MIDDLE EAST AND NORTH AFRICA OUT-OF-SCHOOL CHILDREN INITIATIVE

JORDAN

COUNTRY REPORT ON OUT-OF-SCHOOL CHILDREN

DECEMBER 2020

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III. ABBREVIATIONS

5DE	FIVE DIMENSIONS OF EXCLUSION
ANAR	ADJUSTED NET ATTENDANCE RATE
ANER	ADJUSTED NET ENROLMENT RATE
DHS	DEMOGRAPHIC AND HEALTH SURVEY (Jordan Population and Family Health Survey)
DOS	DEPARTMENT OF STATISTICS
ECD	EARLY CHILDHOOD DEVELOPMENT
ECCE	EARLY CHILDHOOD CARE AND EDUCATION
EMIS	EDUCATION MANAGEMENT INFORMATION SYSTEM
ESP	EDUCATION STRATEGIC PLAN
GAR	GROSS ATTENDANCE RATE
GER	GROSS ENROLMENT RATE
HPC	HIGHER POPULATION COUNCIL
JLMPS	JORDAN LABOR MARKET PANEL SURVEY
KG	KINDERGARTEN
MDG	MILLENNIUM DEVELOPMENT GOALS
MOE	MINISTRY OF EDUCATION
MOF	MINISTRY OF FINANCE
MOSD	MINISTRY OF SOCIAL DEVELOPMENT
NAF	NATIONAL AID FUND
NAR	NET ATTENDANCE RATE
NER	NET ENROLMENT RATE
OLS	ORDINARY LEAST SQUARES
OOS	OUT-OF-SCHOOL
OOSCI	OUT-OF-SCHOOL CHILDREN INITIATIVE
QRCE	QUEEN RANIA CENTER FOR ENTREPRENEURSHIP
SDG	SUSTAINABLE DEVELOPMENT GOAL
UNESCO	UNITED NATIONS ECONOMIC, SCIENTIFIC AND CULTURAL ORGANIZATION
UNHCR	UNITED NATIONS HIGH COMMISSIONER FOR REFUGEES
UNICEF	UNITED NATIONS CHILDREN'S FUND
UNRWA	UNITED NATIONS RELIEF AND WORKS AGENCY FOR PALESTINE REFUGEES IN THE NEAR EAST
WFP	WORLD FOOD PROGRAMME

IV. PREFACE

Education is both a basic human right and a driver of a country's economic and social development. In Jordan, the Ministry of Education commits itself to ensuring inclusive and equitable quality education in line with the Sustainable Development Goal 4 (SDG4) and the Education Strategic Plan 2018-2022 (ESP). The Ministry of Education and its partners have leveraged expertise and resources, envisioning that all children complete twelve years of primary, lower and upper secondary education and achieve relevant learning outcomes. To advance the progress of SDG4 and the ESP, it is necessary and important to understand the scale of the problem of out-of-school boys and girls and examine the causal mechanisms that generate barriers to their schooling in the education system.

The importance of research on school dropouts increases within the context of learning recovery in the COVID-19 pandemic. Out-of-school children or at-risk children could be particularly vulnerable to the social and economic impacts of COVID-19, with the pandemic exacerbating the risks of exclusion and learning loss.

This report on out-of-school children in Jordan is the outcome of a year-long collaboration between the Ministry of Education and UNICEF. Every child must enjoy access to quality education. This study is the product of a shared commitment to addressing school exclusion and increasing quality learning opportunities for all. Through rigorous statistical and policy analysis, the study aims to help government and education stakeholders to estimate the prevalence of out-of-school children, to identify the barriers that cause school dropouts, and to promote policy solutions that will reduce exclusion from the education system.

The Ministry of Education and UNICEF hope that the findings and recommendations from this study will inform equity-focused dialogue amongst stakeholders and help them take decisive, evidence-based actions towards enhancing equity in access to public schools for all children in Jordan.

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Chapter 1

Executive Summary

"We are not wealthy and could not afford the treatment that might have allowed her to hear.

"When we tried to enroll her in school, they told us they were not equipped to deal with a child with her disabilities. My daughter is a smart girl,"

Mother of Farah, 13.

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1.1. Purpose and key findings

The report on out-of-school children in the Hashemite Kingdom of Jordan is part of the ongoing efforts of the Ministry of Education (MOE) and UNICEF to enhance equity in access to education. This study updates the 2014 study on out-of-school children. **It identifies the number of children aged 6 to 15 years who are out of school,**[1] **as well as their profiles and the reasons for their exclusion from education.** Moreover, **it investigates supply- and demand-side barriers to education, estimates the costs and returns from education in Jordan,** and **proposes policy options** to make inclusive education for all children a reality. Furthermore, the report also **examines the enrolment and dropout trends of the pre-primary age group (5-years-old) and upper secondary school age group (16–17 years),** drawing on the available data.

The study employs the analytical framework of the Five Dimensions of Exclusion developed by the Global Out-of-School Children Initiative (OOSCI).[2] The core analysis on out-of-school children is based primarily on **the MOE's EMIS data from 2011/12 to 2017/18, and projections of the 2015 population census from the Department of Statistics (DOS). This study identifies children at risk of dropping out as those who are over-age – at least two years older than the recommended age** to start the grade they are attending.

It also draws on the 2017/18 Demographic and Health Survey (DHS) for school attendance, and the 2016 Jordan Labor Market Panel Survey (JLMPS) to calculate school dropout and returns from education. As JLMPS data allows for disaggregation by sex, age, nationality, residential area, wealth quintile, household income, and parents' education, it was used to identify and estimate factors that predict school dropout.

Basic education (Grades 1–10):

The study finds that a total of 112,016 children in Jordan are not attending basic education (Grades 1 to 10); of which **54,761 children are of primary-school age (6–11 years) and 57,255 children are of lower–secondary school age (12–15 years).** The estimate of out-of-school children shows an increase from 2011/12 (UNICEF, 2014). However, the total number of children aged 6–15 has also increased by approximately 29 per cent between 2011/12 and 2017/18, partly attributable to the increase in the number of Syrian refugees.

The number of children at risk of dropping out is 40,647, which is significantly lower in both absolute and relative terms, compared with the findings of the last OOSCI report. Overall, 22,643 children are over-age for their grade in primary school, and 18,004 in lower secondary school.

1. The UN Convention on the Rights of the Child states in Article 28 that every child has the right to education. In Jordan, basic education, composed of primary education (Grades 1–6) and lower secondary education (Grades 7–10), is compulsory for all children aged 6–15 years in the education system. Given the age range of compulsory education, the analysis of this report mainly covers children between the ages of 6 and 15. However, it also examines the enrolment and dropout trends of the pre-primary age group (5 years) and the upper–secondary school age group (16–17 years), drawing on the data available.
2. In the 5DE framework, Dimension 1 refers to children who are not attending pre-primary education. Dimensions 2 and 3 correspond to children at primary and lower–secondary school age, respectively, who are out of school or attended but dropped out. While Dimensions 1 to 3 look at children who are already out of school, Dimensions 4 and 5 identify children that are currently in school but are at risk of dropping out before completing their studies.

Numbers and rates of out-of-school and at-risk children by sex and age cohort are as follows:

	Girls		Boys		Total	
	Number	%	Number	%	Number	%
Out-of-school children						
Primary school age 6–11	27,711	4.8%	27,050	4.5%	54,761	4.7%
Lower secondary age 12–15	25,715	8.1%	31,540	9.6%	57,255	8.9%
Total out of school (6–15)	**53,426**	**6.0%**	**58,590**	**6.3%**	**112,016**	**6.2%**
Children at-risk of dropping out						
Primary school age 6–11	10,370	1.8%	12,273	2.1%	22,643	1.9%
Lower secondary age 12–15	8,237	2.6%	9,767	3.0%	18,004	2.8%
Total at risk (6–15)	**18,607**	**2.1%**	**22,040**	**2.4%**	**40,647**	**2.2%**

Source: own calculations based on EMIS and DOS databases for basic education ages.

Out-of-School rates are higher for children of non-Jordanian nationality. **More than 39,800 Jordanians, 50,600 Syrians and 21,500 children of other nationalities are estimated to be out of school. Nationally, out-of-school rates are higher for boys than for girls, with the exception of Jordanians in the 6–11 age group** where girls have a higher out-of-school rate than boys.

Numbers and rates of out-of-school children by nationality are as follows:

	Out of school (%)			Number of out of school		
	Female	Male	Total	Female	Male	Total
Syrian (Age 6–11)	19.6%	19.8%	19.7%	11,692	12,440	24,132
Syrian (Age 12–15)	40.9%	45.3%	43.2%	12,280	14,230	26,510
Syrian (Age 6–15)	30.5%	32.5%	31.4%	23,972	26,670	50,642
Jordanian (Age 6–11)	2.3%	1.6%	1.9%	10,984	7,948	18,932
Jordanian (Age 12–15)	3.6%	4.1%	3.8%	9,562	11,344	20,906
Jordanian (Age 6–15)	2.9%	2.8%	2.9%	20,546	19,292	39,838
Other nationalities (Age 6–11)	16.0%	18.9%	17.5%	5,035	6,662	11,697
Other nationalities (Age 12–15)	21.8%	30.1%	26.2%	3,873	5,966	9,839
Other nationalities (Age 6–15)	18.9%	24.5%	21.9%	8,908	12,628	21,536
Total	**6.0%**	**6.3%**	**6.2%**	**53,426**	**58,590**	**112,016**

Source: own calculation based on EMIS 2017/18 and DOS population data.

Children who are out-of-school may have been in school before or may never have entered school at all. In Jordan, the share of children aged 6 to 17 who has never been in school is an estimated 1.6%. For children aged 9–15, this is true of less than one per cent. **The share is highest for six-year-olds, but not having entered school at this age does not imply that they never will in the future.**

The primary (Grades 1–6) and lower secondary (Grades 7–10) adjusted net enrolment rates (ANER) for Jordanian children are estimated at 98% and 94%, respectively, which is similar to the last OOSCI report in 2014. Syrian children of primary-school age have been integrated into the system remarkably well, with a primary ANER[3] of over 80%. **Nearly all children complete primary school, but dropping out of school during lower secondary (Grades 7–10) remains a problem. The incidence of Syrian children dropping out before completing Grade 6 is considerably higher** than for Jordanian children and children of other nationalities.

Analysis in the full report shows that certain individual, household and community-related factors are associated with a higher risk of dropout before completion of basic education (Grades 1–10). Predictors of school dropout include: being a boy, Syrian nationality; an absent mother; parents with low educational attainment; large household size; being poor; and living in an urban area. Living in communities operating double-shift schools reduces the risk that non-Jordanian children drop out of school.

For boys and girls, the risk factors differ to some extent or are of different magnitude. Girls, whose parents are absent (or of whom just the mother is absent); who are of Syrian nationality or are already married have the highest risk of dropping out. Yet, for boys, just being a boy comes with a 7 per cent risk of dropping out compared to girls. While additional risk factors are similar to those affecting girls, being a Syrian boy comes with a dropout risk of 20 per cent. Further combinations of risk factors show that children at particularly high risk of dropping out before completing basic education are boys in poor households, living in urban areas; girls in poor households, especially if already married; and Syrian boys living in urban areas.

School dropout before the completion of basic education is costly for both the individual and society. Over a lifetime, workers who did not complete basic education earn 13 per cent less compared with those who completed basic education. Jordan loses approximately JOD 2.74 billion in present value of lifetime earnings due to school dropout before Grade 10. The estimated economic loss due to school dropout before Grade 10 is the equivalent of 9.6 per cent of 2017 GDP (i.e., JOD 28.5 billion).

Pre-primary education

While Pre-Primary education is not yet mandatory in Jordan, **the Government has recognized the importance of pre-primary education, as shown by their recent statement that KG2 would progressively be made universal.** This commitment is also included under component 1 of the 2018–2022 Education Strategic Plan. **There is considerable room for improvement in Jordan for the increase of pre-primary school access and attendance**: in the school year 2017/18, more than one in three (38 per cent) five-year-old children attend pre-primary or primary school, meaning that 62 per cent are not in school.[4]

3. Adjusted Net Attendance Rate/Adjusted Net Enrolment Rate (ANAR/ANER): the share of children in the reference age group attending (ANAR) or enrolled (ANER) in the appropriate or higher level of education. For example, primary school ANER refers to the share of primary-school age children enrolled in primary or secondary school.
4. According to the MOE, for the year 2018/19 the GER for KG2 is 62.2 per cent and the NER 61.4 per cent, while the 38 per cent finding in this report is based on DHS data from 2017/18.

There are **large disparities between regions and governorates in pre-primary enrolment**; in Central Jordan, the pre-primary adjusted net attendance rate (ANAR) is only 31 per cent, while more than every second child (64 per cent) attends pre-school or primary school in the Southern region. Pre-primary attendance rates of five-years-olds are highest for Jordanian girls (42 per cent) and lowest for Syrian girls (12 per cent). While more Jordanian girls than Jordanian boys attend pre-primary, the percentage of five-year-old boys attending pre-primary or primary education is higher among Syrians and children of other nationalities.

Gender parity in access to pre-primary education varies across the country; in eight of the twelve governorates, five-year-old girls are more likely to be in school than boys. The pre-primary attendance rate is 22 per cent in the poorest quintile. **Low access to pre-primary education among poorer children is particularly worrying** because pre-primary education is known to reduce development gaps for disadvantaged children.

As shown by the profiles of **children who are most at risk of exclusion from schools, children from households with low levels of human capital** (parents with school attainment not surpassing basic education) and **children at risk of dropping out of school at later stages of education** (children with absent parents, children in large households) need particular attention and support with regards to access to pre-primary education.

Returns from education:

Education is an investment in human capital, generating long-lasting returns for individuals and society. An **additional year of education translates to a 4 per cent increase in earnings** for the average Jordanian worker, which is low in international comparisons (globally, the average return from education is estimated at 9 per cent).

Labour market inefficiencies reduce the extent to which higher education translates to higher individual earnings. The returns from education differ considerably for Jordanians and Syrians; **for the Syrian population, there is no direct association between earnings and education**. This is likely due **to labour market policies that restrict the sectors Syrians are allowed to work in**, as well as to the fact that the secure and well-paid jobs of the public sector are occupied almost entirely by the local population.

Overall, **labour force participation in Jordan is low**, particularly among women: only 10 per cent of the female and 57 per cent of the male labour force has been employed in 2016. A further inefficiency in the labour market is the **mismatch between skills required and the skills attained by workers.** There is a tendency for workers to be employed in a job that requires a lower level of education than that which they have attained.

Supply-side barriers

Infrastructure and Quality of Education

Violence in Schools

Accessibility and inclusive education

Demand-side barriers

The perceived value of education and low returns from education

Economic barriers

Gendered negative coping strategies and social norms:

- Child Labour
- Child Marriage

Barriers to education

Recommendations

Towards Pre-Primary Education for All

Increase equitable access to Basic Education (Grades 1–10)

Increase Returns from Education in Jordan

1.2. Barriers to education

The fact that some children are not going to school is the result of various supply and demand-side barriers. The report identifies key barriers to overcome in order to ensure access to inclusive and equitable quality education for all.

Supply-side barriers to continuity of school attendance include the following:

Infrastructure and Quality of Education:

Overcrowding in classrooms in urban areas is a major barrier to children's schooling. The educational infrastructure is under mounting pressure due to the large increase in the numbers of students, making further investments in both physical and human resources necessary.

Relatively low compensation for teachers is frequently reported as a factor adversely affecting the quality of education, in addition to the limited training and professional development support for all teachers and school leaders. Most lessons in schools are teacher-led and textbook-oriented. There is insufficient monitoring of teaching and learning to support quality education. Limited assessment data to measure quality education represents a problem, as evidence is needed to identify areas for improvement that could help students to become more successful in their learning, particularly those at risk of dropping out.

For pre-primary education, while there is an ambitious goal to universalize KG2, this has not been accompanied by realistic planning or an adequate budget allocation to ensure the supply of KG2 services across the country. There aren't enough classrooms available to accommodate all KG2-age children (age five) in Jordan.

Violence in Schools:

Though corporal punishment is outlawed in Jordan, students still report having encountered both physical and verbal abuse at school (MOE, 2016 as cited in UNICEF, 2017). This may lead to school dropout. Further professional development of educators, effective accountability and referral mechanisms, and awareness-raising to address social and teachers' attitudes towards corporal punishment – for example, through the intensification of the Ma'An (Together) programme at scale – may help reduce the prevalence of violence in and around schools.

Accessibility and inclusive education:

While disability does not appear to be a predictor of dropping out (perhaps due to insufficient data and analysis), it is likely that many children with a disability never enter education at all. According to the national Inclusive Education Strategy (2020), dropping out of school is an inevitable consequence of not providing programmes that meet the needs of children with disabilities at school. The importance of including children with a disability or special needs is well recognized in Jordan. The Education Strategic Plan (ESP) 2018–2022 contains a specific component on inclusive education and for those with disabilities.

There is little reliable data available on the needs and challenges of children with disabilities in the school system. Children with disabilities still face considerable challenges in the public education system in Jordan. To date, 150 public schools in Jordan, including in the camps, are equipped to support the learning of children with disabilities (MOE, 2018). The vast majority are directly supported by UNICEF and NGOs rather than through the government budget. In order to ensure accessibility and inclusivity of children with disabilities in education, to the government will need to allocate significant resources to support the implementation of the national 10-year Strategy on Inclusive Education (2018–2022).

Demand-side barriers to continuity of school attendance include the following:

The perceived value of education and low returns from education:

The relationship between school attainment and potential earnings has implications for households' decisions to invest in education. The expectation of low returns from schooling is likely to reduce the time individuals spend in school. Low returns are due either to the quality of education or the characteristics of the labour market. For Syrian refugees, the lack of return is compounded by legal barriers to labour market entry.

Economic barriers:

Children from poor households are particularly at risk of dropping out of school before completing basic education (Grades 1–10). Even though basic education is free-of-charge (no tuition fees) for Jordanians and Syrian refugees, sending children to school requires families to spend money on school supplies and other expenses. Indirect costs, such as for transportation, represent the biggest expenditure items for families with school-aged children. It is important to note that while basic education is free-of-charge for Syrian children, this is not the case for other nationalities. Social protection, including cash transfers or school-feeding programmes, can play an important role in ensuring equitable access to education for all. It is important to expand and improve the effectiveness of social assistance programmes and to develop mechanisms to maximize coverage for the most vulnerable, in parallel with improving targeting criteria. Syrian and non-Jordanian children may face barriers to enrolment in Jordan due to a lack of documentation.

Gendered negative coping strategies and social norms:

Combined with concerns over the perceived safety of girls on their way to school (due to the risk of harassment), as well as societal preference to invest in boys' education, several gendered effects are noticeable in terms of coping strategies employed by households when faced with financial restraints, such as child labour and early marriage.

- Child Labour: Child labour is a result of economic barriers discussed above, since schooling comes with opportunity costs and foregone earnings. Children in families at the bottom of the income distribution may have to work instead of going to school to complement their household's income. Child labour is more prevalent among boys than girls. As our analysis on reasons behind dropping out for children of different nationalities indicates, 7.5 per cent of Jordanian boys, 6.5 per cent of Syrian boys and 22.1 per cent of boys of other nationalities indicate that engagement in the labour market is their reason for dropping out of school. Many aspects of the issue need to be addressed, including economic barriers, availability of programmes to engage child labourers, and the overall low expected returns to education.

- Child Marriage: The key drivers of early marriages in Jordan are: (1) custom and tradition; (2) poverty; (3) broken homes / family disintegration; (4) lack of knowledge; and (5) sutra[5] (UNICEF and HPC, 2019). Syrian refugee girls are particularly vulnerable to child marriage; in 2018, 1 in 3 of newly registered marriages of Syrians in Jordan involved a child under the age of 18, which suggests that Syrian families are increasingly relying on child marriage as a coping mechanism. The prevalence of child marriage declines as wealth increases; child marriage is believed to alleviate the economic burden on families but is also intended to provide financial stability and security (UNICEF and HPC, 2019).
  Girl's education is a strong preventative factor against child marriage, if attitudes (particularly parental attitudes) are addressed. The transition from primary to secondary school and the completion of secondary school are very important for reducing child marriages. Social norms underlying child marriage need to be addressed through interventions, as legislation and policies alone will not be enough.

5. Sutra combines financial stability and security, along with protection of girls' reputations (UNICEF, 2019).

1.3. Recommendations

Towards Pre-Primary Education for All

There is plenty of evidence that the earliest years of childhood education yield the highest returns. Pre-school can support school readiness and improve later educational outcomes. This is particularly the case for children from disadvantaged households with low levels of human and cultural capital.

The Government has recognized the importance of pre-primary education, with the ambition of all children being enrolled by September 2020. However, **a detailed, participatory, and realistic plan is needed to progressively achieve universal KG2 enrolment.** Both demand- and supply-side barriers need to be considered. On the supply-side, government resources need to be allocated to create pre-school infrastructure; a recent needs assessment estimates that 24 million JOD is needed for full absorption of incoming KG students. The number of classrooms available need to be increased progressively. To support this expansion, it is important to create a legal and administrative environment in which organizations can more easily attain pre-school licenses and explore different financing models for KG2, such as private-public partnerships.

Furthermore, the **quality education needs to be enhanced** through the development of polices on teachers' professional development, accreditation of teachers, addressing violence in schools, and encouraging males to teach pre-primary education (currently a female-dominated field). **It is important to ensure accessibility for children with disabilities**, in line with the national Inclusive Education Strategy.

As **certain groups are particularly vulnerable to exclusion from pre-primary education,** it is recommended that pre-school is free-of-charge and that support is provided to families to help meet the indirect costs of schooling, through social-protection or cash-transfer programmes (such as Hajati-KG2). Investments in the provision of transportation and services such as childcare can significantly help families enrol their children in pre-primary education.

Universal pre-primary school access will take time to plan and finance. Certain groups of children should be given priority during the progressive roll-out, namely:

- Children living in governorates with pre-primary net attendance rates below the national average (Madaba, Zarqa, Balqa and Amman);
- Children from households with low levels of human capital (parents with school attainment not surpassing basic education) or financial capital (poor households); and
- Children at risk of dropping out of school at later stages of education.

Increase equitable access to Basic Education (Grades 1–10)

Despite the remarkable strides towards universal education, **inequality in access to education is still prevalent in Jordan**. Children coming from low-income or low-educated households are less likely to stay in school. Children with disabilities face considerable challenges in receiving the quality and type of education they need, with **greater government investment required to train teachers, change community perceptions of disability, and improve the accessibility of schools.**

For low-income households, education may come at a price they cannot pay – even if there are no tuition fees. For instance, textbooks, uniforms, and transportation incur substantial costs. Moreover, there is cost in terms of lost earning opportunities associated with attending education: adolescents who stay in school are not earning an income. Programmes, such as cash transfers and school feeding, have been provided along with other goods needed for schooling, to

reduce the direct and indirect costs of education, allowing children from low-income households to remain in school for longer. Given the limited government resources available, there is need for government to cost and prioritize strategies to prevent drop out, and to include these in the Education Strategic Plan (2018–2022).

To engage groups of children who are, according to the analysis, particularly vulnerable to exclusion from education, it is important to support targeted outreach campaigns – this includes children above the age of 12 (particularly boys in Irbid and Azraq), children aged 6–11 in Mafraq, Irbid, Zarqa, and Amman; girls of lower-secondary age in Balqa, Madaba, Irbid, Mafraq, Karak and Tafilah, children of Syrian and non-Jordanian nationalities (particularly boys), children who never entered school, and children (and particularly boys) whose mother never completed basic education.

For children facing **child labour as a barrier to education,** it is recommended that they are supported through encouraging enrolment in the drop-out programme, expanding social-protection schemes, facilitating psycho-social well-being and social/emotional learning, and strengthening inter-sectorial referral and case-management pathways.

For children **in early marriages or at risk of early marriage,** it is important to address social norms and attitudes towards child marriage, through communication; development programmes targeting adolescents; support for the completion of basic education; investment in specialized psycho-social support (PSS) systems; comprehensive case management; childcare for girls with children, so they can complete their education; provision of life-skills and empowerment programmes; and strengthening the multi-sectoral case-management services.

Gendered views concerning the utility of education, preferring educational attainment of boys over girls – despite the evidence that girls outperform boys – need to be addressed. It is important to invest in the provision of safe transportation to school or to provide support towards transportation fees for children, particularly girls. Further, it is also crucial to address gendered societal attitudes which accept harassment of girls and devalue their education.

Dropping out of school is not a single event but rather a process driven by interconnected risk factors and barriers. The prevention of dropping out should start with **identifying children at risk of discontinuing their education** and providing the support they need to overcome the challenges they face.

Improvements in the quality of education are important to ensure that children stay engaged in learning and increase the returns from education. Some recommendations include providing teachers with training, investing in strong administrative records that allow for the detection of grade repetition, tracking and assessing children. Assessment data should be used for policy decisions and interventions to adequately support at-risk students, and to support school leaders in developing a better understanding of the importance of measuring learning outcomes accurately and transparently. New policies on teachers' professional development need to be systematically introduced and embedded to ensure educational reform.

Solid data that is regularly collected and analyzed is essential to the identification of children who are at risk of dropping out, as well as to evaluate the performance of education programmes. Furthermore, **improving the school facilities/playgrounds, providing psycho-social support, and addressing violence in schools** are crucial components to improving the overall quality of education.

For children who have been out of school for three years or more, enrolment in formal education is not an option. Therefore, it is crucial to commit government budget to the catch-up and drop-out programmes – non-formal education programmes that engage these children in certified education opportunities. Pathways following completion of these programmes need to be expanded to support reintegration into formal education or links to vocational/technical training institutes. The policy of not allowing children more than three years older than their peers to enrol in formal education needs to be reconsidered.

Increase Returns from Education in Jordan

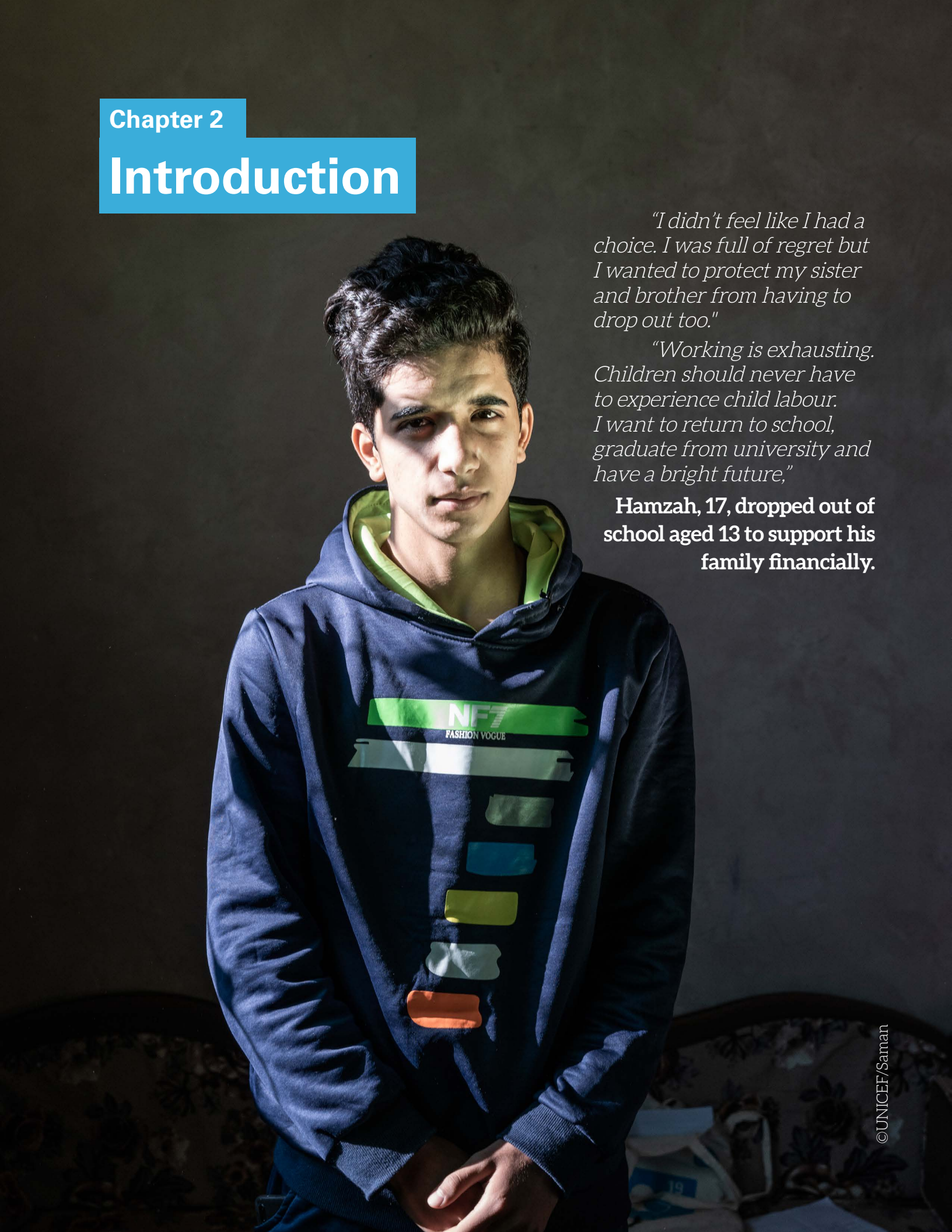
A combination of education and labour market considerations are needed to address issues regarding the low return from education. To improve access to the labour market and to address structural inequalities, some recommendations include advocating for an inclusive labour market and gender-sensitive policies, supporting licensing of home-based businesses, and simplifying registration procedures for small businesses.

Further, it is important to address the low expectations regarding returns from education, through empowering the Skills Commission to **support provision of quality TVET programmes and links to post-TVET job opportunities**. Ensuring alignment between education and labour-market demands, through performing regular in-depth analysis of demand and supply in the labour market and sectoral skills analysis (in cooperation with private sector), is needed **to reduce the mismatch between education and labour-market demands**. This should then inform education strategy for the coming years, with particular attention to vocational education.

The vocational education curriculum in formal schools requires enhancement in parallel with the development of new teacher standards to include a proactive approach to supporting students to gaining access and experience in the labour market whilst still at school, making use of local partnerships with businesses, commerce, and vocational centres. **Students need to be familiarized with a variety of education and career options, including vocational training**. It is important to raise awareness and address negative societal perceptions of vocational training. It is also important to create awareness of the non-monetary returns from education, such as adaptability, social and cultural capital, mental and physical health, and societal benefits.

Chapter 2

Introduction



"I didn't feel like I had a choice. I was full of regret but I wanted to protect my sister and brother from having to drop out too."

"Working is exhausting. Children should never have to experience child labour. I want to return to school, graduate from university and have a bright future,"

Hamzah, 17, dropped out of school aged 13 to support his family financially.

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- Gross enrolment rates are close to 100 per cent in Grades 1–6, 95 per cent in Grades 7–10, but fall considerably in Grades 11 and 12.
- Although there are high gross enrolment rates at the national level, this masks significant disparities at the sub-national level, and by nationality and socio-economic status.
- This report provides an in-depth analysis of inequities in access to education by age, gender, nationality, geographical and socio-economic family characteristics.
- It builds upon the analytical framework developed for the Global Initiative on Out-of-School Children using the Five Dimensions of Exclusion framework.
- Analysis uses administrative data from the Education Management Information System and population data from the Department of Statistics. Two additional survey-based datasets allow triangulation of the results and extend the analysis.
- In the 2017/18 academic year, 1.37 million students are enrolled in 3,835 public schools with 86,600 MOE teachers.

2.1. Background and rationale

Education is both a basic human right and a driver of a country's economic and social development. Since the launch of the Millennium Development Goals (MDGs) in 2000, countries around the world have made impressive progress towards providing education for all. As a result, the number of out-of-school children of primary-school age nearly halved by 2018 – from 100 million to 59 million worldwide (UNICEF, 2020). The Sustainable Development Goal (SDG) – in particular SDG4 for ensuring inclusive and quality education for all – goes beyond primary-school enrolment, envisioning that all children complete 12 years of primary, lower and upper secondary education with relevant learning outcomes.

There are 258 million children, adolescents and young people currently out-of-school (the total includes 59 million children of primary-school age, 62 million of lower–secondary school age and 138 million of upper-secondary age) (UNESCO-IUS, 2018b), and less than 50 per cent of children complete upper secondary school. At current rates of progress, only one out of ten young people in low-income countries will be on track to gain basic secondary-level skills in 2030 (International Commission on Financing Global Education Opportunity, 2016). To advance the progress of SDG4, it is necessary and important to understand the scale of the problem of out-of-school boys and girls and examine the causal mechanisms that generate education barriers for those who are excluded from the education system.

2.2. Overview of the global initiative on out-of-school children

The global Out-of-School Children Initiative (OOSCI) was launched UNICEF and UNESCO in 2010 to address data and information gaps. The overall aim is to contribute to the global reduction in the number of out-of-school children. To date, OOSCI studies have been carried out in various countries across Africa and the Middle East, each as a result of cooperation between UNICEF, the Ministries of Education (MOE), and other national stakeholders. Through rigorous statistical and policy analysis, policy recommendations and interventions, these OOSCI studies support governments to estimate the prevalence of out-of-school children, the barriers that cause school exclusion, as well as to promote policy solutions to reduce exclusion from the education system.

This report is a continuation of ongoing joint efforts of the Ministry of Education and UNICEF to address school exclusion and enhance equity in access to formal education in Jordan. It provides an in-depth analysis of structural inequalities along the lines of gender, nationality, and geographical and socio-economic characteristics; not only does it identify children affected by school exclusion, but it also investigates supply- and demand-side barriers to education, estimating the costs and returns from education in Jordan. Lastly, it proposes policy options to help make inclusive education for all children a reality.

2.3. Country context

Jordan achieved the second Millennium Development Goal of universal primary education in 2005 and has near universal youth literacy. Achieving the SDG4 of 12 years basic and secondary education for all, with relevant learning outcomes, by 2030, will be more challenging.

As of 2018, Jordan has a population of about 10.3 million people, 54.2 per cent of whom are under the age of 24. This is considerably more than the 6.4 million registered in 2009 (DOS, 2019c). The influx of Syrian refugees since 2011 and a fertility rate of 2.8 has contributed to the increase in population (World Bank 2019b). This increase in population has put pressure on public services, including housing, education and health infrastructure. However, Jordan has a long tradition of hosting migrants and refugees (De Bel-Air, 2016; Davis et al., 2017), which is reflected by the country's diversity. The 2015 Population and Housing Census estimated that over 30 per cent of the Jordan population consists of people of non-Jordanian nationality, of which 1.3 million are Syrians. Other major groups of non-Jordanians include Egyptians, Palestinians, Iraqis, and Yemenis (DOS and UNICEF, 2016).

Jordan is a lower–middle income country with a GDP per capita of 4,278 USD in 2019 (World Bank, 2019b). Over the last decade, unemployment has increased and is particularly prevalent amongst young people. The unemployment rate amongst 15–24-year-olds stands at 20 per cent (excluding those currently enrolled in education or training) (DOS, 2019b). As a result, the poverty rate is also likely to have increased, though the national poverty line of 14.4 per cent was most recently estimated in 2010 (DOS, 2019a).

2.4. The Jordanian education system: structure and stakeholders

Education in Jordan is governed by the 1994 Education Act No. 3, which was amended in 2006 and 2013 (Act No. 68/1/56788) (MOE, 2019a). This law identifies the objectives and policies of the education system in Jordan, and the responsibilities and functions of national stakeholders. The main responsibility for the execution of the Education Act lies with the Ministry of Education.

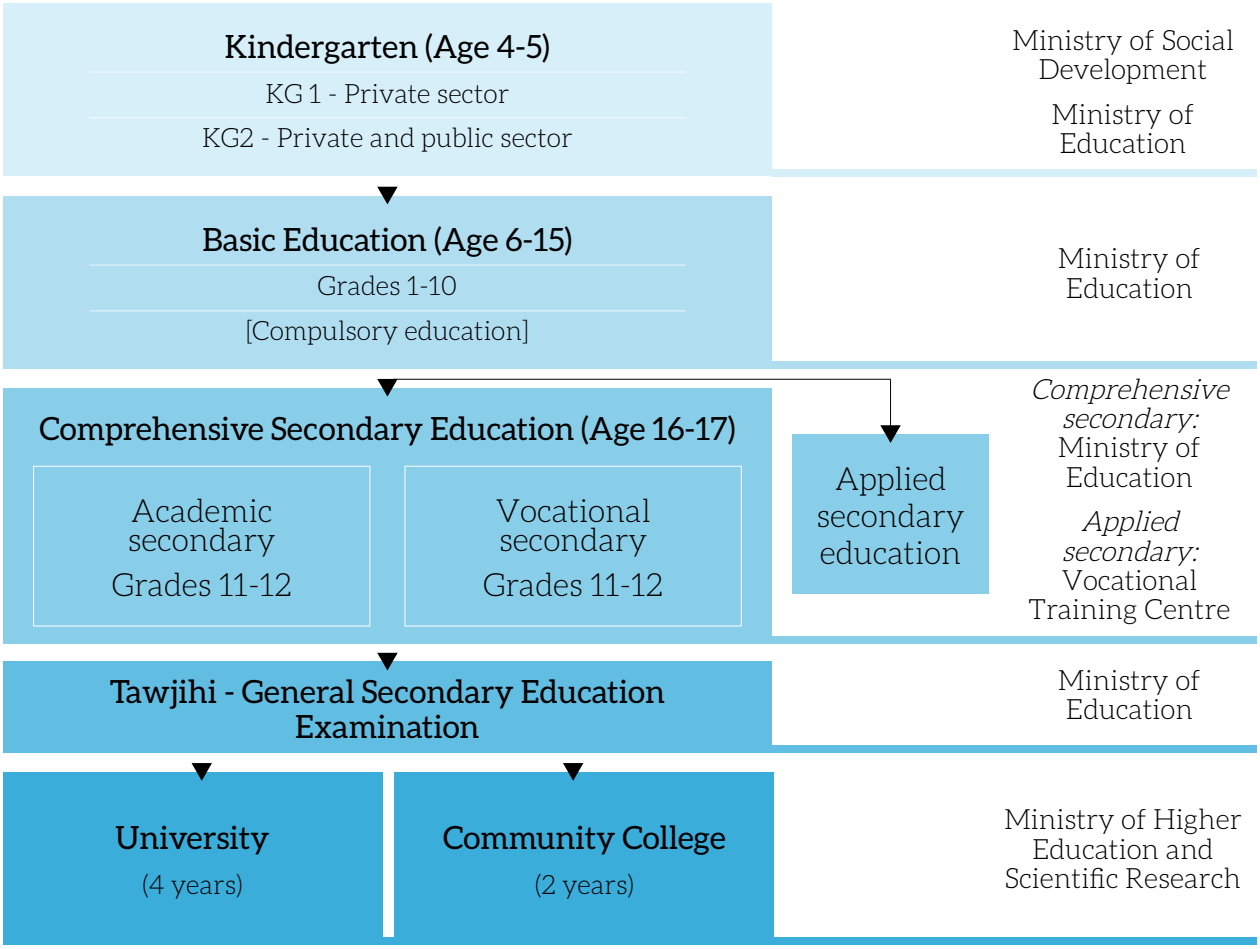
Education is provided by a multitude of actors, from public schools under the auspices of the Ministry of Education, to private institutions, and the United Nations Relief and Work Agency (UNRWA) in the case of Palestinian refugees. Table 1 provides an overview of the number of schools, enrolled students and staff members per service provider for all educational levels. Figure 1 provides an overview of the Jordanian education system.

Table 1:
Schools in Jordan according to authority

Authority	No. of schools	No. of students	No. of teachers	No. of administrators
Ministry of Education	3,835	1,378,840	86,627	17,758
Private schools	3,211	534,809	39,994	13,522
Other governmental schools	45	18,028	1,899	365
UNRWA	171	120,163	4,362	242
Total	**7,262**	**2,051,840**	**132,882**	**31,887**

Source: Ministry of Education (2019b, p11)

Figure 1:
Overview of the structure and responsible Government bodies for public education in Jordan



Source: own elaboration based on Educational Ladder MOE (2019a, p.12) and UNESCO-UNEVOC (2019)

2.4.1. Pre-primary education

In Jordan, Early Childhood Care and Education (ECCE) is for children from the age of three months up to the age of six. ECCE consists of three stages: nursery services for children between the ages of three months and four years; Kindergarten 1 (KG1) for children aged 4; and Kindergarten 2 (KG2) for children aged 5. Nurseries and KG1 providers are private and regulated by the Ministry of Social Development (MOSD), while the Ministry of Education is both the provider and regulator of KG2. There are 3,330 classes in the public sector and 7,732 classes in the private sector[6] (MOE, 2019b). Given the ambition of the government to enable all children to attend KG2, provision is expected to expand rapidly through public and private provision. Once an adequate supply is in place, KG2 is expected to become part of compulsory basic education.

2.4.2. Basic education

Basic education in Jordan is Grade 1 to 10 and equivalent to primary and lower secondary education in international comparisons, as defined by International Standard Classification of Education (ISCED). According to Article 20 of the Jordanian constitution, basic education is compulsory and free. Children should be enrolled from the age of six[7] up to and including the age of 15.

Based on academic year 2016/17 figures, 70 per cent of schools (private and public) in Jordan are mixed-gender schools (a total of 5,045 schools) – 97.7 per cent of private schools are mixed, while 49.6 per cent of public schools are mixed (Idaibes, 2018). Amongst public schools, the majority of mixed-gender schools are for the lower grades only.

