1 Policy environment for health and food security

In and out of formal camps, refugees receive food assistance that is either in-kind or in the form of a voucher. To receive World Food Program (WFP) food support, refugees must be registered with the UNHCR and hold a Ministry of Interior service card (Salemi, Bowman, and Compton 2018). These cards are a necessary but not sufficient condition for receiving many services. Registered refugees living in camps receive a ration card as well as WFP vouchers (Bidinger et al. 2015). Additional screening determines which Syrians in host communities are eligible for programs such as food vouchers (Amnesty International 2016; Norwegian Refugee Council 2016).

The WFP screens Syrians to determine eligibility for food support based on need. Households with monthly per-capita expenditure below 68 JD, as well as households with defined “vulnerability characteristics”²⁵ were eligible for enrollment. However, the WFP has faced difficulties ensuring sufficient funding in the past (Amnesty International 2016); depending on funding availability, some eligible persons may not receive their assistance.

The WFP distributes food vouchers primary in the form of “e-cards” (credit cards). Beneficiaries can use these vouchers to purchase food at select stores partnering with the WFP. Food vouchers are valued at 20 JD (28 USD) per person or 10 JD (14 USD) per person depending on residence

²⁵ Characteristics include: “principal applicant is a widow,” “principal applicant is less than 20 years old,” “the registered case is currently receiving UNHCR cash assistance,” “the registered case is on the waiting list for cash assistance,” “over two thirds of the family are children,” “the registered case is only two members including at least one person over 60 years old or less than 18 years old,” “single elderly cases over 60 years of age,” “divorced single females above 50 years of age,” “family with a person with a serious injury, disability, medical condition, or debilitating chronic disease” (World Food Programme 2015).

and vulnerability (Roth, Nimeh, and Hagen-Zanker 2017; UNHCR 2016). Additionally, the WFP is piloting unconditional cash transfers for food-insecure households (The Boston Consulting Group 2017). While the WFP manages the majority of the food support distribution, other NGO actors also provide food to needy families, though these programs may not use the same screening criteria or offer the same amount of support as the WFP (Salemi, Bowman, and Compton 2018).

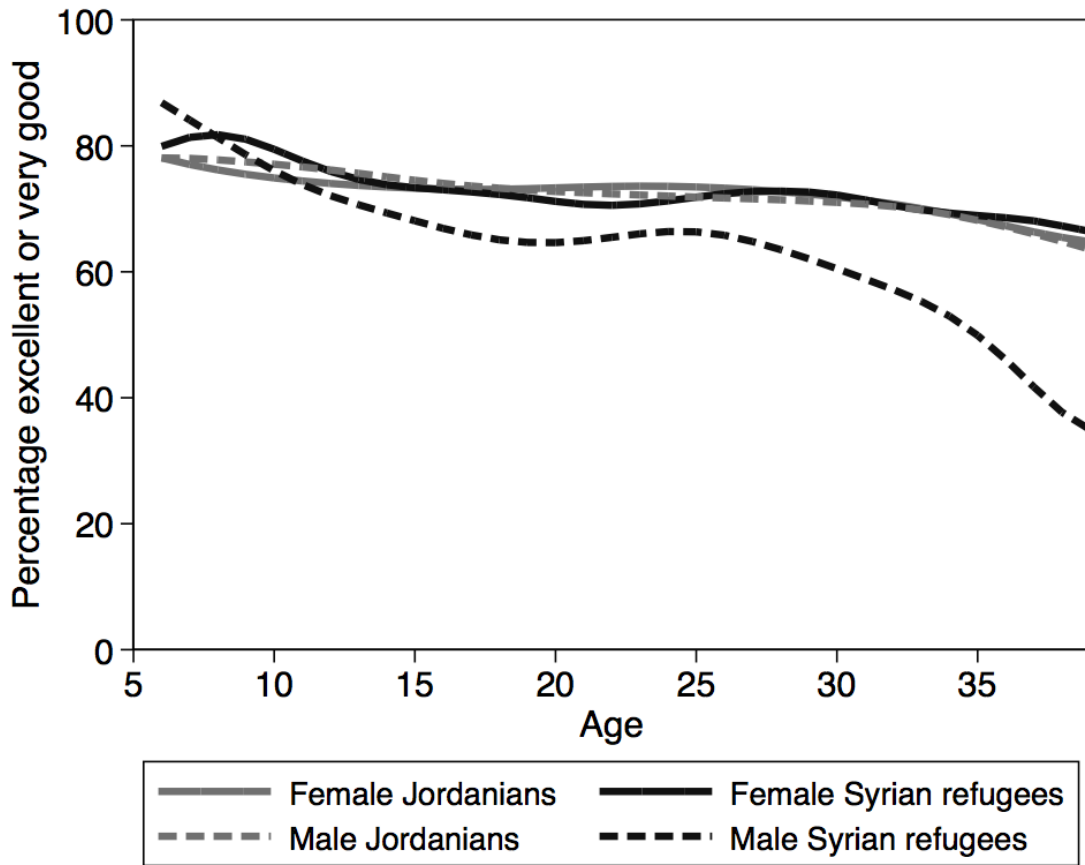
In formal refugee camps, Syrians have access to health facilities run by international NGOs and government entities. The options outside of camps have been subject to policy changes over time. In the early years of the refugee influx to Jordan, Syrians who were registered with the UNHCR and who were residing in host communities could obtain health services at a public clinic or hospital at the same rate as insured Jordanians. The Ministry of Health changed this policy in 2014, and since then any Syrian documented with the UNHCR has had to pay the service fee rate for uninsured Jordanians, plus a “foreigner’s fee” (Amnesty International 2016). Those who do not hold a Ministry of Interior service card are barred from public health services entirely (Norwegian Refugee Council 2016). Some NGO clinics may offer subsidized or pro bono health services to those without documentation, but this depends on the organization’s status with the Ministry of Planning and International Cooperation (Norwegian Refugee Council 2016). The final option for healthcare is at private clinics, which are more expensive than other options (Doocy et al. 2016).

