



The economic
impacts of
child marriage

ECONOMIC IMPACTS OF CHILD MARRIAGE: WOMEN'S HEALTH BRIEF



The economic
impacts of
child marriage

ECONOMIC IMPACTS OF CHILD MARRIAGE: WOMEN'S HEALTH BRIEF



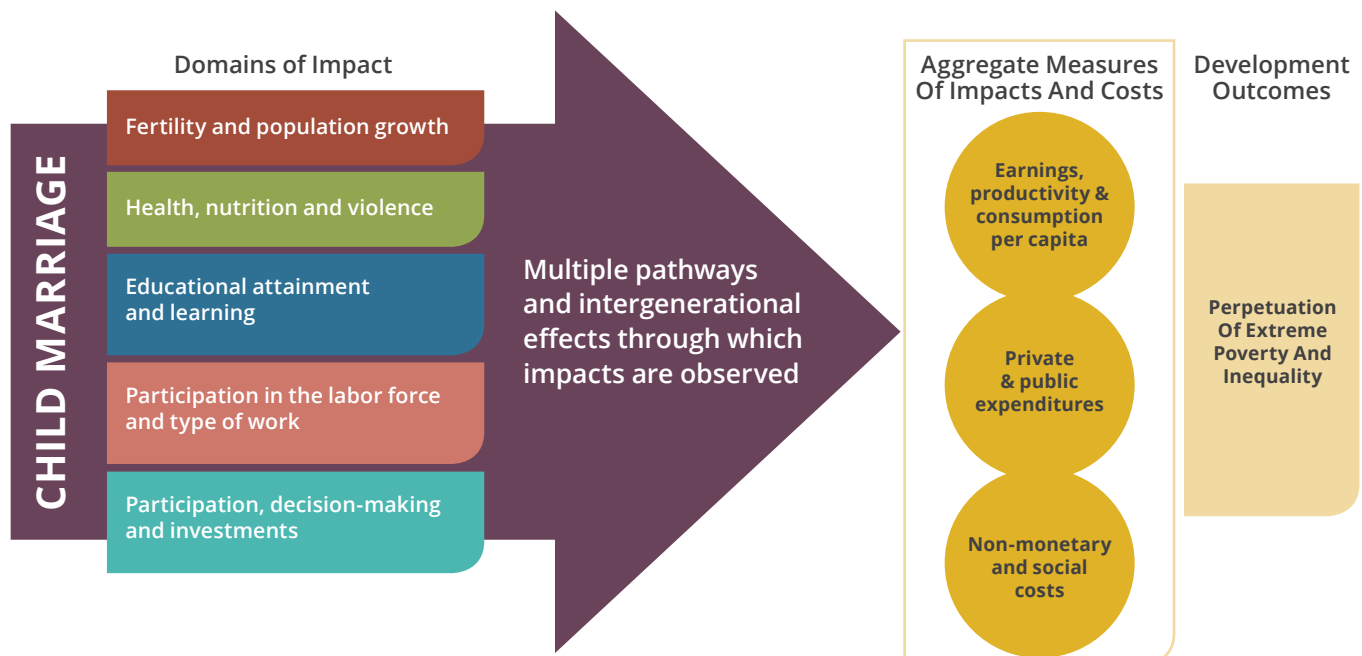
OVERVIEW

Each day, more than 41,000 girls worldwide are married while still children, often before they may be physically and emotionally ready to become wives and mothers. Child marriage, defined as marriage or a union taking place before the age of 18, endangers the life trajectories of these girls in numerous ways. Child brides are at greater risk of experiencing a range of poor health outcomes, having children at younger ages, having more children over their lifetime, dropping out of school, earning less over their lifetimes and living in poverty than their peers who marry at later ages. Child brides may also be more likely to experience intimate partner violence, have restricted physical mobility, and limited decision-making ability. Most fundamentally, these girls may be disempowered in ways that deprive them of their basic rights to health, education, equality, non-discrimination, and to live free from violence and exploitation, which continue to affect them into adulthood. These dynamics affect not only the girls themselves, but their children, households, communities and societies, limiting their ability to reach their full social and economic potential.