2.4.3. Secondary education

Secondary education in Jordan is Grade 11 and 12 and is equivalent to upper secondary education in international comparisons. Upon attaining the Grade 10 school leavers certificate, students can progress to the academic or vocational track of comprehensive secondary education, also provided by the MOE. Secondary education is free-of-charge for Jordanians and Syrian refugees, but is not compulsory. At the end of the comprehensive secondary education track, students take an exit exam known as Tawjihi. After passing this exam, students receive the General Secondary Education Certificate and can enrol into higher education (MOE, 2019c).

As an alternative to secondary education, a student may choose to enter applied vocational training. The applied vocational education track is provided by the Vocational Training Corporation and prepares students for the job market through apprenticeship schemes (UNESCO-UNEVOC, 2019).

6. This figure has been based on the 2017/18 Statistical report by the MOE and thus concerns licensed schools. No representative data is available on the number of unlicensed private education. Based on a presentation by the RAMP project, 25 January 2018, it is estimated that 37 per cent of all pupils attend public KG2, 23 per cent attend licensed, private KG2, and 24 per cent attend unlicensed, private KG2.
7. Children are expected to enrol in the academic year in which they reach age of six by the end of December. For instance, a child who is turning six-years-old in April 2020, and a child who is turning six-years-old in November 2020 are both expected to start basic education when the academic year 2020/21 commences in September 2020.

2.4.4. Higher education

Upon successful completion of the Tawjihi exam, students can continue with higher education. Higher education is provided in two categories: two or three-year diploma programmes at community colleges and similar institutions (public and private), and university level programmes, which are under the supervision of the Ministry of Higher Education and Scientific Research. The type of academic programme a student attends depends on his/her Tawjihi grades. Higher education is not free. The tuition fee payable depends on the nationality of the student.

2.4.5. Education for Palestinian and Syrian refugees in Jordan

Syrian and Palestinian refugees comprise the largest groups of non-Jordanians in the country. In February 2020, 655,453 Syrian refugees are registered with the UNHCR (UNHCR, 2020) and 2,206,736 Palestinian refugees with UNRWA (UNRWA, 2020).[8]

Syrian refugees residing in Jordan have free access to the public education system, whilst Palestinian refugees are educated in UNRWRA schools.[9] The Jordanian Ministry of Interior issued "service cards," enabling Syrian refugees to enrol in public schools in the respective host communities (HRW, 2016a; Sieverding et al., 2018). To meet the educational needs of the large numbers of Syrian children, 204 schools in Jordan adopted a double-shift system that allows them to provide education to both Syrian and Jordanian children in separate morning and afternoon shifts, in addition to 51 schools which provide education to Syrian refugees in camps. According to No Lost Generation, only 134,121 out of 235,616 registered Syrian school-age refugee children (6–17 years) were enrolled in Jordanian schools in the academic year 2018/19 (No Lost Generation, 2019). The Government of Jordan requires other non-Jordanian children to pay for primary and secondary school (UNICEF, 2017) and to have residency cards to register.

2.5. Methodology: Analytical framework of Five Dimensions of Exclusion

This study aims to analyze the situation of out-of-school children in Jordan. It builds upon the analytical framework developed for the global Out-of-School Children Initiative (UNICEF, 2015a) and used in previous studies within and beyond Jordan. Hence, the methodological framework for this report is based on the Five Dimensions of Exclusion (5DE), which are defined as follows in the Jordanian educational context:

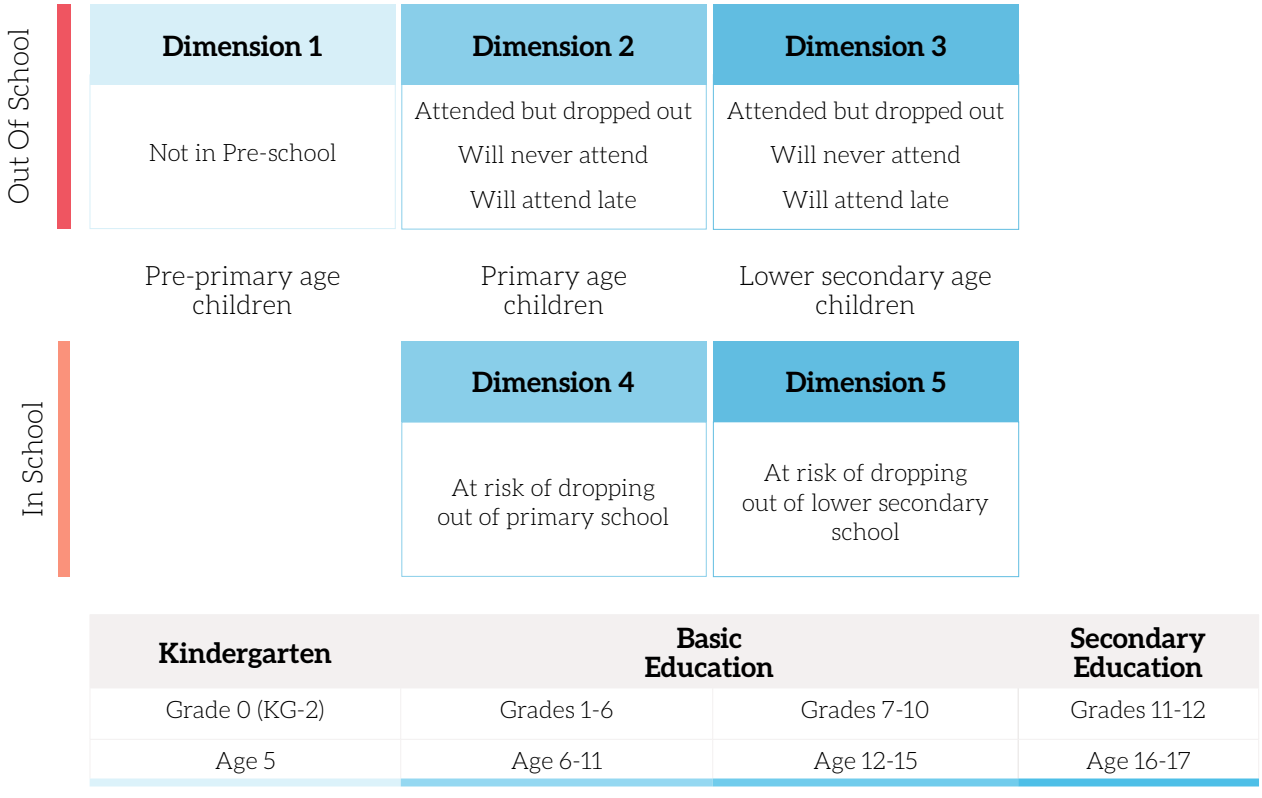
- Dimension 1: Children of pre–primary school age (age 5) who are not in pre-primary or primary school (KG1, KG2 or grades 1–6).
- Dimension 2: Children of primary-school age (age 6–11) who are not in pre-primary, primary or lower secondary school (KG1, KG2, grades 1–10).
- Dimension 3: Children of lower–secondary school age (age 12–15) who are not in primary, lower or upper secondary school (grades 1–12).
- Dimension 4: Children of primary-school age (age 6–11) who are at risk of dropping out of primary school.
- Dimension 5: Children of lower–secondary school age (age 12–15) who are at risk of dropping out of lower secondary school.

8. A Palestinian refugee registered with UNRWA may hold Jordanian citizenship. However, provided that they belong to the eligible groups via patrilineal descent, a Jordanian may register with UNRWA and access their services (Tiltnes and Zhang, 2013; UNRWA, 2010).
9. Note that with the exception of Syrians, all non-Jordanians must pay a 40 JOD annual fee to enrol in public schools (Mixed Migration Centre, 2017)

The framework differentiates between those who are out of school and those children who are currently in education but at risk of dropping out prematurely. Further, the framework analyzes school exclusion spanning three levels of education: pre-primary, primary and lower secondary school (UNICEF, 2015a). In the 5DE framework, Dimension 1 refers to children who are not attending pre-primary education. Dimensions 2 and 3 correspond to children at primary and lower–secondary school age, respectively, who are out of school or who attended but dropped out. While Dimensions 1 to 3 look at children who are already out of school, Dimensions 4 and 5 identify children that are currently in school but are at risk of dropping out before completing their studies.

The 5DE model provides a standard framework suitable for cross-country comparisons. The Jordanian compulsory education system includes 10 years of basic education. In the Jordanian system, Kindergarten 2 (or Grade 0) corresponds to Dimension 1, Grades 1 to 6 correspond to Dimensions 2 and 4, and Grades 7 to 10 correspond to Dimensions 3 and 5. The alignment of the standard 5DE framework with grades and ages in Jordan is presented in Figure 2 below. After completing basic education, Jordanian children may continue with (upper) secondary education, which is not compulsory.

Figure 2:
5DE and the corresponding ages and grades in the Jordanian system



Source: own elaboration based on UNICEF (2015a) and stakeholder consultations

2.5.1. Analytical framework of five dimensions of exclusion

Key definitions

Net Attendance Rate/Net Enrolment Rate (NAR/NER)
the share of children in the reference age group attending (NAR) or enrolled in (NER) the appropriate level of education. For example, primary school NER refers to the share of primary-school age children enrolled in primary school.

Adjusted Net Attendance Rate/Adjusted Net Enrolment Rate (ANAR/ANER):
the share of children in the reference age group attending (ANAR) or enrolled (ANER) in the appropriate or higher level of education. For example, primary school ANER refers to the share of primary-school age children enrolled in primary or secondary school.

Gross Enrolment Ratio/Gross Attendance Rate (GER/GAR)
the number of enrolled (GER) or attending (GAR) children divided by the number of children in the respective age group. For example, primary school GER refers to the number of children enrolled in primary school divided by the total number of primary-school age children.

Out-of-School Rate (OOS)
the share of children in a given age group not enrolled in or attending education. This report also refers to Not-in-School Rate (NIS), which is the same as the OOS but for age groups without an obligation to attend school (i.e., pre-primary or upper–secondary school age).

Gender Parity Index (GPI)
the share or number of girls enrolled/attending a certain level of education divided by the share or number of boys enrolled/attending the same level of education. A GPI can be calculated for all the other indicators. For example, a primary ANER GPI is the adjusted primary school net attendance ratio of girls divided by the adjusted primary school net attendance ratio of boys. In the case of OOS or NIS, rates for boys are divided by rates for girls in order to ensure that an index larger than 1 always means an advantage for girls.

2.5.2. Data sources

Critical to any robust statistical analysis is the availability, suitability and quality of data. The key indicators of the 5DE will be calculated on the basis of the Education Management Information system (EMIS) and population data provided by the Department of Statistics. Two additional survey-based data sources which have been selected jointly with UNICEF will be used to triangulate the findings based on EMIS and for the in-depth analyses in Chapter 2 and Chapter 3.

Education Management Information System (EMIS) data:
EMIS is the main administrative data source on formal education in Jordan managed by the Ministry of Education. This report uses enrolment data at the school level for the years 2011/12 until 2017/18, which can be disaggregated by sex, governorate and district. Limitations of the annual EMIS data are related to the fact that, over time, schools have been added to the database and subsequently, the number of children (and schools) differs across years. For 2017/18, the data contain information on the enrolment status by age, sex and grade and by children's nationality (Jordanian, Syrian and other nationality). This allows for the analysis of net enrolment and over-age children in particular grades.

Population data by the Department of Statistics:

The main reference for population estimates is the Population and Housing Census conducted in 2015. The Department of Statistics (DOS) produces population estimates to be used as a denominator for calculating social or educational indicators, such as the enrolment rates of school children. In 2015, the total population of Jordan was 9.53 million and projections have been applied to estimate the population for the years 2016/17 and 2017/18. The population data is disaggregated by sex, age, governorate and district for the years 2011/12 until 2016/17, and includes information on nationality (Jordanian, Syrian and other nationality) for the year 2017/18 that allows for further in-depth analysis in combination with EMIS 2017/18. Data on the Syrian population stems from UNHCR and have been incorporated by DOS. More details on EMIS and DOS population data are provided in Appendix 1. EMIS and DOS data and methodology.

Demographic and Health Survey (DHS):

The DHS data was collected between October 2017 and January 2018 and is owned by the Department of Statistics. It is the most recent representative household survey data available. Apart from fertility, mortality, health and nutrition data, the 2017/18 round of the Jordan Population and Family Health Survey (hereafter called Demographic and Health Survey), contains information on educational dimensions such as school attendance and educational attainment. The DHS is representative to the governorate level, and the indicators can be disaggregated by sex, age, rural or urban areas, nationality (Jordanian, Syrian and other nationality)[10] and wealth quintiles. A core limitation of the DHS is the lack of detailed income and consumption data.

Jordan Labor Market Panel Survey (JLMPS):

The JLMPS is owned by the Department of Statistics (DOS) and the Economic Research Forum (ERF), and was collected in 2016. It is representative at the regional level and allows for indicator disaggregation by sex, age, nationality (Jordanian, Syrian and other nationality),[11] residential area (including refugee camps), and wealth quintiles. Beyond information on children's school enrolment, the JLMPS contains data on household income and parents' education. During the 2016 data collection, a refresher sample was added and regions with high numbers of non-Jordanians and refugees were intentionally oversampled to capture the implications of the large influx of new populations. The 2016 data are used to estimate predictors of school drop-out (Chapter 2) and calculate returns to education (Chapter 3). The JLMPS data are not representative at the governorate level and do not include children below the age of six, which limits the scope of the analysis in the context of this study.

2.5.3. Limitations

Even though EMIS school-level data from 2011/12 to 2017/18 would allow for the analysis at district level, the results would not be very useful. School catchment areas frequently cross district borders, which would lead to tentatively confusing results, which can easily be misinterpreted by readers. Even though we present the number of schools per district in Appendix 1. EMIS and DOS data and methodology, this is simply to showcase how the number of schools has been increasing throughout Jordan over the last decade. Given that population densities vary across the districts and governorates and that school sizes range from very small to very large, no conclusion can be drawn on effective allocation of schools across the country.

The EMIS 2017/18, which is used for the analysis in Chapter 2, is only provided at governorate level. Moreover, even though the EMIS data for 2017/18 is used for the 5DE core tables (Appendix 3. Core

10. Further disaggregation by nationality is not possible with the DHS due to data limitations.
11. Further disaggregation by nationality is not possible with the JLMPS due to data limitations.

Tables: EMIS 2017/18), this does not include Dimension 1. Administrative data on pre-primary school enrolment is currently incomplete. This is because kindergarten is not part of the compulsory education system, and because some institutions are administered either by private providers or by the Ministry of Social Development. Many government-run pre-schools are included in the Ministry of Education's administrative system, but conclusive figures cannot be calculated from this source. Therefore, DHS data is used to estimate Dimension 1 indicators on pre-primary school attendance and OOS children. In addition, the EMIS data does not currently capture students who are in upper secondary, vocational education, or out of both. For this reason, the EMIS data source is not used for the analysis of dropout for the 16–18-year-old age group.

Due to the lack of data available on children with disabilities in EMIS and DOS population datasets, the study could not provide in-depth analysis on the situation of children with disabilities who are out of school or at risk of dropping out. Disaggregation of children enrolled in school by disability was not possible.

The analysis based on DHS and JLMPS has its own limitations. Given that both datasets are based on household surveys, all results have to be treated as estimates and interpreted with caution. The level of geographical disaggregation is also limited. In the case of the DHS, disaggregation is possible at the governorate level. For the JLMPS, disaggregation stops at the regional level (North, Central, South). Yet both surveys allow for disaggregation by urban and rural areas (and camps in the case of the JLMPS).

Finally, this report relies mainly on quantitative data and analysis. Qualitative data, which could help explain some of the quantitative findings and provide an in-depth understanding of the reasons why children are not in school, was not collected as part of this study.[12] Where possible, other studies were used to explain the findings of the quantitative analysis. Very little can be said about the quality of education given the available data.

Jordan has been participating in the Trends in Mathematics and Science Study (TIMSS) assessment (since 1999), the Programme for International Student Assessment (PISA) assessment (since 2006), and the Early Grade Reading Assessment/Early Grade Math Assessment (EGRA/EGMA) since 2012. There are multiple and diverse assessments in Jordan, but no attempt has been made to integrate the data. Neither has the data been linked or analyzed by school, class and student. There is no system to follow the individual growth of students' learning (MEP, 2014), and therefore, the opportunity to identify those children who are at risk of dropping out, the signs of which could be there up to three years prior to drop out according to Burrus and Robert (2012), and to provide appropriate interventions are missed.

2.6. Structure of the report

The remainder of this report is structured as follows: Chapter 2 analyzes the Five Dimensions of Exclusion (5DE) in line with the OOSCI framework, and analyzes the risk of school dropout before completing basic education. Chapter 3 estimates the returns from education in Jordan and relates these to the Government's education expenditures. Chapter 4 discusses barriers to education. Finally, Chapter 5 highlights key findings and recommendations to address the remaining gaps and challenges.

12. With the exception of a few key informant interviews with the major stakeholders.

Chapter 3

Out-of-school children and the Five Dimensions of Exclusion (5DE) from education

"I dropped out of school at the age of 14 to help my father at work in the market.

"All I wished for was to go back to school and continue my education,"

Mohammad, 15.

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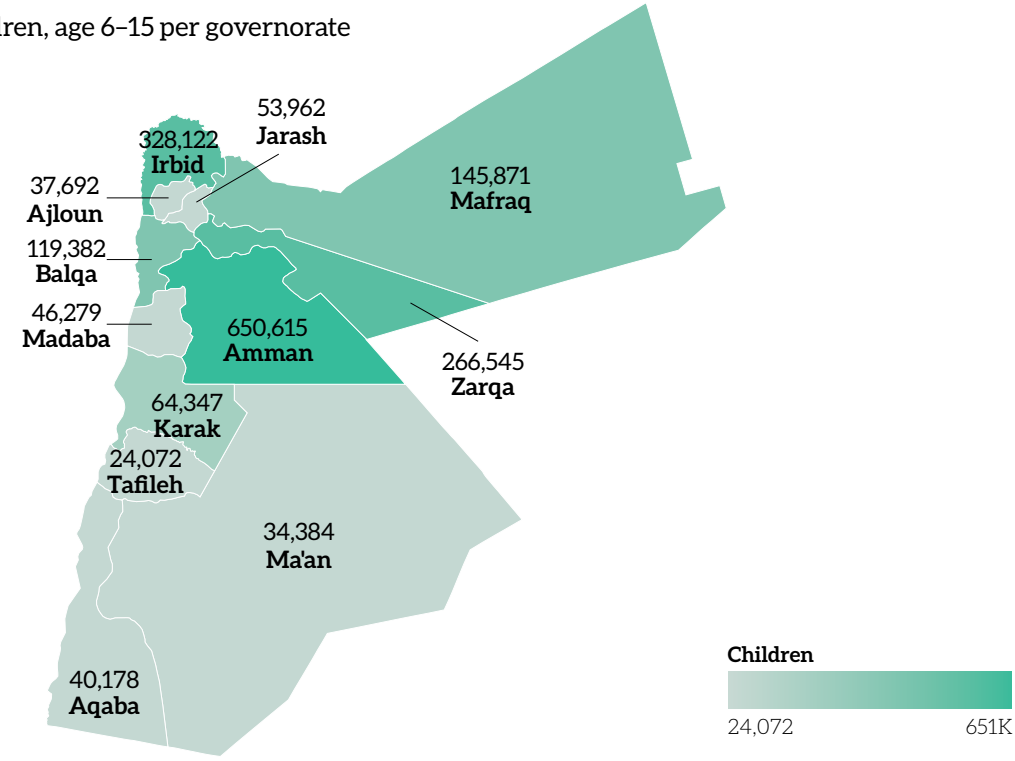
- Access to basic education (Grades 1–10) in Jordan is not yet universal, despite being compulsory.
- 112,016 children in Jordan are not attending basic education; whilst 40,647, children are at risk of dropping out, which is 2per cent of children in the age group 6–15.
- Out-of-school rates are higher for children of non-Jordanian nationality.
- There is a higher out-of-school rate for boys than for girls, except for Jordanians in the 6–11 age group.
- Children who are out-of-school may have dropped out or never entered school. The share of children aged 6 to 17 who have never entered school is 1.6 per cent and highest for six-year-olds.
- Nearly all children in Jordan complete primary school (Grades 1–6), but dropping out of school during lower secondary (Grades 7–10) remains a challenge.
- Once children complete basic education (Grade 10), the majority continue with upper secondary (Grades 11–12) or transition to vocational schools, particularly Jordanian children.
- Predictors of school dropout before completing basic education include: being a boy; Syrian nationality; an absent mother; parents with low educational attainment; large household size; being poor; being a married girl in a poor household; and living in an urban area.
- Living in communities operating double-shift schools reduces the risk that non-Jordanian children dropping out of school.
- There are different risk factors for the dropping out of boys and girls before completion of basic education;
- Girls, whose parents are absent (or of whom just the mother is absent), who are of Syrian nationality, or are already married have the highest risk of dropping out.
- Being a boy comes with a 7per cent risk of dropping out compared to girls. Being a Syrian boy comes with a dropout risk of 20 per cent.
- 62 per cent of children aged five years do not attend pre-primary or primary school, with large disparities between regions and governorates.
- Gender parity in access to pre-primary education varies across the country; in eight of the twelve governorates, five-year-old girls are more likely to be in school than boys. Low access to pre-primary education among poorer children is of concern.

This chapter analyzes the challenge of school exclusion in Jordan, building on the analytical framework developed by the global Out-of-School Children Initiative. The aim of the chapter is to understand the magnitude of school exclusion, as well as the cross-cutting issues that may contribute to some children not accessing education. The figures and tables presented in this chapter are based on the administrative data (EMIS) and DOS population data. Given the limitations of the EMIS data, household-survey data from the DHS 2017/18 and the JLMPS 2016 are used to profile children excluded from school and to fill data gaps such as with respect to Dimension 1 (pre-primary education).

3.1. Overview

According to the data from DOS, Jordan has a school-age population of 1.8 million children aged 6–15 as at the end of 2017.[13] This is the age group which is expected to attend basic education (Grades 1–10), which includes both primary (Grades 1–6) and lower secondary education (Grades 7–10), according to international standards. The analysis of out-of-school children and children at risk of dropping out will focus on this age group. Children of Jordanian nationality are the majority (84 per cent), whilst Syrian children account for 10 per cent and other nationalities for 6 per cent (Figure 4). Amman is the most populous governorate where 36 per cent of the children live, followed by Irbid (18 per cent) and Zarqa (15 per cent). Tafileh (1.3 per cent), Ma'an (1.9 per cent), Ajloun (2.1 per cent) and Aqaba (2.2 per cent) are home to relatively few children in the age group 6–15 years (Figure 3).

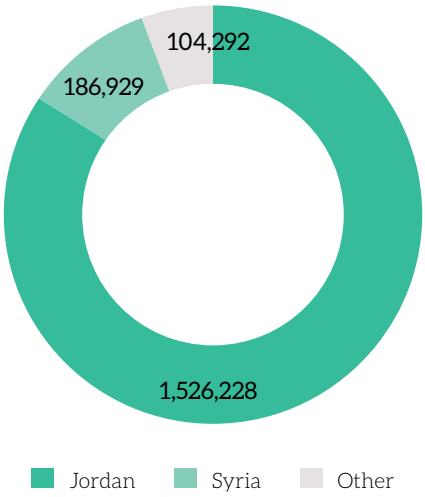
Figure 3:
Number of children, age 6–15 per governorate



Source: DOS population data 2017/18

13. Including children aged 5, 16 and 17, increases the total to 2,257,881 children.

Figure 4:
Number of children by nationality, age 6–15



Source: DOS population data 2017/18

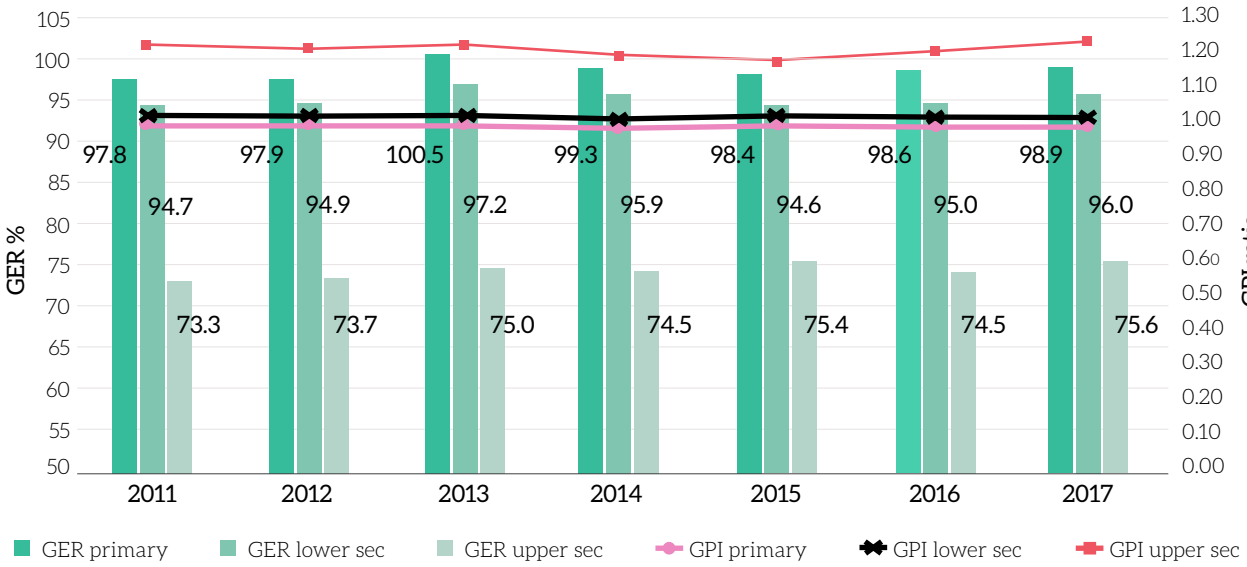
3.1.1. Gross enrolment trends in 2011–2017

Gross enrolment rates[14] have been rather stable over time, with small increases for all educational levels. Figure 5 shows the trends for the entire country from 2011–2017. Gross enrolment rates are close to 100 per cent in primary school (Grades 1–6). In lower secondary school (Grades 7–10), the rates hover around 95 per cent, while they are considerably lower in upper secondary school (Grades 11–12).[15]

The gender parity index reflects disparities between girls and boys. In the context of gross enrolment, it is the ratio between the gross enrolment rate of girls and boys. A value larger than 1.03 means that the gross enrolment rate of girls is higher than that of boys, whilst lower than 0.97 means that girls are disadvantaged. As Figure 5 shows (axis on the right side), gender parity is close to one for both primary and lower secondary education. Gender disparities only occur at upper secondary level, where fewer boys are enrolled than girls.[16]

14. Gross enrolment refers to the total number of students enrolled in school at a particular level (irrespective of their age) over the total number of children of the correct age for that level.
15. In line with the Five Dimensions of Exclusion framework, the analysis distinguishes between primary and lower secondary education, even though they together constitute basic education in the Jordanian context.
16. Gross enrolment rates by governorate and school level can be seen in Appendix 2. Gross enrolment rates by governorate.

Figure 5:
Gross enrolment rates and gender parity ratios, 2011–2017



Source: own calculations based on EMIS school-level data and DOS population data. Gross enrolment refers to the total number of students enrolled in school at a particular level (irrespective of their age) over the total number of children of the respective age group.

Table 2 provides an overview of the Five Dimensions with the number and shares of children not in school or at risk of dropping out. Focusing on basic education (Grades 1–10), 112,016 children are out of school, which is 6 per cent of the total number of children of that age group (6–15).

The percentage of out-of-school children is 9 per cent for lower secondary grades (Grades 7–10) and 5 per cent for primary school (Grades 1–6). While there is hardly any difference between girls and boys in Dimension 1 and Dimension 2, the share of out-of-school boys in the lower secondary age group is clearly higher than for girls. 31,540 boys and 25,715 girls aged 12 to 15 are not in school. This is almost 10 per cent of this age group.

With respect to Dimensions 4 and 5, overall 40,647 children aged 6 to 15 are at risk of dropping out. This risk is determined by the fact that they are two or more years above the appropriate age for a certain grade, which increases the risk of them eventually dropping out. Overall, 2 per cent of children are at risk. Boys are slightly more at risk than girls, both in primary and lower secondary school.

With respect to Dimension 1, an estimated 107,747 children at the age of five (62 per cent) are not in school (neither kindergarten nor primary school). This is not a surprise given that kindergarten is not yet compulsory, and the supply of places is limited.

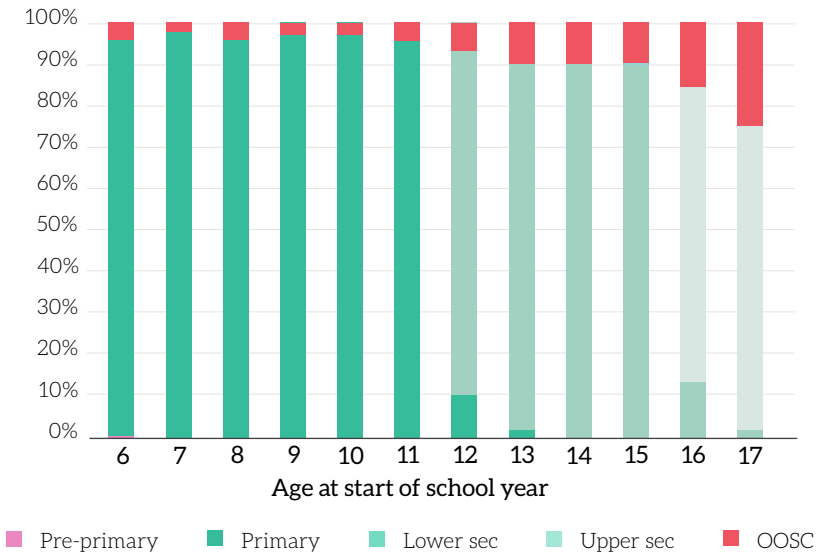
Table 2:
Summary of children out of school or at risk of dropping out by Dimension, 2017/18

	Girls		Boys		Total	
	Number	%	Number	%	Number	%
Out-of-school children						
Dimension 1* estimate (age 5)	53,020	62.0%	54,681	62.7%	107,601	62.4%
Dimension 2 (age 6–11)	27,711	4.8%	27,050	4.5%	54,761	4.7%
Dimension 3 (age 12–15)	25,715	8.1%	31,540	9.6%	57,255	8.9%
Total out of school (6–15)	**53,426+**	**6.0%**	**58,590**	**6.3%**	**112,016**	**6.2%**
Children at-risk of dropping out						
Dimension 4 (age 6–11)	10,370	1.8%	12,273	2.1%	22,643	1.9%
Dimension 5 (age 12–15)	8,237	2.6%	9,767	3.0%	18,004	2.8%
Total at risk (6–15)	**18,607**	**2.1%**	**22,040**	**2.4%**	**40,647**	**2.2%**

*Source: EMIS 2017/18 and DOS population data; *Dimension 1: estimations based on DHS 2017/18 and DOS population data.*

Figure 6 shows school status by age. It shows that access to education is not universal despite basic education being compulsory. As children reach lower-secondary age (from age 12) and transition to higher grades, enrolment rates start to decrease, and the share of out-of-school children consequently rises (the blue and pale-blue areas in Figure 6). The growth in OOSC rates is particularly prominent for ages 16 to 17. Some of these children may never have entered school, while others dropped out before completing upper secondary education.

Figure 6:
Education status of school-age children by age (6–17)



Source: EMIS 2017/18 and DOS population data

The analysis upon which this chapter is based used three different data sources. The results for Dimensions 2 to 5 vary slightly depending on the data. The results based on EMIS and DHS are the most useful for comparison as they relate to the same time period. EMIS contains the end numbers for the school year 2017/18 which are set in March. DHS data were collected in the second half of 2017 and the beginning of 2018. The JLMPS data has been collected in 2016. The out-of-school rates obtained from the EMIS data are slightly higher, both for Dimensions 2 and 3. On the other hand, DHS data indicates higher at-risk rates (Dimensions 4 and 5) than the EMIS data. The differences are larger compared to the JLMPS 2016. Given that both the JLMPS and the DHS are representative sample surveys, one could conclude that drop-out rates and at-risk rates are decreasing.

Table 3:
Comparing dimensions by data source

		EMIS 2017/18	DHS 2017/18	JLMPS 2016
Dimension 2:	Male	4.5%	3.1%	4.0%
	Female	4.8%	2.3%	3.6%
	Total	**4.7%**	**2.7%**	**3.8%**
Dimension 3:	Male	9.6%	5.8%	13.0%
	Female	8.1%	5.3%	6.3%
	Total	**8.9%**	**5.6%**	**9.9%**
Dimension 4:	Male	2.1%	3.6%	7.0%
	Female	1.8%	2.8%	6.2%
	Total	**1.9%**	**3.2%**	**6.6%**
Dimension 5:	Male	3.0%	5.2%	5.1%
	Female	2.6%	4.5%	5.9%
	Total	**2.8%**	**4.9%**	**5.5%**

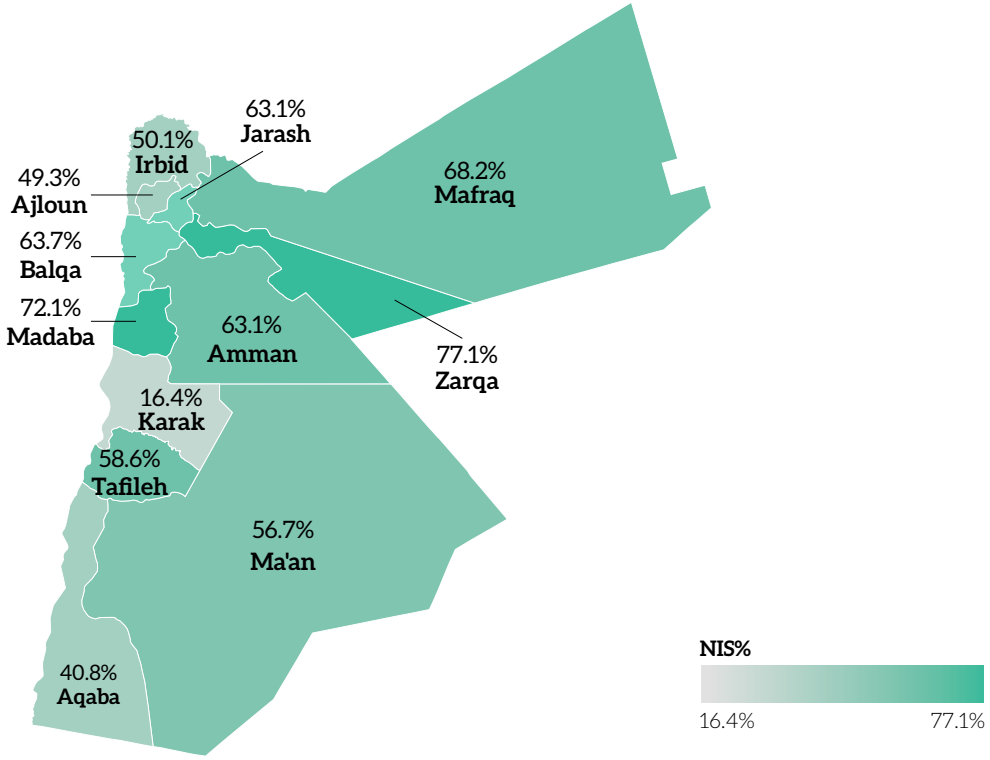
Source: EMIS/DOS 2017/18; DHS 2017/18; JLMPS 2017/18

3.2. Dimension 1: Children of pre-primary age not in school[17]

Pre-primary education in Jordan has not yet been part of the compulsory education system. KG1 falls under the jurisdiction of the Ministry of Social Development, and KG2 under the Ministry of Education. The Government of Jordan has recently announced plans to include pre-primary education in the compulsory school system starting from September 2020. This is an important step, because pre-primary education is a crucial investment in children's cognitive and social development. It improves school readiness and reduces the developmental gap that children from disadvantaged backgrounds can experience.

Overall, more than one in three five-year-old children (38 per cent) attend pre-primary or primary school. Sixty-two per cent are therefore not in school.[18] While the difference between girls and boys is insignificant, the disparities between regions and governorates are rather large. In Central Jordan, the pre-primary adjusted net attendance rate (ANAR) is only 31 per cent, while more than half of the children (64 per cent) attend pre-school or primary school in the Southern region. The share of five-year-old children not in (pre-)school is highest in Zarqa (77 per cent) and Madaba (72 per cent), followed by Mafraq (68 per cent) and Amman (67 per cent). Gender parity in access to pre-school education varies across the country. In eight of the twelve governorates, girls have higher ANAR results than boys.

Figure 7:
Dimension 1: Percentage of children, aged 5, that are not in pre-primary or primary school

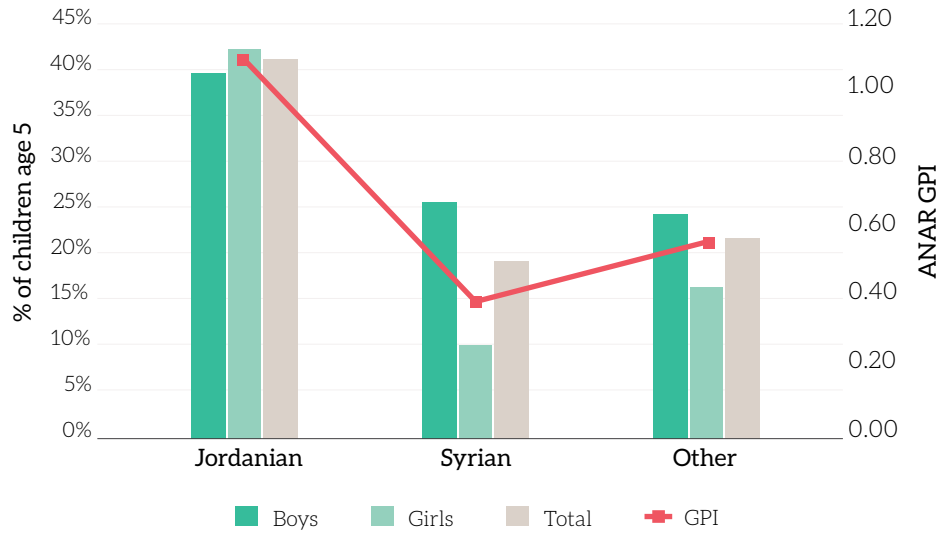


Source: own calculations based on DHS 2017/18. Note: NIS = Not-in-School.

17. The analysis of Dimension 1 considers only five-year-old children, in line with both the OOSCI methodology and the specifics of the Jordanian education system, and it is based on the DHS data. EMIS data on KG2 are incomplete and JLMPS does not contain the corresponding age. Note that the DHS data do not differentiate between public and private (non-licensed) pre-primary schools, hence, providing no information on the type of institution attended.
18. According to MOE, for the year 2018/19 the GER for KG2 is 62.2 per cent and the NER 61.4 per cent, while the 38 per cent finding in the report is based on DHS data from 2017/18.

Access to pre-primary education varies not only by location but also by nationality of the child (Figure 8). Pre-primary attendance rates of five-years-olds are highest for Jordanian girls (42 per cent) and lowest for Syrian girls (12 per cent). While the GPI is slightly in favour of Jordanian girls, the relative share of five-year-old boys attending pre-primary or primary education is higher among Syrians and other nationalities.

Figure 8:
Pre-primary ANAR by nationality and gender, and gender parity ratio

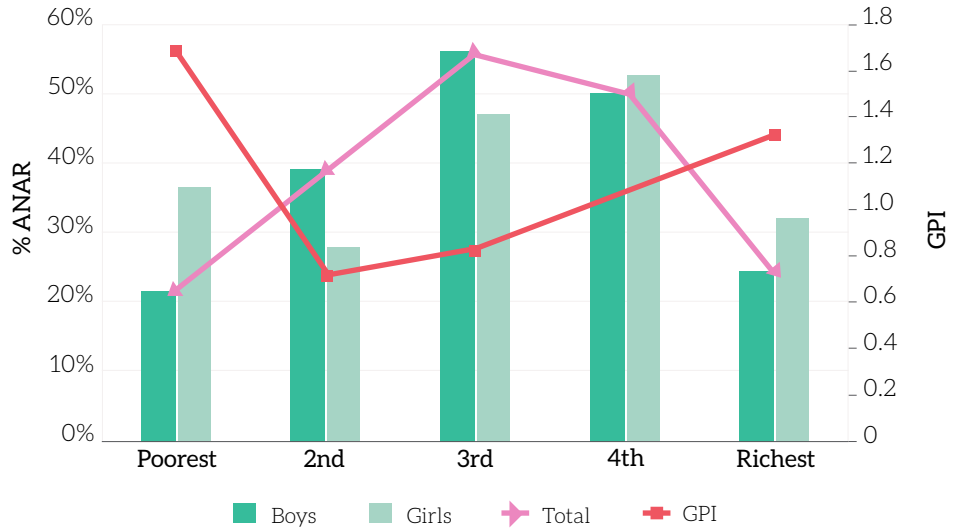


Source: own calculations based on DHS 2017/18.