5.2 Refugees’ health status

Self-rated health is a common measure used to capture overall health, and has been shown to be an effective predictor of morbidity and mortality across numerous populations (Jylhä 2009). The proportion of people in the JLMPS who reported their health as excellent or very good, on average, declined with age. Figure 16 shows this decline by sex comparing Jordanians and Syrian refugees. Ages are restricted to 6-39 to have sufficient sample size, and results for Syrians at the older end of this range should be treated with some caution given the small number of refugees in this age group (Figure 2).

Among women, Syrian refugees and Jordanians had comparable self-rated health. Jordanian men had similar self-rated health to both groups of women. However, Syrian refugee men had worse health than all other groups from their teens up through their 30s.

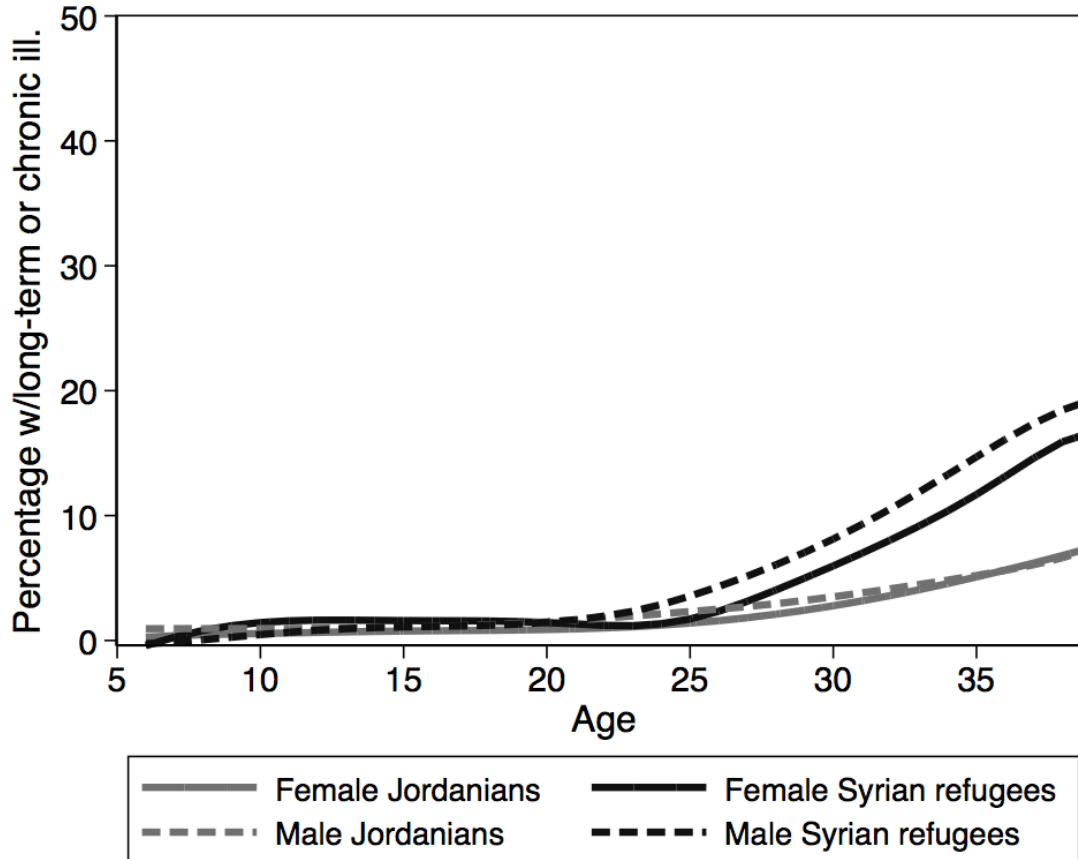
Figure 16. Excellent or very good health (percentage), by sex and age, Jordanians and Syrian refugees aged 6-39, 2016



