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Global and Regional Trends in Child Marriage

By Minh Cong Nguyen and Quentin Wodon

Child marriage remains highly prevalent today and it has substantial negative development impacts in the areas of education, labor force participation, health, violence, and empowerment (see the review article by Parsons et al., 2015, in this issue). As assessed by Dixon-Mueller (2008) on the basis of various physiological and social criteria¹ and data from a large number of Demographic and Health surveys, boys and girls aged 14 and younger are too young for sexual, marital, and reproductive transitions, while 15-17-year-olds may or may not be too young, depending on circumstances. This suggests that the traditional cut-off point of 18 years of age can be seen as appropriate for defining child marriage.

The importance of child marriage for a wide range of development outcomes explains why in many countries child marriage is now prohibited by law. However, such laws often have little effect. In India for example, marriage before the age of 18 has been illegal for about three decades, but about half of all girls still marry before 18. In Nigeria legal limitations on the age of marriage have not fundamentally altered the practice. The lack of impact of legislation is related in part to cultural and religious traditions (see for example Faizunnisa and Ul Haque 2003 for Pakistan, as well as the articles by Prettitore, 2015, and Scolaro et al., 2015, in this special issue). Beyond consent law reforms, other interventions are often needed to curb the incidence of child marriage.

While the elimination of child marriage has now been recognized as a major policy issue, and is likely to be included in the Sustainable Development Goals to be agreed upon by the international community, its measurement has remained relatively unsophisticated. To our knowledge, most existing studies simply report the incidence of child marriage, which is the share of girls who marry early (typically before the age of 18, but sometimes also considering a threshold of 15 years) within a population, as well as the median age of marriage in a country (see UNFPA 2012, as well as UNICEF 2014, for recent estimates of the extent of child marriage). Measures that would better take into account *how* young girls are when they marry are often not provided. No tests are done to assess the robustness of comparisons of age at marriage between countries, groups within countries, or time periods, for example with respect to the age threshold used to identify child marriage or the specific measure relied upon to measure the extent of child marriage.

Nguyen and Wodon (2012) suggest that better measurement of child marriage can be obtained by adopting the techniques used for the measurement of poverty, and they illustrate these techniques with an application on one African country (Nigeria). The objective of this article² is to use that approach to provide estimates of global and regional trends over time in the extent of child marriage – not only its incidence, but also what we refer to as the child marriage gap and the squared child marriage gap, two measures that take into account how young girls are when they marry, as will be explained below.³ The data and methodology are discussed in the next section, and the results are provided in the following section.

Data and Methodology

The estimates of global trends in child marriage in this article are based on data about age at first marriage in the Demographic and Health Survey (DHS) for 60 different countries. Most large developing countries are included in the sample with the exception of China. The surveys

were implemented for the most part in 2007-2009 (see the annex for a complete list of countries and survey years), although there are a few exceptions, including India for which the latest survey available is for 2005. The surveys ask about the age at first marriage for all women in the sample aged 15-49. Here we rely on the sample of women aged 18-49 in order to avoid the problem of incomplete information for girls below 18 years of age who could still get married before reaching 18, which we consider as our child marriage age threshold.

It is worth noting that for any given country, the same survey can be used to estimate both the current and past incidence of child marriage. However, the further one goes back in time, the more vagary there may be in survey respondents remembering the exact age at which they got married. At the same time, getting married is such an important event in a woman's life that the risk of a substantial error in remembering the age at which one got married is probably not too large. A separate issue for measurement is the fact that the risk of maternal mortality is higher for girls who give birth (and probably got married) at an early age. Therefore we may slightly underestimate the extent of child marriage, but this should not affect trends in a significant way simply because maternal mortality rates are very low in comparison to child marriage rates.