The economic status of the household, measured by a household-wealth score,[19] shows a non-linear relationship with pre-primary school attendance. The pattern is an inverted U-shape, where the ANAR is highest at the middle of the wealth distribution, and lowest at the bottom and the top (Figure 9). Approximately 56 per cent of children in the middle wealth quintile attend pre-primary school, while the corresponding rate is 22 per cent in the poorest and 25 per cent in the richest quintile. The reasons for not attending pre-primary education for children from poor and rich households are likely to be very different. For poor children, it might simply be a lack of access (no kindergartens nearby) or cost considerations (Merseth, DeStefano, and Shukri, 2018), while for rich children their non-attendance may be a deliberate choice by the caregivers. The fact that so many children from poorer families are not attending pre-primary school is particularly worrying given the importance of pre-school for the future development of children. The GPI favours girls in the bottom quintile and the two top quintiles, but it favours boys in the middle of the wealth distribution.

19. The wealth index is a composite measure of a household's living standard included in the DHS. It includes information on household assets (e.g., television, bicycles), housing constructions materials, and water and sanitation facilities. It is generated with principal component analysis. More information on the wealth index is available at: <https://dhsprogram.com/topics/wealth-index>.

Figure 9:
Pre-primary ANAR by wealth quintile and gender, and gender parity ratio



Source: own calculations based on DHS 2017/18.

It is also important to note that pre-school teaching in Jordan remains a profession reserved for women – there is currently a lack of male nurturing models for young children, which is detrimental to the development both of girls and boys.

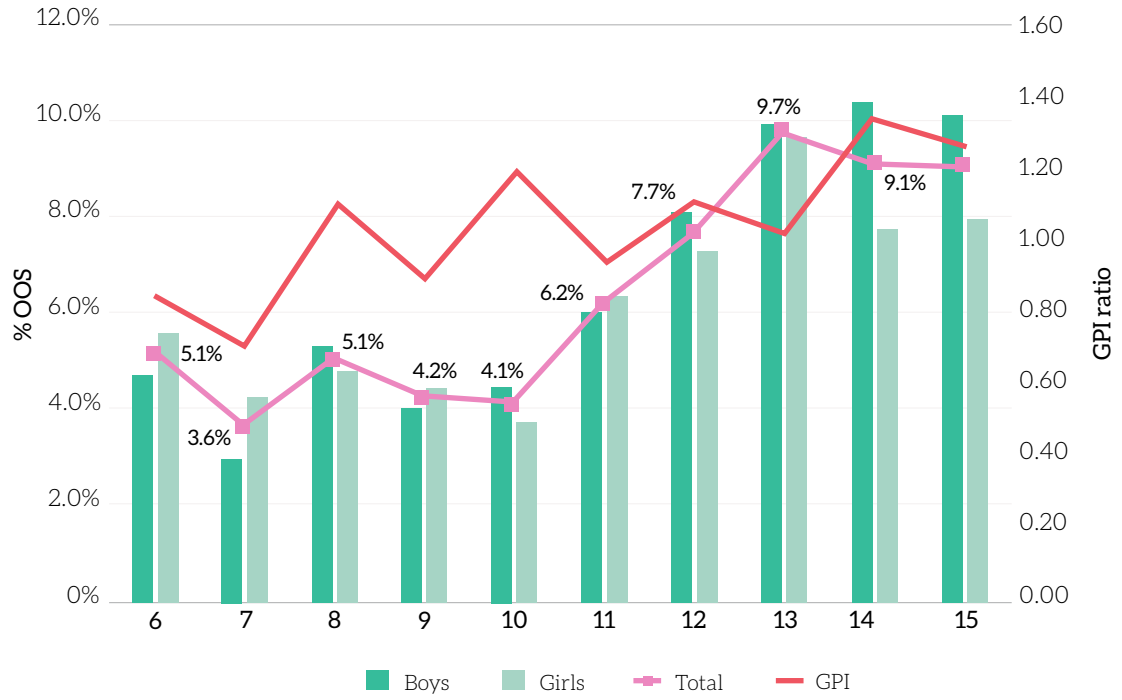
3.3. Dimensions 2 and 3: Out-of-school children in primary and lower secondary school age

According to data from EMIS 2017/18 and DOS population data, out-of-school rates by age and gender (Figure 10) vary between 3.6 per cent for children aged seven and 9.7 per cent for children aged 13. This means these children are neither attending pre-primary, primary nor secondary school (lower or upper).[20] For most of primary school years of age (up to and including age 11), the out-of-school rate hovers around 4 to 6 per cent. At the time when children are supposed to enter the upper grades of basic education (Grades 7–10), which coincide with lower secondary school in the international division, the out-of-school rate increases sharply. Differences between girls and boys vary by age, without showing a particular pattern up to age 11. Starting with age 12, the OOS rate for boys is larger than that for girls and becomes particularly pronounced at age 14. This is also reflected in the GPI, which is consistently in favour of girls after age 11.

3.3.1. Dimension 2: Out-of-school children

20. Children that are out-of-school may have been in school before or may never have entered school at all. In Jordan, the share of children aged 6 to 17 that has never been in school is an estimated 1.6 per cent. This analysis comes later in the report.

Figure 10:
Out-of-school rates by age and gender, and gender parity ratio, 2017/18



Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=OOSBoys)/OOSGirls

aged 6–11

Jordan has made remarkable progress in ensuring access to primary school education for children over the years. Despite welcoming over 660,000 Syrian refugees in 2011, the out-of-school rate for this age group has more or less stayed the same or even decreased since the last OOSCI Country Report (UNICEF MENARO, 2014), depending on the data source used (Table 3).

Based on administrative data from EMIS 2017/18 and DOS population data, 54,751 children aged 6 to 11 were out-of-school in the school year 2017/18, which is 4.7 per cent of the children of this age-group (Table 4). The adjusted net enrolment rate at primary school level was 95.2 per cent. The difference between girls and boys is negligible at the aggregate level with a GPI ratio of 0.939 for the OOS rate.

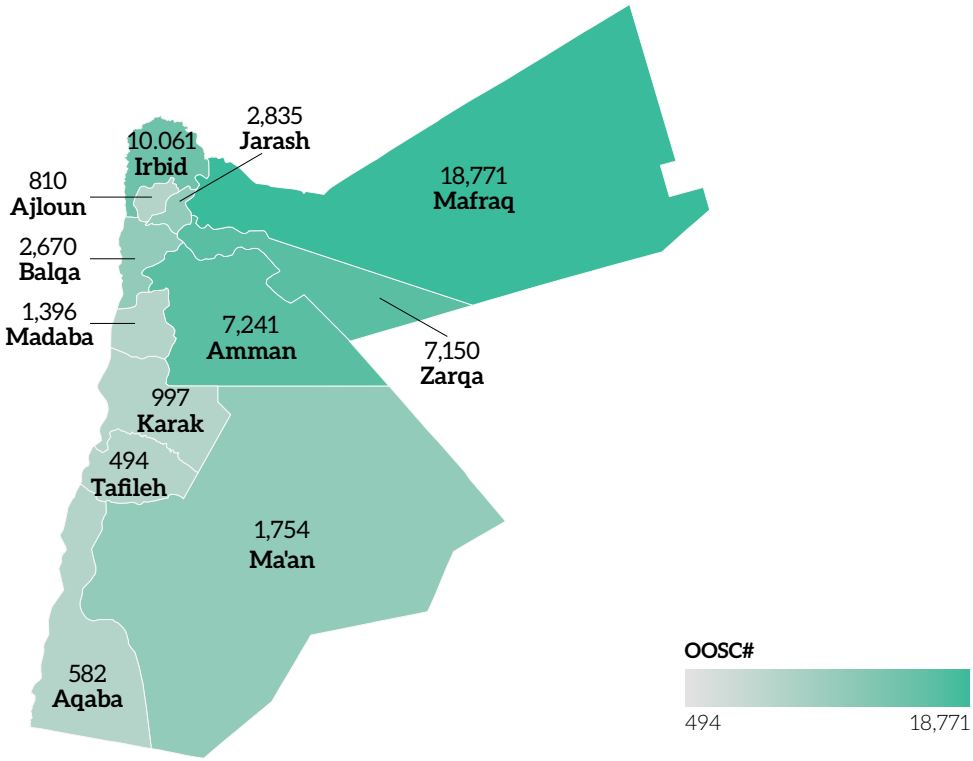
With respect to the nationality of the student, the data shows that the OOS rate is considerably higher for children of non-Jordanian nationality. Syrian children account for the largest number of OOS children. 24,132 Syrian children aged 6 to 11 are not in school, which is one out of five that do not attend. The average OOS rate among other nationalities is also high at 17.5 per cent. The GPI differs considerably. Among Jordanian children, girls have a higher OOS rate than boys. OOS rates are rather similar for girls and boys of Syrian nationality, while among other nationalities, boys are more likely to be OOS.
OOS rates for children aged 6–11 vary, from 19

Table 4:
OOS and GPI for primary school (Grades 1–6; age 6–11), by nationality

	Out of school (%)			Number of out of school			GPI
	Male	Female	Total	Male	Female	Total	OOS
	%	%	%	N	N	N	ratio
Nationality							
Jordanian	1.60%	2.28%	1.93%	7,948	10,984	18,932	0.701
Syrian	19.77%	19.63%	19.70%	12,440	11,692	24,132	0.985
Other nationalities	18.92%	15.99%	17.54%	6,662	5,035	11,697	1.183
Total	**4.54%**	**4.84%**	**4.69%**	**27,050**	**27,711**	**54,761**	**0.939**

Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=OOS%boys)/OOS%girls.

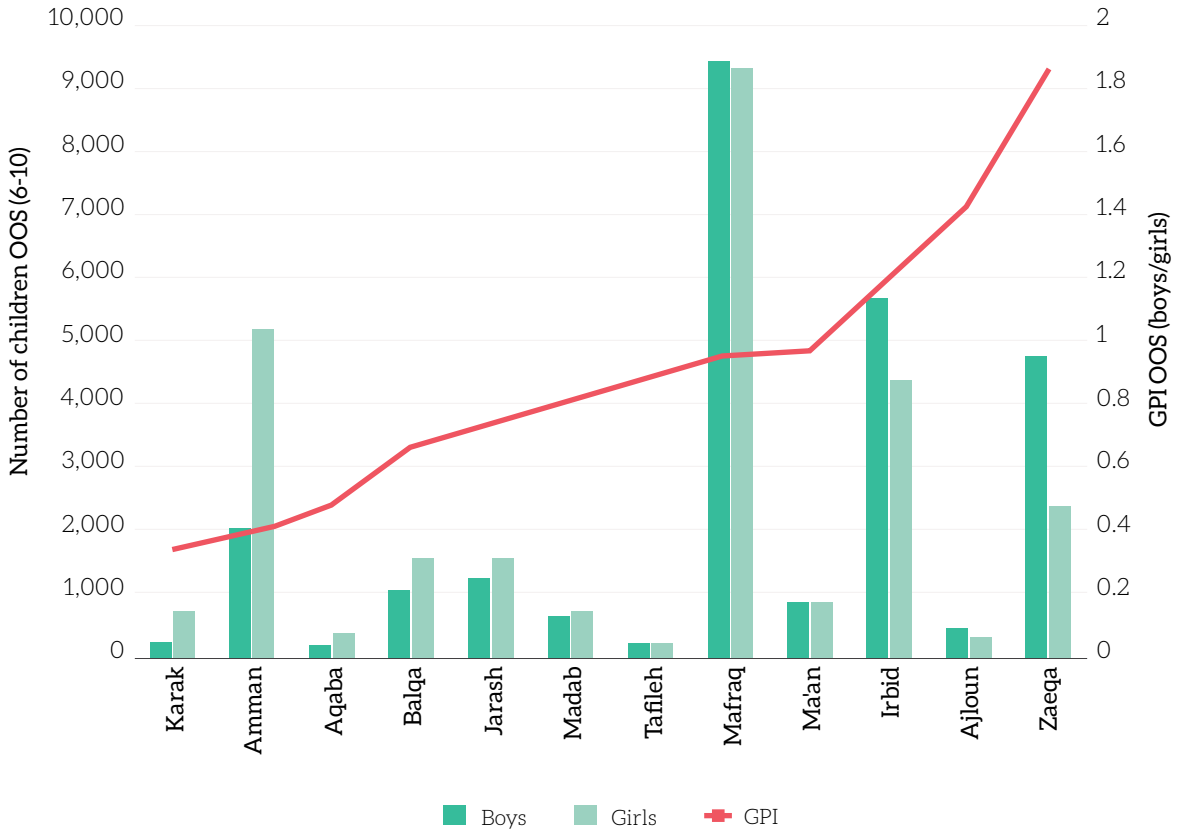
Figure 11:
Dimension 2: OOS absolute number per Governorate



Source: own calculation based on EMIS 2017/18 and DOS population data.

per cent in Mafraq to 1.8 per cent in Amman. Although the number of children out-of-school is very high in Mafraq, there is hardly any difference between boys and girls. In Amman, on the other hand, the OOS rate is considerably higher for girls, which is also reflected by a very low GPI. In Irbid and Zarqa, boys are more likely to be out-of-school than girls. It is worth mentioning that the majority of the Syrian population are located the in the four governorates of Mafraq (24.8 per cent), Amman (29.5 per cent), Zarqa (14.5 per cent), and Irbid (20.6 per cent) (UNHCR, 2020).
Using the DHS data, the outcome variable can be related to household wealth. Even though most

Figure 12:
Number of children (6–11) out of school and GPI, per governorate



Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=OOS%boys)/OOS%girls.

children are in school, the likelihood of already being out-of-school at primary-school age is slightly higher in poorer households. Particularly boys seem to be affected in the poorest wealth quintile (Figure 13). Amongst girls, the association between household wealth and school exclusion does not seem to be linear.

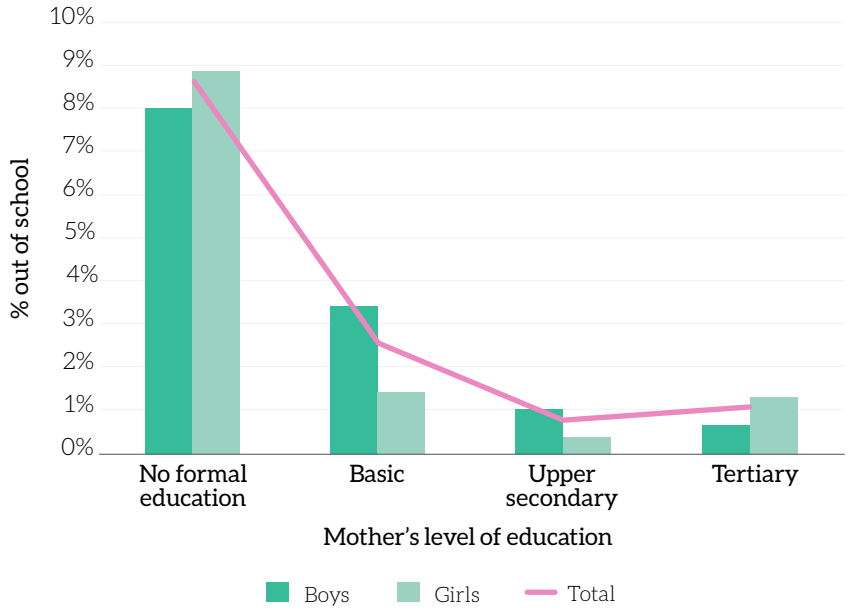
Children whose mother never completed basic education (Grades 1–10) have considerably higher

Figure 13:
Dimension 2: OOS rates by gender and wealth quintile (age 6–11)

Source: own calculations based on DHS 2018

out-of-school rates (Figure 14). This applies to both boys and girls alike. However, educational outcomes for boys seem to be more affected by their mother's education. The share of OOS boys is higher than for girls when the mother that did not continue with secondary education.

Figure 14:
Dimension 2: OOS rates by gender and mother's level of education (age 6–11)



Source: own calculations based on DHS 2018

3.3.2. Dimension 3: Out-of-school children aged 12–15

Access to education for children of lower secondary age has improved since the last evaluation published in 2014. While at that time, out-of-school rates were estimated to exceed 10 per cent, current estimates indicate that OOS rates have dropped to just below 10 per cent (Table 5). Based on data from EMIS 2017/18 and DOS population data, 57,255 children aged 12 to 15 were not in school in the school year 2017/18. This is 9 per cent of the children in this age group. The adjusted net enrolment rate in lower secondary school was 87.5 per cent. OOS rates are higher for boys (9.6 per cent) than for girls (8.1 per cent).

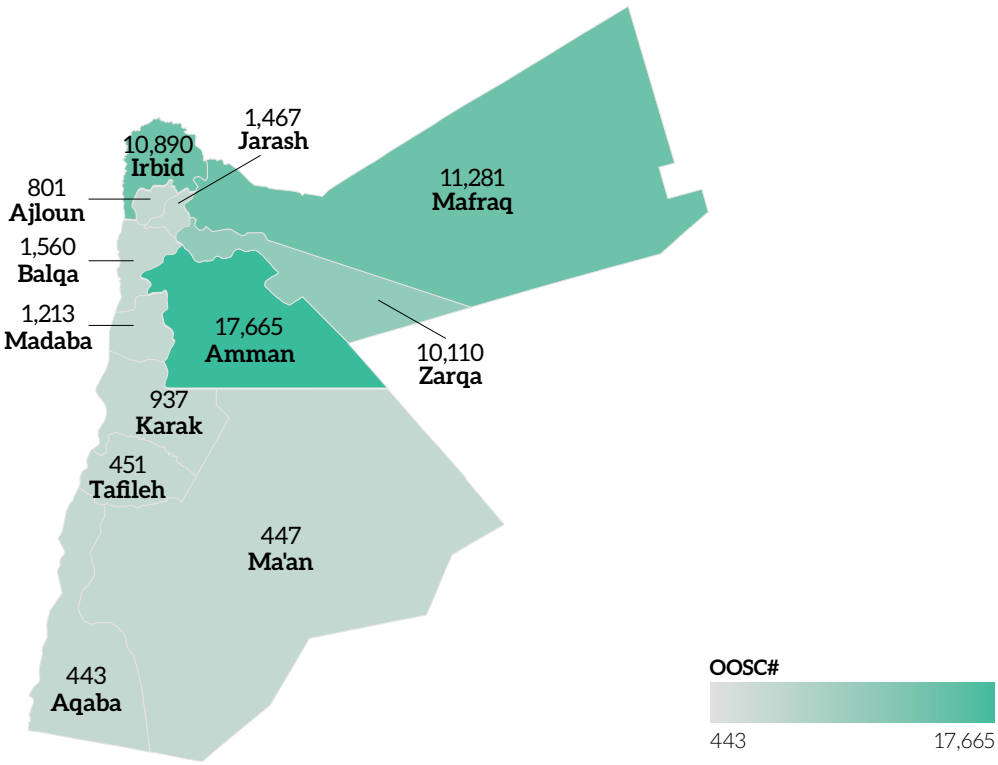
OOS rates are considerably lower for Jordanian children (3.8 per cent) compared to Syrian children (43.2per cent) or children of other nationalities (26.2 per cent). Still, 20,906 Jordanian children of lower secondary school age are not in school, accounting for one third of OOS children in this age-group. Across all nationalities, OOS rates are lower for girls than for boys, resulting in GPI ratios exceeding one in all cases, which means that girls are more likely to be enrolled in school at this age. According to the DHS 2017/18 data, estimates of OOS rates for Syrian children and those of other nationalities are much lower compared to the rates reported in Table 5; less than 5 per cent of children of other nationalities are out of school, but one in four Syrians aged 12 to 15 does not attend any kind of (formal) education. However, it is not possible to say where the discrepancy comes from or which numbers are more likely to be accurate. A pragmatic approach would be to treat the two sets of numbers as upper and lower bounds for non-Jordanian children.

Table 5:
OOS and GPI for lower secondary school (Grades 7–10; age 12–15)

	Out of school (%)			Number of out of school			GPI
	Male	Female	Total	Male	Female	Total	OOS
	%	%	%	N	N	N	ratio
Nationality							
Jordanian	4.07%	3.57%	3.82%	11,344	9,562	20,906	1.141
Syrian	45.31%	40.91%	43.16%	14,230	12,280	26,510	1.107
Other nationalities	30.05%	21.83%	26.17%	5,966	3,873	9,839	1.376
Total	**9.56%**	**8.14%**	**8.87%**	**31,540**	**25,715**	**57,255**	**1.174**

Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=OOS%boys/OOS%girls.

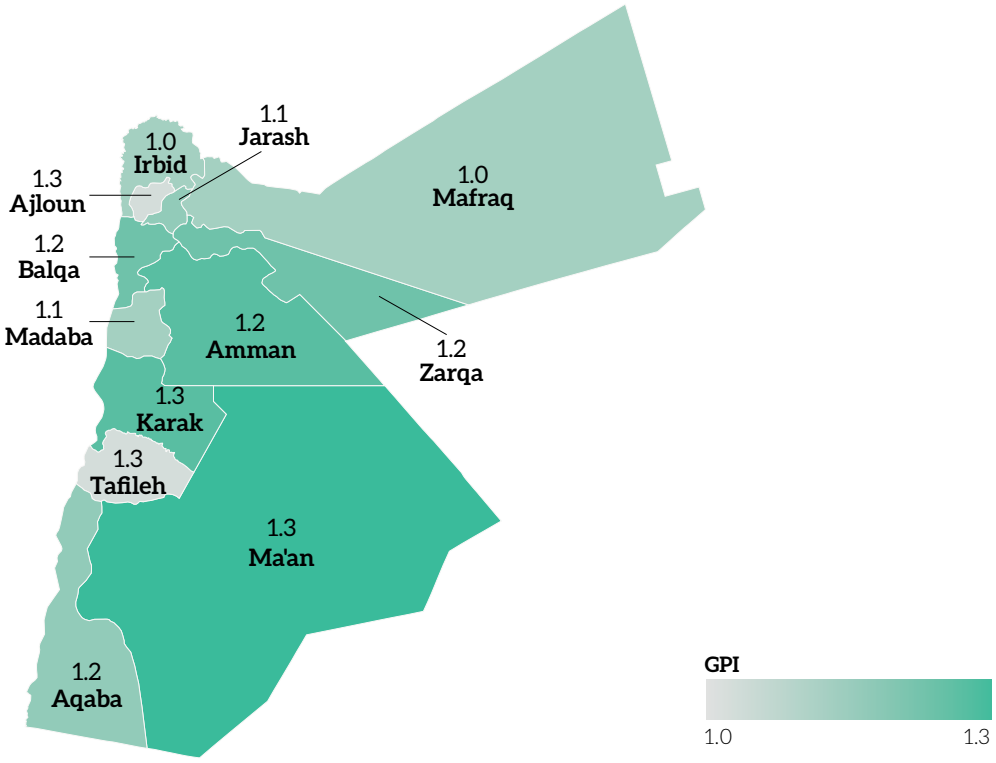
Figure 15:
Dimension 3: Number of children out-of-school, per governorate



Source: own calculation based on EMIS 2017/18 and DOS population data.

At governorate level, ANER results for lower secondary school range from 69 per cent in Mafraq to 93 per cent in Balqa. From a gender-equity perspective it is interesting to note that, in six of the twelve governorates, girls have relatively better outcomes with higher ANERs and lower OOS rates. Girls of lower–secondary school age are at a disadvantage in Balqa, Madaba, Irbid, Mafraq, Karak and Tafilah.

Figure 16:
Lower secondary ANER GPI, per governorate

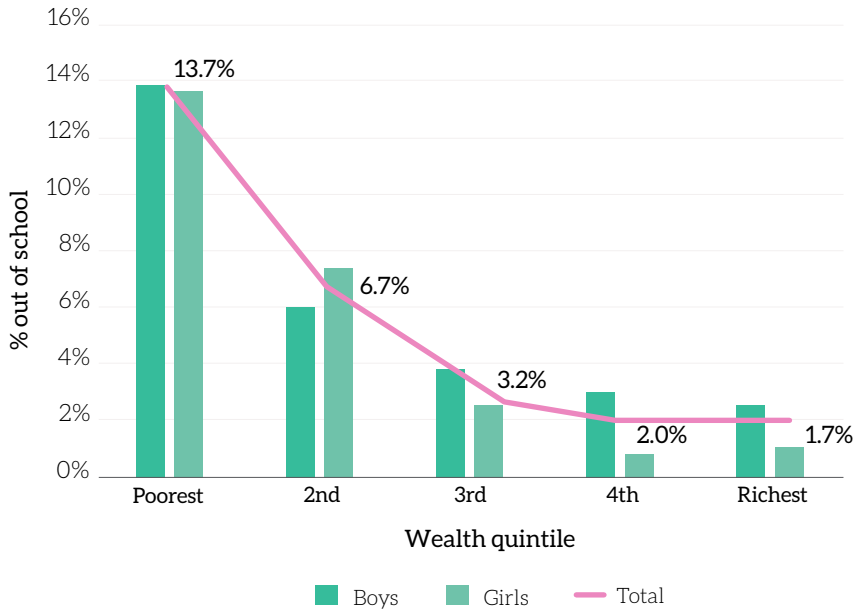


Source: own calculation based on EMIS 2017/18 and DOS population data.

The relationship between household living standards and the likelihood of children attending school is strongly negative at secondary school level. Boys in the poorest quintile have a six-times higher risk of being out of school than boys in the richest quintile. Even higher is the inequality in opportunity for girls. Girls in the bottom quintile have a 13-times higher relative risk of exclusion than girls in the top quintile.

As will be discussed in Chapter 4, the reasons why children are not attending school are very mixed. For children from poor families, the cost of education might be too high even though basic education is free-of-charge (no tuition fees). Some children might also drop out because of the need to earn money and contribute to the household income or to help in the household.

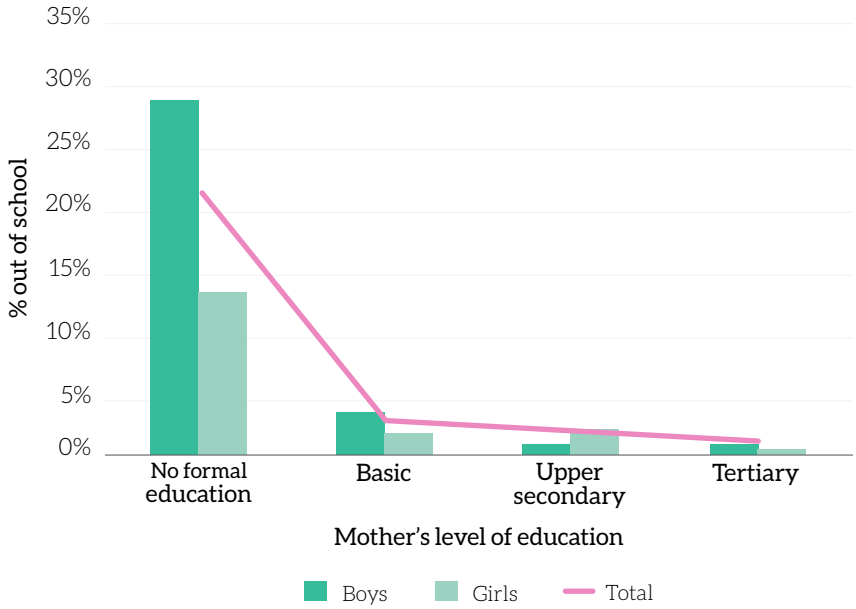
Figure 17:
Dimension 3: OOS rates by gender and wealth quintile (age 12–15)



Source: own calculations based on DHS 2018

With respect to the mother's level of education, the same pattern emerges as with Dimension 2, but at much higher rates. Almost one in three boys is not attending lower secondary school if the mother either never attended school or completed basic education herself. For girls, the risk associated with the mother's level of educational attainment seems to be significantly lower.

Figure 18:
Dimension 3: OOS rates by gender and mother's level of education (age 12–15)



Source: own calculations based on DHS 2018

3.4. Dimensions 4 and 5: Children in primary and lower secondary age at risk of dropping out

While Dimensions 2 and 3 analyze school exclusion once it has occurred, Dimensions 4 and 5 are concerned with children who currently attend education but are at risk of dropping out. Over the years, various OOSCI studies have used different measures of the risk of dropping out. More recent studies have pointed to grade repetition or late school entry as predictors of school dropout and establish that being over-age within a particular grade is also a predictor of dropout. The present similarly identifies children in Dimensions 4 and 5 as those who are at least two years older than the recommended age to start the grade they are attending. This definition is particularly relevant in the Jordanian context, since current regulations do not allow those who are more than three years older than their peers to enrol. Dimension 4 refers to children of primary-school age, while Dimension 5 considers children of lower–secondary school age.

Table 6:
Children at risk of dropping out, 2017/18

	Dimension 4				Dimension 5			
	Boys	Girls	Total	GPI ratio	Boys	Girls	Total	GPI ratio
Nationality								
Jordanian	0.99%	0.77%	0.88%	1.286	2.93%	2.53%	2.73%	1.160
Syrian	11.27%	10.83%	11.09%	1.041	4.25%	4.38%	4.31%	0.970
Other nationalities	0.78%	0.61%	0.70%	1.279	1.34%	0.85%	1.11%	1.574
Governorate								
Amman	1.61%	1.33%	1.48%	1.210	2.00%	2.52%	2.25%	0.796
Balqa	1.64%	1.31%	1.48%	1.254	3.35%	2.16%	2.76%	1.550
Zarqa	2.88%	2.47%	2.68%	1.166	2.74%	2.26%	2.51%	1.213
Madaba	2.07%	1.46%	1.77%	1.415	3.62%	3.66%	3.64%	0.989
Irbid	1.72%	1.54%	1.63%	1.114	3.39%	2.46%	2.93%	1.376
Mafraq	4.11%	4.31%	4.21%	0.955	4.09%	3.13%	3.62%	1.306
Jarash	1.24%	0.69%	0.97%	1.804	3.09%	1.20%	2.15%	2.575
Ajloun	1.04%	0.77%	0.91%	1.351	3.37%	0.90%	2.18%	3.747
Karak	1.89%	1.80%	1.84%	1.050	5.21%	4.43%	4.83%	1.175
Tafilah	1.23%	1.04%	1.14%	1.184	3.41%	2.71%	3.06%	1.261
Ma'an	3.16%	3.34%	3.25%	0.945	6.94%	6.50%	6.72%	1.068
Aqaba	1.76%	1.46%	1.61%	1.204	3.82%	3.39%	3.61%	1.124
Total	**2.06%**	**1.81%**	**1.94%**	**1.138**	**2.96%**	**2.61%**	**2.79%**	**1.135**

Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=boys%/girls%.

The share of children at risk of dropping out of school because they are at least two years over-age for their grade is relatively small both at primary and lower secondary school level (Table 6). Overall, 22,643 children are over-age for their grade in primary school, and 18,004 in lower secondary school. Girls have a slightly lower risk of dropping out than boys. Dimension 4 risk rates are particularly low, except for Syrian children, indicating that most other children start primary school at the appropriate age and do not repeat classes too often. This is also an outcome facilitated by the school system, whereby students automatically pass Grades 1 to 3. From Grade 4 to 12, there are two requirements for successful completion: 1) the test scores, and 2) the attendance percentage. A student passes if she/he met the required percentage of school attendance and scored at least 50 per cent of the total score in each school subject (MOE, 2019d).

The risk rates are slightly higher at lower secondary school level. Syrian children, on the other hand, have a significantly higher risk of dropping out of primary school, given that 11 per cent are over-age for their grade. In lower secondary school, the rates for Syrian children are still above the average, but to a much lesser extent, at 4 per cent.[21] The relatively high percentage of Syrian children at risk is most probably related with their life histories of being refugees and the concomitant interruption, in most cases, of their school careers. The relatively lower rate for Dimension 5 reflects the high share of lower–secondary aged Syrian children that entirely dropped out, or simply did not go back to school after their move to Jordan.

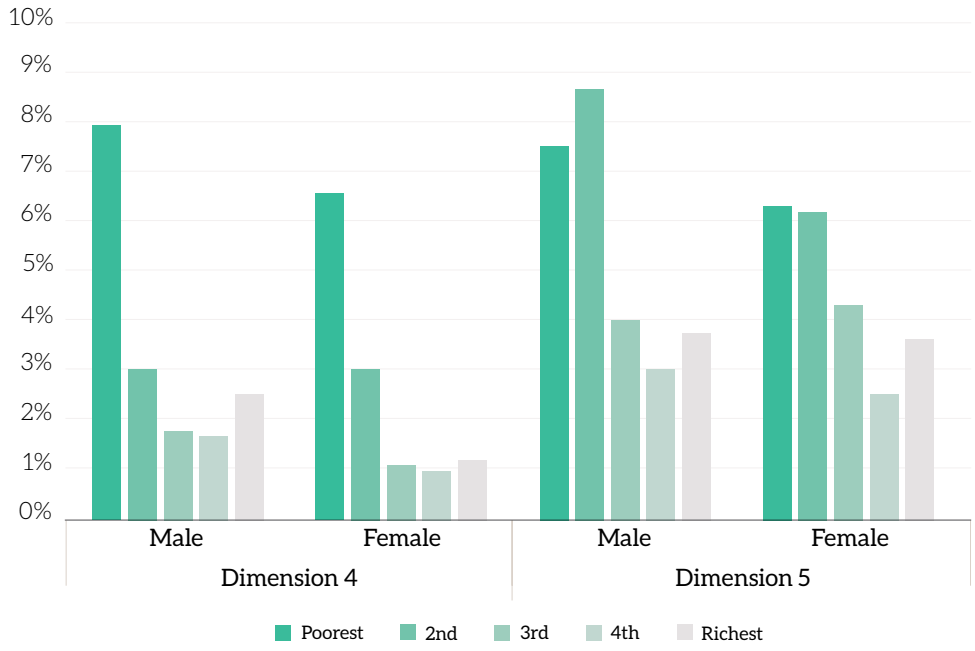
The high percentages of Syrian children not being in school could be a result, in part, of discrimination both in the classroom and on the way to school, or from having unmet psycho-social needs. In combination with financial pressures to work, these may be the reasons why Syrian boys, in particular, leave school early. Moreover, Syrians who missed more than three years of education following displacement are, strictly-speaking, unable to re-enrol in formal education (HRW, 2016; Krafft et al., 2018; Sieverding et al., 2018; Stave et al., 2017).

Differences across governorates are moderate, but Table 6 shows that the risk of dropping out is almost consistently higher in lower secondary school. With respect to Dimension 4, Mafraq has the highest share of children who are over-age for their grade with 4 per cent. It is also one of the two regions where girls have a higher at-risk rate. Ma'an and Karak stand out with respect to Dimension 5. In Ma'an, 7 per cent of lower secondary students are at risk of dropping out, and in Karak the figure is 5 per cent. In most governorates, girls have a lower risk of dropping out at both primary and lower secondary school levels.

21. Note that the rates for Syrians in Dimension 5 are much higher based on the DHS data, with 11 per cent being at risk.

The analysis of the DHS data adds some additional insights. The patterns of school exclusion observed in Dimensions 2 and 3 also hold for Dimensions 4 and 5. Groups that have been found to register high rates of de facto exclusion are also the ones that are at a higher risk of dropping out of school. Gender, nationality and household wealth are the key factors along the lines of which disparities occur. Children belonging to the poorest quintile have the highest risk of dropping out (Figure 19)

Figure 19:
Dimension 4 and 5: children at risk of dropping out by gender and wealth quintile

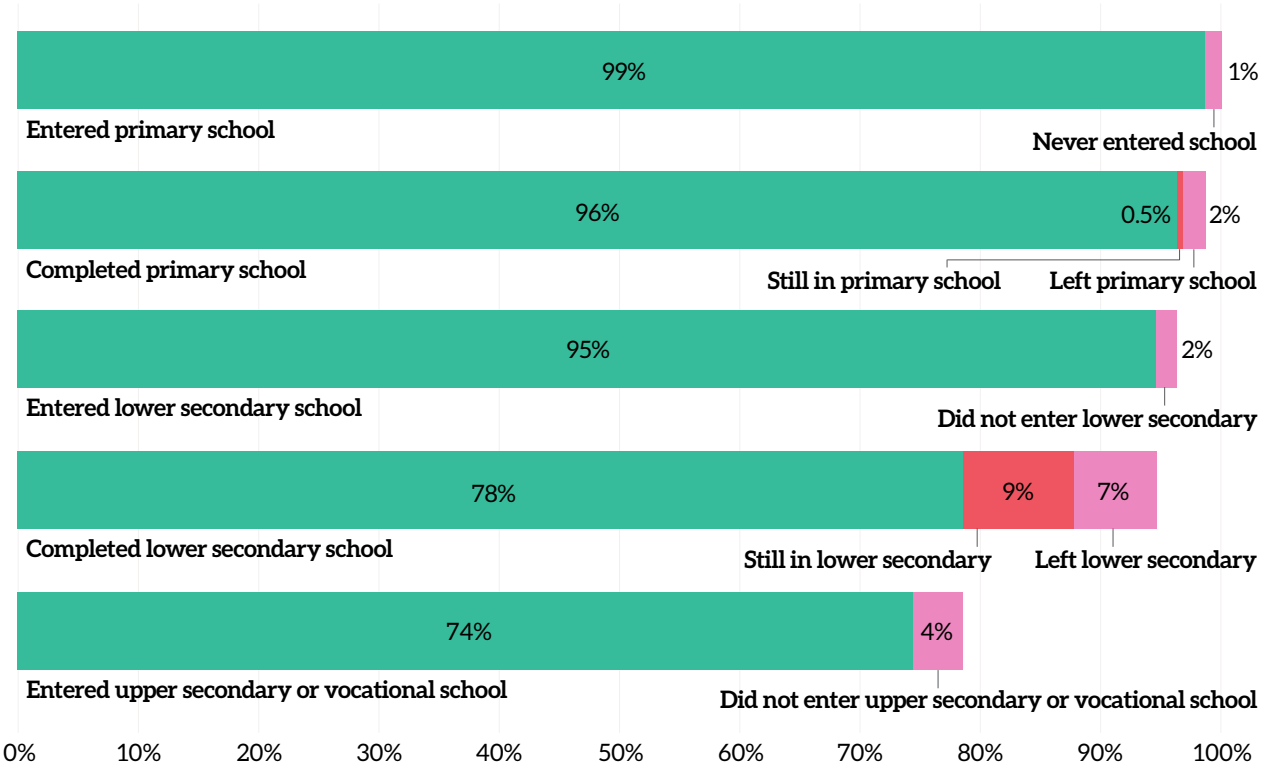


Source: own calculations based on DHS 2018.

3.5. Trajectories through and beyond basic education

While the core OOSCI framework focuses on children up to and including the age of 15, it is worthwhile to extend the analysis to those aged 16–17 in a country such as Jordan with generally high school-enrolment rates. This section uses the DHS data for the analysis of trajectories of children throughout their school careers, within and beyond the basic education system.

Figure 20:
Pathway analysis of children aged 16–17 through the education system

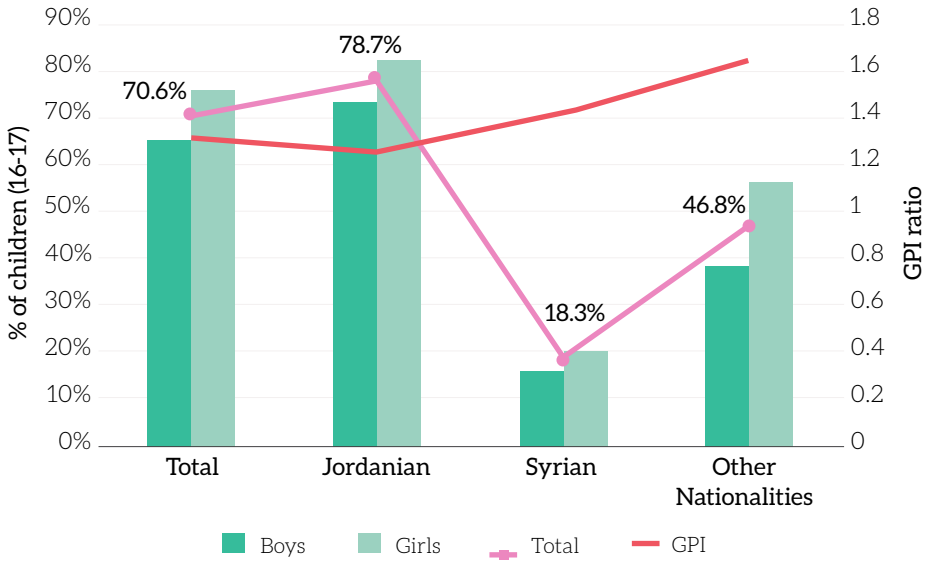


Source: own calculations based on DHS 2018 data. Note: reference population is aged 16 and 17.

Figure 20 presents a 'pathway analysis' for adolescents aged 16 and 17 at the time of the DHS survey. It depicts how, and how many, children transitioned from one stage of education to another. Nearly all children in the reference population have entered primary school (Grades 1–6). Only 1 per cent is estimated never to have gone to school. Out of those who entered school, most have successfully completed six grades of basic education, the equivalent of primary school. A small share of 16–17-year-olds (2.5 per cent) dropped out before completing six grades, and 0.5 per cent is still attending a primary education grade. School dropout and grade repetition become more prevalent during lower secondary school. Nine per cent of 16–17-year-olds were still in lower secondary school at the time of the survey, and 7 per cent dropped out without completing their full 10 years of basic education.