Source: Authors' calculations based on JLMPS 2016
 Notes: Lowess smoother with bandwidth 2.

Figure 17 shows the pattern of individuals reporting that they had a long-term or chronic illness by sex and age for people aged 6-39 in 2016. For both men and women, Syrian refugees had higher rates of chronic illness than Jordanians starting at age 25, the age at which rates began to rise. Rates rose to nearly 20% for Syrian refugees by age 39. Syrian men's rate of chronic illness was slightly higher than for Syrian women.

Figure 17. Percentage of individuals with long-term or chronic illness, by sex and age, Jordanians and Syrian refugees aged 6-39, 2016

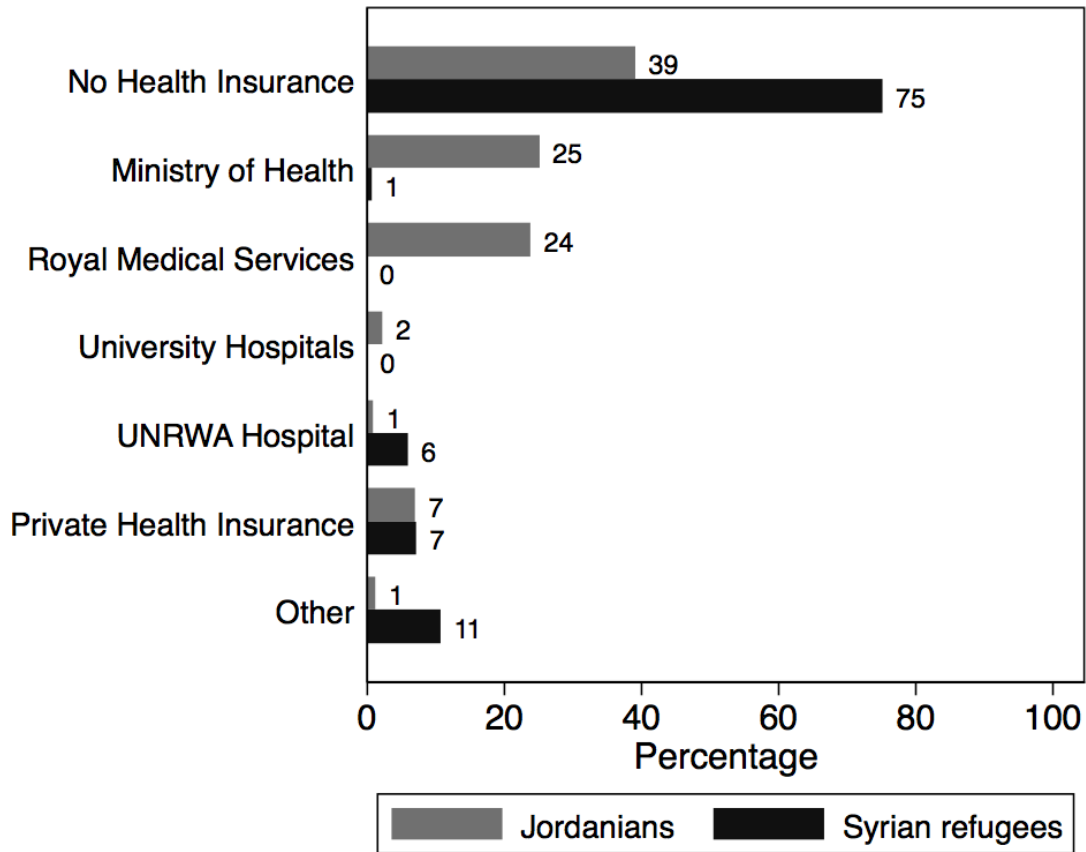


Source: Authors' calculations based on JLMPS 2016