In terms of methodology we follow Nguyen and Wodon (2012) in adapting the techniques proposed in the literature on poverty to the measurement of child marriage. Apart from estimating the incidence of child marriage (the share of girls marrying before the age of 18), we also estimate the "child marriage gap," which accounts for how early a girl marries. The child marriage gap is essentially the product of the incidence of child marriage times the average number of years below the age of 18 at which the girls who marry early do marry, divided by 18. For example, if 50 percent of girls marry early, and if on average those girls marry at 16, the child marriage gap will be equal to $0.50 \times (2/18) = 5.56$ percent. The child marriage gap is a better measure of child marriage than the incidence of child marriage because it accounts for how early girls marry. Another measure often used is the squared child marriage gap. More information on those measures is available in Nguyen and Wodon (2012), and as noted by Foster et al. (1984) in the case of similar measures of poverty, these measures have a number of attractive analytical properties. While these properties will not be discussed here, they can be relied on when conducting more technical work on the measurement of child marriage.

Global and Regional Trends

Measures of child marriage at the country level are available separately from the authors for interested readers. Here, to save space, we will report mainly regional and global trends. Still, a few examples of country-level measures can be useful to illustrate patterns of child marriage and trends over time. All measures are obtained using the household weights in the DHS surveys, as is standard practice.

The incidence of child marriage for all women aged 18 to 49 at the time of the survey ranges from 8.4 percent in Vietnam to 82.3 percent in Bangladesh. The same two countries have the lowest and highest incidence of child marriage in urban and rural areas respectively. In terms of simple averages across countries without taking into account the size of the countries' population, the average incidence of child marriage across the 60 countries stands at 36.4 percent nationally, 41.6 percent in rural areas, and 28.6 percent in urban areas. The corresponding figures for the child marriage gap are 5.7 percent nationally, 6.6 percent in rural areas and 4.3 percent in urban areas. Vietnam and Bangladesh remain the two countries at the extremes nationally, as

well as in urban and rural areas for the child marriage gap. For example, the child marriage gap is at 0.8 percent nationally for Vietnam, versus 17.1 percent for Bangladesh.

Table 1 indicates the number of countries by region or income group on which aggregate statistics are based. Overall, not taking into account the population of the various countries, the simple average of the incidence of child marriage across all the countries decreased from 41.2 percent for women born between 1955 and 1959 to 32.7 percent for women born between 1985 and 1989 (note that there are slight differences in the sample of countries available for both years due to the implementation dates for the DHS surveys). While this is not a negligible decline, child marriage nevertheless remains highly prevalent. For the child marriage gap, the corresponding decline across all countries in the sample without country population weights was from 7.0 percent for women born between 1955 and 1959 to 4.7 percent for women born between 1985 and 1989. This is a larger decline in proportional terms than observed for the incidence of child marriage. The proportional decline in the squared child marriage gap is similar in magnitude.

Table 1: Number of Countries by Country Group across Periods

	1955-9	1960-4	1965-9	1970-4	1975-9	1980-4	1985-9
Regions							
East Asia & Pacific	5	5	5	5	5	5	5
Europe & Central Asia	6	6	6	6	6	6	6
Latin America & Caribbean	7	8	8	8	8	8	7
Middle East & North Africa	3	3	3	3	3	3	3
South Asia	5	5	5	5	5	5	5
Sub-Saharan Africa	32	33	33	33	33	31	28
Income level							
Low income	23	24	24	24	24	22	21
Lower middle income	25	25	25	25	25	25	24
Upper middle income	10	11	11	11	11	11	9
World	58	60	60	60	60	58	54

Source: Authors' estimation based on DHS surveys.

Table 2 provides aggregate trends for the various groups of countries and for the developing world as a whole taking into account the population of the various countries. These are thus the more important estimates. Estimates are available globally as well as by region (as defined by the World Bank) and by income levels (again using the World Bank's definition of income cut-off points, with the groupings based on levels of GDP per capita today). Globally the incidence of child marriage is at 40.3 percent. The region with the highest overall incidence of child marriage today, as estimated through the incidence of child marriage among women born between 1985 and 1989, is South Asia where 45.4 percent of women born between those years were married below the age of 18. Sub-Saharan Africa is next, with 38.5 percent of women born in those years marrying below the age of 18. The Middle East and North Africa region comes next, followed by Latin America and the Caribbean, East Asia and the Pacific, and finally Europe and Central Asia.