Once children successfully complete basic education, the likelihood that they will transition to upper secondary or vocational school is high – at least for Jordanians. The overall upper secondary NER is 71 per cent, but only 47 per cent of adolescents from other nationalities and 18 per cent of Syrian adolescents aged 16 and 17 were enrolled in upper secondary education in 2017/18. The differences are related to the future opportunities that students may have following secondary education. Children of wealthier households registered higher rates of attendance. The disparity between the poorest and the richest quintile is substantial, with 46 per cent versus 87 per cent net attendance.

Figure 21:
Upper secondary net attendance rate by gender and GPI



Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=girls%/boys%.

Finally, using data from the DHS, we assess school completion rates for lower secondary and upper secondary education. The lower secondary completion rate is defined as the percentage of 18 to 20-year-olds that have completed lower secondary education (10 years of basic education). The upper secondary education completion rate is the share of the 20 to 22-year-olds who completed upper secondary education (either the academic or vocational curriculum).

Table 7:
Lower and upper secondary completion rates by gender and nationality, and GPI

	Boys	Girls	Total	GPI
Lower secondary completion rate (age 18–20)				
Jordanian	89.99%	93.30%	91.57%	1.04
Syrian	42.57%	39.97%	41.21%	0.94
Other	83.66%	73.11%	78.21%	0.87
Total	**86.54%**	**88.10%**	**87.29%**	**1.02**
Upper secondary completion rate (age 20–22)				
Jordanian	49.59%	68.11%	58.28%	1.37
Syrian	20.77%	20.36%	20.55%	0.98
Other	63.23%	47.74%	54.69%	0.76
Total	**48.55%**	**63.12%**	**55.52%**	**1.30**

Source: own calculations based on DHS 2018. GPI=girls%/boys%

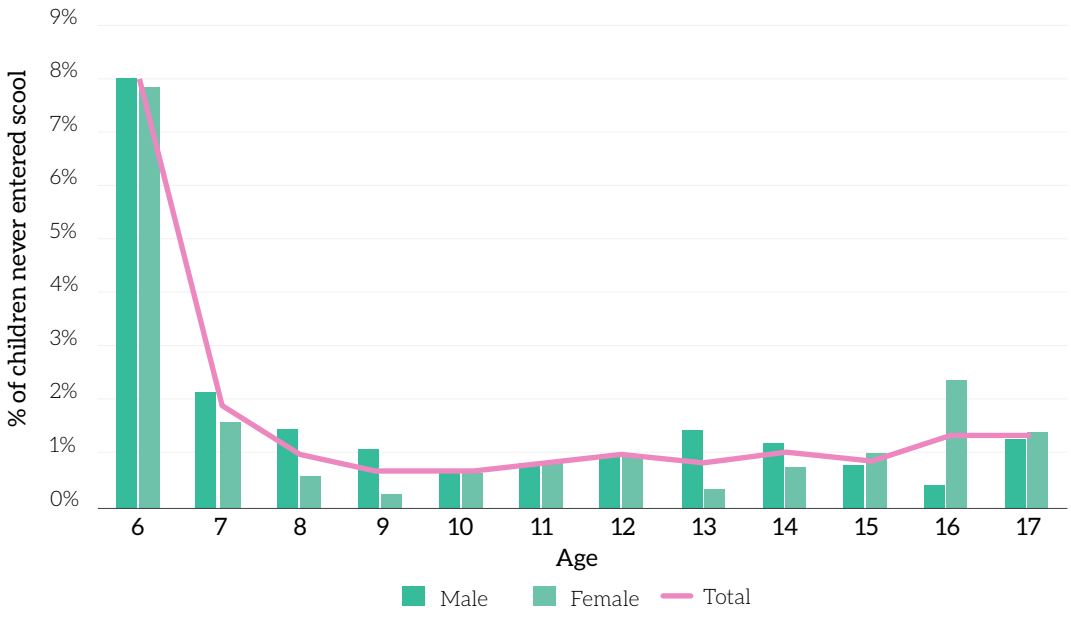
As shown in Table 7, 87 per cent of the population aged 18–20 have completed their full 10-year cycle of basic education in 2018. There are large differences by nationality. While 92 per cent of Jordanians have completed basic education, only 41 per cent of Syrian adolescents aged 18–20 have done so. Attaining an upper secondary degree is still not very common in Jordan. Among those aged 20 to 22 years, only 56 per cent have attained this level of education. The largest share with an upper secondary degree was among Jordanian women (68 per cent), while the lowest was among Syrian women (20 per cent). The gender parity index shows that Jordanian girls are more likely to complete both lower and upper secondary education than boys, but the opposite holds for girls of Syrian and other nationalities.

3.6. Profiles of children at risk of exclusion

3.6.1. Children that never entered school

The Five Dimensions of Exclusion focus on children who, at the time of measurement, are not in school or are at risk of dropping out. Children that are out-of-school may have been in school before or they may never have entered school at all. In Jordan, the share of children aged 6 to 17 that has never been in school is an estimated 1.6 per cent. For children aged 9–15, this is true of less than one per cent. The share is highest for six-year-olds, but not having entered school at this age does not imply that they never will in the future (Figure 22). Overall, boys account for 55 per cent of the children that never entered school. The percentage of children that never entered school is highest for Syrian children with 3.9 per cent versus 1.3 per cent for Jordanian children. Still, Jordanians account for 71 per cent of all children that never entered school. Most of them live in the governorate of Amman (39 per cent). The likelihood of never going to school is highest for children belonging to the poorest wealth quintile, at 3 per cent. The poorest wealth quintile also accounts for 40 per cent of all children that never entered school.

Figure 22:
Children (6–17) that never entered school, by gender

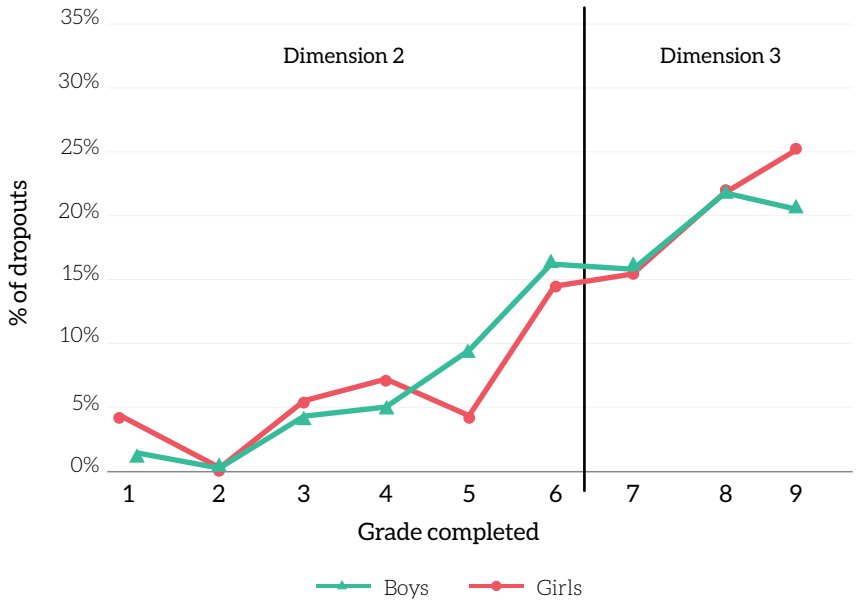


Source: own calculations based on DHS 2017/18.

3.6.2. Patterns of school dropout

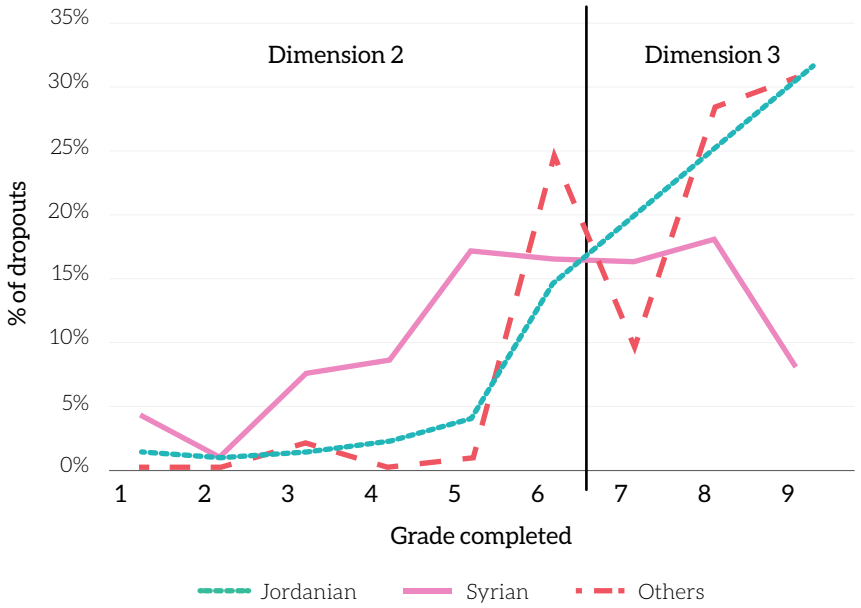
Children drop out of school at different points in their education trajectories. In Jordan, the average 12–20-year-old school-dropout has completed seven years of schooling. While children are unlikely to drop out during the first four years of school, there is a peak in dropout rates after completion of Grade 6 (see Figure 23), and most dropouts leave school just before completing the last grade (after Grade 9). Given that there is no exit exam at the end of basic education, it is unclear why there is a spike in dropout rates after Grade 9. There are some differences between girls and boys, but no consistent trend can be detected. The incidence of Syrian children dropping out before completing Grade 6 is considerably higher than for Jordanian children and children of other nationalities as shown in Figure 24. In fact, less than 4 per cent of Jordanian dropouts left school before finishing Grade 6.

Figure 23:
Highest grade completed by dropouts



Source: own calculations based on JLMPS 2016. Reference population is children/youth aged 12–20 that have entered but dropped out of basic education before completing 10 grades.

Figure 24:
Highest grade completed by dropouts, by nationality



Source: own calculations based on JLMPS 2016. Reference population is children/youth aged 12–20 who have entered but dropped out of basic education before completing 10 grades.

Variations between nationalities, and between girls and boys, persist not only in the timing, but also in the reasons for dropping out. As shown in Table 8, the main reasons stated by Jordanian children and children of other nationalities for dropping out relate to an unwillingness to attend or poor school performance. The underlying reasons for not wanting to attend were not explored in the JLMPS survey. For Syrian children, for whom dropout rates are highest in comparison, violence and insecurity are, in more than half of cases, the main reason for dropping out. This is most probably related to their situation prior to moving to Jordan, but it could also reflect an increased level of insecurity in their current situation. Issues of violence or insecurity are not significant factors in the reasons stated for non-Syrian school dropouts.

In all three groups, gender patterns emerge. A consistently higher share of boys reported having discontinued their education because they had to work, whereas girls are more likely to indicate marriage as a reason for dropping out of school. While early marriage is more prominent among Syrian girls aged 15–19 (Sieverding, Bari, and Abdulrahim, 2018), early marriage is more likely to result in Jordanian girls dropping out of formal education than the same result for Syrian girls. Financial barriers only play a relatively small role for Jordanian dropouts, but not being able to afford school is a reason for school dropout among 8 per cent of Syrian girls and 12 per cent of girls from other nationalities. For boys, financial reasons are less frequently mentioned.

Table 8:
Reason (self-reported) for dropping out before completing basic education, by gender, nationality and location

	Jordanian		Syrian		Other nationalities	
	Girls	Boys	Girls	Boys	Girls	Boys
Dropout rate	5.4%	8.8%	29.3%	38.0%	3.8%	15.0%
Number of dropouts	32,407	55,557	27,853	54,022	4,181	19,436
Could not afford school	5.2%	2.7%	7.9%	3.0%	12.3%	7.6%
Had to work	2.1%	7.5%	1.0%	6.5%	0.0%	22.1%
Got married	15.6%	0.0%	6.6%	0.0%	1.5%	0.0%
Did not want to or did not do well	74.9%	86.2%	26.0%	27.6%	73.9%	62.5%
Violence or insecurity	0.3%	1.9%	56.2%	62.7%	1.1%	0.8%
No access to school	1.3%	0.1%	0%	0.0%	11.0%	0.1%
Other reasons	0.6%	1.5%	2.3%	0.2%	0.3%	7.0%

	Middle Jordan	South Jordan	North Jordan
Could not afford school	5.1%	4.0%	1.9%
Had to work	4.0%	9.2%	4.6%
Got married	4.9%	5.8%	0.3%
Did not want to or did not do well	71.3%	59.1%	90.9%
Violence or insecurity	11.8%	19.8%	0.0%
No access to school	5.1%	9.9%	6.5%
Other reasons	1.7%	1.1%	2.0%

Source: own calculations using JLMPS 2016 data. Reference population is those aged 12–20 who have entered basic education but dropped out before completing 10 grades. The differences among nationalities and geographic locations are statistically significant.

Reasons for school dropout also differ by geographic location. For instance, financial reasons only contribute 1.9 per cent of overall school dropouts in the Northern region, but to more than 5 per cent in the South. Violence and insecurity seem to be important drivers of early school dropout in the Centre and South. Almost all (99.5 per cent) of those who reported having dropped out due to violence or insecurity in the 2016 survey had attended basic education outside of Jordan.

3.6.3. Factors related to the risk of dropping out before completing basic education

The incidence of school drop-out before completing Grade 6 is relatively low in Jordan (2.4 per cent of the 12–20-year-old population), but it increases once students have completed Grade 6. Previous literature has highlighted disparities in access to education between Jordanian and refugee populations (Krafft et al, 2018; Stave and Hillesund, 2017; Nimeh and Bauchmüller, 2009 and 2014). According to Tiltnes and Zhang (2013), children residing in refugee camps may face socio-economic obstacles to remaining in school throughout basic education or to receiving the same quality of education as their Jordanian peers. Socio-economic conditions, such as financial barriers, domestic duties and a lack of school engagement are the primary drivers of Palestinians

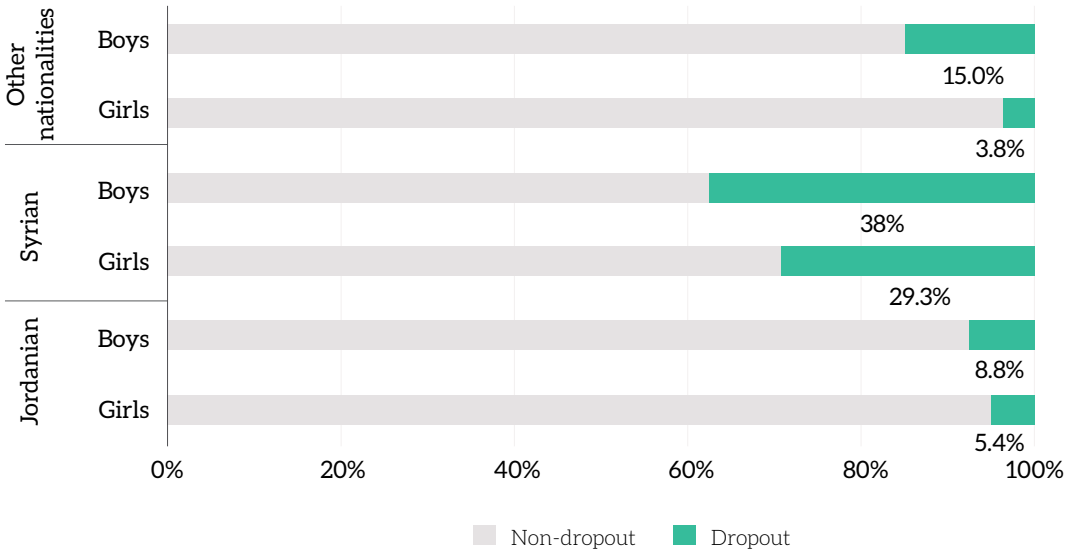
dropping out. On the supply side, large class sizes, low quality of teaching, and the double-shift system in UNRWA schools further aggravate the situation (Tiltnes and Zhang, 2013).

In 2015/16, Syrian children in Jordan registered the highest dropout rates: almost 40 per cent of Syrian boys and one out of three girls aged between 12 and 20 dropped out of school before completing 10 grades (Figure 25). Meanwhile, the corresponding rate for Jordanians is approximately four times lower for both sexes. Other nationalities, predominantly Palestinians and Egyptians, also have large discrepancies between girls and boys: while only 4 per cent of the girls leave education early, the same is true for almost 15 per cent of boys.

A combination of factors contributes to the poor quality of teaching and learning, and therefore increases the likelihood that students will not learn and/or will not engage in school. These include, but are not limited to: teacher-led and textbook-oriented teaching; limited use of assessment methods to support student learning; financing showing little evidence of the purchase of learning/teaching materials; and insufficient monitoring and support of teaching and learning quality by principals and supervisors (AECOM and PROMAN, 2019).

Gender and nationality are only two of the potential factors that are related to school dropout. Using the JLMPS data, we analyze what other child characteristics are related to the risk of dropping out of school. Factors that are likely to affect the probability of school dropout are individual student characteristics, household and parent characteristics, and supply-side factors. Individual characteristics include the age of the child at the time of the survey, their gender, nationality, the presence of a permanent disability or chronic illness, whether the individual has been working, whether she

Figure 25:
Prevalence of dropout by gender and nationality



Source: own calculations based on JLMPS 2016. Reference population is children/youth aged between 12 and 20 who have entered but dropped out of basic education before completing 10 grades.

is married, the birth order among siblings, and previous grade repetition. Household and parent characteristics include the work status and health of the household head, the presence of parents in the household, mother's and father's school attainment, household wealth, household size and the place of residence. With respect to supply-side factors, we include questions of whether the basic school operated double-shifts and whether physical punishment was used.

Figure 26 summarizes the key findings.[22] Each column represents a specific group of children (aged 12–20). Every row is a key factor which is either positively or negatively associated with the risk of dropping out of school. Depending on the population group, a certain factor can be more or less important in predicting the likelihood of school dropout. Red indicates an increased probability that this factor leads to school dropout, while green indicates a lower risk for school dropout. The number of + and – indicates the strength of the association. A yellow cell marked with o means that there is neither a positive nor a negative connection. A blank cell means that this factor was not included.

Individual characteristics which increase the likelihood of school dropout are age, being a boy, and being of Syrian nationality, thereby confirming the analysis in the previous sections. Syrian children have a considerably higher risk of being excluded from education. However, it does mean that the Jordanian system failed to reintegrate them into education. Previous grade repetition, on the other hand, is associated with a lower risk of leaving school early. Grade repetition could indicate an overall higher level of school engagement. For

Figure 26:
Factors associated with the likelihood of dropping out of basic education

Population / Factor	All	Female	Male	Jordan	Non-Jordan
Age	+++	++	+++	+++	+++
Male	+++			+++	++
Syrian	+++	++	+++		+++
Repeated grade	---	---	---	---	---
Mother absent	++	+	o	++	o
Mother illiterate	++	o	+	o	++
Father illiterate	++	+++	o	++	+
Father can read/write	+++	+++	+++	++	+++
Father basic education	+++	o	+++	++	+++
Household size	+++	+++	++	++	+++
1st quintile	+++	+++	+	+++	o
2nd quintile	+	++	o	+++	o
Rural area	---	o	---	---	o

Source: own calculations based on JLMPS 2016. Reference population is children/youth aged between 12 and 20. Based on logit models. Dropout defined as having entered school at some point; not in attendance in the current year; have not completed 10 years basic education.

22. For the description of the methodology and the full results, see Appendix 4. Profiles of children at risk. Figure 26 only includes the most significant factors.

the non-Jordanian group, having repeated a grade decreases the likelihood of school dropout by 20 per cent compared to those that never repeated a grade. Age is an interesting factor. Given that we only include children aged 12–20, the age metric rather reflects the different durations of time that have passed since the end of their basic education. Younger children who have passed basic-education age only recently can be understood as being less likely to drop out of school than respondents who were older at the time of the survey.

With respect to household characteristics, the absence of the mother increases the risk of school dropout by 12 per cent compared to otherwise similar children. Single parenting or unstable relationships within the family are factors increasing the risk of dropout (De Witte et al., 2013). Low educational attainment of parents increases the likelihood of a child dropping out before completing the 10-year school cycle. These parents may have different aspirations for their children and may have different expectations regarding the returns from education. Children growing up in a household with low human capital are likely to be disadvantaged in their school career (Bordieu and Passeron, 1977). It is interesting to note that levels of parent's educational attainment affect boys and girls differently. Having an illiterate mother (versus having a mother with post-secondary education) has no measurable effect on girls' dropout risk, but it increases the risk for boys. Having an illiterate father produces the opposite effect. Overall, fathers' educational levels matter more than the educational levels of mothers for both girls and boys. Having a father with a secondary education, or higher, significantly decreases the likelihood of school dropout.

Household size and wealth are important factors in explaining school dropout. The larger the household, the higher is the likelihood that a child will drop out of school. This could be an indication of limited household resources or even of the need to leave school and contribute to the household income. For girls, it can also mean that they have extra household duties or need to care for younger siblings. Birth order does not seem to be a significant factor for girls, but it is significant for boys. Being the third child and beyond increases the probability of school dropout by 5 per cent for boys compared to the firstborn child.

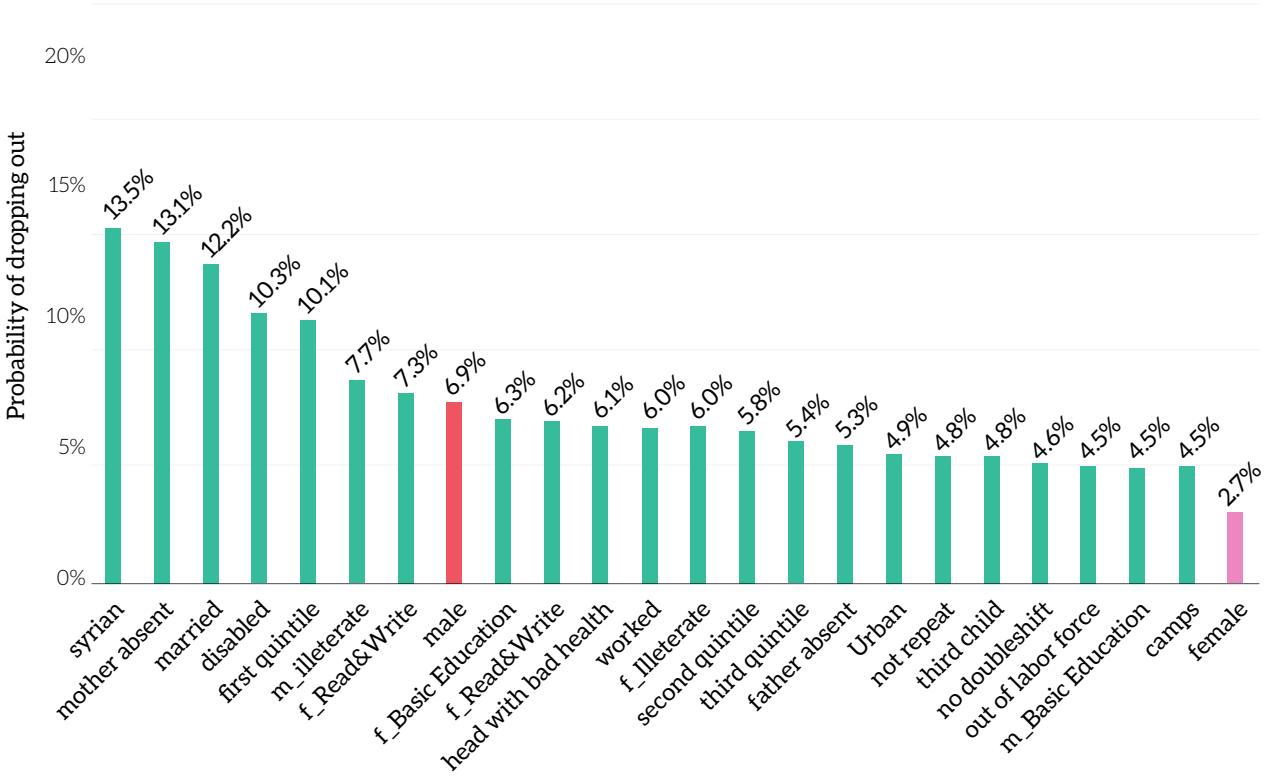
Children belonging to the poorest quintile are about 10 per cent more likely to drop out of school than similar children from the richest quintile. The analysis of the Five Dimensions of Exclusion above confirms this relationship between the household's economic situation and educational attainment. The disadvantage of children in poor households shows as early as pre-primary school: the analysis of Dimension 1 has shown that children in the lowest wealth quintile had the lowest ANARs. Across Dimensions 2 and 3, children in the first and second quintiles registered substantially higher out-of-school rates than those of the middle and upper quintiles. Moreover, children in the poorest quintile are twice as likely to be over-age for their grade than those in the second poorest quintile, and up to four times as likely to be over-age for their grade than those in the richest quintile.

Finally, children living in rural areas are 6 per cent less likely to drop out of school compared to children living urban areas. This resonates with the findings in the previous sections, where urban areas registered higher rates of OOS children than rural areas. This may be explained by the fact that urban areas offer more economic opportunities compared to rural areas, particularly for boys, to engage in work. It is interesting to note that for non-Jordanian children, household wealth and location are not factors for school dropout; nor does it seem to matter if a child is living in a camp. However, living in a community with a school that operates double-shifts reduces the likelihood that non-Jordanian children drop out of school by 11 per cent compared to communities without double-shift schools.

3.6.4. Profiles of children at risk of dropping out before completing basic education

Figure 27 ranks the biggest risk factors for school dropout. The interpretation is as follows: an average Syrian child has a 13.5 per cent risk of dropping out of school before completing basic education. The figure further shows that the absence of the mother, being married, being disabled, belonging to the poorest quintile, having an illiterate mother or having a father as the only family member who can read and write are the largest risk factors.

Figure 27:
Probability of school dropout by risk factor

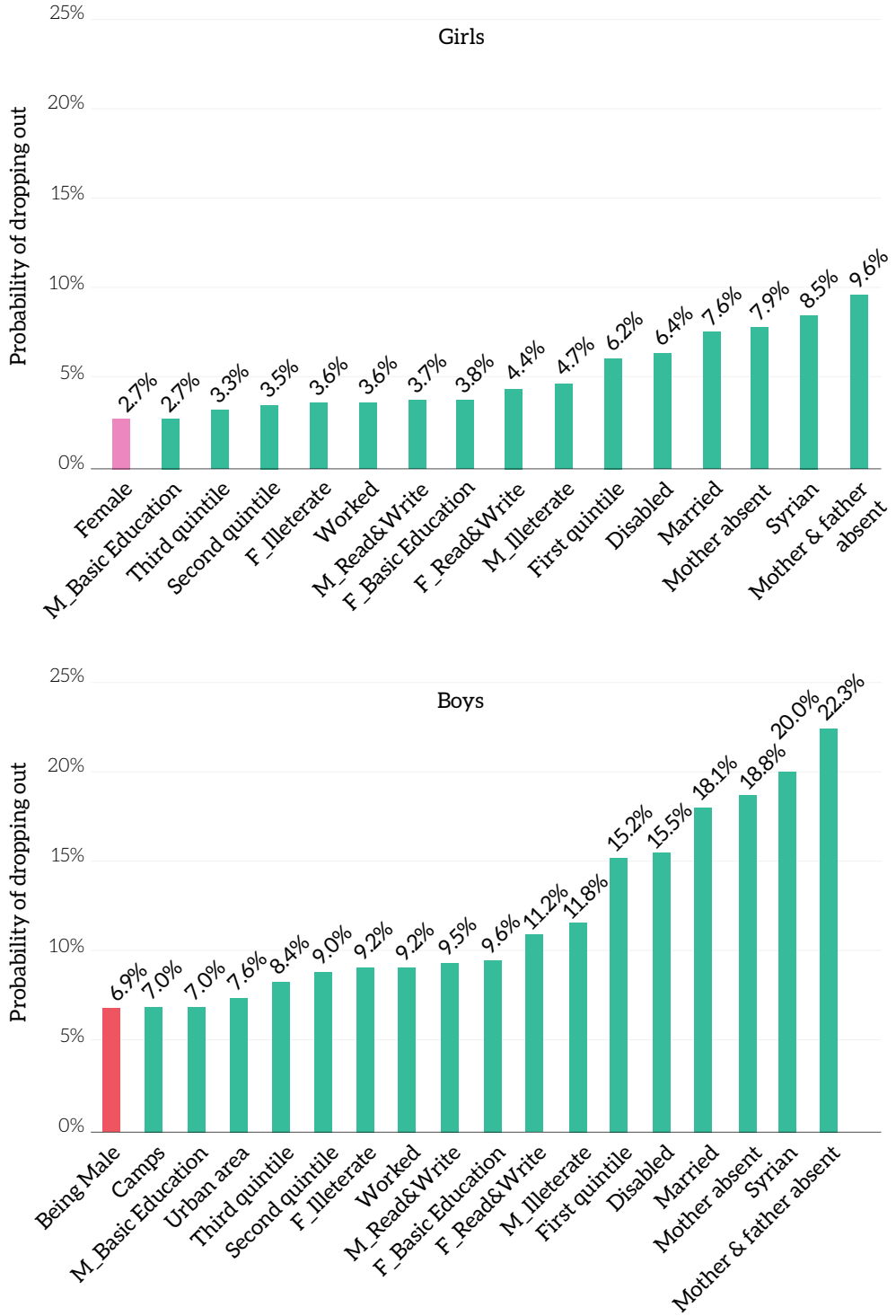


Source: own calculations based on JLMPS 2016. Reference population is children/youth aged between 12 and 20. Based on logit models. Dropout defined as having entered school at some point; not in attendance in the current year; have not completed 10 years basic education.

What then are the largest risk factors for boys and girls?

Figure 28 compares individual factors for boys and girls separately. Being a girl means a 2.7 per cent chance of dropping out before completing basic education. For boys, this is 6.9 per cent. The additional factors in combination with each gender are ranked from lowest to highest. A Syrian girl, for example, has an 8.5 per cent risk of dropping out. If both mother and father are absent, the risk is close to 10 per cent.
Figure 28 shows immediately that the risk for boys is higher. The risk of not completing basic education for a Syrian boy is 20 per cent, which is more than twice the risk of girl in otherwise similar circumstances.

Figure 28:
Risk factors for school dropout, by gender



Source: own calculations based on JLMPS 2016. Reference population is children/youth aged between 12 and 20. Based on logit models. Dropout defined as having entered school at some point; not in attendance in the current year; have not completed 10 years basic education.

The analysis so far has considered each factor separately or in combination with the gender of the child. Figure 29 goes a step further and combines different factors to predict the likelihood of dropping out before completing basic education. Given the importance of gender and nationality, we take these factors as starting points and subsequently add other characteristics that have proven to be strongly associated with school dropout. While being a boy by itself already increases the likelihood of dropping out to 6 per cent, if this boy lives in a poor household (poorest quintile), the probability that he drops out increases further. If this boy also lives in an urban area, the chance that he drops out before completing basic education is one in five. Another household-level factor in this context is having a head of household with chronic health problems. This is only significant in the model for boys and increases their likelihood of dropout by 11 per cent compared to boys living in a household with a healthy head of household. It seems that in the absence of a healthy head of household, boys are expected to step in and contribute to the family livelihood.

The relationship between poverty and school dropout is well established in the literature (Brooks-Gunn and Duncan 1997; Le Compte and Dworking, 1991). The effect of poverty is visible in physical health, cognitive abilities, school achievement, and the emotional and behavioural performance of poor children (Brooks-Gunn and Duncan 1997). Even if the direct costs of schooling, such as school fees or books are disregarded, there are indirect costs of education, which can be prohibitive for poor households. For instance, the time spent in school, particularly for older students, limits the opportunities they might otherwise have to engage in income earning activities. Poverty is also interrelated with supply-side factors, since neighbourhoods with high rates of poverty often have lower quality or less accessible education. Lack of transportation and proper health care can further affect children from poor families who, consequently, are more vulnerable to missing days at school (Le Compte and Dworkin, 1991; Fallon and Tzannatos, 1998).

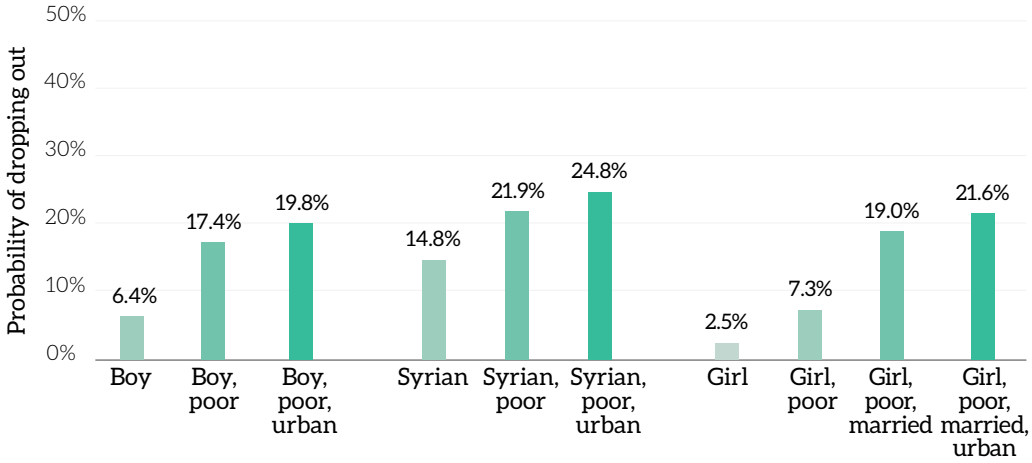
The analysis throughout this report has shown that Syrian children have a considerably higher risk of being excluded from education school because their educational pathway was disrupted by the outbreak of war (Krafft et al., 2018). Just being of Syrian nationality increases the likelihood of school dropout to 15 per cent. If the child is a boy, the probability increases even further, and if this Syrian boy also lives in an urban area, the probability that he does not complete basic education is 25 per cent.

Migration has been linked to school dropout (Gasper, DeLuca and Estacion, 2012). Students who change their residential location for any reason are more likely to drop out as they may miss the old social ties in the new school. In the new location, parents are less likely to know the teachers and the parents of other students. Hence, they do not have the social capital needed to get into the cultural and educational system of the new school. This loss of social capital, coupled with trauma of war and violence, and different levels of access to public goods, may explain Syrian children's higher likelihood of not completing basic education once they moved to Jordan.

Girls have slightly different risks as the analysis of the reasons for school dropout has also shown.

- Being a girl in itself carries a lower risk of school dropout compared to being a boy.
- Although living in a poor household increases the risk of not completing school for girls, it is still considerably lower than for a boy in similar circumstances.
- But once a girl marries, the likelihood that she drops out increases to 19 per cent.
- As with boys, living in an urban area further contributes to the risk of leaving school before graduation.

Figure 29:
Cumulative risk factors for school dropout



Source: own calculations based on JLMPS 2016. Reference population is children/youth aged between 12 and 20. Predicted probability of school dropout estimated with prvalue after logit model for all. Dropout defined as having entered school at some point; not in attendance in the current year; have not completed 10 years basic education.

Summary and policy implications

The analysis in this chapter has shown that access to education is not universal despite being compulsory for children 6–15 years old. As children reach lower-secondary age (from age 12) and transition to higher grades, enrolment rates start to drop, and the magnitude of school exclusion consequently rises. A key finding of this chapter is that there is rarely only one determinant leading to school dropout. Different groups of children follow different trajectories based on the experiences and specific vulnerabilities they face.

School dropout remains a challenge in Jordan. Gender, nationality, and age matter, but the extent of the problem differs from one area to another, as do the underlying reasons. Jordanian children tend to leave school during the last years of basic education, with the highest share of dropouts having completed 9 out of 10 grades. For this group, disengagement with education seems to be a key factor: in the JLMPS survey, nearly all dropouts reported a lack of interest or bad performance as the reason for their decision to stop attending school. Kattab (2015) finds that school aspirations and perceptions of the future are also related to school disengagement. Overcrowding, a lack of teacher commitment, violence in and on the way to school are frequently cited as factors affecting the quality of education (see also Stave et al., 2017) which, in turn, may negatively affect the interest and performance of students and eventually lead to their dropping out of formal education.

Policy responses targeted at Jordanian children should prioritize the prevention of school dropout, paying particular attention to adolescent boys in urban areas. As Burrus and Robert (2012) put it, school dropout is not a single event but rather a process, and "students exhibit identifiable warning signs at least one to three years before they drop out". Household composition can be used to identify children at risk of dropping out. Children whose mother does not live in

the same household face a higher likelihood of dropping out. Larger households and those who fare worse economically are more likely to have children leaving school before the completion of basic education. Most Jordanian children reported factors of disengagement and a lack of interest as the reason of dropping out. Low school performance may foreshadow dropout, and education providers should look out for those with weaker grades or a lack of engagement, a problem which is particularly acute when classes are overcrowded.

While prevention measures may reduce OOS rates for Jordanians, Syrian children face different challenges. Violence and insecurity have disrupted the educational career of these children, putting school-age Syrian refugees at risk of becoming a "lost generation" (Deane, 2016). A previous analysis of refugees' well-being found that Syrian children whose education was disrupted by the war are unlikely to return to school in Jordan (Krafft et al., 2018; Salemi et al., 2018). Though this may have since changed, the analysis in this report found that the majority of Syrian children that dropped out of school reported having discontinued education due to violence or insecurity (Table 8).

In order to reintegrate these children into the education system and to avoid the long-term negative consequences associated with human capital losses, efforts should be inclusive of those who have dropped out at early stages of their education, or those who are more than three years older than the official grade age. Syrians not only have higher dropout rates, they have also completed fewer grades. As Figure 24 has shown, most Jordanian dropouts leave school in the last academic year, while the highest average grade completed by a Syrian student who has dropped out of school is substantially lower. Education programmes should also ensure that neither girls nor boys are left behind – data from 2016 show that Syrian boys were in the most disadvantaged position in terms of exclusion from education.

Chapter 4

The returns and costs of education

"If you get your child educated when they are younger, you will establish a good base for their learning. If they miss it, it only makes things harder for the child,"

Father of Sham, 8 years, who missed years of education because of conflict in Syria.

©UNICEF/Saman

- Labour market participation in Jordan is low, with 56 per cent of men and only 10 per cent of women aged 16 and older being actively engaged.

- Many workers in Jordan are employed in positions that require lower levels of education than those which have been attained.

- An additional year of education translates to a 4 per cent increase in earnings for the average Jordanian worker, which is low in international comparisons (globally, the average return from education is estimated at 9 per cent).

- The returns are higher for Jordanians and for women (if they work). For Syrians, an additional year of schooling does not translate into higher wages. This is related to restrictions on entry of non-Jordanians to the formal job market.

- In 2017, 3.7 per cent of GDP was directed to education, which is comparable to global averages.

- School dropout before the completion of basic education (Grade 10) is costly for both the individual and society. Over a lifetime, workers who did not complete basic education earn 13 per cent less compared to those who completed basic education. This represents an estimated JOD 2.74 billion lost to Jordan in the present value of lifetime earnings. The estimated economic loss due to school dropout before Grade 10 is the equivalent of 9.6 per cent of 2017 GDP (i.e., JOD 28.5 billion).

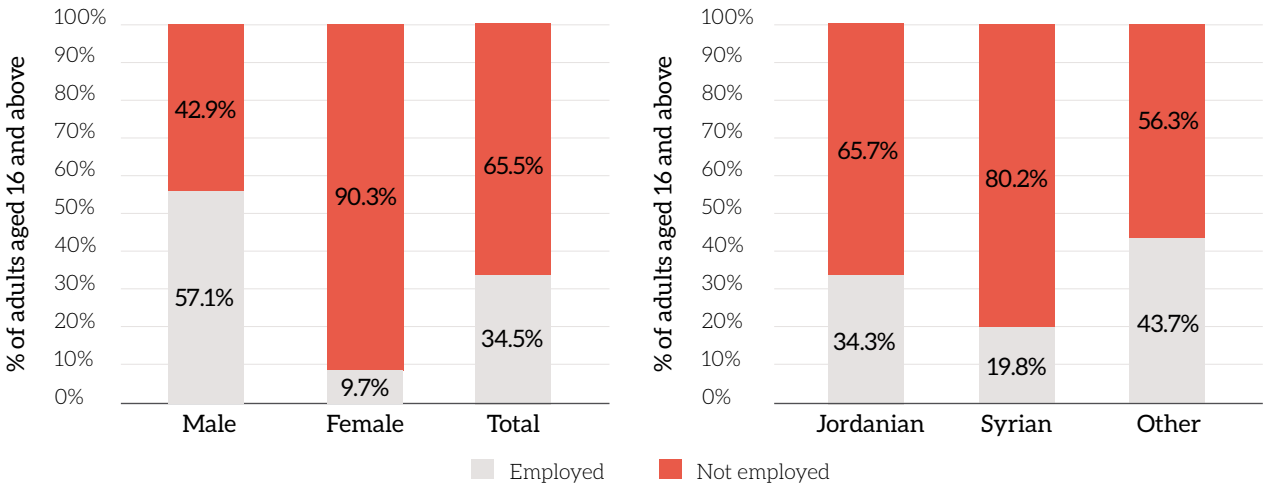
Contemporary economic theory emphasizes the role of human capital investments to secure countries on the path of sustained and inclusive growth (Szirmai, 2012; Weil, 2013). There is a wide body of literature on how human capital contributes to future wealth and well-being. Investments in education and training generate returns in terms of labour market outcomes. At the individual level, the relationship between education and earnings (or income premiums) is well established in the literature. Higher educated people have access to more diverse, secure, and better paying jobs. Societies also benefit from investments in education and training, through the reduction of poverty, inequality, and the positive effects on democratization, human rights and political stability (McMahon 2000).