 Notes: Lowess smoother with bandwidth 2.

5.3 Refugee access to health services

Most refugees in Jordan do not have any form of health insurance coverage. As shown in Figure 18, 75% of Syrian refugees aged six and older did not have health insurance in 2016, compared to 39% of Jordanians without health insurance. Among Jordanians, health insurance through the Ministry of Health (25%) and Royal Medical Services (24%) were common. Syrian refugees with health insurance had coverage by private health insurance (7%), UNRWA hospitals (6%) or other sources (11%). The other sources were primarily UNHCR health care in the camps.

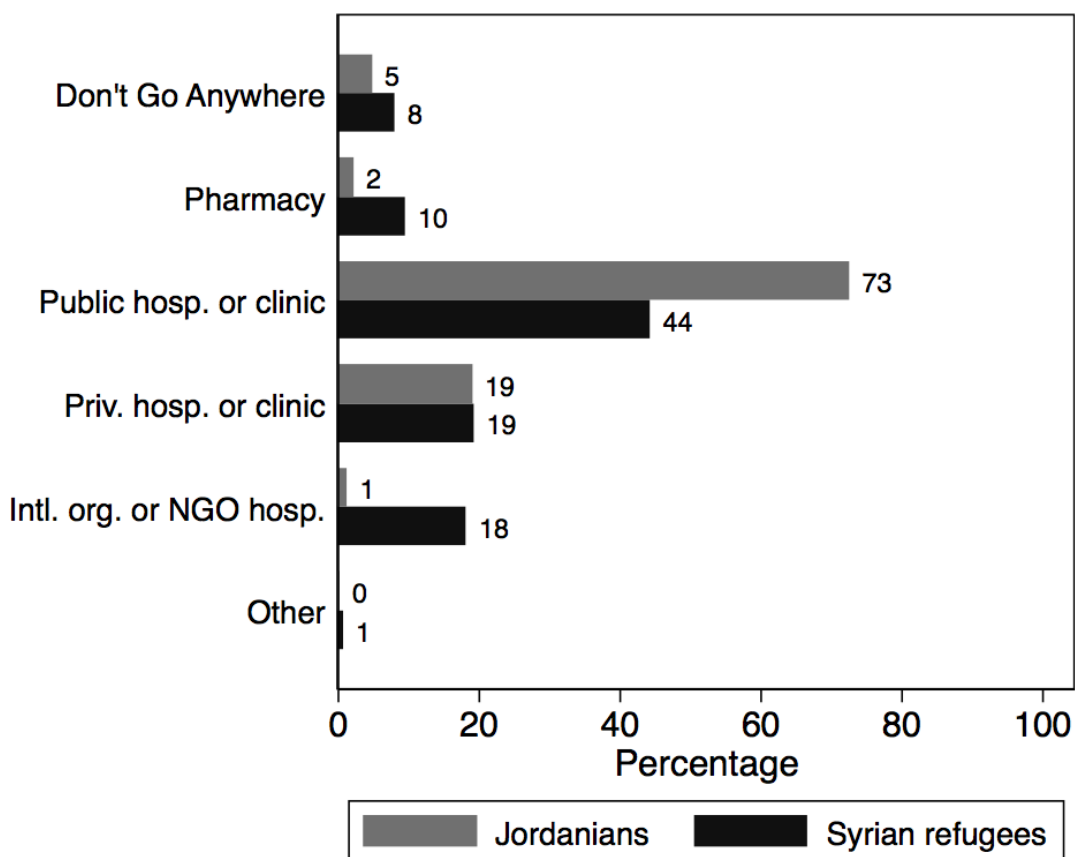
Figure 18. Health insurance (percentage), Jordanians and Syrian refugees aged 6+, 2016