While child marriage is widely considered a human rights issue closely connected to gender inequality,¹ the significance of the practice's impacts at both the individual and societal levels suggests that ending child marriage may play an important role in alleviating poverty and in promoting economic development. Ending child marriage can improve health at the individual and population levels, increase productivity and enhance the opportunity to realize the gains in a country's economic growth that can result from declining birth rates and a shifting population age structure, commonly referred to as the 'demographic dividend.' To date, however, there has been relatively little in the way of rigorous assessment of the economic impacts of child marriage or how much child marriage may "cost" countries and societies.

To address this gap, the World Bank and the International Center for Research on Women (ICRW) collaborated on an extensive and innovative research project to assess the impacts of child marriage on a range of development outcomes, and to understand the economic costs associated with these impacts across countries. By establishing the effects that child marriage has on economic outcomes, the research project aimed to catalyze more effective and evidence-based action to prevent it. The conceptual framework that guided our work follows:

¹ As enshrined in UN General Assembly Resolution 71/175 (December, 2016), "child, early and forced marriage is a harmful practice that violates, abuses or impairs human rights."



This brief summarizes results from an analysis of the impacts of child marriage on a few selected health outcomes, specifically early childbirths, maternal mortality and intimate partner violence. It does not include analyses for other aspects of women's health that are likely to be affected by child marriage to various extents, such as maternal morbidity, obstetric fistula, female genital mutilation/cutting, sexually-transmitted infections (including HIV and AIDS) and psychological well-being. This brief and selected other publications from the study can be found at www.costsofchildmarriage.org

IMPACT OF CHILD MARRIAGE ON EARLY CHILDBIRTHS

There is a close relationship in many countries between child marriage, early pregnancy and early childbirth; that is, pregnancies or childbirths by girls under the age of 18. Early childbearing can have dramatic consequences for young women as well as their children.

The United Nations Population Fund (UNFPA) estimates that some 7.3 million girls under the age of 18 give birth each year, or roughly 20,000 births to adolescent mothers each day. In Table 1, we provide estimates of the share of early childbirths that can be attributed to child marriage for the core 15 countries that were included in our study. These estimates suggest that, in most of these countries; a large majority of early childbirths are due to child marriage. In the case of Bangladesh, for example, the share of women having their first child before age 18 as a result of child marriage is estimated to be 80.8 percent. In addition, 85.4 percent of children born to mothers younger than 18 in Bangladesh are attributed to child marriage.

These findings suggest that ending child marriage should therefore have a major positive impact on reducing early childbirths. It is important to place this finding in context, however. In some countries that have experienced increases in the age of marriage, age at first sex has not necessarily

What Do We Mean by Impacts and Associated Costs?

The aim of the study is to estimate the impacts of child marriage on development outcomes and the economic costs associated with some of these impacts. The term "impact" is used for simplicity, but one must be careful about not necessarily inferring causality. Most estimates of impacts are obtained through regression analysis in order to control for other variables that may affect the outcomes of interest. In some cases, simulations are used. What is measured are thus statistical associations, and not necessarily impacts as could be observed, for example, with randomized control trials. Since child marriage cannot be randomized, we must rely on regression analysis in order to estimate likely impacts, but there is always a risk of bias in the measures of the likely impacts of child marriage. Based on measures of likely impacts, costs associated with selected impacts are then computed. Note that we provide cost estimates only for some, and not all impacts. These costs rely on a number of assumptions and are thus tentative. Overall, the costs represent an order of magnitude of potential costs rather than precise estimations. For more details on the methodology and how it relates to key empirical findings, see Wodon (2017).

increased in tandem. That is, increases in the age at first marriage need not necessarily result in increases in the age at first sex, as adolescents may continue to engage in sexual activity regardless of marriage. Even as countries work to eliminate child marriage, therefore, it is critical that they also ensure the availability of comprehensive sexuality education and access by adolescents to youth-friendly reproductive health information and services, as adolescents are likely to continue to engage in sexual activity, regardless of the prevalence of child marriage.