This chapter analyzes the benefits and costs of education in Jordan. For this purpose, we first estimate individual returns from education using data from the JLMPS 2016. The chapter then analyzes education expenditure in Jordan, looking at both aggregate trends and the costs of educating a child at different levels. Itemized budgets provided by the Ministry of Finance and the Ministry of Education are used for this exercise, at points complemented by publicly available data from financial institutions that allow for international comparisons.

4.1. The Jordanian labour market and education system: challenges and opportunities

Human capital generates individual returns in the labour market. The demand for (skilled) labour, opportunities for entrepreneurship, the amount and nature of competition, working conditions and wages, among other factors, affect how knowledge and skills translate into increases in income. Overall, labour-force participation in Jordan is low, particularly among women: only 10 per cent of the female and 57 per cent of the male labour force has been employed in 2016 (see Figure 30). The low female labour-force participation rate can be explained by the structural gender inequalities and socio-cultural norms and beliefs that prevail in Jordan (Moghadam, 2005; Gauri et al., 2019) Low labour-force participation has far-reaching implications for education as an investment, as those who are not economically active forego returns for themselves and for society as a whole.

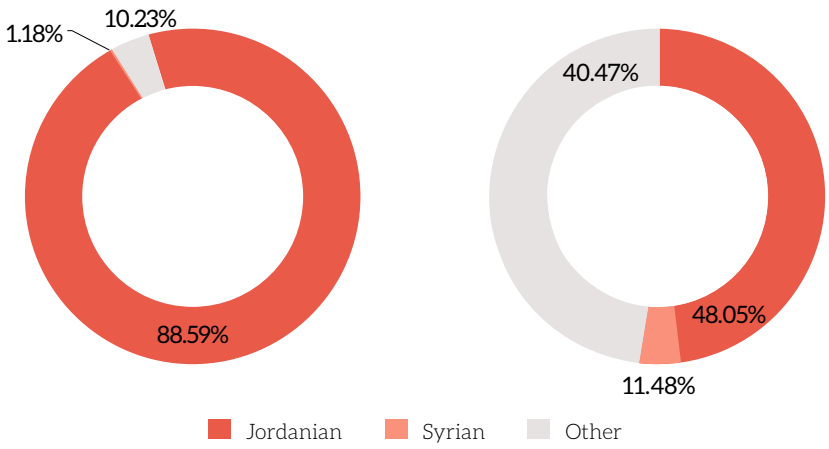
Figure 30:
Employed in the past seven days, including in the informal sector, for those aged 16 and above



Source: own calculations based on JLMPS 2016. Note: reference population is the population aged 16 years and above.

Employment rates are highest for other nationalities with 44 per cent, and lowest for Syrians with 20 per cent. Non-Jordanians are concentrated in informal employment (Figure 31) and in the private sector (Table 9). Eighty-nine per cent of the formal sector is occupied by Jordanians. The public sector almost exclusively employs Jordanians (96 per cent).[23] The public sector typically pays higher wages and provides better working conditions than the private sector and informal jobs (Stave and Hillesund, 2015). Jordan has a long tradition of welcoming foreign residents as seasonal or long-term workers, particularly in low-skilled positions (De Bel-Air, 2016). While concerns have been expressed about Syrian refugees accepting lower wages and longer working hours compared to Jordanians, research has also indicated that stratification within the labour market occurred prior to the influx of Syrian refugees (Fakih and Ibrahim, 2016). This is confirmed by Fallah, Krafft and Wahba (2019) who find that Jordanians living in neighbourhoods with higher concentrations of Syrian residents did not experience worse outcomes in terms of employment and wages than those in more homogenous areas.

Figure 31:
Distribution of the labour force in the formal (left) and informal (right) sector



Source: own calculations based on JLMPS 2016.

Table 9:
Distribution of the labour force in three sectors, by nationality

	Public	Private	International
Jordanian	96.26%	58.66%	22.87%
Syrian	0.14%	8.18%	12.38%
Other	3.60%	33.16%	64.75%
Total	**100.00%**	**100.00%**	**100.00%**

Source: own calculations based on JLMPS 2016

23. In fact, non-Jordanians can de jure not be employed in the public sector.

The Government of Jordan has recognized Syrian refugees as a group distinct from migrant workers and has made efforts to include Syrian refugees in the labour market in recent years. Under the Jordan Compact, strides have been made to provide a work permit for Syrians. For example, the cost of obtaining a work permit has been almost entirely waived for Syrian refugees (now costing JOD 10 instead of the standard JOD 300).[24] Still, empirical data suggest that Syrians are segregated into the informal sector and have little access to stable, formal, and decent jobs. According to the Compact, Syrians are only allowed to work in five sectors – namely, agriculture, construction, manufacturing, tourism, and domestic work (see also Razzaz, 2017) – all of which are characterized by high degrees of informality (UNDP, 2013).

Table 10:
Matching of required and actual education level in the employed workforce

	Level of education attained by worker					
Level of education required for job	**Illiterate**	**Reading & writing certificate**	**Basic**	**Secondary**	**Post-Secondary**	**Higher education**
No formal education	96.1%	87.4%	64.7%	53.6%	33.6%	12.2%
Primary	2.4%	8.9%	10.3%	3.0%	0.2%	0.4%
Secondary	1.4%	3.6%	24.6%	36.6%	15.7%	7.2%
Higher education	0%	0.1%	0.4%	6.9%	50.6%	80.2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: own calculations based on JLMPS 2016.

Last but not least, it is interesting to look at how the educational attainment of workers match the level of education required for their job. This is summarized in Table 10. A match between employment requirements and level of education is marked in green, whereas job requirements that are below the attained level of education are marked in red. There is a tendency for workers to be employed in a job that requires a lower level of education than that which they have attained. For example, more than half of those who completed secondary school, work in positions that require no formal education. Among those with a tertiary degree (Bachelor's or higher), every fifth person has a job that requires a secondary certificate at most, and every eighth person works in a position with no formal education requirements. This signals poor skill-matching in the labour market, whereby (potential) workers struggle to find employment that matches their qualifications. Such a pattern can limit the earning premium of schooling.

24. Standard fee for work permit, obtained from the Ministry of Labor information page: <https://jordan.gov.jo/wps/wcm/connect/gov/egov/government+ministries+_+entities/ministry+of+labor/services/obtaining+a+work+permit>.
25. For details on methodology and the complete outputs, see Appendix 5. Estimating returns from education.

4.2. Returns from education

Using the JLMPS 2016, we estimate returns from education in Jordan.[25] According to the results presented in Table 11, every additional year of schooling increases the hourly wage by 1.5 to 3.2 per cent, which is rather low in international comparison. The average return from education in middle-income countries is estimated at 7.3 per cent (Peet, Fink and Fawzi, 2015). Considering the returns from a completed level of education, only tertiary education seems to reap substantial returns with a wage premium of almost 40 per cent compared to not having completed any level of education. Analysis of returns from education separately for different population groups (Table 12), shows that returns for each additional year of education are highest for Jordanians and for women at 4 per cent. Yet, they are still considerably lower than in other countries. Work experience, which is generally positively correlated with wages, also has a limited effect. Every additional year of work experience increases the hourly wage on average by 1.5 per cent. A more important factor is the sector in which the work takes place. Working in the public sector pays a wage premium of 11 per cent compared to the private (formal or informal) sector.

There are some noticeable differences between men and women. Being a woman is a strong predictor of not participating in the labour market, as shown in the first stage of our model.[26] However, once a woman joins the labour market, her wage does not seem to differ from her male peers, even though in the separate model, women's return from education is slightly higher. A gap in earnings emerges between different regions of Jordan. Hourly wages the North and the South of the country are approximately 14 per cent lower than living in Central Jordan.

Table 11:
Returns to education (dependent variable = log of hourly wages)

Variables	Model (1)	Model (2)	Model (3)		Model (4)
	OLS	OLS	2SLS IV	OLS	Heckman Selection
Years of schooling		.032***	.015	.026***	.026***
		(.006)	(.012)	(.009)	(.009)
Basic education*	.083				
	(.0619)				
Secondary education	.087				
	(.067)				
Tertiary education	.395***				
	(.073)				

*Source: own calculations based on JLMPS 2016. Standard errors in parentheses. Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively. *Reference category is no completed education.*

26. For model specifications and output, see Appendix 5. Estimating returns from education.

Table 12:
Returns to education (dependent variable = log of hourly wages) for different sub-groups

	Model (5)	Model (6)	Model (7)	Model (8)
Subpopulation	**Jordanians**	**Syrians**	**Women**	**Men**
Years of schooling	.039***	.013	.041***	.025***
	(.006)	(.016)	(.010)	(.009)

*Source: own calculations based on JLMPS 2016. Standard errors in parentheses. Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively. Heckman selection models.*

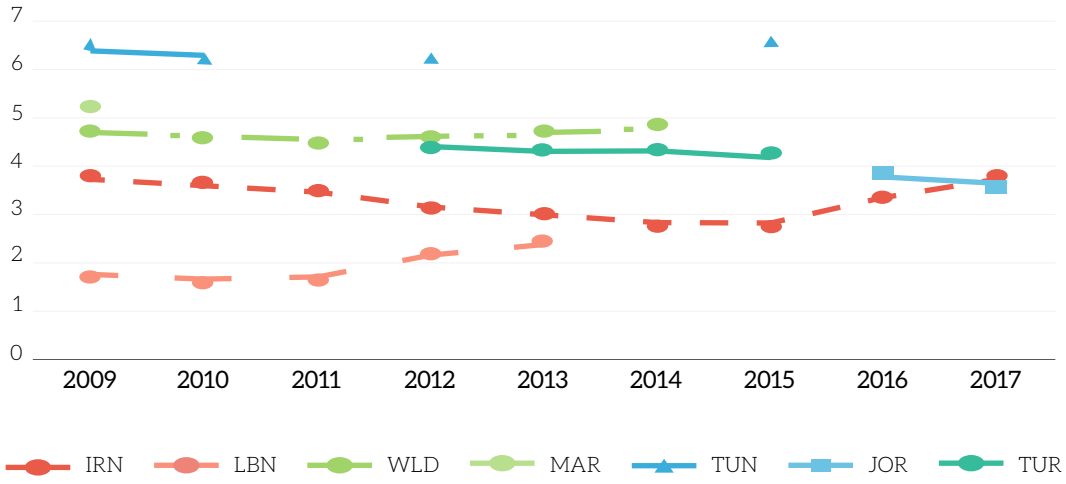
Table 12 shows that returns from education differ considerably between Jordanians and Syrians. While for a local worker, the wages are expected to increase by almost 4 per cent with each additional year of schooling, the corresponding figure for Syrians is not significant statistically, which means that for the Syrian population, there is no association between earnings and education. This is in line with previous findings by Chiswick (1980) and Yu et al., (2012), who both found no effect of education attained in the country of origin on labour market outcomes in the destination country.

An important limitation of this modelling exercise is that it cannot measure the multiple pathways through which education contributes to individual and societal well-being. Our model estimates the financial returns from an additional year of schooling, but it cannot incorporate other positive outcomes such as adaptability, social and cultural capital, mental and physical health, democratization, political stability, etc. These other returns from education are particularly important for refugee populations whose social ties, health, and sense of belonging have been disrupted by war and displacement. When considering the estimates presented in this chapter, it is important to keep in mind the many non-monetary benefits of labour-market participation beyond the direct returns.

4.3. Costs of education in Jordan

Jordan is an average spender on education, both in regional and global comparison (Figure 32). While data on education expenditure as a percentage of GDP is scarce, figures from 2016 and 2017 show that Jordan spends a similar share compared with those spent in Lebanon and Iran. In 2017, roughly 3.7 per cent of the country's gross domestic product was directed to education (World Bank, 2019d).

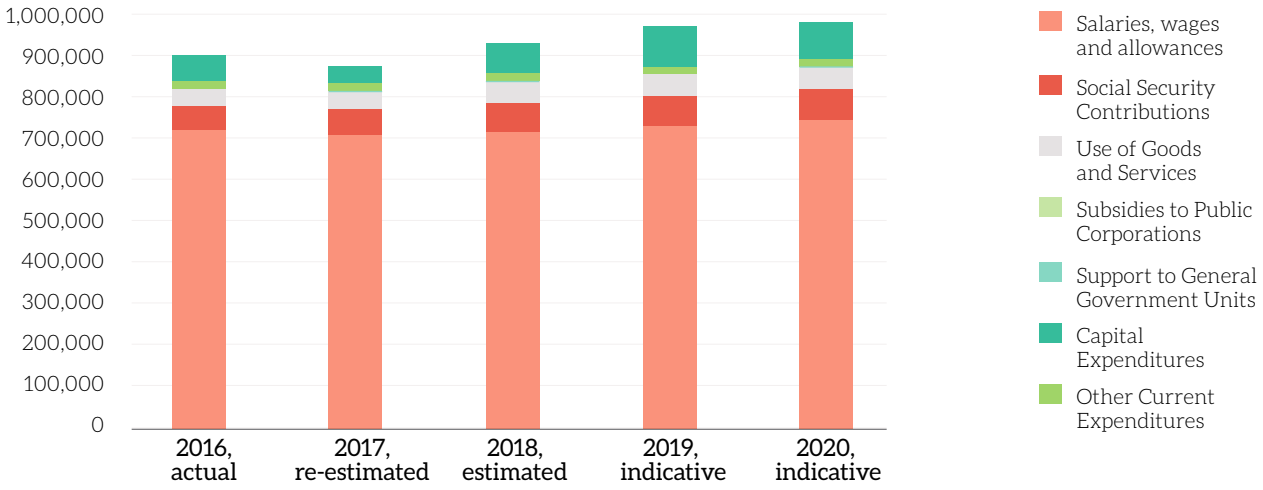
Figure 32:
Education expenditure as % of GDP over time, selected countries



Source: World Bank (2019d) Education Indicators

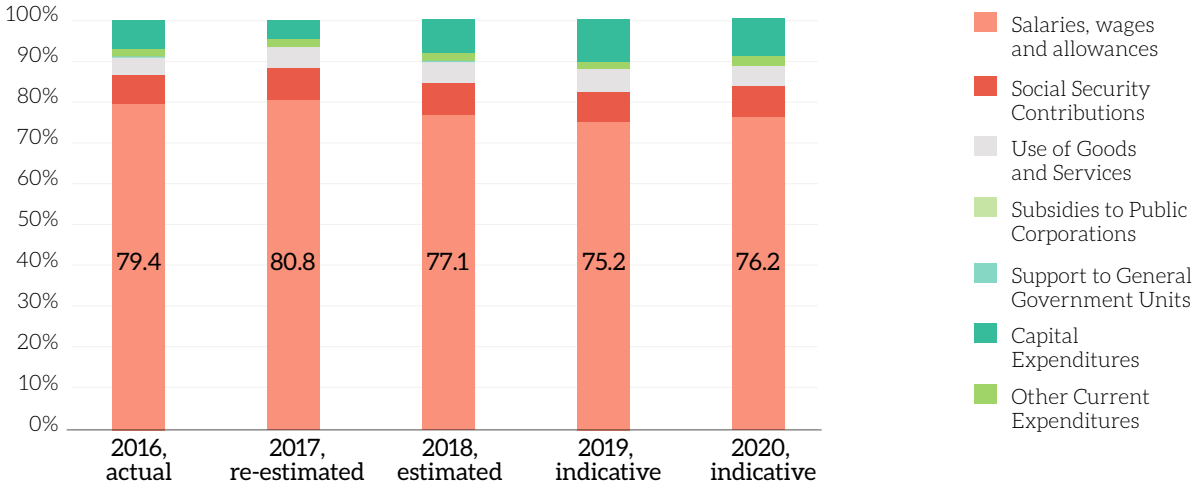
The government budget shows a slow but sustained increase in spending on education since 2016, and this tendency is foreseen to continue through 2020 (Ministry of Finance, 2018). Within the education budget, current expenditures dominate over capital expenditure (which accounted for 4.4 per cent of the total in 2018). Salaries, wages and allowances are by far the largest item in the budget, accounting for 78 per cent of the total.

Figure 33:
Overview of education expenditure by item, over time, 1,000 JOD



Source: Ministry of Finance (2018) Education Budget

Figure 34:
Overview of education expenditure by item, over time, % of total



Source: Ministry of Finance (2018) Education Budget

The costs of education per child and year, broken down by level of education, are presented in Table 13. The annual cost of schooling increases with school level. Per capita government spending is lowest at the kindergarten level. In basic education (Grades 1–10), the costs per child are 700 JOD per year. The costs of upper secondary education (Grades 11–12) vary depending on whether it involves the academic or the vocational track. The cost per child attending the vocational track is 1,300 JOD per year, which is almost one third more than in the academic track.

Table 13:
The average annual cost of education per child, disaggregated by level of education and school size for 2018/19

By level of education		By school size	
Level of education	**Student cost (JOD, per annum)**	**Number of students per school**	**Student cost (JOD, per annum)**
KG	250	<150	1,303
Basic	700	151–300	866
Secondary Academic	1,000	301–400	721
Secondary Vocational	1,300	>400	521

Source: Information provided by the Ministry of Education, 26 February 2019

School size, measured as the number of children attending a given institution, shows that larger schools, with student numbers exceeding 400 pupils, can keep their per-child costs below 600 JOD on average per year. The smallest educational institutes (with less than 150 students), on the other hand, are costlier by comparison, with an average cost of 1,300 JOD per child and year.

4.4. Estimated economic loss due to school dropout

School dropout before the completion of basic education is inefficient for both the individual and society at large. At the aggregate level, the costs of school dropout can be conceptualized as the total loss of earnings in the economy compared to a situation where all school leavers would have completed basic education. Using the JLMPS 2016 data, we follow a methodology developed by UNICEF (2015b), which has been used to estimate the long-term economic consequences of children being forced out of school by the conflict in Syria.

We start by calculating the yearly wage differential between school dropouts and workers who completed at least 10 grades of schooling. To do so, we calculate the present value of annual earnings (PV) which is a measure of the yearly wage corrected for inflation starting with the year in which a person first started to work (Table 14). The average PV for school dropouts is 3,091 JOD, while it is 3,821 JOD for non-dropouts, a difference of about 20 per cent. If we extend the analysis over a lifetime by taking into consideration lifetime working years and employment rate,[27] we find that the difference is lower, at 13 per cent. Those who completed basic education have a lifelong PV of 38,600 JOD, while the dropouts' lifelong PV only accumulates to 33,677 JOD.

As a final step, we calculate the economic loss for Jordan due to school dropouts in the year 2016. Considering a total of 5,673,000 people in the labour force,[28] a 24% employment rate, and a dropout rate before Grade 10 of 9.8 per cent, the Hashemite Kingdom of Jordan will lose approximately 2.74 billion JOD in present value of lifetime earnings due to school dropout before Grade 10. As a useful comparison, we can say that the economic loss due to dropouts before Grade 10 amounts to 9.6 per cent of 2017 GDP (i.e., JOD 28.5 billion).

27. By lifetime working years we mean total years worked from start of first job to retirement age (i.e., 65-year-old).
28. Data retrieved from World Bank (accessed via: https://data.worldbank.org/country/jordan) and 2015 Jordan Population Census (accessed via: http://dosweb.dos.gov.jo/censuses/population_housing/census2015/).

Table 14:
Estimated annual earnings of workers who did and did not complete basic education

	Present value of annual earnings	
	Current	**Lifelong**
Workers who dropped out of school	3,091 JOD	33,677 JOD
Workers who completed basic education	3,821 JOD	38,600 JOD
Difference	20%	13%

Source: own calculations based on JLMPS 2015/16.

4.5. Summary and conclusions

Education generates returns. In Jordan, an additional year of schooling is associated with a 2.6 per cent increase in hourly earnings. Looking at the Jordanian population only, and excluding Syrian refugees from the analysis, the return is a little bit higher at 4 per cent, but is still low in international comparisons. Globally, the average return from education is estimated at 9 per cent (Psacharopoulos and Patrinos, 2018).

Investing in education pays off more for women than for men, but very few women participate in the labour market. For Syrians, an additional year of schooling does not translate into higher wages in the Jordanian labour market, an effect of their limited ability to enter the formal job market in Jordan as they require a work permit like any other non-Jordanian under the 1996 Labour Law and its Amendments. With the exception of the five sectors indicated above, Syrians cannot formally work in Jordan, except if a company can get an exemption. Moreover, for many professions that require higher education, Syrians face the additional challenge that they are not allowed to engage in any profession that requires registration with one of the professional associations open only to Jordanians. Hence, their ability to utilise their skills and knowledge is highly limited.

Chapter 5

Barriers to education

"I was older than the other children in my class. I felt ashamed. I was bullied and I eventually dropped out of school.

"The most important thing for me is to be able to read and write. I've seen firsthand how difficult it is for my mother to be illiterate,"

Razan, 16, a Syrian refugee, missed years of school because of conflict.

©UNICEF/Saman

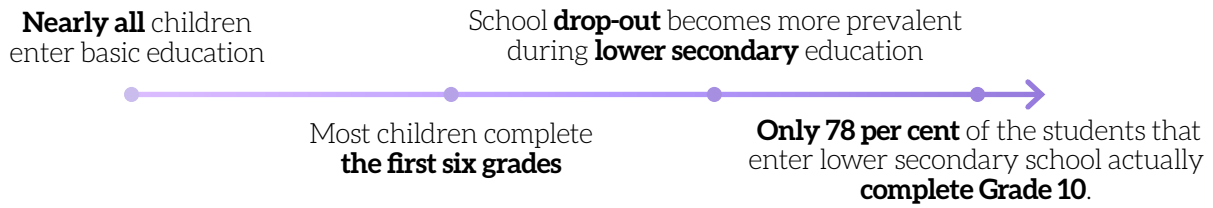
- Jordan is making progress towards SDG4, but socio-economic, legislative and institutional challenges limit the realisation of inclusive and quality education for all.
- Supply-side barriers that increase the risk of school exclusion include infrastructure, quality of education, violence in schools, and limited accessibility for children with disabilities.
- Education infrastructure is under mounting pressure due to a large increase in the numbers of students. Low compensation for teachers, and limited training and professional development for teachers and leaders, affect the quality of education. Insufficient monitoring and use of assessment data make it difficult to identify areas for improvement and to identify children at risk of dropping out. For pre-primary education, there aren't enough classrooms available to ensure provision for all KG2-age children.
- Although corporal punishment is banned, students still report encountering physical and verbal abuse at schools.
- Disability does not appear to be a predictor of dropping out, likely due to limited data. Children with disabilities face considerable challenges in the public education system, and it is likely that many never enter education at all.
- Demand-side barriers include socio-economic barriers and gendered negative coping mechanisms such as child labour and early marriage.
- The low perceived value and expectation of limited returns from schooling is likely to reduce the amount of time individuals spend in education.
- Children from poor households are at particular risk of dropping out (Grades 1–10), despite basic education being free-of-charge (for Jordanians and Syrian refugees). Transportation represents the biggest expenditure items for families with school-age children.
- Combined with the concern over the perceived safety of girls on their way to school (due to the risk of harassment), as well as societal preferences to invest in boys' education, gendered coping strategies are used by households when faced with financial constraints.
- Adolescent boys are at greatest risk of child labour, owing to economic challenge facing the household. Schooling comes with the cost of missed opportunities to engage in paid work, and foregone earnings.
- More than one in four children are married before the age of 18 and nearly one in ten are married before the age of 15. Being in school is a strong preventative factor for girls against child marriage, if parental attitudes are also addressed.
- Education, social-protection and labour-market policies are needed to improve quality and access to education, to align education with labour-market demands, and to make schools safer, more inclusive and accessible for all.

Jordan has been making considerable efforts to meet the Sustainable Development Goal 4 (SDG4) of the 2030 Agenda, aimed at ensuring inclusive and equitable quality education and promoting lifelong learning opportunities for all by 2030. Yet, the prevailing socio-economic, legislative and institutional conditions pose challenges to the realisation of inclusive and quality education for all. Although most children are in school during the initial years of basic education (Grades 1–10), dropping out in later years remains an issue. This is reflected by relatively low rates of lower secondary (Grades 7–10) completion (78 per cent) and upper secondary school (Grades 11–12) completion (57 per cent). Disparities exist along the cross-cutting dimensions of gender, geographic location, nationality and household wealth. Overall, the returns from education are low, which may explain why parents' investment in education lags behind.

This chapter starts with a discussion of the extent to which education as a human right is enshrined in law and implemented. Next, it takes a closer look at supply-side barriers that are the focal areas in the National Human Resource Development Strategy 2016–2025, and Education Strategic Plan (ESP) 2018–2022. This is followed by a review of demand-side barriers, including the value of education, financial constraints, and gendered negative coping strategies and social norms.

5.1. Access to education as a basic right

The analysis in Chapter 2 indicated that more than 112,000 children aged 6–15 were out of school in 2017/18.



The right to basic education is enshrined in the 1994 Education Act No. 3. Basic Education is mandatory for children aged 6–15 and all Jordanian nationals should be given access to free public education. The public education system has also been made freely accessible to Syrians, with significant financial support from international partners. Other non-Jordanians must rely on private education or are subject to an annual fee of 40 JOD in addition to needing to produce a residency card. This is contrary to the statement that public education should be freely accessible to all children in a country, as per Article 13 of the International Covenant on Economic, Social, and Cultural Rights, and Article 28 of the Convention on the Rights of the Child, both of which Jordan has ratified.

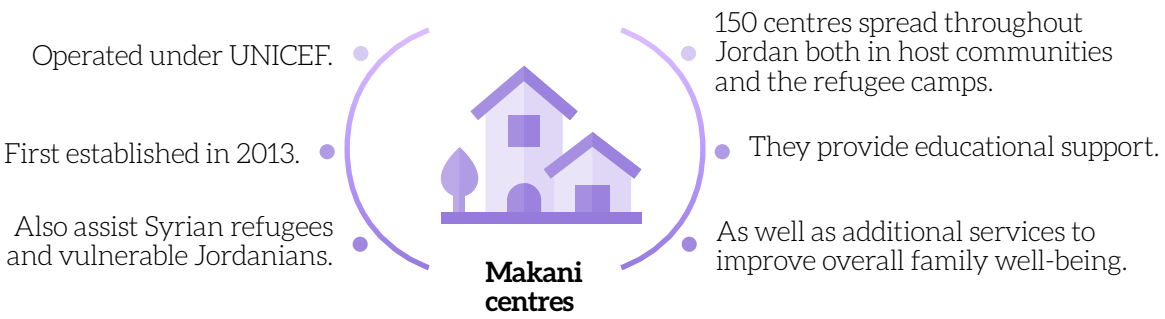
The ESP 2018–2022 commits to continuous efforts to ensure access and equity towards the vision of "Education for All," including gender equality, a focus on children with disabilities, improved enrolment rates and the provision of stimulating educational environments. Building

on the National Strategy for Human Resource Development 2016–2025, the Jordan Vision 2025 statement, as well as the 2030 Agenda for Sustainable Development, the Ministry of Education seeks to present a framework to enhance institutional efficiency, to empower students, and to bolster human resources to foster capacity. Through the Jordan Response Plan (JRP) for the Syrian Crisis 2018–2020, the Government of Jordan improved access to education for Syrian refugees in particular.

To provide educational opportunities to those children who are out of school and to combat adult illiteracy, the MOE recognizes six non-formal education programmes.[29] While these programmes offer an opportunity for learning, the policy of not allowing children more than three years older than their peers to enrol in formal education is especially harmful for Syrian children, many of whose school careers were disrupted by the crisis Given the prevalence of grade repetition, being over-age can also lead to eventual exclusion.

Out of these non-formal programmes, the Catch-up Programme was established in 2016 by UNICEF and the MOE for children aged 9 to 12 who are not eligible for formal education. This was designed to reintegrate younger children into the formal education system. Secondly, the MOE recognizes the Drop-Out Programme which was established in 2005.[30] This two-year programme is accessible to boys between the ages of 13 and 18, and girls between the ages of 13 and 20, from all nationalities, who are unable to enter formal education. Upon successful completion of the programme, students receive an alternative basic education certificate. This certificate provides students with entry to applied secondary education and for Jordanians, the army. Alternatively, after a student successfully completes one year of home-schooling, the student can reintegrate into formal education if not already three years over-age or more.

These programmes are currently funded by the donor community, as limited government budget is allocated to non-formal education. Pathways following the Drop-Out Programme are relatively limited and need to be expanded to support the reintegration of NFE graduates into formal education or links to vocational/ technical training institutes.



29. These comprise the following programmes: 1) Adult Literacy, 2) Home Studies, 3) Evening Studies, 4) Drop-Out Programme, 5) Catch-Up Programme, and 6) Summer Studies Programme (MOE 2018, p. 11).
30. Questscope originally developed the programme in collaboration with the MOE. In 2017, Relief International implemented the programme in Za'atari Camp. As of 2019, Mercy Corps and the Middle East Children's Institute have opened up additional centres outside the refugee camps.

5.2. Supply-side barriers

In line with the National Human Resource Development Strategy 2016–2025 and the Education Strategic Plan (ESP) 2018–2022, supply-side barriers need to be considered when discussing out-of- school children and school dropout. Overcrowding, lack of teacher commitment, violence in and on the way to and from school are frequently referred to as factors affecting the quality of education (see also Stave et al., 2017) which, in turn, may negatively affect the interest and performance of students and eventually lead to dropping out of formal education.

5.2.1. Infrastructure and quality of education

The influx of Syrian refuges has exacerbated existing challenges in terms of infrastructure provision (see also REACH, 2014). Despite the challenges, it is important to recognize the efforts made by the Jordanian Government to deal with the ongoing influx of students. As early as 1960, Jordan adopted the principle of double-shift schools to cope with overcrowding in the classroom. With the influx of Syrian refugees, this system expanded nationwide to cope with the additional students (WZB and EBRD, 2019). While the likelihood of school dropout among non-Jordanians is 11 per cent lower when enrolled in double-shift schools, the double-shift system may create other problems which require additional analysis. More than 7,000 teachers have been recruited in response to the growing number of students, and training has been provided to 69,641 teachers (MOPIC, 2018).

As set out by the Comprehensive National Plan for Human Rights 2016–2025, measures with regard to the quality of education are required. This is reiterated in the National Human Resource Development Strategy 2016–2025 and Jordan 2025: A National Vision and Strategy, where the improvement in KG2 enrolment as part of Early Childhood and Development is included as an objective. To ensure equitable primary and secondary education, the strategies aim to improve school environments and performance, amongst others, by building additional schools and providing teachers with additional training to improve the quality of teaching provision by 2025. These objectives are reiterated in the ESP 2018–2022, according to which 80 per cent of all children should be enrolled in KG2 by 2022; 300 new schools should be established; adult illiteracy should be reduced from 9.5 per cent to 7.4 per cent for women and from 3.4 per cent to 2.6 per cent for men; and the number of licensed teachers should be increased.

Learning outcomes at the basic and secondary education levels need significant improvement. For example, 80 per cent of students in Grades 2 and 3 are reading without comprehension (National Committee for Human Resources Development, 2016). Jordanian students are consistently performing poorly in international standardized tests. Although performance in PISA has improved since 2012, Jordan still performs significantly below the OECD average.

The 2018 PISA results indicated:

	Jordan	OECD average
Science	429	**489**
Maths	400	**489**
Reading	419	**487**

In terms of outcomes, girls consistently outperform boys (OECD, 2019; Mullis, Martin and Loveless, 2015).

Children who are unable to read and understand short, age-appropriate texts by the age of 10 are regarded as being in Learning Poverty. This indicator considers schooling and learning; the share of children who have not achieved minimum reading proficiency, and adjusts it by the proportion of children who are out of school. Currently, 52 per cent of children in Jordan at late-primary age are not proficient in reading, adjusted for the out-of-school children (World Bank, 2019).

There are processes in place for Jordan to measure the quality of education through the Education Quality Accountability Unit (EQAU). Classroom observation and learning walks were used in a European Union (2019) funded project to assess the quality of a sample of 100 schools. Most of the lessons were teacher led and textbook-oriented; there was no group work, but some evidence of student-centred learning (AECOM and PROMAN, 2019). Other important factors to note are: limited evidence of teachers using assessment methods to support student learning; financing showing little evidence of the purchase of learning/teaching materials; and principals and supervisors who are not consistently observing teaching and learning to support quality (AECOM and PROMAN, 2019).

In general, there has been limited sharing of education data in Jordan, which limits secondary analysis (MEP Project, 2014), although TIMMS and PISA results are globally available. Assessment data outcomes are a useful source to measure education quality and these are currently under-used. Under-utilization of data is an issue across the education sector, at policy level, field district and school levels. Schools are generally not yet using assessment outcome data as part of their school development plans and so are not able to identify areas for improvement that could help students to become more successful in their learning and so increase the value of education.

Pre-service teacher training is already available for Early Grade teachers in local universities but needs development to ensure practical learning opportunities are strengthened. Currently, the early years profession is supported through the Early Grade Reading and Math Project (RAMP) programme which has national reach. A programme of training for teachers for Grades 4 and above was introduced in 2016 as a Teacher Education Professional Development Programme, delivered over a nine-month period by the Queen Rania Teacher Academy (QRTA) and accredited by the University of Jordan for teachers of Arabic, English, mathematics and science. It is important to note that most trainees in this programme are women, and so this could further widen the gap between the quality of education and learning outcomes for girls compared to boys. There are plans for the pre-service diploma to be delivered in local universities in the near future.

Several national programmes have been initiated by the Government of Jordan with support from donors to improve the quality of education and to build the capacity of the teacher profession. The School Directorate Development Programme first piloted in 2005 has provided training for school principals to write development plans with a focus on improvement activities that were financed through small block grants. Leadership training was provided nationally by the Ministry of Education, and QRTA have been providing advanced leadership training since May 2016. There is now an opportunity to expand these programmes and implement them at scale. There is evidence that correlates those school with leaders who have had higher levels of training with more effective school outcomes (AECOM and PROMAN, 2019).

5.2.2. Violence in schools

Findings in Chapter 2 indicated that violence (and insecurity) is one of the reasons for school dropout, in particular for boys. Earlier studies have shown that violence in school is a contributing factor to school dropout. Although corporal punishment was formally banned in schools per School Discipline Regulation, Instruction No. 4 on School Discipline 1981, issued in accordance with Law No. 16 1964, violence in school and the use of corporal punishment is still prevalent (UNICEF, 2017). The analysis in Chapter 2 has shown that girls are more likely to be negatively affected by the incidence of violence in school as it increases their likelihood of dropout by 5 per cent. According to a 2015–2016 survey by the MOE, 18 per cent of all participants reported verbal abuse and 11 per cent physical violence.

While a decline compared to previous years can be noted, the figures still remain rather high (MOE, 2016 as cited in UNICEF, 2017). Corporal punishment is used by teachers as a negative coping strategy in response to their own lack of teaching experience, or to handle overcrowded classrooms (HRW, 2016b; Khateeb, 2015). Since corporal punishment is tolerated among families, tackling this habit in schools is particularly challenging (Khateeb, 2015; UNICEF, 2017). Based on a study of marginalized groups in Jordan, Dom children are particularly exposed to verbal and physical abuse and bullying by fellow students and teachers alike. For example, they are put to chores rather than taught (UNICEF, 2016). These components create an environment where children start to dislike formal education.

The National Human Resource Development Strategy 2016–2025 recognizes the importance of protecting children from violence and promotes awareness activities for teachers on how to deal positively with students. The Ma'An programme[31] has proven successful in changing societal and teachers' attitudes to corporal punishment. In 2013 (as part of the Ma'An programme), UNICEF piloted an innovative approach to behavioural transformation in schools named *Tarbiyeh*, to enhance the effectiveness, sustainability and scalability of the programme. Tarbiyeh is a school-based approach that reinforces positive social behaviours among teachers and students through reward mechanisms and is linked to a computerized monitoring system that enables participating schools to document and report on implementation (UNICEF, 2017).

5.2.3. Inclusive education for children with disabilities

Even though disability does not appear to be a predictor of dropout, this is perhaps due to insufficient data available on children with disabilities. The likelihood is that children with a disability may never enter education at all. According to the national inclusive education strategy (2020), many students with disabilities drop out of school as a result of environmental/behavioural barriers and a lack of accommodation for their needs. Dropping out of school is an inevitable consequence of not providing programmes that meet the requirements of their education at school.

The MOE is responsible for providing inclusive basic and vocational education for children with disabilities, based on the Law No. 20 (2017) on the Rights of Persons with Disabilities through its Administration of Special Education (HCD, 2017). Under article 17 of this Law, it is forbidden to exclude any person from any educational institutions on the grounds of disability. The importance of inclusiveness for children with disabilities or special needs is well recognized in Jordan. The ESP 2018–2022 contains a specific component on inclusive education (MOE, 2018), and a 10-Year Strategy on Inclusive Education has

31. Using a three-pronged approach: 1) school-based activities; 2) community engagement, and 3) robust media coverage (UNICEF, 2017).

been developed by the Higher Council for the Rights of Persons with Disabilities (HCPD) in line with Law No. 20.

The MOSD

Is responsible for children with a moderate to severe mental disability.

Operates 65 specialist schools (Shepherd, 2019).

The responsibility for children with a mental disability and children with a physical disability is divided between two ministries:

The MOE

Is responsible for children with a physical disability or mild mental disability.

Runs 150 basic education schools accessible to children with disabilities (MOE, 2018).

As noted in the MOE inclusive education strategy (2020), figures from the Department of Statistics (per the 2015 Census) indicate that an astonishing 79 per cent of children with disabilities are out of school. However, as even the strategy points out, there is little reliable data available about the needs and challenges of children with disabilities in the school system.

According to statistics from the MOE (for academic year 2018/19), the number of students enrolled in schools reached 1,396,868, while the number of students with disabilities served by the MOE is 21,859 (MOE, 2018). The number of students with disabilities served in centres/institutions affiliated with the Ministry of Social Development is 5,859, based on 2018 data (MOE, 2020). This brings the total number of students with disabilities in educational/quasi-educational services to 27,694 – which means that the number of children with disabilities receiving education services in Jordan is 1.9 per cent the total number of students.

The 2015 census data revealed that 11 per cent of the population have a disability, with 6.1 per cent of children aged 5–17 years having a mild to severe disability, and 1.3 per cent having an acute disability. The majority of the identified difficulties were rated as simple. However, communication, self-care and concentration/memorizing were regarded as the most difficult problems. With the influx of over 1,300,000 Syrian refugees into Jordan since 2012, there has been an increase of persons with disabilities in the country. Up to 30 per cent of Syrian refugees have specific physical or intellectual needs, with one in five refugees affected by physical, sensory or intellectual impairment (Handicap International, 2014).

Children with disabilities still face considerable challenges in the public education system in Jordan. To date, 150 public schools in Jordan, including in the camps, are equipped to support the learning of children with disabilities (MOE, 2018). In part the identification of this capacity may be attributed to the discretion of teachers knowing whom to admit or refuse (Shepherd, 2018). The fact that the enrolment of a child does not acknowledge their mental age but rather the actual age may pose an additional challenge if the child's abilities are not as advanced as those of children from the reference age group.[32] To provide a conducive learning environment for students with a disability or special needs, schools should be equipped with adequate physical infrastructure as well as assistive technology and resources (Shepherd, 2019).

32. Based on meeting with HCPD, 7 March 2019.

Transportation to and from school is another challenge in this context. In 2016/17, only 1 per cent of all school-going children with disability were provided with transportation (MOE, 2018).

Next to the physical accessibility of schools, the quality of teaching is another component that should be considered.[33] Overall, 1,656 teachers were trained in inclusive education pedagogy, and MOE teachers are supported by shadow teachers that are recent graduates in Special Education who are trained as teaching assistants.[34] On closer inspection, however, parents of the children with disabilities are either expected to pay for the shadow teachers, or the mother may be expected to herself act as the shadow teacher (Shepherd, 2018). Parents may undervalue the education of their disabled child with a resultant limiting effect on the registration of disabled students into the school system. This could be addressed through awareness campaigns, but there is also an important role for service providers, such as in health centres or the National Aid Fund (NAF), in addressing the concerns of parents and informing them of the importance of education.

In order to ensure accessibility and inclusivity in education for children with disabilities, it is important to support the implementation of the national Inclusive Education Strategy, across the nine pillars: policy & legislation, media & awareness raising, identification, diagnosis and assessment, accessibility, learning and education, HR and capacity building, ECE, outreach for out-of-school children or dropouts, and establishing a network with relevant scientific research centres locally, regionally and internationally and develop a database for children with disabilities across all stages.

33. Ibid.
34. Internal Document Inclusive Education National Plan by UNICEF.

5.3. Demand-side barriers

Next to supply-side barriers, demand-side barriers need to be considered. Often, barriers result from a combination of multiple reasons (Hagen-Zanker et al., 2017). These may involve the undervaluing of education by the family, financial constraints, and gendered negative coping strategies due to economic hardship.

5.3.1. The value and expected returns from education

The value a family puts on education is one of the components affecting the trajectory of students in the school system. In Jordan, the UNICEF and GAGE (2019) study "Key Baseline Findings: Adolescent Capabilities and Makani Impacts" finds that parents generally have high educational aspirations for their children. The lowest aspirations amongst Jordanian parents are for those living in Informal Tented Settlements. Parents' aspirations for boys are higher than those for girls.