Source: Authors' calculations based on JLMPS 2016

Figure 19 shows the usual source of health care for individuals aged six and older. JLMPS respondents were specifically asked where they usually go when ill or seeking health advice. Whereas 73% of Jordanians said that they go to a public hospital or clinic, fewer Syrian refugees (44%) mentioned public hospitals and clinics as their usual health care source. Private health care facilities were the usual source of care for 19% of each group. Syrian refugees were more likely to use pharmacies (10%), which are likely to offer a more limited range of services than clinical facilities. Refugees also more commonly used international organizations or NGO hospitals (18%) as their usual source of health care.

Figure 19. Health care source (percentage), Jordanians and Syrian refugees aged 6+, 2016



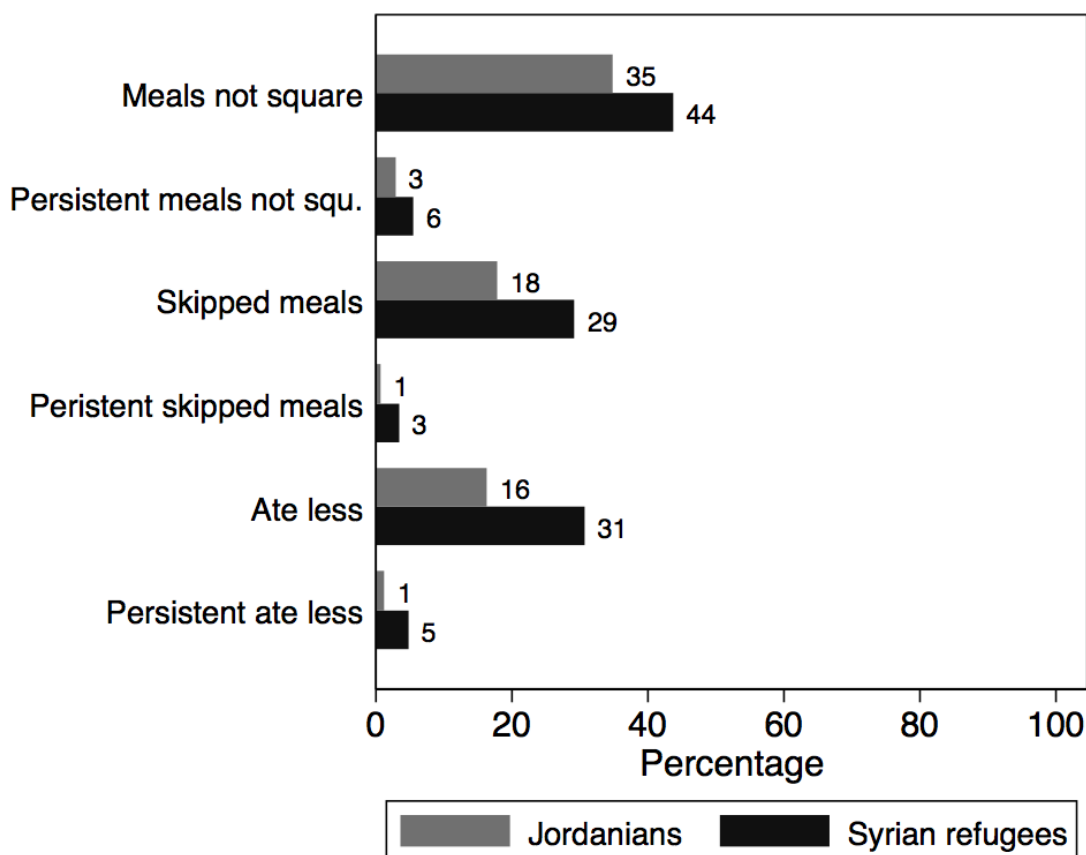
Source: Authors' calculations based on JLMPS 2016

