

6.

Key mechanisms of the economic costs of child marriage

Both in its conceptual and empirical model, the study presents several mechanisms through which child marriage induces economic costs for a country. Following the assertion made by Wodon and others (2017) that “the impacts of child marriage are large for fertility, population growth, education as well as labour market outcomes”, the present chapter empirically discusses these key indicators, which are also the critical mechanisms for the economic costs of child

marriage in the simulation model of the study. Also, with the support of previous studies on the subject from another geographical context, the chapter discusses how fertility, infant mortality, education, women’s labour force participation, and household economic and health costs are endogenous to several other indicators, as exhibited in the conceptual and empirical model used for estimating the economic costs of child marriage in this study.

A. Fertility differences by age at first marriage

One of the known determinants of economic growth is population growth.³⁹ Population growth is greatly influenced by fertility rates. High fertility rates are a key implication of child marriage. High fertility also reflects the high number of both unwanted pregnancies and births. A higher number of births is a mechanism through which child marriage

affects the State economy.⁴⁰ The study thus analyses the fertility differences in association with the age at first marriage for a thorough understanding of the phenomenon. Though age at first birth is also indicative of the same, the study avoids using it owing to a high endogeneity between age at first marriage and first birth.⁴¹

Table 2. Total fertility rate by women's age at first marriage in Arab countries

Countries	Age at first marriage		Total
	Below 18 years	18 years and above	
Algeria (2018/2019)	4.1	1.9	2.8
Egypt (2014)	4.9	2.5	3.5
Iraq (2018)	4.1	3.2	3.6
Jordan (2017/2018)	3.7	2.0	2.7
Mauritania (2019–2021)	6.6	4.5	5.2
Morocco (2003/2004)	4.4	2.2	2.5
State of Palestine (2019)	5.6	2.6	3.8
Qatar (2012)	2.2	1.8	2.0
Somalia (2006)	7.7	5.8	6.7
Sudan (2014)	7.2	3.8	5.2
Syrian Arab Republic (2006)	4.5	3.2	3.8
Tunisia (2018)	3.3	1.3	2.1
Yemen (2013)	5.8	4.0	4.4

Source: Authors' estimation using information from DHS and MICS.

Total fertility rate (TFR) is a key measure of fertility that refers to the average number of children born per woman over their lifetime. In table 2, we show the TFR differences across females married below 18 years of age and for those who married at 18 and above. The findings suggest considerable but varying fertility differences for females married below 18 years and those married at 18 years and above across the 13 Arab countries. For instance, in Algeria, females married below age 18 have a TFR of 4.1 compared to only 1.9 among those married at 18 years and above. The largest fertility differences by age at first

marriage are found in Tunisia where females married below 18 years of age have 2.5 times higher fertility than their counterparts. Among other countries, Egypt, the State of Palestine and Morocco have more than double the fertility rates among females married below 18 years of age compared to those married at age 18 and above. Despite having higher fertility rates, Mauritania, Iraq, Yemen and the Syrian Arab Republic show lesser fertility differences by age at first marriage. In contrast, the Sudan and Somalia have higher fertility rates and higher differences by age at first marriage. The least differences are found in Qatar and Iraq.

B. Infant mortality differences by age at first marriage

Population health is also a recognized human capital factor of economic growth that expresses its impact both directly and indirectly. Population health directly determines the quality of human capital, while it has an indirect bearing on economic growth through its influence on population growth.⁴² The infant mortality rate (IMR) and under-5 mortality rate (U5MR), which refer to child deaths below 1 year and below 5 years per 1,000 live births, respectively, are sensitive population health indicators. These are not only key measures of child health but also for maternal and child health care. Mortality among

infants and children is higher among adolescent mothers compared to their counterparts married above the age of 18.⁴³ This generates from multiple avenues such as the young mother's malnutrition affecting the children's nutritional status, her restricted decision-making regarding reproductive choices and access to health care, limited agency and mobility, and low knowledge attainment on the matters of contraception and sexually transmitted infections.⁴⁴ The IMR and U5MR differences across females married below 18 years of age and those married at 18 and above are shown in table 3.