The expected returns from education are also significant. As Chapter 3 concluded, the returns from education in Jordan are relatively low in global comparison, due to either the quality of education or the characteristics of the labour market. The relationship between educational attainment and potential earnings has implications for households' decisions to invest in education. The expectation of low returns from schooling is likely to reduce the time individuals spend in school. While improving the quality of education is one way to incentivize young people to stay in school, wider labour market policies are also needed. There is a mismatch between the skills and qualifications that the education system provides and those that the labour market demands. The alignment of education, training and labour-market policy may lead to better earning premiums in the future.

The current Vocational Qualifications Framework contains four levels covering all vocational qualifications offered in the country (UNESCO-UNEVOC, 2019), but does not cover the academic and non-technical qualifications offered, thereby creating a disconnect between the two systems. To support transferability, mobility, and the recognition of qualifications, the National Strategy for Human Resource Development recognizes the importance of development and implementation of a comprehensive qualifications framework (Ministry of Higher Education and Scientific Research, 2015; UNESCO-UNEVOC, 2019).

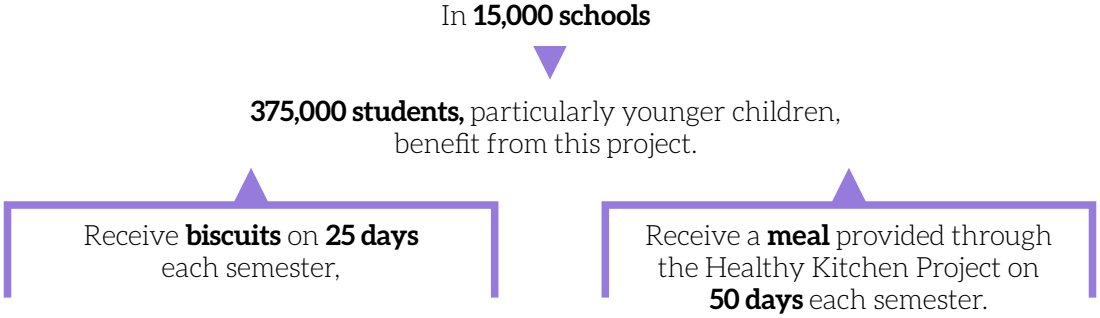
5.3.2. Economic barriers

Aside from the value placed on education, financial constraints also lead to school dropout. As shown in Chapter 2, not being able to afford school was cited as a reason for dropping out of school. Moreover, the analysis has shown that children from the poorest wealth quintile have a 10 per cent chance of dropping out before completing basic education. Even though basic and secondary education are free-of-charge (no tuition fees) in public schools for Jordanians and Syrian refugees, school attendance comes with other costs which households have to meet. In studies on Syrian and Iraqi refugees, transportation costs and other education-related expenditures, such as for textbooks, school supplies or uniforms, are mentioned as possible reasons why some children do not enrol, or stop attending school (e.g., Hagen-Zanker et al., 2017; Hart and Kvittingen, 2015; HRW, 2016b; Tiltnes and Zhang, 2013).

From a prevention perspective, it is important to look at social-protection and school-feeding programmes. Under the National Aid Fund, different vulnerable groups are targeted for support, including families with orphans and disabled family members, and financially vulnerable families. The NAF is providing monthly assistance (either recurring or temporary) to approximately 90,000 households (NAF, 2019). The exact amount of aid depends on the individual family situation. For eligible households with a child under the age of six, the household can receive cash assistance provided that the child is vaccinated. For children between the ages of 6 and 16, cash assistance is conditional upon school attendance, and provided that the child is not caught begging and that no violence takes place in the family. If these conditions are not met, the monthly assistance is reduced. Between 2012 and 2017, the NAF reported that the number of children who dropped out of education among their beneficiaries decreased from 6,280 individuals to 2,000.[35]

Whereas the NAF is aimed at Jordanians, the Hajati programme run by UNICEF partly addresses the dropout challenge among Syrian refugees. Eligible households, which have to pass a means-test, receive a monthly benefit of 20 JODs. This is conditional upon at least one of the family's children aged 6 to 15 attending basic education. To be considered for this benefit, children must be registered in double-shift schools and live in proximity to a Makani centre.[36] The latter condition was introduced in 2019 and provides an opportunity to address some of the other challenges households are facing and which may also influence school attendance.[37] The baseline study revealed that 48 per cent of those who received the cash transfer were households with three school-aged children who were likely to be at least one year behind in their studies. As such, they belong to the group at risk of dropping out. The majority of Hajati cash transfer recipients are Syrians, but assistance was also provided to Jordanians and other nationalities (UNICEF, 2018). Yet, the major challenge of the Hajati programme is in securing sustainable funding.

In order to ease the financial strains of sending children to school, the World Food Programme (WFP) together with the MOE provides biscuits to children in school. These schools are located in poverty-affected areas, as defined under the 2010 poverty figures.



Furthermore, 30,000 students inside camps are provided with school meals through the WFP. The benefits of the school-feeding programme are that children are better able to concentrate and that absenteeism declines. The burden on parents to provide the children with money for meals is reduced. Moreover, it allows some of the children to save up their allowances.[38]

35. Based on interview and data shared by the NAF with the researchers, 28 February 2019.
36. A Makani, or 'My Space' centre provides services related to safe learning opportunities, child protection, early childhood development, trainings pertaining to life skills and social innovation.
37. This adheres to the adjusted criteria as mentioned during the meeting with UNICEF, 17 July 2019.
38. Based on meeting with WFP, 26 February 2019.

Sustainable funding remains one of the biggest challenges to the school feeding programme, both in terms of programme continuation and scaling up, as also noted in the ESP 2018–2022. For example, in double-shift schools, school meals are only provided during the morning sessions. Those missing out are potentially the most vulnerable students. Moreover, as the geographical targeting of the programme was based on the 2010 poverty figures, the most vulnerable areas in Jordan, according to more recent experience, may not be covered. Since then, Jordan has witnessed a population increase of nearly 3.8 million people as a result of a high fertility rate and the influx of non-Jordanians, as well as an increase in unemployment by 5.8 per cent. It is therefore highly recommended that poverty figures are updated in order to account for the changed social and economic environment in Jordan.

Lastly, transportation to and from schools remains one of the biggest expenditure items for families with school-aged children. Parents may take their children, in particular girls, out of education if no safe travel to school is available and if the family cannot afford to pay bus fares.[39] Hence, a potential policy option is to supplement any cash transfer programme with free and organized transportation to schools.

5.3.3. Gendered negative coping strategies and social norms

The problem of transportation is a gendered issue, as parents are concerned for the safety of girls on their way to and from school, particularly if schools are not located close by. As for boys, parents have expressed concerns about boys facing violence or harassment in the neighbourhoods of schools (HRW, 2016; Sieverding et al., 2018; Stave et al., 2017). This, in turn, may deter parents from sending their children to school. It is important to invest in the provision of safe transportation to school or provide support towards transportation fees for children, particularly girls (IOM, 2018).

Economic constraints also have a gendered impact in terms of coping strategies employed. Children living in larger households or those belonging to the lower wealth strata are more likely to drop out of school. Particularly among Jordanians, financial factors are associated with school dropout. It has been estimated that more than 80 per cent of Syrian households in Jordan employ one or a number of negative coping strategies in situations of financial distress (UNICEF and National Council for Family Affairs, 2017). Poor families may decide to send their children to work – especially in the case of boys – or to arrange early marriages which is a more prevalent risk among girls. These effects are further compounded by gendered views concerning the utility of education, preferring the educational attainment of boys over girls (FARD Foundation, 2015), despite the evidence that girls outperform boys (see OECD, 2019; Mullis et al., 2015).

Child labour

Child labour is more prevalent among boys than girls. As the analysis in Chapter 2 has shown, 7.5 per cent of Jordanian boys, 6.5 per cent of Syrian boys and 22.1 per cent of boys of another nationality indicated that engagement in the labour market is a reason for their dropping out of school in Jordan. According to the Jordanian National Child Labour Survey from 2016, the percentage of children in Jordan working is relatively small with 1 per cent of children attending school and working, and 0.9 per cent working but not attending school (CSS and FUNDAMENTALS, 2017). However, this percentage increases from age 12 onwards, when particularly those older than 15 are more likely to work (CSS and FUNDAMENTALS, 2017). The prevalence of child labour is higher among Syrian refugees than in the host

39. This is a component that was frequently referred to during Focus Group Discussions for the Drop-Out Programme – July/August 2019.

community (Stave and Hillesund, 2015; CSS and FUNDAMENTALS, 2017).

The question is whether child labour is an immediate result of financial constraints within the household, the result of a lack of economic perspective following education due to the low returns from education, or whether it is a consequence of dropping out for other reasons such as not performing well or a lack of interest in education. Under the Jordan Labour Law No. 8 of 1996, children under the age of 16 are prohibited from working (excluding household chores), and children aged 16–17 may not be employed for more than 36 hours per week and may not engage in hazardous work.
Child labour exposes children many risks, including those contributing to their exclusion from education (ILO, 2015). Based on the National Child Labour Survey (2016), there are 70,000 child labourers in Jordan. Approximately 27.5 per cent of working children (age 5–17) in Jordan are involved in agriculture, of which 56 per cent are aged 5–11 (CSS and FUNDAMENTALS, 2017).

Child labour is one reason behind children not attending school. Most child labourers are boys (94 per cent of child labourer in Za'atari camp are boys); they often do not attend schools; they receive minimal economic returns, and toil in high-risk work situations (UNICEF, 2014). Child labour is related to the economic barriers discussed above, given that education has opportunity costs and foregone earnings. Children at the bottom of the income distribution may have to work instead of attending school in order to supplement the household income.

The Government of Jordan is actively addressing child labour. Programmes such as the Drop-Out Programme were initially set up also to engage child labourers in education. In the same context, the value placed on applied secondary education provided by the Vocational Training Centres, as well as the vocational track under the comprehensive education offered by the MOE should also be considered. Currently, vocational education is considered by many to be a pathway for those with lower academic achievement or ambitions. In order to be effective, this requires investments in the alignment of vocational education with the needs of the labour market, teacher retainment through incentives and teacher training, and collaboration with the private sector as set out in the ESP 2018–2022 and the National Strategy for Human Resource Development 2016–2025. It is also important to strengthen inter-sectoral referral and case management pathways by including "child labour" as a central concern of education policy, enhancing identification and monitoring practices of vulnerable school-aged children, and ensuring the participation of the MOE and school in cross-sectorial referral and case management pathways.

Child marriage

Jordan has one of the lowest rates of child marriage in the region. In 2018, 14 per cent of all registered marriages according to the Chief Justice Department concerned a marriage including a minor (UNICEF and HPC, 2019).[40] More than 1 in 4 children are married before the age of 18 and nearly 1 in 10 are married before the age of 15 in Jordan, according to DHS data sets – girls make up 96 per cent of all registered child marriages – this is concerning, as the prevalence of child marriage is on the rise again, after a decade of decline. DHS data indicate a decrease in child marriages for between 2007–2012, but an increase in child marriages from 2017/18 (UNICEF and HPC, 2019). The crisis in Syria and the influx of Syrian refugees, in addition to the lack of physical security in camps and the vulnerability of young females, have increased the prevalence of the early marriage of girls in Jordan (UNICEF, 2017).

40. This may be underreported as also referred to in a recent study (UNICEF and HPC, 2019).
41. Sutra both combines financial stability and security, as well as protection of girls' reputations (UNICEF, 2019).

Poverty may be a driver of child marriage, but it is not the only component. According to a recent study by UNICEF and HPC (2019), four other key drivers of child marriage in Jordan are as follows: (1) custom and tradition, (2) broken homes / family disintegration, (3) lack of knowledge, and (4) sutra.[41] Based on the study, early marriage is much more prominent among Syrian girls than Jordanian girls. This may be attributed to the fact that the legal marriageable age is lower in Syria (Sieverding et al., 2019; UNICEF and HPC, 2019), which may also explain the more traditional views towards early marriage among Syrian refugee families. In Jordan, the Shari'a courts preside over family matters. Under the Temporary Personal Status Law No. 36 of 2010, the legal age for marriage is 18 for both boys and girls. Yet, a child may marry under the age of 18 in special cases provided that she or he is 15 years and above, and if a judge deems it in hers or his best interest (SIGI, 2019).

Girl's education is a strong preventative factor against child marriage, provided that attitudes, and particularly parental attitudes, to early marriage are also addressed. The transition from primary to secondary school, and completion of secondary school is very important for reducing child marriages, since most child marriages occur over that period of time (UNICEF and HPC, 2019). The study by UNICEF and HPC (2019) also highlights that educational attainment may serve as a prevention mechanism; higher levels of education are associated with decreased levels of child marriages for those under 18 and 15 years, based on secondary analysis of DHS datasets. There are strong links between child marriage and education amongst Syrian girls; in Azraq camp, it was found the 16 per cent of girls (15–17 years old) are not in school due to being either married or engaged (UNICEF and HPC, 2019).

The same study revealed that social norms are the key driver of child marriages in Jordan; the decision to enter into early marriage is driven by inherited beliefs and customs from reference groups (such as community pressure, grandparents, or tribal elders) and is reinforced by sanctions if these norms aren't followed (gossip, being ostracized, loss of respect, loss of reputation (sutra) (UNICEF and HPC, 2019).

Following the recommendations in that study, awareness should be raised of both the value of education and of the consequences of early child marriage; legislation and policies alone, without significant social-norms and life-skills programming, will not reduce child marriages. The drivers of child marriage were mapped against several social and behavioural change frameworks, highlighting that in order to address the root causes, a multi-sectoral approach is crucial, including the involvement of child protection, youth, social development, justice, health education, and planning.

Chapter 6

Conclusions and recommendations

"My family couldn't afford to send me to school. I miss it.

"Education is important for every human being. If one is educated, then their future would be bright,"

Fatima, 16.

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This report builds on the ongoing shared commitment of the Ministry of Education and UNICEF to address school exclusion and continue ensuring equitable and quality education for all. Jordan not only successfully fulfilled the vision for education of the MDGs, it has been working towards the achievement of the SDGs ever since. In the Government's roadmap "Jordan 2025" towards the SDGs, investment in quality education is seen as key to achieving prosperity. This commitment is further reiterated in the National Strategy for Human Resources Development (2016–2025) and the Education Strategic Plan (ESP) 2018–2022. This concluding chapter synthesizes the key findings of the report and provides inputs to the continued discourse on education in Jordan.

Methodology

The study identifies the profiles of out-of-school children and those at risk of dropping out in Jordan. It employs the analytical framework of the Global Out-of-School Children Initiative (OOSCI).

The analysis on Out-of-School children is primarily based on the **MOE's EMIS data from 2011/12 to 2017/18 and projections of the 2015 population census from the Department of Statistics (DOS)**. This study identifies **children at risk of dropping out as those who are at least two years older than the recommended age** to start the grade they are attending.

It also draws on the 2017/18 Demographic and Health Survey (DHS) for school attendance, and the 2016 Jordan Labor Market Panel Survey (JLMPS) to calculate school dropout and returns from education. As the JLMPS datasets allow for disaggregation by sex, age, nationality, residential area, wealth quintile, household income, and parents' education, it was used to identify and estimate factors that predict school dropout.

6.1. Key Indicators

The study finds that a total of 112,016 children in Jordan are not attending basic education (Grades 1 to 10); of which **54,761 children are primary-school age (6–11 years) and 57,255 children are of lower–secondary school age (12–15 years).** The national out-of-school rate for primary-school aged children has not increased since 2014, a notable achievement given Jordan has welcomed over 660,000 Syrian refugees since 2011.**(UNICEF MENARO, 2014).**

Numbers and rates of out-of-school children and at-risk children by gender and age cohort are as follows:

	Girls		Boys		Total	
	Number	%	Number	%	Number	%
Out-of-school children						
Primary school age 6–11	27,711	4.8%	27,050	4.5%	54,761	4.7%
Lower secondary age 12–15	25,715	8.1%	31,540	9.6%	57,255	8.9%
Total out of school (6–15)	**53,426**	**6.0%**	**58,590**	**6.3%**	**112,016**	**6.2%**
Children at-risk of dropping out						
Primary school age 6–11	10,370	1.8%	12,273	2.1%	22,643	1.9%
Lower secondary age 12–15	8,237	2.6%	9,767	3.0%	18,004	2.8%
Total at risk (6–15)	**18,607**	**2.1%**	**22,040**	**2.4%**	**40,647**	**2.2%**

Source: own calculations based on EMIS and DOS databases for basic education ages.

Out-of-school rates are higher for children of non-Jordanian nationality. **More than 39,800 Jordanians, 50,600 Syrians and 21,500 children of other nationalities are estimated to be out of school. Nationally, out-of-school rates are higher for boys than for girls, with the exception of Jordanians in the 6–11 age group** where girls have a higher out-of-school rate than boys.

	Out of school (%)			Number of out of school		
	Male	Female	Total	Male	Female	Total
Syrian (Grades 1–6, age 6–11)	19.8%	19.6%	19.7%	12,440	11,692	24,132
Syrian (Grades 7–10, age 12–15)	45.3%	40.9%	43.2%	14,230	12,280	26,510
Syrian (Grades 1–10, age 6–15)	**32.5%**	**30.5%**	**31.4%**	**26,670**	**23,972**	**50,642**
Jordanian (Grades 1–6, age 6–11)	1.6%	2.3%	1.9%	7,948	10,984	18,932
Jordanian (Grades 7–10, age 12–15)	4.1%	3.6%	3.8%	11,344	9,562	20,906
Jordanian (Grades 1–10, age 6–15)	**2.8%**	**2.9%**	**2.9%**	**19,292**	**20,546**	**39,838**
Other nationalities (Grades 1–6, age 6–11)	18.9%	16.0%	17.5%	6,662	5,035	11,697
Other nationalities (Grades 7–10, age 12–15)	30.1%	21.8%	26.2%	5,966	3,873	9,839
Other nationalities (Grades 1–10, age 6–15)	**24.5%**	**18.9%**	**21.9%**	**12,628**	**8,908**	**21,536**
Total	**6.0%**	**6.3%**	**6.2%**	**58,590**	**53,426**	**112,016**

Source: own calculation based on EMIS 2017/18 and DOS population data.

The number of children at risk of dropping out is 40,647, which is significantly lower in both absolute and relative terms compared to the last OOSCI report. Overall, 22,643 children are overage in primary school, and 18,004 in lower secondary school.

	Children of primary school age (age 6–11) who are at risk of dropping out of school.				Children of lower secondary school age (age 12–15) who are at risk of dropping out of school.			
	Boys	Girls	Total	GPI ratio	Boys	Girls	Total	GPI ratio
Nationality								
Jordanian	0.99%	0.77%	0.88%	1.286	2.93%	2.53%	2.73%	1.160
Syrian	11.27%	10.83%	11.09%	1.041	4.25%	4.38%	4.31%	0.970
Other nationalities	0.78%	0.61%	0.70%	1.279	1.34%	0.85%	1.11%	1.574
Total	**2.06%**	**1.81%**	**1.94%**	**1.138**	**2.96%**	**2.61%**	**2.79%**	**1.135**

Source: own calculation based on EMIS 2017/18 and DOS population data. GPI=boys%/girls%.

School dropout before the completion of basic education (Grade 10) is costly for both the individual and society. The study finds that **workers who did not complete basic education earn 13 per cent less** compared to those who completed basic education. Jordan loses approximately JOD 2.74 billion in present value of lifetime earnings due to school dropout before Grade 10. The estimated **economic loss due to school dropout** before Grade 10 is equivalent to **9.6 per cent of 2017 GDP** (i.e., JOD 28.5 billion).

6.2. Barriers to Education

The fact that some children are not going to school is the result of various supply and demand-side barriers. The report identifies key barriers to overcome in order to ensure access to inclusive and equitable quality education for all. Supply-side barriers related to continuity of school attendance include the following:

Infrastructure and Quality of Education:

Overcrowding in classrooms in urban areas is a barrier to children's schooling. The educational infrastructure is under mounting pressure due to the large increase in the numbers of students, making further investments in both physical and human resources necessary.

Relatively low compensation for teachers is frequently reported as a factor adversely affecting the quality of education, in addition to the limited training and professional development support for all teachers and school leaders. Most lessons in schools are teacher-led and textbook-oriented. There is insufficient monitoring of teaching and learning to support quality education. Limited assessment data to measure quality education represents a problem, as evidence is needed to identify areas for improvement that could help students to become more successful in their learning, particularly those at risk of dropping out.

For pre-primary education, while there is an ambitious goal to universalize KG2, this has not been accompanied by realistic planning or an adequate budget allocation to ensure the supply of KG2 services across the country. There aren't enough classrooms available to accommodate all KG2-age children (age five) in Jordan.

Violence in Schools

Though corporal punishment is outlawed in Jordan, students still report having encountered both physical and verbal abuse at school (MOE, 2016 as cited in UNICEF,

2017). This may lead to school dropout. Further professional development of educators, effective accountability and referral mechanisms, and awareness-raising to address social and teachers' attitudes towards corporal punishment – for example, through the intensification of the Ma'An programme at scale – may help reduce the prevalence of violence in and around schools.

Accessibility and inclusive education:

While disability does not appear to be a predictor of dropping out (perhaps due to insufficient data and analysis), it is likely that many children with a disability never enter education at all. According to the national Inclusive Education Strategy (2020), dropping out of school is an inevitable consequence of not providing programmes that meet the needs of children with disabilities at schools. The importance of including children with a disability or special needs is well recognized in Jordan. The Education Strategic Plan (ESP) 2018–2022 contains a specific component on inclusive education and for those with disabilities (MOE, 2018).

There is little reliable data available on the needs and challenges of children with disabilities in the school system. Children with disabilities still face considerable challenges in the public education system in Jordan. To date, 150 public schools in Jordan, including in the camps, are equipped to support the learning of children with disabilities (MOE, 2018). The vast majority are directly supported by UNICEF and NGOs rather than through the government budget. In order to ensure accessibility and inclusivity of children with disabilities in education, to the government will need to allocate significant resources to support the implementation of the national 10-year Strategy on Inclusive Education (2018–2022).

Demand-side barriers to continuity of school attendance include the following:

The perceived value of education and low returns from education:

The relationship between school attainment and potential earnings has implications for households' decisions to invest in education. The expectation of low returns from schooling is likely to reduce the time individuals spend in school. Low returns are due either to the quality of education or the characteristics of the labour market. For Syrian refugees, the lack of return is compounded by legal barriers to labour market entry.

Economic barriers:

Children from poor households are particularly at risk of dropping out of school before completing basic education (Grades 1–10). Even though basic education is free-of-charge (no tuition fees) for Jordanians and Syrian refugees, sending children to school requires families to spend money on school supplies and other expenses. Indirect costs, such as transportation, represent the biggest expenditure items for families with school-age children. Social protection, including cash transfers or school-feeding programmes, can play an important role in ensuring equitable access to education for all. It is important to expand and improve the effectiveness of social assistance programmes and to develop mechanisms to maximize coverage for the most vulnerable, in parallel with improving targeting criteria.

Gendered negative coping strategies and social norms:

Combined with concerns over the perceived safety of girls on their way to school (due to the risk of harassment), as well as societal preference to invest in boys' education, several gendered effects are noticeable in terms of coping strategies employed by households when faced with financial restraints, such as child labour and early marriage.

- Child Labour: Child labour is a result of the economic barriers discussed above, since schooling comes with opportunity costs and foregone earnings. Children in families at the bottom of the income distribution may have to work instead of going to school to complement their household's income. Child labour is more prevalent among boys than girls. As our analysis on reasons for dropping out for children of different nationalities indicates, 7.5 per cent of Jordanian boys, 6.5 per cent of Syrian boys and 22.1 per cent of boys of other nationalities indicate that engagement in the labour market is their reason for dropping out of school. Many aspects of the issue need to be addressed, including economic barriers, availability of programmes to engage child labourers, and the overall low expectation of returns from education.
- Early marriage: The key drivers of early marriages in Jordan are: (1) custom and tradition; (2) poverty; (3) broken homes / family disintegration; (4) lack of knowledge; and (5) sutra[42] (UNICEF and HPC, 2019). Syrian refugee girls are particularly vulnerable to child marriage; in 2018, 1 in 3 of newly registered marriages of Syrians in Jordan involved a child under the age of 18, which suggests that Syrian families are increasingly relying on child marriage as a coping mechanism. The prevalence of child marriage declines as wealth increases; child marriage is believed to alleviate the economic burden on families but is also intended to provide financial stability and security (UNICEF and HPC, 2019). Girl's education is a strong preventative factor against child marriage, if attitudes (particularly parental attitudes) are addressed. The transition from primary to secondary school and the completion of secondary school are very important for reducing child marriages. Social norms underlying child marriage need to be addressed through interventions, as legislation and policies alone will not be enough.

6.3. Towards Pre-Primary Education for All

Pre-primary education is a national priority as recognized in the statement **included under Component 1 of the National Education Strategic Plan (2018–2022) that KG2 would progressively be made universal.** This is an important step, because pre-primary education is a crucial investment in children's cognitive and social development. It improves school readiness and reduces the developmental gap that children from disadvantaged backgrounds experience.

There is still considerable progress to be made before pre-primary school access and attendance is universal in Jordan. Only one in three five-year-old children (38 per cent) attend pre-primary or primary school, whilst 62 per cent remain out of school.[43] **There are large disparities in pre-primary enrolment between regions and governorates;** in Central Jordan, the pre-primary adjusted net attendance rate (ANAR) is 31 per cent, compared to 64 per cent in the Southern region.

Pre-primary **attendance rates (children aged five-years-old) are highest for Jordanian girls (42 per cent) and lowest for Syrian girls (12 per cent)**. While more Jordanian girls than Jordanians boys attend pre-primary or primary education, the percentage of five-year-old boys attending pre-primary or primary education is higher among Syrians and other nationalities.

42. Sutra combines financial stability and security, along with protection of girls' reputations (UNICEF, 2019).
43. According to MOE, for the year 2018/19 the GER for KG2 is 62.2% and the NER 61.4%, while the 38% finding in the report is based on DHS data from 2017/18

Gender parity in access to education varies across the country: in eight of the twelve governorates, five-year-old girls are more likely to be in pre-primary school than boys. It is also important to note that pre-school teaching in Jordan remains a profession reserved for women; steps need to be taken towards achieving gender parity amongst teachers as well, as there is currently a lack of male nurturing models for young children, which is detrimental to the development both of girls and boys.

Pre-primary attendance is at a rate of only 22per cent in the poorest quintile. Low access to pre-primary education among poorer children is particularly worrying because pre-primary education is known to reduce development gaps for disadvantaged children. As shown by the profiles of children who are most at risk of exclusion from schools, children from households with low levels of human capital (parents with school attainment not surpassing basic education) and children at risk of dropping out of school at later stages of education (children with absent parents, children in large households) need particular attention and support with regards to access to pre-primary education.

It is recommended that the Government of Jordan, with the support of partners, implements the following actions to improve access to pre-primary education:

Planning and financing:

Develop a detailed, participatory, and realistic plan to progressively achieve universal pre-school education and (once supply is available) make at least one year of quality pre-school mandatory, in line with SDGs and ESP. Both public and private sectors need to be included in the plan, given the high share of pre-schools operated by private organizations in the country.

Allocate government resources to create pre-school infrastructure (recent needs assessment estimated that 24 million JOD is needed for full absorption of incoming KG students), to ensure availability of services through increasing the number of available classrooms for KG2 to progressively increase enrolment to rates to 100 per cent.

Create a legal and administrative environment in which private organizations can more easily attain pre-school licenses and explore different financing models for KG2, such as Public Private Partnerships (PPP)

Ensure access for the most vulnerable:

In the progressive roll-out of pre-primary education, certain groups of vulnerable children should be given priority, namely: children living in governorates with pre-primary net attendance rate below the national average (Madaba, Zarqa, Balqa and Amman); children from households with low levels of human capital (parents with school attainment not surpassing basic education) or financial capital (poor households); children at risk of dropping out of school at later stages of education.

Make public pre-schools free-of-charge and support vulnerable families financially to help meet indirect costs such as for transportation and materials. This could be achieved through social assistance programmes, such as vouchers or cash transfers like Hajati-KG2. Invest in the provision of transportation and other free services to facilitate enrolment and retention.

Ensure accessibility for children with disabilities, through additional investment in adequate physical infrastructure, assistive technology and resources, trained teachers and assistant teachers, provision of transportation to children with disabilities, drafting guidelines that forego the discretion of teachers on the admittance of children, and investing in awareness campaigns to address the value of education for children with disabilities.

Ensure quality of education:

Develop new policies on teacher professional development and the accreditation of teachers – the use of professional standards to ensure greater accountability for teachers and schools needs to be systematically introduced and embedded to ensure educational reform.

Change policy to allow and encourage males to teach pre-primary education, as it is currently a female-dominated field with a lack of male nurturing role models.

Address violence in schools through implementing anti-violence programmes at scale.

6.4. Increase Equitable Access to Quality Basic Education (Grades 1–10)

Jordan has made remarkable progress in ensuring access to education for children of primary and lower secondary school age, including for refugees. A combined total of 112,016 children of primary and lower secondary school age are out-of-school, an increase from 2011/12. However, the total population of children aged 6–15 years increased by approximately 29 per cent between 2011/12 and 2017/18, partly attributable to the increase in the number of Syrian refugees.

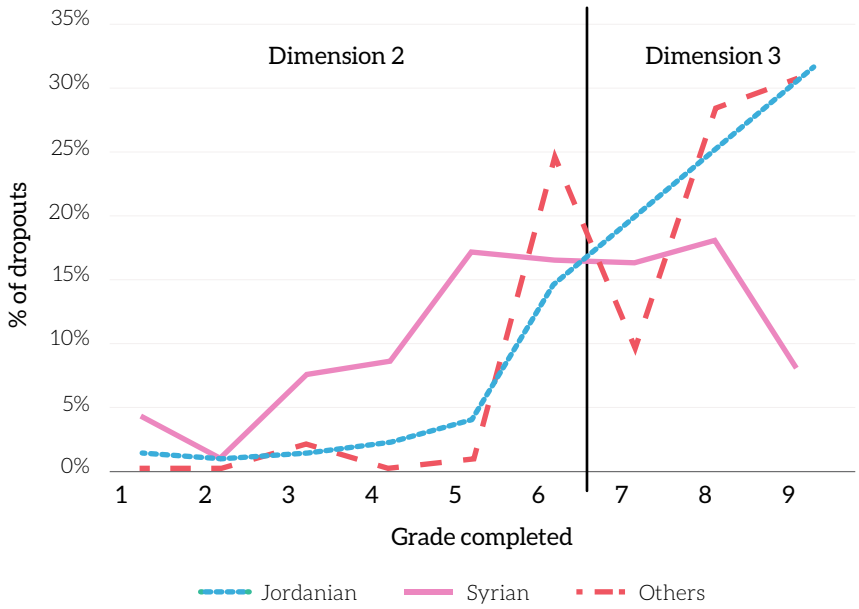
The highest numbers of children out of school are registered in Amman, Mafraq, Zarqa and Irbid governorates. **In Mafraq, 19 per cent of primary school aged children and 24 per cent of lower secondary school aged children are not in school.**

Children that are out-of-school may have dropped out or they may have never entered school at all. In Jordan, the share of children aged 6–17 that has never been in school is an estimated 1.6 per cent. For children aged 9–15, this is true of less than one per cent. **The share is highest for six-year olds, but not having entered school at this age does not imply that they never will in the future.** Overall, boys account for 55 per cent of the children that never entered school. **The percentage of**

children that never entered school is highest for Syrian children, with 3.9 per cent versus 1.3 per cent for Jordanian children. Still, Jordanians account for 71 per cent of all children that never entered school. Most of them live in the governorate of Amman (39 per cent). The likelihood of never going to school is highest (3 per cent) for children belonging to the poorest wealth quintile. The poorest wealth quintile also accounts for 40 per cent of all children that never entered school.

Dropping out of school is not a single event but rather a process driven by interconnected risk factors and barriers. The analysis found that children from **poor households, children with disabilities, boys, and children of mothers without formal education** are at a higher risk of leaving school early. Children belonging to the poorest 20 per cent are about 10 per cent more likely to drop out of school than similar children from the richest 20 per cent. Over 29 per cent of boys aged 12–15 whose mother did not complete school were not attending education in 2018 – a stark contrast to the same age group's national average of 8.9 per cent.

While **children are unlikely to drop out during the first six years of school,** there is a peak in dropout rates after completion of Grade 6, and most dropouts leave school just before completing the last grade. Given that there is no exit exam at the end of basic education, it is unclear why there is a spike in dropout rates after Grade 9.



Source: own calculations based on JLMPS 2016. (Figure 24)

The **incidence of Syrian children dropping out before completing grade 6 is considerably higher** than for Jordanian children and children of other nationalities. Less than 4 per cent of Jordanian dropouts have left school before finishing grade 6 compared to 17 per cent of Syrian children. Syrian children are in a particularly vulnerable situation because their education has been disrupted by war.

For Jordanian children, **constraints related to household income and human capital** are key demand-side barriers to education. Child labour is a result of financial constraints. For households in difficult economic circumstances, keeping children in school means foregoing the potential income they could be earning if they were working instead. Plenty of international evidence shows that **social protection programmes can counterbalance these opportunity costs and increase children's school attendance.** Combined with interventions to improve the quality of education, this can lead to improved learning outcomes for vulnerable children. Syrian and non-Jordanian children **may face barriers to enrolment in Jordan due to a lack of documentation.** Whilst basic education is free-of-charge for Syrian children, this is not the case for other nationalities.

Finally, **children with disabilities still face considerable challenges in the public education system in Jordan.** According to estimated data from the school year 2018/19, up to 79 per cent of children with disabilities may be out of school. However, as the National Education Strategy points out, there is little reliable data available about the needs and challenges of children with disabilities in the school system. The Strategy notes that the strategic priority area of inclusive education should be supported by solid administrative and survey data, with the aim of developing a concrete roadmap, accessible infrastructure, prepared teachers and a public that is aware of children's right to inclusive education.

Certain individual, household and community-related factors are associated with a higher risk of dropout before completing basic education (Grades 1–10). Predictors of school dropout include: being a boy; Syrian nationality; an absent mother; parents with low educational attainment; large household size; being poor; and living in an urban area. Living in communities operating double-shift schools reduces the risk that non-Jordanian children drop out of school.

For boys and girls, the risk factors differ to some extent or are of different magnitude. Girls, whose parents are absent (or of whom just the mother is absent); who are of Syrian nationality; or are already married, have the highest risk of dropping out. Yet, for boys, just being a boy comes with a 7 per cent risk of dropping out compared to girls. While additional risk factors are similar to those affecting girls, being a Syrian boy comes with a dropout risk of 20 per cent. Further combinations of risk factors show that children at particularly high risk of dropping out before completing basic education are boys in poor households, living in urban areas; girls in poor households, especially if already married; and Syrian boys living in urban areas.

Primary and lower-secondary education in Jordan is compulsory until the completion of Grade 10 but dropping out of school remains a challenge with long-term negative implications for individuals and society. There are various policy and programmatic actions that would increase equitable access to quality basic education:

Policy:

- Ensure fee free access to basic education for all children, irrespective of nationality (fee free education).
- Increase the government budget for catch-up and drop-out programmes to provide education to those children that are already out of school and simplify pathways for children to reintegrate into formal education.
- Reconsider the policy of not allowing children more than three years above the correct age for grade to enrol in formal education, and develop alternative and age-appropriate means of inclusion.
- Enable all children to access formal education, irrespective of nationality, by increasing the flexibility of administrative practices for school enrolment.

Ensure access to education for the most vulnerable:

- Design interventions and support targeted outreach for children particularly vulnerable to exclusion:
  - Children aged 6–11; residing in Mafraq, Irbid, Zarqa, and Amman;
  - Children above the age of 12: particularly boys in Irbid and Azraq and girls in Balqa, Madaba, Irbid, Mafraq, Karak and Tafileh.
  - Children of Syrian and non-Jordanian nationalities (particularly boys), and Jordanian adolescents in urban areas.
  - Children who never entered school (or are late to enrol)
  - Children (and particularly boys) whose mother never completed basic education or whose mother does not live in the same household.
  - Children in larger households and those who fare worse economically.
  - Children with school performance below expectations.
- Extend social protection measures that reduce the direct costs and opportunity costs of attending education, such as cash transfers, school meal programmes, and school busing, and ensure that children with higher risks of exclusion are reached by these interventions.
- Resource and implement the 10-year Strategy for Inclusive Education to enable children with disabilities to achieve the full enjoyment of education and access to all programs, services and facilities.
- To support children facing child labour as a barrier to education:
  - Increase availability of psycho-social services, enhance linkages between education and improved employment opportunities (TVET), extend social protection programmes and engage communities.
  - Strengthen inter-sectoral referral and case management pathways, and the identification and monitoring of vulnerable school-aged children, with the participation of the MOE and schools.
  - Targeted re-enrolment of children in formal or NFE programmes.
- Married girls or those at risk of early marriages:
  - Support completion of basic education, especially as girls reach lower secondary school (from age 12) and transition to higher grades.
  - Invest in specialized psycho-social support systems, comprehensive case management, and childcare for girls with children so they can complete their education.

- Provide life skills and empowerment programmes to adolescent girls.
- Train educators and students to ensure a safe and supportive school environment (in person and online) for all students, including for at risk adolescent girls.

Ensure quality of education:

- Invest in providing teachers with pre- and in-service training
- Invest in strong administrative records that allow for the detection of grade repetition, tracking, and assessing children. Potential areas on which to focus these efforts are: ensuring that all schools are linked into the EMIS; reducing the burden on teachers or data-entry clerks and incentivize timely and accurate data entry; creating awareness of the relevance of these data among school principals by reporting back about the school's performance; setting benchmarks and allowing easy access to comparable data; and establishing a system of periodic data analysis and learning at both the school-level and the Ministry-Level.
- Review how raw assessment data is collected accurately and transparently at all levels of the school system and how the data is used for policy decisions and interventions to adequately support students.
- Support school leaders to develop a better understanding of the importance of measuring learning outcomes; using and analyzing the data to improve the quality of education and to identify children who require support in order to remain engaged and learning.
- Develop School Principal Leadership Standards and revise the School Directorate Development Plan with a focus on learning and using assessment outcomes for planning; there needs to be a coordinated effort by the MOE and partners to ensure that data-driven planning and instructional leadership becomes the norm in schools, in addition to strengthening middle management in schools.
- Provide additional/remedial support to children at risk of dropping out due to disengagement or bad performance, and particularly for Jordanian children who tend, for these reasons, to leave during the last years of education, paying attention to adolescent boys in urban areas.
- Build the capacity of school counsellors and teachers to improve the psycho-social well-being of students.
- Continue to tackle violence in schools through supporting the Ma'An programme that aims to address, at scale, societal and teacher's attitudes to corporal punishment.
- Develop new policies on teacher professional development and the accreditation of teachers – the use of professional standards to ensure greater accountability for teachers and schools all need to be systematically introduced and embedded to ensure educational reform.
- Explore new and innovative ways to encourage males into the teaching profession.

6.5. Increase Returns from Education in Jordan

Education is an investment in human capital, generating long-lasting returns for individuals and society. These returns are most clearly shown in the labour market. An **additional year of education translates to a 4 per cent increase in earnings** for the average Jordanian worker. But labour market inefficiencies reduce the extent to which education translates to higher individual earnings.

The returns from education differ considerably for Jordanians and Syrians. While for a Jordanian worker, the wages are expected to increase by almost 4 per cent with each additional year of schooling, the corresponding figure for Syrians in Jordan is not statistically significant, which means that **for the Syrian population, there is no direct association between earnings and education.** This is likely due **to labour market policies that restrict the sectors Syrians are allowed to work in.**

Overall, **labour force participation in Jordan is low,** particularly among women: only 10 per cent of the female and 57 per cent of the male labour force has been employed in 2016. Low labour force participation has far-reaching implications for education as an investment, as those who are **not economically active forego (monetary) returns,** for themselves and for society as a whole.

	Level of education attained by worker					
Level of education required for job	**Illiterate**	**Reading & writing certificate**	**Basic**	**Secondary**	**Post-Secondary**	**Higher education**
No formal education	96.1%	87.4%	64.7%	53.6%	33.6%	12.2%
Primary	2.4%	8.9%	10.3%	3.0%	0.2%	0.4%
Secondary	1.4%	3.6%	24.6%	36.6%	15.7%	7.2%
Higher education	0%	0.1%	0.4%	6.9%	50.6%	80.2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

A further inefficiency in the labour market is the mismatch between skills required and the skills attained by workers. There is a tendency for workers to be employed in a job that requires a lower level of education than that which they have attained. For example, more than half of those who completed secondary school work are in positions that require no formal education. Among those with a tertiary degree (Bachelor's or higher), every fifth person has a job that requires a secondary certificate at most, and every eighth person works in a position with no formal education requirements. This signals a lack of quality jobs and poor skill-matching in the labour market, whereby (potential) workers struggle to find employment that matches their qualifications. Such a pattern can limit the earning premium of schooling.

To address and combat these issues, a combination of education and labour market policies are needed:

Improve access to labour market and address structural inequalities:

- Advocate for inclusive labour market policies, particularly for non-Jordanians, through the expansion of work permits and encouraging formal market employment through the expansion of social security and health insurance programmes.
- Advocate for gender-transformative policies, including support for improving the working conditions of women (such as provision of childcare, transportation, and of maternity leaves) and equal pay.
- Support licensing of home-based businesses, simplifying registration procedures for small businesses, and reducing the costs of doing business in Jordan.
- Engage with the private sector to encourage entrepreneurship, especially for small and medium-sized enterprises, and promote entrepreneurship by reducing costs, bureaucracy, business disruption, and legal gaps.
- Harmonize working conditions between the public and private sectors.