5.4 Food security

Hunger and food insecurity were challenges for many Syrian refugees, as well as a number of Jordanians. Figure 20 shows different and non-exclusive measures of hunger (see figure notes for definitions).²⁶ The figure distinguishes between hunger and a subset of hunger we refer to as persistent hunger, both of which we define as engaging in food insecure behavior. Among Syrian refugees aged six and older, 44% reported that they did not consistently have square meals. This was nine percentage points higher than the rate for Jordanians (35%). Around 6% of Syrian refugees persistently ate meals that were not filling, compared to 3% of Jordanians. More than a quarter (29%) of Syrian refugees reported skipping meals in the last year due to scarcity of food, and 3% persistently skipped meals. Around 18% of Jordanians reported skipping meals and only 1% did so persistently. Similar to skipping meals, almost a third (31%) of Syrian refugees reported eating less in the last year due to scarcity of food. This was approximately double the percentage of Jordanians (16%). Around 5% of Syrian refugees persistently ate less, compared to 1% of Jordanians.

²⁶ Questions based on Prototype Food Access Survey Tool (Coates, Webb, and Houser 2003).

Figure 20. Measures of hunger (percentage), Jordanians and Syrian refugees aged 6+, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: Meals not square defined as a response other than "Almost everyday (3 meals each day)" to "How often did you eat three 'square meals' (full stomach meals) a day in the past 12 months (not a celebration/holiday)?" Persistent meals not square defined as a response of "Rarely" (3 per day only 1-6 times this year) or "Never." Skipped meals defined as a response other than "Never" to "In the last 12 months how often did you skip entire meals due to scarcity of food?" Persistent skipped meals defined as a response "Often" (a few times each month) or "Mostly" (most days/weeks). Ate less defined as a response other than "Never" to "In the last 12 months how often did you yourself eat less food in a meal due to scarcity of food?" Persistent ate less defined as a response "Often" (a few times each month) or "Mostly" (most days/weeks).

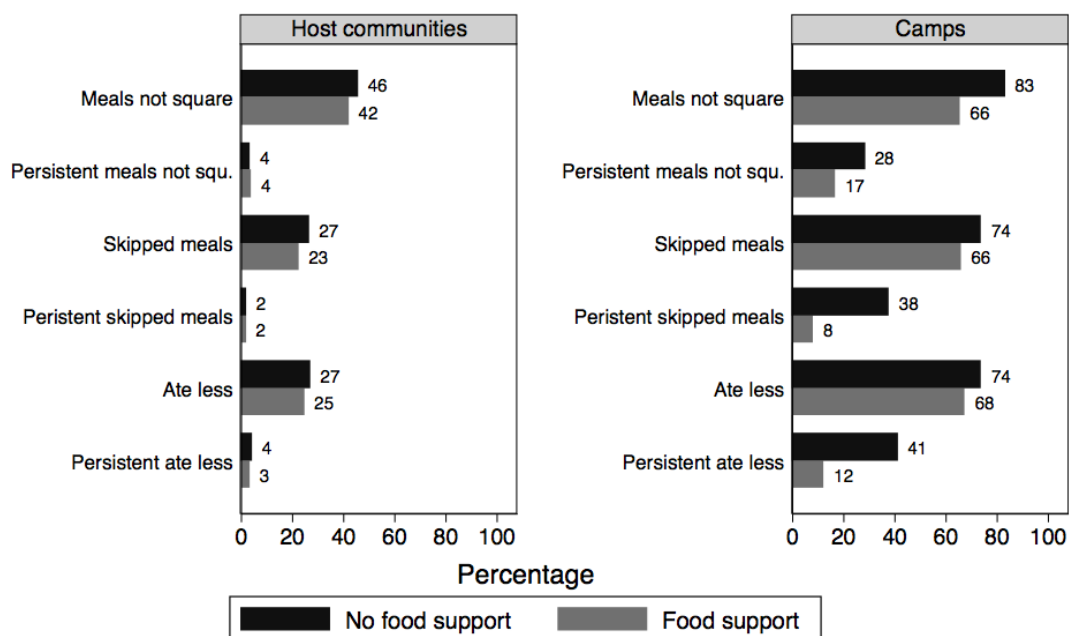
This level of food insecurity exists among Syrian refugees despite the presence of food support programs. The JLMPS captured two measures of food supports: food vouchers and ration cards. We consider receipt of either (they commonly overlap) to be receipt of food support. While 91% of Syrian refugees aged 15-59 in camps reported receiving food support, this dropped to 72% among those in host communities.