Table 3. Infant mortality differences by women's age at first marriage in Arab countries

Countries	Infant mortality rate (IMR)			Under-5 mortality rate (U5MR)		
	Age at first marriage		Overall	Age at first marriage		Overall
	Below 18 years	18 years and above		Below 18 years	18 years and above	
Algeria (2018/2019)	27	16	17	30	18	19
Egypt (2014)	25	21	22	31	26	27
Iraq (2018)	24	22	23	27	25	26
Jordan (2017/2018)	20	16	17	22	19	20
Mauritania (2019–2021)	35	30	33	43	38	41
Morocco (2003/2004)	45	38	40	51	46	47
State of Palestine (2019/2020)	15	11	12	18	13	14
Qatar (2012)	8	6	7	10	8	9
Somalia (2006)	138	54	86	217	84	135
Sudan (2014)	57	47	52	76	60	68
Syrian Arab Republic (2006)	19	17	18	23	21	22
Tunisia (2018)	15	13	14	18	15	17
Yemen (2013)	47	39	43	57	48	53

Source: Authors' estimation using information from DHS and MICS.

The findings suggest sizeable but varying IMR and U5MR differences for females married below 18 years of age and those married at 18 years and above across the 13 Arab countries included in this study. For instance, Somalia has the largest difference (2.6 times) in IMR among females married below 18 years of age compared to those married at 18 years and above. In Algeria, the childhood mortality rates among females married below the age

of 18 are almost double those of women who were married above age 18. The rest of the countries have a difference in childhood mortality rates ranging from 1 to <2, with children of females married below 18 years of age faring worse for all the countries compared to women married at the age of 18 years and above. A similar pattern of differences by age at first marriage is also found in the case of U5MR.

C. Educational differences by age at first marriage

Education is a key human capital measure that predicts economic growth.⁴⁵ Disruptions in the educational attainment of child-married women are widely recognized in the literature. Females married below 18 years of age are less likely to enter higher education compared to women married at higher ages.⁴⁶ Lower educational levels for women bring poor social and economic outcomes not only to the individual but to the respective households and the State as well.⁴⁷ Thus, education is a mechanism through which child marriage may affect the State economy. Table 4 presents educational differences by age at first marriage. Findings suggest considerable but varying differences in higher education across women married below 18 years of age and those above

18 years of age. For instance, in countries like Algeria and Morocco, the difference in higher education among females married below 18 years of age and those who married at the age of 18 and above is 20 and 67 times, respectively, while the differences are the least in Qatar (2 times) and Iraq (5 times). Other countries, such as Egypt, Somalia, the Sudan, the Syrian Arab Republic and Yemen, show higher educational attainment ranging among women married at and above 18 years of age compared to females married below 18 years of age. Differences in the education levels for Jordan, Mauritania, the State of Palestine and Tunisia are around seven times on average, with women married at the age of 18 and above faring better in all these countries.

Table 4. Education level by women's age at first marriage in Arab countries

Countries	Age at first marriage	Education level			
		Pre-primary or none	Primary and lower secondary	Higher secondary and above	Total
Algeria (2018/2019)	Less than 18 years	30.0	68.8	1.2	100.0
	18 years and above	9.9	65.5	24.6	100.0
	Total	10.6	65.6	23.7	100.0
Egypt (2014)	Less than 18 years	40.9	58.1	1.0	100.0
	18 years and above	17.7	63.6	18.7	100.0
	Total	24.0	62.1	13.9	100.0