Address low expected returns from education:

- Empower the Skills Commission to support provision of quality TVET programmes and linkages to post TVET job opportunities.
- Ensure alignment between education and labour-market demands, by performing regular in-depth analysis of demand and supply in the labour market and sector skill analysis (in cooperation with the private sector), the results of which should inform strategic decisions about vocational training and active labour market policies.
- Enhance vocational education curriculum in formal schools and develop new teaching to include a proactive approach to supporting students in gaining access to, and experience of, the labour market while still in school, making use of local partnerships with businesses, commerce, and vocational centres.
- Incorporate "employability skills" into the curriculum from early grades, in addition to internships or volunteer work for girls and boys, including in traditionally male-dominated sectors.
- Implement programmes for students to familiarize them with a variety of education and career options, including vocational training.
- Highlight the non-monetary benefits of education, such as adaptability, social and cultural capital, mental and physical health, and societal benefits.

Concluding Remarks

Concluding Remarks

This Jordan Country report on out-of-school children is the product of a year-long collaboration between the Ministry of Education and UNICEF, motivated by a shared commitment to address school exclusion and to continue ensuring equitable and quality education for all. The report identifies the numbers and profiles of out-of-school children and children at risk of dropping out, discusses the barriers that contribute to their current or potential exclusion from education, and provides recommendations for improving ongoing efforts. The recommendations offered represent suggestions that are not meant to be prescriptive, but rather starting points to expanding dialogue amongst stakeholders enabling them to take decisive, data-driven actions for eliminating education exclusion.

Chapter 7

Postscript to the Out-of-School Children Study

Purpose

The purpose of this postscript is to reflect on the key findings of the Out-of-School Children Study, within the context of the disruption to learning caused by COVID-19. This note sets out the education situation and response since March 2020, including the implications of key surveys and research conducted during the pandemic for vulnerable and out-of-school children.

Recommendations drawn from UNICEF Jordan's global knowledge report: Good Practice and Lessons Learned on Distance Education during COVID-19[44] are intended to support the Ministry of Education and other stakeholders to make data-driven and evidence-based decisions to accelerate children's learning recovery during and after the pandemic.

COVID-19 education responses and challenges in Jordan

On 15 March 2020, the Government of Jordan closed all schools, kindergartens and universities, impacting **2.37 million learners.**[45] To ensure that children could continue to learn during school closures, the Ministry of Education formulated the Education During Emergency Plans and leveraged expertise and resources for immediate responses in coordination with the education donor group and sector partners. The Ministry of Education launched **the online education platform Darsak to facilitate remote learning through online lessons for children in Grades 1–12.** The **Noorspace platform was established as a learning management system** to provide schools and teachers with tools to enable tracking attendance, monitoring engagement, and setting assessments. **Teacher development was also provided via Jo Teachers** – a website through which teachers can obtain 90 training hours of professional development courses, including content on effective engagement in e-learning. In addition, technical UN agencies and NGOs undertake educational needs assessments and deliver interventions to children in need of assistance in refugee camps and other communities.

However, the nationwide school closures, coupled with geographical and socio-economic disparities in access to distance learning, has adversely affected living conditions and learning opportunities for children in Jordan. According to the UN multi-sectoral rapid needs assessment:[46]

- **Only 54 per cent** of 1,124 vulnerable households under survey had connected to the MOE-**Darsak** online learning platform, meaning many children have participated in little or no education since March 2020.
- **Over 23 per cent** of vulnerable households did not have a regular internet connection or device, and many more lack enough parental learning support or conducive learning environments to engage in learning from home.
- **Over 26 per cent** of those surveyed reported having used **emotional or physical violence** against children (with representations higher among large households).

These challenges are likely to have a negative effect on the low literacy and numeracy skills of primary school children. Before the pandemic, **over 52 per cent** of 10-year-old children in Jordan were not able to read an age-appropriate text. Before the COVID-19 crisis, learning outcomes were improving, but significant **inequalities remain, by gender and nationality.**[47] The World Bank Forum estimates that 25 per cent of learning is lost over the summer break. It is expected that learning loss has been significant for those students unable to engage with remote learning and that school closures could worsen the pre-existing learning crisis.[48]

44. UNICEF, 2020 "Global Knowledge Report: Good Practice and Lessons Learned on Distance Education during COVID-19."
45. UNESCO, "Global Monitoring of School Closures Caused by Covid-19," <https://en.unesco.org/covid19/educationresponse>, accessed 27 August 2020.
46. UNHCR/UNICEF/WFP, May 2020, <www.unicef.org/jordan/reports/multi-sectoral-rapid-needs-assessment-covid-19-jordan>.
47. OECD, Education GPS, PISA 2018 Jordan, <https://gpseducation.oecd.org/CountryProfile?primaryCountry=JOR&treshold=10&topic=PI>.
48. World Bank, 'The COVID-19 Pandemic: Shocks to Education and Policy Responses,' World Bank, Washington, D.C., May 2020, <https://openknowledge.worldbank.org/handle/10986/33696>.

Multifaceted barriers to schooling within the COVID-19 context

The Out-of-School Children Study is based on the analysis of administrative data from the Ministry of Education that precedes the COVID-19 pandemic and the subsequent school closures. However, the findings of the study should alert education policymakers and other stakeholders to the fact that **already out-of-school children or at-risk children could be particularly vulnerable to the social and economic impacts of COVID-19.** The pandemic could exacerbate the risks of learning loss for those most vulnerable.

The study reveals that **the existing structural inequalities** along the lines of gender, nationality, geographical and socio-economic characteristics, in addition to supply- and demand-side barriers to education, **result in the incidence of children being out of school and increase the risk of dropping out for children currently enrolled in schools. School closures therefore carry the risk of increased disparities in access to learning opportunities and an increase in the incidence of school dropouts.** Amongst the most affected groups in Jordan are the poorest girls and boys, refugee children, those living in informal tented settlements, refugee camps and children with disabilities.

According to the study, out-of-school rates are higher for children of non-Jordanian nationality. **More than 50,600 Syrian refugee children, 39,800 Jordanians, and 21,500 children of other nationalities are estimated to be out of school.** Nationally, **out-of-school rates are higher for boys than for girls, apart from Jordanians in the 6–11 age group** where girls have a higher out-of-school rate than boys. **The number of children at risk of dropping out in the school year 2017/18 was 40,647.**

The study suggests that those out-of-school children or children at risk of dropping out often face multiple barriers to schooling in their respective social and economic situations. This implies that their vulnerabilities may well be exacerbated within the existing multi-dimensional challenges in accessing remote learning during and after school closures. The main challenges are discussed as follows.

COVID-19 has impacted economies and working families' ability to provide for their children, with vulnerable populations having been disproportionately impacted by the pandemic. The curfew and sector closures have impacted employment and brought about low expectations for job security in the country: only 46 per cent of Jordanians and 35 per cent of refugees reported **having a secure job to which they can return.**

Syrians are a particularly **economically vulnerable group** in Jordan. According to an ILO and FAO rapid impact assessment[49] on COVID-19 impacts on workers in Jordan, 35 per cent of Syrians and more than 17 per cent of Jordanians who had been employed before the crisis have lost their jobs. Over 95 per cent of surveyed Syrian households reported a decrease in their income, compared to 90 per cent of surveyed Jordanian households.

Worsening economic conditions and income loss on the household level increases the risk of families **resorting to negative coping mechanisms such as child labour and child marriage.** This, in turn, puts at risk the likelihood of adolescents returning to education when schools reopen. According to Jordan Labour Watch,[50] there has been an increase in the number of reported child labour cases in Jordan during COVID-19, with the total number of child labourers now at 70,000. **Psycho-social support and care for the distress** of victims of child labour are increasingly needed.

49. ILO, FAO, May 2020, <www.ilo.org/beirut/media-centre/news/WCMS_743388/lang–en/index.htm>.
50. Jordan Times, Jordan's COVID-19 crisis expected to cause rise in number of child labourers — JLW, June 2020, <www.jordantimes.com/news/local/jordans-covid-19-crisis-expected-cause-rise-number-child-labourers-%E2%80%94-jlw>.

Further, there are concerns regarding the expected increase in child marriage in Jordan. The Demographic and Health Survey data shows a gradual decrease in child marriages between 2007 and 2012 for those under the age of 18 and, to a lesser extent, for those under the age of 15. However, the most recent 2017/18 data shows an increase in marriage for both those under 15 and 18 years of age.

Gender inequalities have also been exacerbated during school closures, with early research and reports showing girls to be less likely to be allowed access to ICT equipment and devices needed for online learning from home.

For those children from families of lower socio-economic status, online distance education is not always an option. Whilst different online education platforms have been in place in Jordan, the already out-of-school children and those from poor families and their caregivers often have **limited levels of digital literacy. This poses a challenge for their ability to utilize and engage with the learning platforms and has made the provision of remote learning difficult to achieve.**[51]

Students' degree of participation in remote learning, as well as their retention, levels of engagement, and the quality of learning **may lead to poor learning outcomes and result in significant learning loss**. These issues, coupled with worsening economic conditions, **may give rise to negative coping mechanisms and result in school dropout.** Jordan may witness an increase in the number of out-of-school children and those at risk of dropping out.

Ways forward

UNICEF Jordan's "Global Knowledge Report: Good Practice and Lessons Learned on Distance Education during COVID-19"[52] suggests that there are five major risks associated with school closures: **(1) student loss of learning; (2) threats to physical and mental health; (3) increased student dropout; (4) increased risk of teacher attrition; and (5) a decrease in educational financing.** Taking the analysis of the out-of-school children study into account, the following measures need to be taken in order to mitigate the risks related to school closure and to reduce the risks of dropout. These suggested ways forward are mainly derived from the aforementioned global knowledge report.

Equity in Access:

- To maximize the reach of remote learning for the most vulnerable children (i.e., out-of-school children and at-risk children), a multi-platform approach is needed, combining internet, TV and/or radio, and supplemented with print materials. Once schools reopen, these media can be used in blended learning approaches, in which technology-based education is combined with face-to-face learning.

National and school led approaches are needed to deliver remote learning:

- National-level interventions for the delivery of remote learning should focus on: (1) supporting teachers and parents with centrally curated learning materials, resources and guidelines; (2) clear, consistent coordination and communication strategies; (3) enhancement of infrastructural capacity and access to educational resources for vulnerable girls and boys, including those with disabilities; and (4) ensuring parental support for remote learning.

Crucial roles of teachers:

- Teachers require support in setting up the structure and content of new learning provisions. Teachers also need professional development to harness the potential of technology and to teach effectively through new media. COVID-19 highlighted both the crucial role of teachers and the fact that

51. UNICEF, 2020, "Global Knowledge Report: Good Practice and Lessons Learned on Distance Education during COVID-19.
52. Ibid.

they are often poorly prepared to meet the current challenges.

- In order to contribute to effective student learning and reduce risks of school dropouts, technology has to be combined with appropriate pedagogical approaches, such as scaffolding and building on prior knowledge. Technology is most effective for remote learning when it is used to supplement or complement, rather than replace teachers.

Targeted learning recovery programmes to mitigate learning loss:

- Evidence shows that students from poorer socio-economic backgrounds are less able to benefit from remote learning, particularly during school closures. This is particularly the case for girls, refugees, and children with disabilities. Targeted learning recovery interventions, such as catch-up or accelerated learning programmes, can help to mitigate increasing inequalities. Such efforts should be designed to make education systems more inclusive and resilient, with the intention to 'build back better' during and after the current crisis.

- While access to technology is an important aspect of the digital divide, other barriers contribute to the risk that COVID-19 will exacerbate existing inequalities. These include: the lack of remote learning provision appropriate for children with disabilities; gender barriers; disparities in the capacities of schools to deliver remote learning; or the lack of parental support, parental literacy, and parental digital literacy. Parental support is crucial for both remote learning and learning-recovery interventions. Where this is lacking, community volunteers may be needed to ensure that the most vulnerable children have the support they need to continue learning.

Mental health and psycho-social support for children:

- The COVID-19 pandemic has posed unprecedented challenges that may adversely affect the mental health of children and young people; these include lockdown, school closures, social isolation and economic pressures. These stresses may also exacerbate existing gender inequalities.

- Teachers and school counsellors have a crucial role to play in identifying at-risk children and providing psycho-social support during and after school closures. Evidence shows that children's well-being, resilience and self-esteem can be supported through the development of e-learning materials, videos and online training for teachers and caregivers, focusing on mental health and psycho-social support.

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VI. ANNEX

VI.1. Appendix 1. EMIS and DOS data and methodology

VI.1.1. Data

VI.1.1.1. DOS population data

The Department of Statistics provided population data at the district level. For the years 2011–2016, we have information on the number of children by age and gender. For 2017, we have a further breakdown of the total number of children by age and gender at district level, disaggregated by Jordanian, Syrian and other nationalities. Note that the data on the Syrian population stems from UNHCR and was incorporated by DOS. The number of children aged 6–17 has increased from 1,705,633 at the end of 2011 to 2,085,154 at the end of 2017 (Table 15).

Table 15:
Number of children aged 6–17, 2011–2017, by governorate

Children AGE 6–11							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	19,996	19,776	21,246	20,785	21,515	24,193	23,813
Amman	315,058	331,132	348,420	361,592	387,157	395,873	412,351
Aqaba	20,494	21,137	22,464	23,108	24,608	25,715	26,525
Balqa	61,165	62,950	66,191	69,068	73,072	76,465	78,727
Irbid	155,577	158,655	178,062	190,890	193,534	203,361	209,736
Jerash	26,649	27,090	29,271	30,748	31,917	33,556	36,114
Karak	35,094	35,740	38,506	39,525	41,375	43,493	43,932
Ma'an	17,538	18,034	19,302	19,953	20,955	22,222	23,290
Madaba	23,279	23,048	25,388	26,093	27,459	28,111	30,004
Mafraq	58,609	58,951	72,031	73,664	75,804	88,593	98,473
Tafilah	13,186	13,327	13,940	14,049	14,719	15,818	15,548
Zarqa	128,331	132,400	140,488	150,554	154,331	165,391	170,096
Total	**874,976**	**902,240**	**975,309**	**1,020,029**	**1,066,446**	**1,122,791**	**1,168,609**

Children AGE 12–15							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	12,808	12,494	12,917	12,555	12,720	13,672	13,879
Amman	193,399	197,038	200,082	204,663	217,733	217,464	238,264
Aqaba	11,466	11,615	11,883	12,421	12,261	13,202	13,653
Balqa	35,779	35,857	36,311	37,114	37,790	38,669	40,655
Irbid	101,806	100,485	104,242	108,318	107,444	116,719	118,386
Jerash	16,666	16,366	15,958	16,060	17,157	17,631	17,848
Karak	20,766	20,820	21,117	21,195	22,278	23,096	23,415
Ma'an	10,238	10,156	10,166	10,110	10,234	10,977	11,094
Madaba	14,672	13,589	13,719	14,020	14,346	15,316	16,275
Mafraq	34,684	34,785	35,371	36,290	31,403	39,484	47,398
Tafilah	8,217	7,893	7,957	7,914	7,902	8,747	8,524
Zarqa	78,482	79,314	79,726	83,037	84,940	88,878	96,449
Total	**538,983**	**540,412**	**549,449**	**563,697**	**576,208**	**603,855**	**645,840**

Children AGE 16–17							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	7,995	8,132	7,902	7,760	5,947	7,268	6,052
Amman	105,435	106,851	103,655	103,884	95,069	90,324	97,663
Aqaba	6,327	6,446	6,247	6,119	4,611	5,687	5,611
Balqa	18,150	18,483	17,926	17,577	14,853	16,383	16,103
Irbid	52,232	53,505	48,555	50,039	49,924	45,464	52,349
Jerash	9,667	9,849	9,544	9,353	7,012	8,701	8,009
Karak	11,241	11,450	11,094	10,879	8,620	10,127	9,732
Ma'an	5,625	5,732	5,554	5,554	4,184	5,056	4,445
Madaba	8,565	8,694	8,479	8,343	7,588	7,880	7,203
Mafraq	18,159	18,572	17,875	17,446	15,670	15,969	19,116
Tafilah	4,386	4,456	4,342	4,342	3,376	4,023	3,569
Zarqa	43,892	44,896	45,987	37,981	33,943	38,545	40,853
Total	**291,674**	**297,066**	**287,160**	**279,277**	**250,797**	**255,427**	**270,705**
Total children	**1,705,633**	**1,739,718**	**1,811,918**	**1,863,003**	**1893451**	**1,982,073**	**2,085,154**

Source: DOS

VI.1.1.2. EMIS Panel 2011/12 – 2017/18

QRC (through UNICEF) has provided annual data from EMIS at school level for the school years 2011/12 to 2017/18. The school-level data contain, among others, information on the number of children attending school per grade disaggregated by gender. The annual files have been merged into a panel dataset, which contains the information for all seven years. As Table 16 shows, the number of schools in EMIS has increased over time from 6,172 schools in 2011/12 to 7,262 schools in 2017/18. The number of students enrolled in school (Grades 1 to 12) has also increased over time from 1,580,007 in the school year 2011/12 to 1,923,804 in 2017/18 (Table 17). In preparation for the analysis, the annual EMIS school-level data have been collapsed at the district level and then merged with the DOS population data.

Although the panel setting of the data allows analysis of enrolment trends over time, the analysis is limited to gross enrolment as the data do not contain age-specific information on the students. Neither is it possible to distinguish between different nationalities.

Table 16:
Number schools included in the EMIS panel per year, by district

District	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12
Aghwar Janoobiya	46	47	44	46	45	46	45
Aghwar Shamaliyah	104	109	101	101	103	103	101
Ain Albasha	152	143	142	139	134	126	124
Ajlun Qasabah	158	158	160	163	152	152	141
Al-Jami'ah	426	412	418	395	382	365	334
Amman Qasabah	500	553	505	509	465	459	482
Aqaba Qasabah	98	95	87	91	89	88	83
Ayy	14	15	16	17	17	18	18
Badiah Shamaliyah	167	164	161	160	155	151	149
Badiah Shamaliyah Gharbiyah	207	201	187	177	178	160	157
Bani Kenanah	121	120	117	120	119	118	114
Bani Obeid	195	192	181	166	158	140	127
Bsaira	43	43	43	42	42	40	39
Dair Alla	61	59	62	58	59	59	59
Dieban	72	68	68	68	70	67	66
Faqo'e	23	24	24	24	24	23	22
Fuhais and Mahes	33	33	33	35	31	29	28
Hasa	17	17	17	17	17	17	17
Hashemiyah	63	65	61	64	54	51	51

District	2017/18	2016/17	2015/16	2014/15	2013/14	2012/13	2011/12
Huseiniya	14	15	15	15	14	14	14
Irbid Qasabah	491	490	471	452	443	415	400
Jarash Qasabah	272	275	273	267	249	242	239
Jizah	103	105	105	106	107	105	100
Karak Qasabah	127	123	123	121	110	106	102
Koorah	140	141	134	137	139	146	147
Kufranjah	45	44	44	45	44	42	42
Ma'an Qasabah	139	138	132	132	129	125	122
Madaba Qasabah	147	137	129	127	129	123	112
Mafraq Qasabah	245	239	227	226	216	209	205
Marka	484	482	468	442	439	416	399
Mazar Janoobee	138	131	125	121	119	115	110
Mazar Shamali	68	63	62	61	62	63	61
Muaqqar	73	74	67	67	66	53	60
Na'oor	103	100	98	92	100	100	85
Petra	51	52	52	54	55	55	54
Qasr	53	52	52	50	50	49	48
Qatraneh	13	12	13	13	13	14	13
Quairah	39	35	34	33	33	33	31
Quaismeh	327	318	311	285	284	266	259
Ramtha	155	156	147	140	137	127	120
Russeifa	231	226	217	211	208	200	195
Rwaished	9	9	9	8	9	9	9
Sahab	86	88	78	76	75	72	64
Salt	200	197	195	193	181	179	171
Shobak Qasabah	36	38	38	42	41	42	42
Shoonah Janoobiyah	49	50	50	48	46	43	44
Tafiela Qasabah	87	89	92	91	89	91	90
Taybeh	41	41	40	36	36	34	32
Wadi Essier	233	233	220	214	202	195	199
Wastiyyah	35	35	33	31	33	29	28
Zarqa Qasabah	528	521	480	474	462	431	418
Total	**7,262**	**7,227**	**6,961**	**6,802**	**6,614**	**6,355**	**6,172**

Source: EMIS school-level data

Table 17:
Students attending school, 2011–2017, by governorate

Students attending GRADES 1–6							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	19,213	19,266	20,821	20,549	21,144	22,965	23,144
Amman	320,061	332,558	355,900	368,372	385,946	399,869	410,500
Aqaba	20,006	20,807	21,975	22,581	23,841	25,209	26,443
Balqa	59,253	60,629	65,183	68,401	71,348	75,716	77,269
Irbid	149,834	156,452	180,809	183,735	188,043	196,491	203,211
Jerash	25,774	26,487	28,867	30,049	30,837	32,477	33,657
Karak	34,307	35,111	37,581	38,750	40,593	42,665	43,922
Ma'an	17,170	17,594	18,542	19,672	20,524	21,727	22,455
Madaba	22,346	22,805	24,838	25,863	26,719	27,590	29,136
Mafraq	44,325	45,866	69,521	72,354	73,124	81,072	82,784
Tafilah	12,905	13,024	13,736	13,947	14,478	15,008	15,264
Zarqa	130,457	132,854	142,019	148,274	153,077	165,821	166,197
Total	**855,651**	**883,453**	**979,792**	**1,012,547**	**1,049,674**	**1,106,610**	**1,133,982**

Students attending GRADES 7–10							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	12,502	12,289	12,432	12,225	12,356	13,025	13,282
Amman	189,702	191,784	197,555	200,933	204,638	215,075	221,728
Aqaba	11,245	11,331	11,556	11,800	11,985	12,595	13,223
Balqa	34,456	34,489	35,019	35,906	36,662	37,934	39,173
Irbid	93,391	93,377	99,987	100,223	100,595	105,815	107,751
Jerash	16,339	16,050	15,706	15,601	15,558	16,113	16,481
Karak	20,051	19,961	20,415	20,713	20,918	21,965	22,698
Ma'an	9,810	9,776	9,927	9,888	9,790	10,259	10,389
Madaba	13,302	13,157	13,439	13,765	14,044	14,680	15,071
Mafraq	26,281	26,272	31,355	31,860	29,931	33,129	34,796
Tafilah	7,965	7,699	7,727	7,648	7,682	8,074	8,194
Zarqa	75,534	76,626	78,743	80,244	80,712	84,705	85,910
Total	**510,578**	**512,811**	**533,861**	**540,806**	**544,871**	**573,369**	**588,696**

Students attending GRADES 11–12							
	2011	2012	2013	2014	2015	2016	2017
Ajloun	5,928	5,964	5,518	5,495	4,900	4,930	4,934
Amman	80,680	82,226	80,978	78,599	73,716	74,651	78,615
Aqaba	4,418	4,544	4,379	4,181	3,086	3,868	4,219
Balqa	13,641	14,277	13,796	13,109	11,858	11,989	12,353
Irbid	41,109	42,108	41,421	39,617	34,626	35,702	37,966
Jerash	7,037	7,192	6,882	6,648	6,135	5,722	6,158
Karak	8,217	8,481	8,489	8,340	7,550	6,693	7,304
Ma'an	3,708	3,743	3,595	3,765	3,165	3,146	3,219
Madaba	6,130	6,294	5,975	5,632	5,144	5,091	5,387
Mafraq	11,081	11,363	12,109	11,172	10,076	10,065	10,694
Tafilah	3,526	3,624	3,332	2,960	2,808	2,543	2,779
Zarqa	28,303	28,980	28,799	28,291	26,109	25,912	27,498
Total	**213,778**	**218,796**	**215,273**	**207,809**	**189,173**	**190,312**	**201,126**
Total students	**1,580,007**	**1,615,060**	**1,728,926**	**1,761,162**	**1,783,718**	**1,870,291**	**1,923,804**

Source: EMIS school-level data

VI.1.1.3. EMIS 2017/18

For the school year 2017/18, QRC provided detailed information at governorate level for each grade on the number of students by age, gender, and nationality.

VI.1.1.4. Data preparation

All EMIS and DOS data were provided in Excel format and then imported to STATA for the subsequent analysis.

1. We create three groups based on nationality: Jordanian students, Syrian students and students of other nationality, which we use in combination with DOS population data.
2. For each age and grade combination, we determine whether the students are enrolled in the appropriate grade. For example, students attending Grade 1 should be six years old or younger. A student in Grade 2 should be seven years or younger, etc. A student attending Grade 12 should not be older than 17 years.
3. We create groups reflecting four different school levels: pre-primary refers to Kindergarten 1 and 2; primary refers to Grades 1–6; lower secondary refers to Grades 7–10; and higher secondary refers to Grades 11–12. Again, we identify whether students are enrolled in the appropriate school level in relation to their age.
4. We identify students at risk of dropping out if they are over-age by two years for the appropriate grade. For example, a student who is eight years old and attends Grade 1 is considered over-age. A student who is nine years old and attends Grade 2 is over-age, etc.

The final governorate-level file is then combined with the DOS population data per governorate for 2017. For the analysis at country level, the dataset is further collapsed.

VI.1.2. Methodology

VI.1.2.1. Gross enrolment rates

The EMIS-DOS panel 2011–2017 is used to calculate gross enrolment rates at governorate level. Gross enrolment is the number of students attending a particular grade (school level) over the total number of children of the respective age. Gross enrolment includes all children attending a particular grade irrespective of their age. As a result, gross enrolment rates can exceed 100%. The analysis further separates boys and girls and calculates gender-specific gross enrolment rates.

VI.1.2.2. Core tables EMIS/DOS

For the core tables, we use the combined EMIS-DOS 2017/18 data, which contains age-specific information and allows for the calculation of net enrolment rates and four of the five Dimensions. All indicators are calculated separately for boys and girls. Except for the age-specific education status and gross enrolment rate, further breakdowns are provided by nationality, governorate and age.

Age-specific education status

For all children from 6 to 17 years old, and for each age separately, we calculate the share of children enrolled in pre-primary, primary, lower secondary or upper secondary education. For example:

$$share_{prim} = \frac{number\ of\ students_{prim}}{number\ of\ children_{(6\text{-}17)}}$$

The share of children not attending school (OOS) is calculated as:

$$OOS = 1 - (share_{(pre\text{-}prim)} + share_{prim} + share_{lsec} + share_{usec})$$

Net attendance rate

The adjusted net enrolment rate (ANER) for primary school is the percentage of children of primary-school age (age 6–11) who are enrolled in primary or secondary school (enrolment in secondary school is included to take into account early starters). All children of primary-school age (6–11) at the end of 2017 are included in the denominator.

The ANER for lower-secondary school is the percentage of children of lower–secondary school age (age 12–15) who are enrolled in lower/ upper-secondary school (enrolment in upper secondary school is included to take into account early starters). All children of lower–secondary school age (12–15) at the end of 2017 are included in the denominator.

The upper-secondary school net enrolment rate (NER) is the percentage of children of upper–secondary school age (age 16–17) who are enrolled in upper-secondary school. All children of upper–secondary school age (16–17) at the end of 2017 are included in the denominator.

Out-of-school rate

The primary out-of-school rate is the share of children of primary-school age (6–11) not enrolled in pre-primary, primary, or secondary school. All children of primary-school age (6–11) at the end of 2017 are included in the denominator.

The lower-secondary out-of-school rate is the share of children of lower–secondary school age (12–15) not enrolled in pre-primary, primary, or lower/upper-secondary school. All children of lower–secondary school age (12–15) at the end of 2017 are included in the denominator.

No out-of-school rates are calculated for upper-secondary school as we do not know whether children are already enrolled in higher education or vocational schools.

Gross enrolment rate

The primary gross enrolment rate is the number of all children enrolled in primary school divided by the number of children of primary-school age (6–11).

The lower-secondary gross enrolment rate is the number of all children enrolled in lower-secondary school divided by the number of children of lower–secondary school age (12–15).

The upper-secondary gross enrolment rate is the number of all children enrolled in upper-secondary school divided by the number of children of upper–secondary school age (16–17).

At risk of dropping out of school

The at-risk-of dropping out of school rate is calculated at primary and lower-secondary school level. Children in primary (lower-secondary) school that are least two years older than the standard age at the start of the year for their current grade level are considered to be at risk of dropping out.

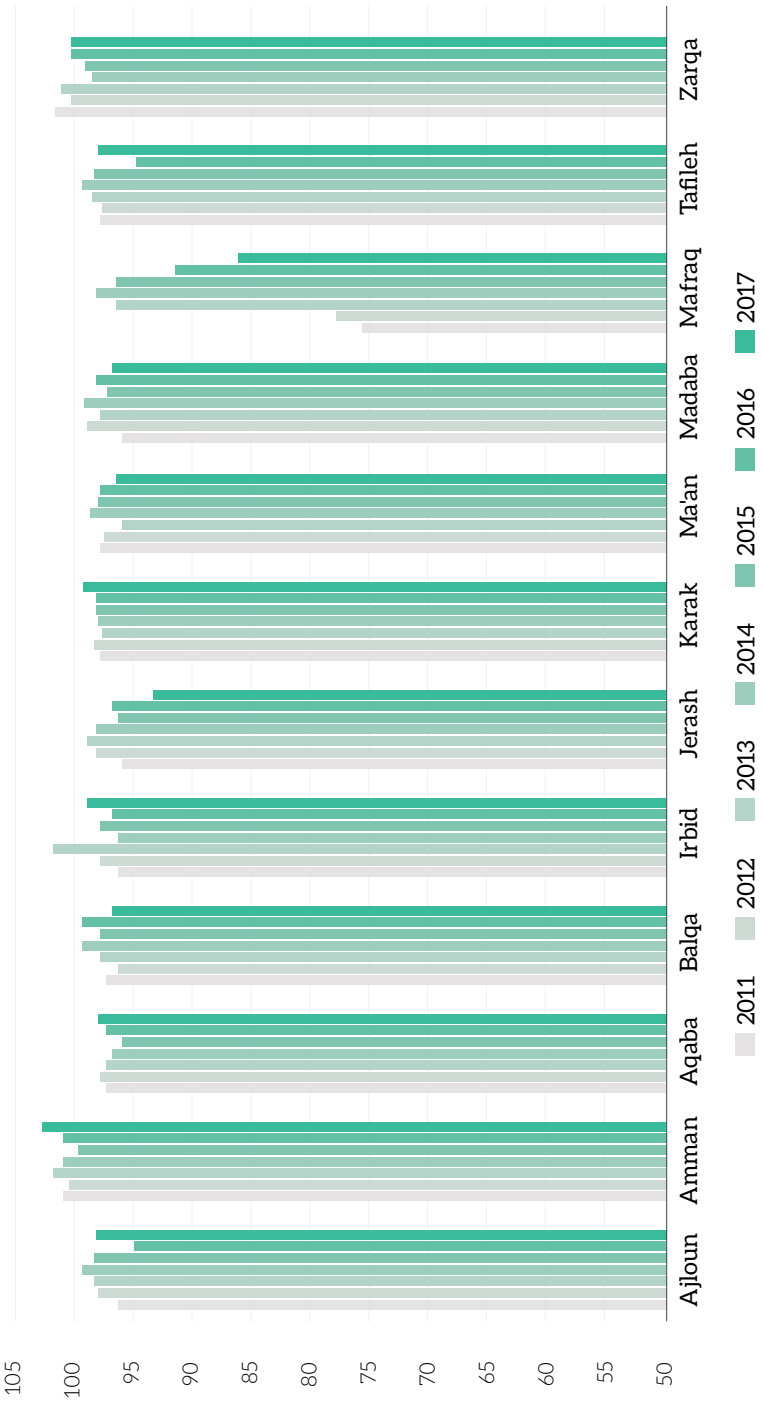
At-risk of dropping out at primary school is the share of children of primary-school age (6–11) that are at least two years older than the standard age at the start of the year for their current grade level (Grades 1–6). All children of primary-school age (6–11) at the end of 2017 are included in the denominator.

At-risk of dropping out at lower-secondary school is the share of children of lower–secondary school age (12–15) that are least two years older than the standard age at the start of the year for their current grade level (Grades 7–10). All children of lower–secondary school age (12–15) at the end of 2017 are included in the denominator.

VI.2. Appendix 2. Gross enrolment rates by governorate

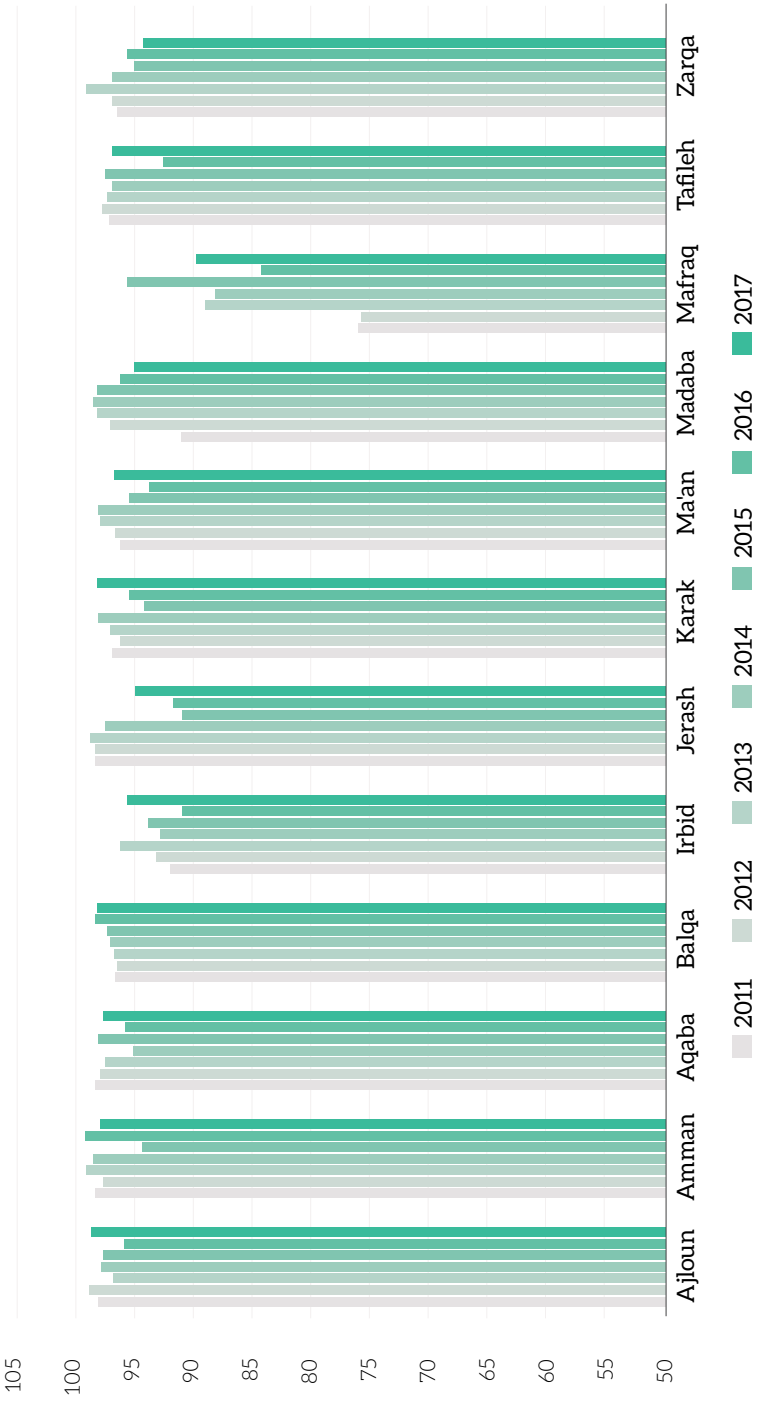
Figure 35–Figure 37 show the development of gross enrolment rates by school level and governorate. Analyzing gross enrolment rates by governorates, across all years, GERs for primary school grades are highest in Amman, followed by Zarqa. Mafraq is the governorate with the lowest GER in most years. It is also interesting to see that there are no clear trends over time in the different governorates. GERs can be relatively high in one year and then drop again to lower levels. Again, Mafraq stands out in this respect. From 2013 to 2015, GERs were considerably higher than in the years before and after. GERs at primary-school level rarely exceed 100%, with the exception of Amman and partly Zarqa. The high rates for Amman can be explained by children from neighbouring governorates attending school in Amman.

Figure 35:
Gross enrolment rates for primary school grades (1–6), by governorate 2011–2017



Source: own calculations based on EMIS school-level data and DOS population data

Figure 36:
Gross enrolment rates for lower secondary school grades (7–10), by governorate 2011–2017

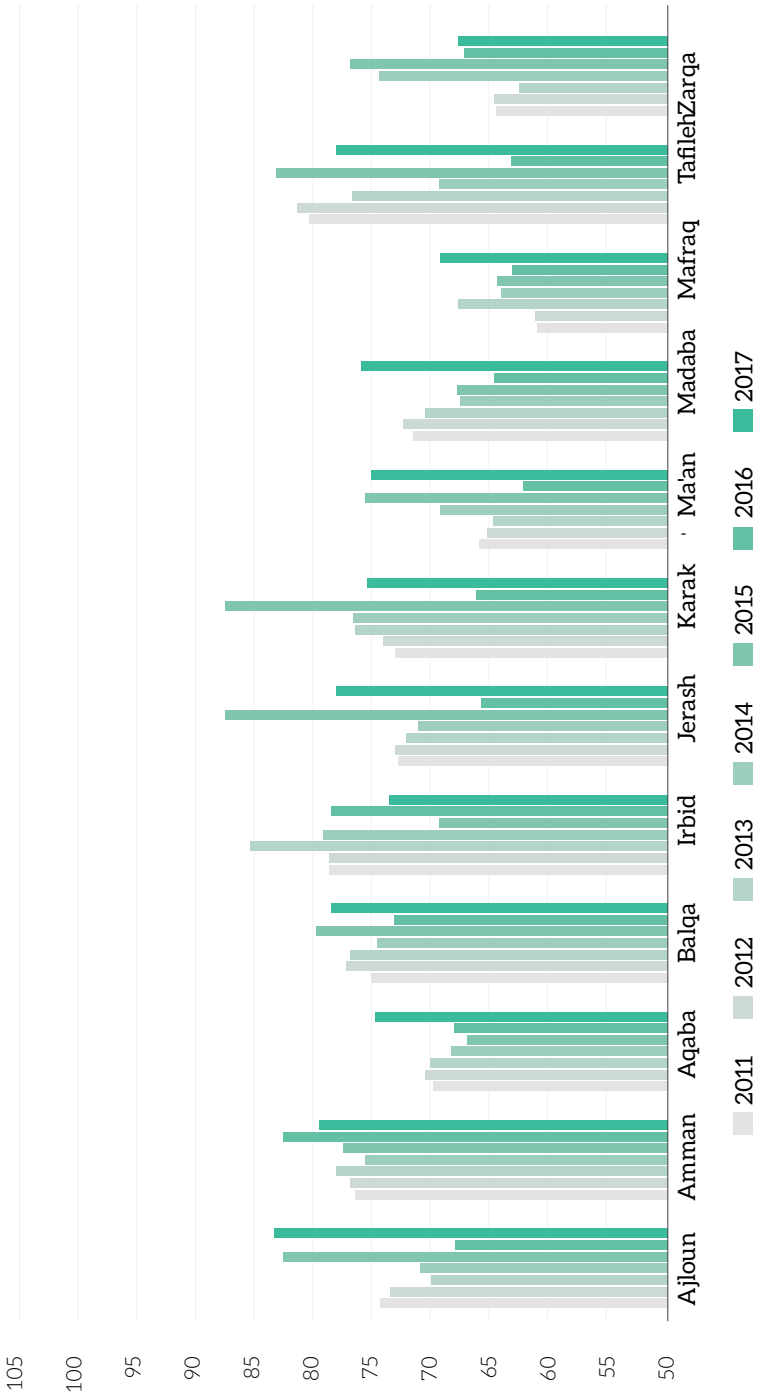


Gross enrolment rates for lower secondary grades are in general lower than for primary school grades (Figure 36). In general, no clear trends emerge over time, except for Balqa, where GER for lower-secondary grades have mainly been increasing, and Zarqa, where we find an opposite trend of declining GERs since 2013.

A rather different picture emerges when considering gross enrolment rates for upper-secondary school grades across governorates (Figure 37). GERs are considerably lower compared to lower-school grades with large variations across time.

Source: own calculations based on EMIS school-level data and DOS population data

Figure 37:
Gross enrolment rates for upper secondary school grades (11–12), by governorate 2011–2017



Gender parity ratios for gross enrolment rates are summarized in Table 18. For primary school grades, gender parity is close to one in most governorates and years. Over time, it seems that more governorates have achieved equity in gross enrolment at primary school level between girls and boys. With respect to gender parity of GERs at lower secondary grades, we see a different picture. GERs were more in favour of girls in most governorates except for 2017, when the gender parity ratios are smaller than one, in seven of the twelve governorates, which means that GERs for boys exceeded those for girls. Finally, gender parity ratios for upper-secondary grades are predominantly in favour of girls in most governorates. In 2017, the ratio was larger than unity in all governorates.