Among Syrian refugees aged 15-59, we examined measures of food insecurity by food support receipt and location in Figure 21. In 2016, despite the greater prevalence of receiving food supports, food insecurity was also higher in camps than host communities across all measures, regardless of food support receipt.²⁷ Those receiving food supports did report slightly lower rates of hunger than those not receiving food supports in both locations, but even those receiving food supports were frequently food insecure. For example, 66%-68% of those receiving food supports in camps reported the three broader measures of food insecurity (meals not square, skipped

²⁷ This result is consistent with research showing *monthly* vouchers cover only 17-20 days of food in camps (UNHCR 2016).

meals, and ate less). This rate of food insecurity was only slightly lower than those without food supports in camps (74-83% across measures). Receipt of food supports did appear to be more strongly associated with lower rates of persistent food insecurity among camp residents, with 8-17% of those receiving food supports reporting persistent food insecurity according to the three measures, as compared to 28-41% of those without food supports. One of the reasons that Syrian refugees in host communities have less food insecurity may be greater access to livelihood opportunities. Additional analyses (not shown) demonstrated that food insecurity was lower in households where at least one member was employed.

Figure 21. Measures of hunger (percentage) by food supports and location, Syrian refugees aged 15-59, 2016



Source: Authors' calculations based on JLMPS 2016

Notes: See Figure 20 notes for definitions of measures of hunger. N=90 for no food support in host communities, N=79 for no food support in camps; estimates may be imprecise.

6. Conclusions

The influx of Syrian refugees since 2011 has marked a new phase in Jordan's history as a host country for refugees. The unique data from the JLMPS 2016 provides one of the most comprehensive views of the situation of this population with respect to their demographic composition, employment, education and health outcomes. The Syrian refugee population in Jordan is very young, which means that investments in their health and human capital now will have long-term impacts both for the future reconstruction of Syria and demographic and economic trends in Jordan, should large numbers of refugees remain in Jordan.

Although the Jordanian government and non-governmental actors have invested substantially in education for Syrian refugee children, enrollment rates remain well below universal. School enrollment also declines precipitously during the critical period of adolescence, when the foundations for youths' long-term outcomes are laid. Beyond the implications for literacy, numeracy and overall learning, weak school retention is likely closely linked to other negative

outcomes such as early marriage. It is urgent to test and scale up interventions to address the underlying causes of school dropout among refugees after arrival in Jordan, as well as approaches to reintegration or informal education for those who have been out of school for several years, in order to prevent further loss of human capital among this generation of Syrian youth.

Investments in health are also critical for the large population of young refugees, as well as their households. Although the majority of Syrian refugees do access health services, they are more likely to attend charitable facilities, which depend on external funding, and pharmacies, which typically offer limited services, and to be without health insurance coverage. Refugees are thus vulnerable to income shocks resulting from health expenditures, as well as loss of healthcare access or poorer quality healthcare. The combination of health problems induced by conflict and displacement and access challenges may be contributing to refugees' relatively poorer health status as compared to the Jordanian host population. A long-term solution for financial protection against health expenditures for refugees is needed in order to avoid reinforcing the economic vulnerability of this population. Although such a reform would require substantial funding, allowing refugees to access health care at insured rates in public hospitals and clinics, as was the case prior to 2014, would be a step in the right direction.

On top of health challenges, Syrian refugees are disproportionately at risk for food insecurity. Although existing food supports were related to lower rates of food insecurity, these benefits have not eradicated food insecurity, particularly in formal refugee camps. Both widening access and scaling up the amount of household food benefits will be important for ensuring food security among refugees. Such improvements will also require additional resources.

The poor education and health outcomes among refugees are likely linked to the economic vulnerability of this population. Although there are financial supports for refugee households, the sustainability of these mechanisms over the long-term is uncertain and many households may fall through gaps in the system (Salemi, Bowman, and Compton 2018). Decent employment opportunities are therefore central to addressing poverty and associated negative outcomes. Labor force participation rates for Syrian refugee men were lower than for their Jordanian counterparts, and Syrian refugee women's participation in the labor market was negligible. Furthermore, those men who do work were overwhelmingly engaged in less secure, more precarious, and likely lower-paying jobs than Jordanians. While the Jordan Compact is an important step towards improving legal labor market opportunities, Syrian refugees continue to face a very restrictive employment environment. In this context, additional research is needed to understand low uptake of work permits among Syrian refugees, and to support evidence-based revisions to the current work permit policy.

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