In terms of trends over time, when comparing the incidence of child marriage between women born between 1985 and 1989 and women born between 1955 and 1959, the incidence of child marriage was reduced globally from 51.2 percent to 40.3 percent. At the regional level, the decline was at 14.8 points in South Asia, 14.0 points in sub-Saharan Africa, and 8.7 points in the Middle East and North Africa. The declines were lower in the other regions, and the increase for Europe and Central Asia is due to estimates for Turkey which do not seem reliable for the last

survey year possibly due to small sample size. When looking at income groups, the reduction in the incidence of child marriage was 14.1 points for low income countries and 11.9 points for lower middle income countries (again, Turkey causes estimates for upper middle income countries to go up in the last period). As expected, the absolute reductions in the incidence of child marriage have in general been largest in countries and regions where the incidence was initially highest. For all low income and middle income countries as a whole for which we have DHS surveys, the incidence of child marriage was reduced by 10.8 percentage points from 51.2 percent among women born between 1955 and 1959 to 40.3 percent for women born between 1985 and 1989.

Similar trends are obtained for the child marriage gap and the squared gap in terms of the comparison of regions and groups of countries with the largest decline over time. While progress has been made, the gains towards eliminating child marriage have been slow. At the same time, it is important to highlight the fact that in proportional terms, the reduction in the child marriage gap and squared gap tend to be larger than is the case for the incidence of child marriage. This suggests that apart from the fact that fewer girls marry early, those that do also tend to marry less early.

Table 2: Population Weighted Measures of Child Marriage by Groups of Countries (%)

	1955-9	1960-4	1965-9	1970-4	1975-9	1980-4	1985-9
Incidence of Child Marriage							
Regions							
East Asia & Pacific	34.00	31.47	28.49	24.02	21.96	21.26	31.71
Europe & Central Asia	22.39	22.98	20.70	23.46	22.80	27.32	-
Latin America & Caribbean	29.29	26.79	26.75	27.94	28.18	27.12	23.69
Middle East & North Africa	40.20	34.50	30.65	26.30	23.36	22.60	31.53
South Asia	60.24	59.82	60.64	58.96	55.21	49.66	45.43
Sub-Saharan Africa	52.50	49.15	47.60	44.87	41.84	39.27	38.52
Income level							
Low income	65.45	60.05	59.09	56.94	53.76	53.20	51.32
Lower middle income	49.32	48.47	48.17	45.80	42.58	38.38	37.43
Upper middle income	27.11	25.76	22.53	22.90	22.49	25.19	42.56
World	51.20	49.20	48.55	46.43	43.42	40.13	40.34
Child Marriage Gap							
Regions							
East Asia & Pacific	5.43	4.94	4.41	3.43	3.05	2.70	3.85
Europe & Central Asia	3.04	2.79	2.41	2.69	2.65	2.96	-
Latin America & Caribbean	4.31	3.72	3.80	3.97	4.04	3.81	3.38
Middle East & North Africa	6.89	5.45	4.74	3.94	3.27	2.80	3.49
South Asia	10.91	10.85	11.05	10.51	9.67	8.13	7.02
Sub-Saharan Africa	9.88	8.63	8.45	7.91	7.21	6.26	6.09
Income level							
Low income	13.47	11.26	10.99	10.56	9.62	8.90	8.26
Lower middle income	8.43	8.37	8.39	7.76	7.12	5.95	5.43
Upper middle income	3.97	3.46	3.11	3.03	2.98	3.13	5.21
World	9.16	8.61	8.54	7.99	7.33	6.29	5.95
Squared Child Marriage Gap							
Regions							
East Asia & Pacific	1.20	1.04	0.95	0.67	0.60	0.49	0.65
Europe & Central Asia	0.56	0.50	0.41	0.44	0.41	0.42	-
Latin America & Caribbean	0.84	0.68	0.73	0.75	0.75	0.73	0.60
Middle East & North Africa	1.61	1.14	0.99	0.82	0.63	0.51	0.50
South Asia	2.54	2.55	2.63	2.41	2.21	1.75	1.39

Sub-Saharan Africa	2.39	1.99	1.96	1.83	1.63	1.33	1.27
Income level							
Low income	3.40	2.68	2.61	2.49	2.19	1.90	1.69
Lower middle income	1.90	1.91	1.95	1.73	1.59	1.25	1.04
Upper middle income	0.79	0.64	0.60	0.55	0.52	0.54	0.82
World	2.13	1.98	1.99	1.80	1.64	1.32	1.15

Source: Authors' estimation based on DHS surveys - population weighted.