Source: own calculations based on EMIS school-level data and DOS population data

Table 18:
Gender parity ratios (girls/boys) of gross enrolment rates, by school level and governorate

Governorate	2011	2012	2013	2014	2015	2016	2017
Primary school grades (1–6)							
Ajloun	0.97	0.99	0.99	0.99	1.00	0.99	1.01
Amman	1.03	0.98	0.96	1.00	0.98	1.02	0.97
Aqaba	0.98	0.98	0.98	0.99	0.99	1.00	0.98
Balqa	0.98	0.99	1.00	1.00	1.00	1.00	0.99
Irbid	1.00	1.06	1.04	0.94	1.01	1.00	1.01
Jerash	0.98	1.01	1.00	0.98	1.01	1.01	0.99
Karak	0.98	0.99	0.99	0.99	1.00	1.01	0.99
Ma'an	0.99	0.99	1.00	1.00	1.01	1.01	1.00
Madaba	0.97	1.00	0.98	1.00	1.00	1.00	1.00
Mafraq	0.86	0.95	0.97	0.97	1.00	0.86	1.00
Tafilah	1.00	1.01	0.99	1.00	1.00	0.99	1.00
Zarqa	1.01	1.01	1.08	0.99	1.00	0.96	1.02
Lower secondary school grades (7–10)							
Ajloun	1.00	1.00	1.00	1.01	0.99	0.99	1.01
Amman	1.04	1.03	1.03	1.04	1.04	1.07	1.05
Aqaba	0.98	0.98	1.00	0.99	1.01	1.00	0.99
Balqa	0.96	0.96	0.99	0.99	0.99	0.99	0.98
Irbid	1.04	1.07	1.01	0.95	1.00	0.97	0.97
Jerash	1.01	1.02	1.01	1.02	1.05	1.04	1.04
Karak	1.02	1.02	1.02	1.00	1.04	1.00	0.98
Ma'an	1.02	1.00	1.01	0.99	1.02	1.03	1.03
Madaba	1.01	1.00	1.00	1.00	1.00	1.01	0.99
Mafraq	0.95	0.94	1.05	1.03	1.02	1.00	0.98
Tafilah	1.00	0.99	1.02	1.00	1.00	1.00	0.98
Zarqa	1.05	1.03	1.06	1.02	0.99	0.98	1.03

Governorate	2011	2012	2013	2014	2015	2016	2017
	Upper secondary school grades (10–12)						
Ajloun	0.87	0.87	0.94	0.94	1.32	0.89	1.28
Amman	1.19	1.19	1.19	1.06	1.10	1.13	1.32
Aqaba	0.95	0.95	1.00	1.07	2.21	0.90	1.23
Balqa	0.99	0.98	1.01	0.98	1.30	0.97	1.20
Irbid	1.36	1.35	1.53	1.45	1.29	1.38	1.10
Jerash	0.95	0.94	0.93	0.95	1.21	0.92	1.14
Karak	1.00	1.02	0.95	0.91	1.09	1.08	1.30
Ma'an	1.00	0.99	1.09	0.95	1.40	0.97	1.37
Madaba	1.14	1.16	1.20	1.16	1.18	1.14	1.10
Mafraq	1.09	1.10	1.10	1.06	1.04	1.09	1.05
Tafilah	1.04	0.91	0.90	1.07	1.17	1.15	1.30
Zarqa	1.73	1.70	1.50	1.92	1.07	1.76	1.33

Source: own calculations based on EMIS school-level data and DOS population data. Green: GPI>1; beige: GPI<1.

VI.3. Appendix 3. Core Tables: EMIS 2017/18

Out-of-School children (OOSC) – Five Dimensions												
	Dimension 2: OOSC Primary school			Dimension 3: OOSC lower secondary			Dimension 4: At risk student in primary education (over age by two years)			Dimension 5: At risk student in lower secondary education (over age by two years)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	%	%	%	%	%	%	%	%	%	%	%	%
Total	**4.54%**	**4.84%**	**4.69%**	**9.56%**	**8.14%**	**8.87%**	**2.06%**	**1.81%**	**1.94%**	**2.96%**	**2.61%**	**2.79%**
Nationality												
Jordanian	1.60%	2.28%	1.93%	4.07%	3.57%	3.82%	0.99%	0.77%	0.88%	2.93%	2.53%	2.73%
Syrian	19.77%	19.63%	19.70%	45.31%	40.91%	43.16%	11.27%	10.83%	11.09%	4.25%	4.38%	4.31%
Other nationalities	18.92%	15.99%	17.54%	30.05%	21.83%	26.17%	0.78%	0.61%	0.70%	1.34%	0.85%	1.11%
Governorate												
Amman	0.99%	2.54%	1.76%	9.48%	5.21%	7.41%	1.61%	1.33%	1.48%	2.00%	2.52%	2.25%
Balqa	2.73%	4.07%	3.39%	2.71%	5.02%	3.84%	1.64%	1.31%	1.48%	3.35%	2.16%	2.76%
Zarqa	5.43%	2.88%	4.20%	11.01%	9.94%	10.48%	2.88%	2.47%	2.68%	2.74%	2.26%	2.51%
Madaba	4.33%	4.99%	4.65%	6.80%	8.15%	7.45%	2.07%	1.46%	1.77%	3.62%	3.66%	3.64%
Irbid	5.28%	4.29%	4.80%	8.22%	10.20%	9.20%	1.72%	1.54%	1.63%	3.39%	2.46%	2.93%
Mafraq	18.76%	19.37%	19.06%	23.67%	23.93%	23.80%	4.11%	4.31%	4.21%	4.09%	3.13%	3.62%
Jarash	6.92%	8.79%	7.85%	11.15%	5.28%	8.22%	1.24%	0.69%	0.97%	3.09%	1.20%	2.15%
Ajloun	4.00%	2.77%	3.40%	7.21%	4.21%	5.77%	1.04%	0.77%	0.91%	3.37%	0.90%	2.18%
Karak	1.16%	3.40%	2.27%	3.52%	4.50%	4.00%	1.89%	1.80%	1.84%	5.21%	4.43%	4.83%
Tafileh	3.04%	3.32%	3.18%	4.51%	6.07%	5.29%	1.23%	1.04%	1.14%	3.41%	2.71%	3.06%
Ma'an	7.43%	7.64%	7.53%	6.23%	1.73%	4.03%	3.16%	3.34%	3.25%	6.94%	6.50%	6.72%
Aqaba	1.44%	2.97%	2.19%	3.55%	2.92%	3.24%	1.76%	1.46%	1.61%	3.82%	3.39%	3.61%

Out-of-School children (OOSC) – Five Dimensions															
Status of children (6–17) enrolled in school by age, EMIS-DOS, 2017/18															
	Percentage of children:														
	Not attend (=OOSC)			**Enrolled in pre-primary**			**Enrolled in primary**			**Enrolled in lower secondary**			**Enrolled in upper secondary**		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
	%	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**	**%**
Total	**8.82%**	**7.33%**	**8.09%**	**0.11%**	**0.07%**	**0.09%**	**54.52%**	**54.23%**	**54.38%**	**28.07%**	**28.36%**	**28.21%**	**8.48%**	**10.01%**	**9.23%**
Age at beginning of school year															
6	4.70%	5.59%	5.13%	1.20%	0.75%	0.98%	94.10%	93.66%	93.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
7	2.99%	4.26%	3.61%	0.00%	0.00%	0.00%	97.01%	95.74%	96.39%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
8	5.31%	4.80%	5.06%	0.00%	0.00%	0.00%	94.69%	95.20%	94.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
9	3.96%	4.45%	4.20%	0.00%	0.00%	0.00%	96.04%	95.55%	95.80%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
10	4.47%	3.73%	4.11%	0.00%	0.00%	0.00%	95.53%	96.27%	95.89%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
11	5.98%	6.35%	6.16%	0.00%	0.00%	0.00%	93.30%	92.94%	93.12%	0.72%	0.70%	0.71%	0.00%	0.00%	0.00%
12	8.06%	7.25%	7.66%	0.00%	0.00%	0.00%	10.76%	10.09%	10.43%	81.17%	82.66%	81.90%	0.00%	0.00%	0.00%
13	9.87%	9.63%	9.75%	0.00%	0.00%	0.00%	2.99%	2.38%	2.69%	87.14%	87.99%	87.56%	0.00%	0.00%	0.00%
14	10.36%	7.72%	9.07%	0.00%	0.00%	0.00%	0.62%	0.38%	0.50%	89.03%	91.90%	90.43%	0.00%	0.00%	0.00%
15	10.06%	7.93%	9.04%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	89.20%	91.18%	90.16%	0.74%	0.88%	0.81%
16	19.82%	12.31%	16.10%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.60%	13.19%	13.90%	65.59%	74.51%	70.00%
17	31.62%	19.90%	25.81%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.01%	2.83%	2.92%	65.36%	77.27%	71.27%

	Number of students per EMIS 17/18														
	Not enrolled (=OOSC)			Enrolled in pre-primary			Enrolled in primary			Enrolled in lower secondary			Enrolled in upper secondary		
	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number	Number
Total	**93,696**	**74,996**	**168,692**	**1,199**	**714**	**1,913**	**579,269**	**554,625**	**1,133,894**	**298,188**	**290,089**	**588,277**	**90,041**	**102,337**	**192,378**
Age at beginning of school year															
6	4,705	5,337	10,042	1,199	714	1,913	94,206	89,436	183,642	0	0	0	0	0	0
7	3,047	4,218	7,265	0	0	0	98,968	94,785	193,753	0	0	0	0	0	0
8	5,419	4,659	10,078	0	0	0	96,595	92,422	189,017	0	0	0	0	0	0
9	4,000	4,357	8,357	0	0	0	97,065	93,517	190,582	0	0	0	0	0	0
10	4,494	3,579	8,073	0	0	0	95,938	92,322	188,260	0	0	0	0	0	0
11	5,385	5,561	10,946	0	0	0	84,056	81,357	165,413	651	617	1,268	0	0	0
12	7,038	6,120	13,158	0	0	0	9,394	8,513	17,907	70,846	69,758	140,604	0	0	0
13	8,392	7,974	16,366	0	0	0	2,541	1,972	4,513	74,103	72,884	146,987	0	0	0
14	8,498	6,034	14,532	0	0	0	506	301	807	73,042	71,872	144,914	0	0	0
15	7,612	5,587	13,199	0	0	0	0	0	0	67,469	64,205	131,674	558	621	1,179
16	13,618	8,266	21,884	0	0	0	0	0	0	10,030	8,858	18,888	45,070	50,044	95,114
17	21,488	13,304	34,792	0	0	0	0	0	0	2,047	1,895	3,942	44,413	51,672	96,085

Core Tables 3 & 4 (combined): Primary school enrolment and out of school children									
Percentage of children of primary school age enrolled in primary or secondary school (adjusted net enrolment ratio) and percentage out of school, EMIS-DOS 2017/18.									
	Net enrolment rate (adjusted)			**Out of school (%)**			**Number out of school**		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
	%	**%**	**%**	**%**	**%**	**%**	**N**	**N**	**N**
Total	**95.26%**	**95.04%**	**95.15%**	**4.54%**	**4.84%**	**4.69%**	**27050**	**27711**	**54761**
Nationality									
Jordanian	98.20%	97.59%	97.90%	1.60%	2.28%	1.93%	7,948	10,984	18,932
Syrian	80.08%	79.82%	80.17%	19.77%	19.63%	19.70%	12,440	11,692	24,132
Other nationalities	80.74%	83.89%	82.23%	18.92%	15.99%	17.54%	6,662	5,035	11,697
Governorate									
Amman	98.82%	97.39%	98.11%	0.99%	2.54%	1.76%	2,066	5,175	7,241
Balqa	97.05%	95.83%	96.44%	2.73%	4.07%	3.39%	1,091	1,579	2,670
Zarqa	94.42%	96.99%	95.66%	5.43%	2.88%	4.20%	4,784	2,366	7,150
Madaba	95.16%	94.72%	94.94%	4.33%	4.99%	4.65%	665	731	1,396
Irbid	94.53%	95.59%	95.04%	5.28%	4.29%	4.80%	5,686	4,375	10,061
Mafraq	81.07%	80.50%	80.79%	18.76%	19.37%	19.06%	9,440	9,331	18,771
Jarash	92.73%	91.03%	91.89%	6.92%	8.79%	7.85%	1,262	1,573	2,835
Ajloun	95.82%	97.11%	96.45%	4.00%	2.77%	3.40%	487	323	810
Karak	98.57%	96.39%	97.49%	1.16%	3.40%	2.27%	259	738	997
Tafileh	96.58%	96.29%	96.44%	3.04%	3.32%	3.18%	239	255	494
Ma'an	92.46%	92.10%	92.28%	7.43%	7.64%	7.53%	877	877	1,754
Aqaba	98.25%	96.70%	97.49%	1.44%	2.97%	2.19%	194	388	582
Age at beginning of school year									
6	94.10%	93.66%	93.89%	4.70%	5.59%	5.13%	4,705	5,337	10,042
7	97.01%	95.74%	96.39%	2.99%	4.26%	3.61%	3,047	4,218	7,265
8	94.69%	95.20%	94.94%	5.31%	4.80%	5.06%	5,419	4,659	10,078
9	96.04%	95.55%	95.80%	3.96%	4.45%	4.20%	4,000	4,357	8,357
10	95.53%	96.27%	95.89%	4.47%	3.73%	4.11%	4,494	3,579	8,073
11	93.30%	92.94%	93.12%	5.98%	6.35%	6.16%	5,385	5,561	10,946

Core Tables 6 and 7 (combined): Lower secondary school adjusted net enrolment and out of school adolescents									
Percentage of children of lower secondary school age enrolled in lower or upper secondary school (adjusted net enrolment rate) and percentage out of school, EMIS-DOS 2017/18.									
	Net enrolment rate (adjusted)			**Out of school (%)**			**Number out of school**		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
	%	**%**	**%**	**%**	**%**	**%**	**N**	**N**	**N**
Total	**86.67%**	**88.44%**	**87.54%**	**9.56%**	**8.14%**	**8.87%**	**31540**	**25715**	**57255**
Nationality									
Jordanian	93.15%	94.08%	93.61%	4.07%	3.57%	3.82%	11,344	9,562	20,906
Syrian	40.60%	44.90%	42.70%	45.31%	40.91%	43.16%	14,230	12,280	26,510
Other nationalities	68.63%	76.94%	72.55%	30.05%	21.83%	26.17%	5,966	3,873	9,839
Governorate									
Amman	87.68%	92.30%	89.92%	9.48%	5.21%	7.41%	11,639	6,016	17,655
Balqa	93.46%	92.10%	92.79%	2.71%	5.02%	3.84%	561	999	1,560
Zarqa	84.80%	86.89%	85.83%	11.01%	9.94%	10.48%	5,406	4,704	10,110
Madaba	88.59%	88.19%	88.39%	6.80%	8.15%	7.45%	568	645	1,213
Irbid	88.10%	86.34%	87.23%	8.22%	10.20%	9.20%	4,915	5,975	10,890
Mafraq	69.56%	68.61%	69.09%	23.67%	23.93%	23.80%	5,718	5,563	11,281
Jarash	85.69%	92.51%	89.10%	11.15%	5.28%	8.22%	996	471	1,467
Ajloun	90.65%	94.05%	92.28%	7.21%	4.21%	5.77%	520	281	801
Karak	92.24%	90.35%	91.32%	3.52%	4.50%	4.00%	421	516	937
Tafileh	92.03%	91.15%	91.59%	4.51%	6.07%	5.29%	193	258	451
Ma'an	85.36%	89.36%	87.32%	6.23%	1.73%	4.03%	353	94	447
Aqaba	92.06%	92.93%	92.48%	3.55%	2.92%	3.24%	250	193	443
Age at beginning of school year									
12	81.17%	82.66%	81.90%	8.06%	7.25%	7.66%	7,038	6,120	13,158
13	87.14%	87.99%	87.56%	9.87%	9.63%	9.75%	8,392	7,974	16,366
14	89.03%	91.90%	90.43%	10.36%	7.72%	9.07%	8,498	6,034	14,532
15	89.20%	91.18%	90.16%	10.06%	7.93%	9.04%	7,612	5,587	13,199
11	93.30%	92.94%	93.12%	5.98%	6.35%	6.16%	5,385	5,561	10,946

Upper secondary school net enrolment adolescents									
Percentage of children of upper secondary school age enrolled in upper secondary, DOS-EMIS 2017/18.									
	Net enrolment rate (adjusted) (%)			Number of children enrolled (EMIS)			Number of children age 16–17 (DOS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Percentage	Percentage	Percentage	N	N	N	N	N	N
Total	**65.48%**	**75.89%**	**70.63%**	**89,483**	**101,716**	**191,199**	**136,666**	**134,039**	**270,705**
Nationality									
Jordanian	73.69%	82.28%	78.69%	83,714	93036	178374	113,607	113,078	226,685
Syrian	16.23%	20.37%	18.25%	2,270	2706	4976	13,983	13,281	27,264
Other nationalities	38.55%	56.64%	46.84%	3,499	4350	7849	9,076	7,680	16,756
Governorate									
Amman	69.30%	84.56%	76.72%	34,745	40,185	74,930	50,140	47523	97663
Balqa	67.48%	79.63%	73.58%	5,416	6,432	11,848	8,026	8,077	16103
Zarqa	58.59%	69.66%	64.11%	11,997	14,193	26,190	20,477	20,376	40853
Madaba	69.96%	73.62%	71.78%	25,38	2,632	5,170	3,628	3,575	7203
Irbid	67.40%	70.63%	69.04%	17,418	18,723	36,141	25,841	26,508	52349
Mafraq	51.88%	50.83%	51.35%	4,939	4,878	9,817	9,520	9,596	19116
Jarash	68.74%	77.83%	73.17%	2,826	3,034	5,860	4,111	3,898	8009
Ajloun	70.11%	88.02%	78.65%	2,219	2,541	4,760	3,165	2,887	6052
Karak	62.87%	79.23%	71.04%	3,062	3,852	6,914	4,870	4,862	9732
Tafileh	64.17%	82.67%	73.33%	1,157	1,460	2,617	1,803	1,766	3569
Ma'an	58.23%	75.69%	66.86%	1,309	1,663	2,972	2,248	2,197	4445
Aqaba	65.46%	76.53%	70.93%	1,857	2,123	3,980	2,837	2,774	5611
Age at beginning of school year									
16	65.59%	74.51%	70.00%	45,070	50,044	95,114	68,718	67,168	135886
17	65.36%	77.27%	71.27%	44,413	51,672	96,085	67,948	66,871	134819

Gross Enrolment Rate by level of education (primary, lower secondary and upper secondary									
The number of children enrolled in a level (primary, lower secondary or upper secondary), regardless of age, divided by the population of the age group that officially corresponds to the same level, EMIS-DOS 2017/18									
	Gross Enrolment Rate								
	Primary			Lower secondary			Upper secondary		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage	Percentage
Total	**97.27%**	**96.85%**	**97.06%**	**90.42%**	**91.93%**	**91.16%**	**68.63%**	**80.08%**	**74.30%**
	Population (provided by DOS)								
	Age 6–11			Age 12–15			Age 16–17		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	N	N	N	N	N	N	N	N	N
Total	**595,728**	**572,881**	**1,168,609**	**329,999**	**315,841**	**645,840**	**136,666**	**134,039**	**270,705**
	Number of pupils (from EMIS)								
	Primary			Lower secondary			Upper secondary		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	N	N	N	N	N	N	N	N	N
Total	**579,458**	**554,835**	**1,134,293**	**298,395**	**290,363**	**588,758**	**93,794**	**107,332**	**201,126**

At-risk-of dropping out of primary school (proxied by overage by two years)									
Percentage of children in primary age at least two years older than the standard age at start of the year of their current grade level, DOS-EMIS 2017/18.									
	Overage by two or more years (%)			**Number of children overage by two or more years (EMIS)**			**Number of children age 6–11 (DOS)**		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Percentage	Percentage	Percentage	N	N	N	N	N	N
Total	**2.06%**	**1.81%**	**1.94%**	**12,273**	**10,370**	**22,643**	**595,728**	**572,881**	**1,168,609**
Nationality									
Jordanian	0.99%	0.77%	0.88%	4,902	3,690	8,592	497,574	481,829	979403
Syrian	11.27%	10.83%	11.09%	7,095	6,487	13,582	62,939	59,899	122506
Syrian	11.27%	10.83%	11.09%	7,095	6,487	13,582	62,939	59,899	122506
Other nationalities	0.78%	0.61%	0.70%	276	193	469	35,215	31,485	66700
Governorate									
Amman	1.61%	1.33%	1.48%	3,364	2,719	6,083	208,490	203,861	412351
Balqa	1.64%	1.31%	1.48%	657	508	1,165	39,971	38,756	78727
Zarqa	2.88%	2.47%	2.68%	2,532	2,024	4,556	88,032	82,064	170096
Madaba	2.07%	1.46%	1.77%	318	214	532	15,369	14,635	30004
Irbid	1.72%	1.54%	1.63%	1,852	1,573	3,425	107,779	101,957	209736
Mafraq	4.11%	4.31%	4.21%	2,070	2,074	4,144	50,312	48,161	98473
Jarash	1.24%	0.69%	0.97%	226	123	349	18,224	17,890	36114
Ajloun	1.04%	0.77%	0.91%	127	90	217	12,166	11,647	23813
Karak	1.89%	1.80%	1.84%	420	390	810	22,244	21,688	43932
Tafileh	1.23%	1.04%	1.14%	97	80	177	7,868	7,680	15548
Ma'an	3.16%	3.34%	3.25%	373	384	757	11,808	11,482	23290
Aqaba	1.76%	1.46%	1.61%	237	191	428	13,465	13,060	26525

At-risk-of dropping out of lower secondary school (proxied by overage by two years)									
Percentage of children in lower secondary age at least two years older than the standard age at start of the year of their current grade level, DOS-EMIS 2017/18.									
	Overage by two or more years (%)			Number of children overage by two or more years (EMIS)			Number of children age 12–15 (DOS)		
	Male	Female	Total	Male	Female	Total	Male	Female	Total
	Percentage	Percentage	Percentage	N	N	N	N	N	N
Total	**2.96%**	**2.61%**	**2.79%**	**9,767**	**8,237**	**18,004**	**329,999**	**315,841**	**645,840**
Nationality									
Jordanian	2.93%	2.53%	2.73%	8,166	6,771	14,937	278,737	268,088	546,825
Syrian	4.25%	4.38%	4.31%	1,335	1,315	2,650	31,409	30,014	61,423
Other nationalities	1.34%	0.85%	1.11%	266	151	417	19,853	17,739	37,592
Governorate									
Amman	2.00%	2.52%	2.25%	2,458	2,907	5,365	122,762	115502	238,264
Balqa	3.35%	2.16%	2.76%	694	430	1,124	20,738	19917	40,655
Zarqa	2.74%	2.26%	2.51%	1,348	1,071	2,419	49,123	47326	96,449
Madaba	3.62%	3.66%	3.64%	303	290	593	8,359	7916	16,275
Irbid	3.39%	2.46%	2.93%	2,027	1,444	3,471	59,783	58603	118,386
Mafraq	4.09%	3.13%	3.62%	988	728	1,716	24,155	23243	47,398
Jarash	3.09%	1.20%	2.15%	276	107	383	8,931	8917	17,848
Ajloun	3.37%	0.90%	2.18%	243	60	303	7,209	6670	13,879
Karak	5.21%	4.43%	4.83%	622	508	1,130	11,949	11466	23,415
Tafileh	3.41%	2.71%	3.06%	146	115	261	4,276	4248	8,524
Ma'an	6.94%	6.50%	6.72%	393	353	746	5,663	5431	11,094
Aqaba	3.82%	3.39%	3.61%	269	224	493	7,051	6602	13,653

VI.4. Appendix 4. Profiles of children at risk

While descriptive statistics can demonstrate the patterns of school dropout and point to groups at risk of discontinuing their education, they are limited in the analysis of the correlation of different factors. To better understand the mechanisms contributing to school dropout, we use binary outcome models based on the 2016 Jordan Labor Market Panel Survey data. We define school dropout in line with the OOSCI methodology. Using the JLMPS data, dropout status is assigned if the individual fulfils all of the following criteria: (1) has entered school at some point in her/his life; (2) does not currently attend school; and (3) has not completed basic education (10 grades).

For the purpose of the econometric analysis, we only include individuals aged at least 12 and maximum 20 years old. Ages 14–20 coincide with the official OOSCI methodology given that the denominator for primary school completion rate is the population aged 14–16, and 18–20 for lower-secondary school completion rate. In addition, we include those aged 12–14 because of the increase in dropout rates after completion of Grade 6. The lower age threshold of 12 is necessary to include those observed subjects that dropped out between Grade 6 and 10. An upper threshold is necessary to ensure the relevance of findings to the current policy environment. For instance, the experience of an individual in his/her thirties that led to dropping out of school is not helpful for the analysis of current challenges with education. Reducing the sample leaves 5,737 observed subjects, of which 12 per cent has entered school at some point but dropped out before completing basic education. Summary statistics on school dropout among different groups of the reference population are presented in Table 19.

Table 19:
Summary statistics on the prevalence of school dropout among 12–20-year-olds, by residence, sex and nationality

		Dropped out	Dropped out before completing grade 6	Dropped out between grade 7 and 10
Female		8.3%	1.7%	6.5%
Male		14.9%	3.1%	11.9%
Syrian national		36.7%	14.1%	22.5%
Jordanian national		7.2%	0.6%	6.6%
Age 12–13		4.1%	3.0%	1.2%
Age 14–16		11.5%	3.2%	8.3%
Age 17–20		16.1%	1.5%	14.6%
Total	**N = 5,737**	**11.8%**	**2.4%**	**9.4%**

Source: own calculations based on JLMPS 2016. Reference population is the age group 12–20.

The majority of school dropouts occurs after the completion of Grade 6. Hence, children are most likely to drop out between Grades 7 and 10, which coincides with lower-secondary school in the international division. In total, only 2.4 per cent of the reference population has left school before completing the first six grades of basic school. The share of Syrians is much higher with 14.1 per cent.

We estimate logit regression models in order to determine the factors that are positively or negatively associated with the likelihood of school dropout. The models estimate how the likelihood of a student dropping out of school changes according to different characteristics of the student, the student's household, or the environment. The explanatory variables are selected based on the predictors identified in the literature and descriptive analysis of the JLMPS data. Five different models are estimated:

(1) Likelihood of dropping out of school at any time before completing basic education – all;
(2) Likelihood of dropping out of school at any time before completing basic education – girls;
(3) Likelihood of dropping out of school at any time before completing basic education – boys;
(4) Likelihood of dropping out of school at any time before completing basic education – Jordanians;
(5) Likelihood of dropping out of school at any time before completing basic education – non-Jordanians.

Based on the literature and our descriptive findings, we identify factors that are likely to affect the probability of school dropout and estimate them for the Jordanian context. Risk factors are grouped as individual student characteristics, household and parent characteristics, and supply-side factors. Individual characteristics include age at the time of the survey, gender, nationality, the presence of a permanent disability or chronic illness, whether the individual was or is working, whether the individual is married, birth order among siblings, and school engagement (proxied by previous grade repetition). Household and parents' characteristics include the work status and health of the head of household, the presence of parents in the household, the mother's and father's school attainment, household wealth scores (in quintiles), the number of siblings, and the location of residence (region, urban or rural, and the average income in the governorate). While supply-side factors also emerge as important contributors to school dropout, the JLMPS has limited information on the supply of education. We include two corresponding variables: whether the basic school operated double shifts and whether physical punishment was used.

Table 20:
Factors associated with school dropout, marginal effects

	(1)ww	(2)	(3)	(5)	(6)
	All	Female	Male	Jordanian	Non-Jordanian
Individual characteristics					
Age	0.019***	0.007**	0.028***	0.011***	0.040***
	[0.003]	[0.002]	[0.004]	[0.002]	[0.007]
Male	0.069***			0.049***	0.108**
	[0.013]			[0.010]	[0.036]
Syrian	0.128***	0.081**	0.186***		0.186***
	[0.030]	[0.028]	[0.049]		[0.047]
Other nationality	0.01	-0.011	0.04		
	[0.029]	[0.022]	[0.049]		
Disabled	0.08	-0.018	0.147	0.092	0.031
	[0.050]	[0.049]	[0.081]	[0.065]	[0.090]
Married	0.102	0.084	0.068	0.04	0.076
	[0.056]	[0.050]	[0.135]	[0.039]	[0.105]
Has worked	0.026	-0.045*	0.035	0.015	0.154
	[0.025]	[0.020]	[0.030]	[0.021]	[0.088]
2nd born	0.004	-0.03	0.038	-0.01	0.001
	[0.020]	[0.019]	[0.030]	[0.016]	[0.053]
3rd or higher born	0.015	-0.021	0.052*	0.007	0.01
	[0.016]	[0.016]	[0.025]	[0.012]	[0.040]
Repeated grade	-0.064***	-0.069***	-0.067***	-0.033***	-0.198***
	[0.013]	[0.013]	[0.019]	[0.010]	[0.034]
Household characteristics					
Father absent	0.016	0.013	0.004	0.021	0.028
	[0.019]	[0.019]	[0.030]	[0.019]	[0.045]
Mother absent	0.117**	0.119*	0.115	0.138**	0.119
	[0.042]	[0.050]	[0.064]	[0.046]	[0.084]
Mother illiterate	0.073**	0.045	0.104*	0.032	0.210**
	[0.026]	[0.029]	[0.042]	[0.021]	[0.068]
Mother read/write	0.052*	0.037	0.062	0.035	0.135*
	[0.022]	[0.027]	[0.034]	[0.019]	[0.054]
Mother basic education	0.027	0.021	0.031	-0.01	0.250***
	[0.024]	[0.025]	[0.037]	[0.017]	[0.075]
Mother secondary education	-0.008	0.038	-0.044	-0.02	0.031
	[0.023]	[0.030]	[0.033]	[0.017]	[0.080]

Father illiterate	0.074**	0.103***	0.055	0.061**	0.139*
	[0.024]	[0.028]	[0.035]	[0.022]	[0.056]
Father read/write	0.092***	0.083***	0.103***	0.047**	0.215***
	[0.019]	[0.020]	[0.030]	[0.015]	[0.044]
Father basic education	0.078***	0.046*	0.110***	0.038**	0.196***
	[0.017]	[0.019]	[0.027]	[0.014]	[0.053]
Father secondary education	0.039	0.02	0.058	-0.004	0.140*
	[0.022]	[0.017]	[0.036]	[0.014]	[0.069]
Head with bad health	0.026	-0.043*	0.130*	0.013	0.13
	[0.039]	[0.019]	[0.060]	[0.022]	[0.118]
Head unemployed	-0.021	-0.017	-0.012	0.001	0.028
	[0.022]	[0.027]	[0.033]	[0.024]	[0.057]
Head inactive	0.001	0.001	0.001	-0.003	0.031
	[0.014]	[0.014]	[0.022]	[0.011]	[0.048]
Household size	0.011***	0.009***	0.013**	0.005**	0.034***
	[0.002]	[0.002]	[0.004]	[0.002]	[0.009]
Poorest quintile	0.104***	0.089***	0.114*	0.123***	-0.096
	[0.028]	[0.024]	[0.046]	[0.024]	[0.137]
2nd quintile	0.050*	0.052**	0.052	0.059***	-0.124
	[0.021]	[0.017]	[0.034]	[0.013]	[0.122]
3rd quintile	0.045	0.036	0.055	0.042***	-0.065
	[0.023]	[0.020]	[0.038]	[0.013]	[0.146]
4th quintile	-0.007	-0.012	-0.001	0.018	-0.327**
	[0.020]	[0.014]	[0.033]	[0.013]	[0.126]
Environment					
Double-shift school	-0.027	-0.021	-0.023	0.002	-0.109**
	[0.015]	[0.013]	[0.025]	[0.013]	[0.042]
Corporal punishment	0.03	0.049**	0.021	0.030*	-0.039
	[0.016]	[0.018]	[0.025]	[0.013]	[0.047]
Mean income governorate	0.000	0.000	0.000	0.000*	-0.000*
	[0.000]	[0.000]	[0.000]	[0.000]	[0.000]
Rural area	-0.056***	-0.026	-0.076***	-0.038***	0.048
	[0.013]	[0.016]	[0.019]	[0.010]	[0.092]
Refugee camp	-0.006	-0.029	0.015		-0.045
	[0.023]	[0.018]	[0.039]		[0.047]
N	**5,723**	**2,766**	**2,957**	**4,893**	**827**

*Source: own calculations based on JLMPS 2016. Standard errors in parentheses. *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively. Reference population is children/youth aged between 12 and 20. Dropout defined as having entered school at some point; not in attendance in the current year; have not completed 10 years basic education.*

After estimating the models, we predict the probability of dropout for different variables separately and in conjunction with other variables. This is done with a post-estimation command which calculates the probability of dropping out when selected variables take certain values, and the others remain at their means. Finally, following the regression models, we use the prvalue post-estimation command to retrieve the predicted probability of dropping out of school if selected variables take certain parameters. This allows for the construction of specific profiles and for the analysis of how certain risk factors accumulate and increase the probability of leaving school early.

Several limitations need to be considered, given the definitions and data used. First, it is impossible to say whether not attending school will result in permanent dropout, or whether some students will eventually return to school. Second, the data reflect individual characteristics and education status at the time of the interview. This means that we have no information on whether certain characteristics, for example location, family composition or economic status were different at the time of dropping out. In other words, we use characteristics observed after the event of dropping out to measure the likelihood of this event that occurred in the past. A further limitation relates to statistical power and sample sizes: it is not possible to run separate models for different nationalities. For instance, it would be valuable to analyze the specific determinants of school dropout for Palestinians, but this is not possible due to the low number of observations for this group. Hence, we only run separate models for individuals of Jordanian or non-Jordanian nationality.

VI.5. Appendix 5. Estimating returns from education

Over time, various models have been developed to estimate individual returns from education. Almost all build on the basic model developed by Mincer (1974), according to which earnings are a function of the individual's years of education and years of experience. In this model, the relationship between years of education and wages is linear, meaning that there is assumed to be an even increase in wages with every additional year of schooling.

Scholars argue that while the basic Mincer-equation is a strong basis for such estimates, it has weaknesses – most of which can be addressed by introducing modifications to the model. A much-discussed challenge of the Mincer-equation is the "ability bias". This means that it is not only years of education and experience, but also ability which plays a significant role in generating returns. Moreover, (unobserved) ability influences schooling decisions and performances – hence, school attainment itself. This causes a bias in estimating returns in the basic earnings function; but including variables that are related to individual ability in the model can make it more robust (Tien, 2014; Angrist and Krueger, 1991; Griliches, 1997). Another common concern is the linear relationship between years of experience and the logarithmic form of earnings in the classic Mincer-model. In his later work, even Mincer himself (1997) found evidence of the non-linearity of this relationship. A solution is to differentiate between completed levels of education instead of simply the number of years of schooling. The rationale behind this approach is that the labour market demands and rewards the various levels of education differently, and employers prefer completed qualifications (Mincer, 1997). Last but not least, there is a sample selection bias arising from the fact that returns can only be calculated for those who are employed. We do not observe the outcomes for those who are not employed. This non-random selection of the sample may lead to an overestimation of the returns from education. A Heckman two-stage regression can correct for the sample selection bias and produce more robust results than a simple Ordinary Least Squares (OLS) regression.

Using the data from the JLMPS 2016, we estimate four different models. Models (1) and (2) are the basic Mincer earnings functions. Models (3) and (4) are extended Mincer-equations, which address the ability bias and omitted variable bias by including additional control variables. Variables that are directly related to ability, such as IQ-levels or test scores are not available in the JLMPS. We control instead for age, gender, nationality, residence (region), and the economic sector of employment (public, private, non-profit) to reduce omitted variable bias.

Returns to education are estimated using both the linear (years of schooling) and the non-linear (levels of school attainment) approach. In the latter, dummy variables are used to denote different levels of education. The effect of education on earnings is estimated using two approaches: an ordinary least squares regression and a two-stage Heckman regression. OLS regressions only includes individuals aged 16 that are working and earn a wage. The Heckman selection model corrects for sample selection bias, which is particularly important in a context where such a small share of the population aged 16 and above is employed. That means, in the first stage the model estimates labour market participation. Explanatory

variables related to one's position in the household and individual characteristics (such as gender, age, nationality, residence) were included in the first stage. The second stage then estimates the returns from education. Further, in order to address potential endogeneity of the variable 'years of schooling', an instrumental variable regression model is estimated. The Heckman selection model is then also estimated for different population subgroups in order to better understand the drivers of the returns from education for these groups [Models (5)–(8)].

Table 21:
Estimating returns from education, different models

	Model (1)	Model (2)	Model (3)	Model (4)	(6)
	OLS	OLS	2SLS IV	OLS	Heckman Selection
Years of schooling		.032***	.015	.026***	.026***
		(.006)	(.012)	(.009)	(.009)
Basic education	.083				
	(.0619)				
Secondary education	.087				
	(.067)				
Tertiary education	.395***				
	(.073)				
Years of work experience	.018***	.018**	.019***	.014**	.015**
	(.006)	(.006)	(.005)	(.006)	(.006)
Squared years of work experience	-.000**	-.0004**	-.000**	-.000**	-.000**
	(.000)	(.000)	(.000)	(.000)	(.000)
Female				-.069***	.023
				(.050)	(.062)
Jordanian				.086	.086
				(.083)	(.083)
North Jordan				-.131***	-.142***
				(.044)	(.045)
South Jordan				-.132***	-.138***
				(.043)	(.045)
Public sector job				.107**	.108**
				(.050)	(.049)
Constant	-.0358	-.2826**	.877***	.754***	.839***
	(.0928)	(.1198)	(.148)	(.000)	(.101)
N	**4,959**	**4,959**	**4,959**	**4,957**	**4,957**
Test statistics			**Endogeneity test: Pr>chi2 = 0.2053**		**Wald test for independence: Pr>chi2 = 0.0441**

*Source: own calculations based on JLMPS 2016. Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.*

Table 22:
Full statistical output of two-stage Heckman-selection models for different population groups

	(4)	(5)	(6)	(7)	(8)
	General	**Jordanian**	**Syrian**	**Female**	**Male**
Years of schooling	0.026**	0.039***	0.013	0.041***	0.025**
	(0.009)	(0.006)	(0.016)	(0.010)	(-0.009)
Work experience	0.015*	0.017**	0.016	0.027*	0.012
	(0.006)	(0.005)	(0.014)	(0.013)	-0.007)
Square of work experience	0.000	0.000	0.000	-0.001	0.000
	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Female	0.023	-0.011	-0.178		
	(0.062)	(0.053)	(0.232)		
Jordanian	0.086			0.031	0.103
	(0.083)			(0.144)	-0.089)
North Jordan	-0.142**	-0.138***	-0.098	-0.231**	-0.122*
	(0.045)	(0.037)	(0.117)	(0.087)	-0.05)
South Jordan	-0.138**	-0.094**	-0.233*	-0.232*	-0.094*
	(0.045)	(0.036)	(0.110)	(0.095)	-0.043
Public sector	0.108*	0.056	0.688	0.195*	0.079
	(0.049)	(0.039)	(0.386)	(0.089)	-0.057
_cons	0.839***	0.751***	0.943***	0.700**	0.858***
	(0.101)	(0.080)	(0.180)	(0.214)	-0.107
Selection model					
Age	-0.009***	-0.010***	-0.002	-0.008***	-0.009***
	(0.001)	(0.001)	(0.004)	(0.001)	-0.002
Female	-1.244***	-1.103***	-1.724***		
	(0.039)	(0.034)	(0.163)		
Jordan	0.160**			0.628***	0.051
	(0.057)			(0.154)	-0.068
North Jordan	0.187***	0.173***	0.309*	0.156**	0.217***
	(0.044)	(0.035)	(0.128)	(0.060)	-0.056
South Jordan	0.114	0.064	0.202	0.344*	-0.024
	(0.079)	(0.044)	(0.454)	(0.158)	-0.073
Household size	-0.094***	-0.058***	-0.163***	-0.047***	-0.106***
	(0.010)	(0.008)	(0.028)	(0.013)	(0.013)
_cons	0.405***	0.378***	0.462*	-1.517***	0.544***
	(0.102)	(0.067)	(0.227)	(0.166)	(0.126)
Rho	-0.125*	-0.104*	-0.128	-0.184*	-0.116
	(0.062)	(0.042)	(0.168)	(0.082)	(0.071)
Sigma	-0.267***	-0.294***	-0.237	-0.330**	-0.259***
	(0.050)	(0.044)	(0.123)	(0.103)	(0.056)
N	**20,378**	**17,663**	**2,715**	**10,211**	**10,167**

*Source: own calculations based on JLMPS 2016. Note: *, ** and *** denote statistical significance at the 10%, 5% and 1% levels respectively.*

As with every statistical model, the estimations presented here have limitations. First and foremost, the estimates for the returns from education will be underestimated at best. This is because we only model returns through individual earnings premiums. There are many other dimensions of returns from education both on the micro and macro level, and various pathways through which education can benefit individuals, households and societies. Second, there are limitations that arise from the data itself. Heckman (2008) has proven that earliest investments in a child's cognitive and social development yield the highest returns. This would predict that early childhood development and kindergarten access would boost individual returns significantly. However, the JLMPs only contains education information starting from basic education – hence, earlier school exposure cannot be included in our analysis. Last but not least, the ability bias cannot be addressed due to the lack of corresponding variables in the JLMPS.

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