Countries	Age at first marriage	Education level			
		Pre-primary or none	Primary and lower secondary	Higher secondary and above	Total
Iraq (2018)	Less than 18 years	19.3	73.4	7.3	100.0
	18 years and above	11.9	51.9	36.2	100.0
	Total	13.6	56.9	29.5	100.0
Jordan (2017/2018)	Less than 18 years	3.8	90.8	5.4	100.0
	18 years and above	1.8	54.3	43.9	100.0
	Total	2.2	61.9	35.8	100.0
Morocco (2003/2004)	Less than 18 years	75.7	24.2	0.1	100.0
	18 years above	42.9	50.4	6.7	100.0
	Total	50.0	44.7	5.3	100.0
Mauritania (2019–2021)	Less than 18 years	43.0	56.6	0.4	100.0
	18 years and above	27.0	69.6	3.4	100.0
	Total	32.8	64.9	2.3	100.0
State of Palestine (2018)	Less than 18 years	0.6	92.0	7.4	100.0
	18 years and above	0.5	53.0	46.5	100.0
	Total	0.5	65.4	34.1	100.0
Qatar (2012)	Less than 18 years	9.7	59.0	31.3	100.0
	18 years and above	2.6	37.9	59.5	100.0
	Total	3.0	39.2	57.8	100.0
Somalia (2006)	Less than 18 years	66.4	33.4	0.1	100.0
	18 years and above	56.0	43.0	1.1	100.0
	Total	60.2	39.1	0.7	100.0
Sudan (2010)	Less than 18 years	49.8	49.3	1.0	100.0
	18 years and above	22.8	61.4	15.8	100.0
	Total	32.0	57.3	10.7	100.0
Syrian Arab Republic (2006)	Less than 18 years	17.3	81.3	1.4	100.0
	18 years and above	13.7	71.5	14.8	100.0
	Total	14.2	73.0	12.8	100.0
Tunisia (2018)	Less than 18 years	23.5	73.6	2.9	100.0
	18 years and above	7.5	66.4	26.0	100.0
	Total	8.0	66.7	25.4	100.0
Yemen (2006)	Less than 18 years	71.2	28.2	0.6	100.0
	18 years and above	56.3	36.9	6.8	100.0
	Total	66.2	31.1	2.7	100.0

Source: Authors' estimation using information from DHS and MICS.

Note: Figures are reported for women in the age group 15–49 years.

D. Workforce participation rate by age at first marriage

The workforce participation rate of a population has a direct bearing on a household and country's economic prospects, while child marriage has an effect on the individual's participation in the labour market.⁴⁸ Even so, a male's labour force participation increases after marriage while a female's declines. The ILOSTAT, using data from 107 countries, has revealed that men have a higher level of participation in the labour force than females, while this gender gap is worsened for married men and women.⁴⁹ Furthermore, childbearing also decreases the participation among females.⁵⁰ Table 5 presents the differences in participation in the labour market by married females below 18 years of age and women married at 18 years and above for those in the age group of 15-49 years for

five Arab countries. The findings suggest considerably low but varying differences in the workforce participation rate for females married below 18 years of age compared to those married at 18 years and above. For instance, the workforce participation rate for females married below 18 years of age in Algeria is nearly three times less with reference to those married at 18 years and above. Even in Morocco and Egypt, the differences in women's workforce participation rate are considerably low for females married below 18 years of age compared to those married at 18 years and above. Furthermore, Mauritania and Yemen also exhibit a lower workforce participation rate for females married below 18 years of age compared to those married at 18 years and above.

Table 5. Workforce participation rate by women's age at first marriage in Arab countries

Countries	Age at first marriage		Total
	Below 18 years	18 years and above	
Algeria (2018/2019)	2.2	7.5	6.9
Egypt (2014)	11.7	17.8	16.1
Jordan (2017/2018)	5.9	16.7	14.5
Mauritania (2019–2021)	23.6	27.6	25.6
Morocco (2003/2004)	13.5	21.4	18.4
Yemen (2013)	9.8	12.4	10.9

Sources: Authors' estimation using information from DHS (as data pertaining to workforce participation is not collected in MICS).

Note: Workforce participation information for other Arab countries is not available. Figures are reported for women in the age group 15–49 years.