Note: Data for girls born between 1985 and 1989 are not provided for Europe and Central Asia because a substantial increase is observed due mostly to a sharp increase in estimates for Turkey which may not be reliable because of limited sample size.

Conclusion

Relying on techniques used for poverty measurement and comparable household surveys for 60 countries, this paper has provided new estimates of global trends in child marriage. When comparing the samples of women born between 1985 and 1989 and those born between 1955 and 1959, the incidence of child marriage has been reduced substantially in lower and lower middle income countries. The declines were largest in South Asia (14.8 points) and sub-Saharan Africa (14.0 points). The declines in the child marriage gap and squared gap were even larger in proportional terms. In other words, apart from the fact that fewer girls marry early, those that do also tend to marry less early. Nevertheless the practice remains widespread. While progress towards the elimination of child marriage has been achieved, the gains are too slow. About 40 percent of girls in the developing world still marry early today, especially in South Asia and Africa.

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Annex Table: List of Countries and Survey Years for the Estimates

Country	Year	Country	Year
Albania	2008	Madagascar	2008
Armenia	2005	Malawi	2004
Azerbaijan	2006	Maldives	2009
Bangladesh	2007	Mali	2006
Benin	2006	Moldova	2005
Bolivia	2008	Morocco	2003
Burkina Faso	2003	Mozambique	2004
Cambodia	2005	Namibia	2006
Cameroon	2004	Nepal	2006
Central African Republic	1995	Nicaragua	2001
Chad	2004	Niger	2006
Colombia	2010	Nigeria	2008
Congo, Rep.	2005	Pakistan	2006
Congo, Dem. Rep.	2007	Peru	2004
Côte d'Ivoire	2005	Philippines	2008
Dominican Republic	2007	Rwanda	2005
Egypt, Arab Rep.	2008	São Tomé and Príncipe	2008
Ethiopia	2005	Senegal	2005
Gabon	2000	Sierra Leone	2008
Ghana	2008	South Africa	1998
Guinea	2005	Swaziland	2006
Guyana	2005	Tanzania	2010
Haiti	2005	Timor-Leste	2009
Honduras	2005	Togo	1998
India	2005	Turkey	2003
Indonesia	2007	Uganda	2006
Jordan	2007	Ukraine	2007
Kenya	2008	Vietnam	2005
Lesotho	2009	Zambia	2007
Liberia	2007	Zimbabwe	2005

Source: Authors.

¹ The criteria considered by Dixon-Mueller are: “(1) *the physiological maturation of the body*; (2) *the cognitive capacity for making safe, informed, and voluntary decisions*; and (3) *institutionalized concepts of "old enough" for consent to sexual intercourse and marriage as reflected in legal frameworks and international standards*” (Dixon-Mueller, 2008: 247).

² The authors are with the World Bank. This work is part of a broader study on child marriage implemented jointly by the World Bank and ICRW with funding from the Bill and Melinda Gates Foundation and the Children’s Investment Fund Foundation. Part of this work was undertaken previously with funding from TFESSD at the World Bank. The opinions expressed in the paper are however only those of the authors, and need not represent those of the World Bank, its Executive Directors, or the countries they represent.

³ The idea of applying poverty measurement techniques to other areas is not new. Morris et al. (2000) look at the ‘nutrition poor’ and define as stunted children who have a measure of height for age at least two standard deviations below international standards. The authors then simulate a nutrition intervention whose impact is estimated by computing the incidence of stunting (the headcount for the nutrition poor) as well as higher order measures of malnutrition before and after the intervention. Bardasi and Wodon (2010) use poverty measurement techniques to look at various measures of time poverty, and Makdissi and Wodon (2008) show that poverty measurement techniques can also be used for the analysis of climate change, for example in terms of CO2 emissions.