○ ***“How do you think it feels to be forced into a marriage and a life with someone you didn’t choose or know?”***

“Two young women died in childbirth during the first week of our stay in the community. The first woman married at fourteen and had three children.”

QUALITATIVE DATA COLLECTED BY ICRW AND THE WORLD BANK.

TABLE 1: SHARE OF EARLY CHILDBIRTHS FOR MOTHERS AND CHILDREN ATTRIBUTED TO CHILD MARRIAGE

| Country | Share of girls having their first child before 18 attributed to child marriage (%) | Share of children born of mothers younger than 18 attributed to child marriage (%) |
|--------------------|--|--|
| Bangladesh | 80.8 | 85.4 |
| Burkina Faso | 77.3 | 82.8 |
| Dem. Rep. of Congo | 60.0 | 66.5 |
| Egypt | 93.9 | 97.7 |
| Ethiopia | 79.7 | 86.0 |
| Malawi | 63.9 | 70.1 |
| Mali | 59.8 | 73.3 |
| Mozambique | 43.4 | 59.5 |
| Nepal | 91.5 | 95.1 |
| Niger | 69.6 | 75.7 |
| Nigeria | 76.8 | 84.4 |
| Pakistan | 73.1 | 86.3 |
| Republic of Congo | 30.9 | 43.4 |
| Uganda | 52.4 | 56.4 |
| Zambia | 39.4 | 40.0 |

Source: Wodon et al. (2017).

IMPACT OF CHILD MARRIAGE ON MATERNAL MORTALITY

The literature suggests higher rates of maternal mortality and morbidity for adolescent girls who give birth at a very young age as compared to women who are just a few years older. This does not mean, however, that ending child marriage would necessarily reduce maternal mortality ratios. Indeed, while delaying marriage should reduce the risks of maternal mortality and morbidity when giving birth at a very young age, we still don’t know enough about the relationship between delaying child marriage and the risks of giving birth later in life.

This study does not provide detailed estimates of child marriage on maternal mortality ratios, nor does it address the costs of maternal mortality or morbidity, but basic data from Nove et al. (2014) help to understand some of the complex dynamics that could play out if child marriage were ended. Across 144 countries and territories, Nove et al. find an increased risk of mortality in adolescents (260 per 100,000) as compared to women aged 20–24 years (190 per 100,000), although the confidence intervals for both estimates overlap significantly. There is also a lot of heterogeneity between countries, as shown in Table 2 for the core set of 15 countries considered in this study. It is also important to note that basic statistical comparisons of maternal mortality ratios by age groups, such as those in Table 2, do not imply causality, as they



TABLE 2: MATERNAL MORTALITY RATIOS BY AGE BRACKET

| | Surveys | 15-19 | 20-24 | 25-29 | 30-34 | 35-39 | 40-44 | 45-49 |
|--------------|---------|-------|-------|-------|-------|-------|-------|-------|
| Bangladesh | 2007-10 | 93 | 180 | 270 | 680 | 860 | 660 | 2,300 |
| Burkina Faso | 2003-10 | 330 | 430 | 330 | 460 | 570 | 760 | 2,500 |
| D. R. Congo | 2002-06 | 350 | 370 | 720 | 790 | 450 | 3,400 | 3,500 |
| Egypt | 2000-09 | 18 | 27 | 40 | 65 | 120 | 180 | 360 |
| Ethiopia | 2003-10 | 760 | 610 | 610 | 1,200 | 2,300 | 2,400 | 4,500 |
| Malawi | 2003-10 | 240 | 260 | 710 | 1,200 | 3,200 | 4,300 | 5,700 |
| Mali | 1999-06 | 720 | 580 | 910 | 720 | 1,000 | 2,100 | 8,000 |
| Mozambique | 2004-11 | 520 | 560 | 910 | 880 | 1,200 | 1,800 | 2,300 |
| Nepal | 1999-06 | 390 | 230 | 190 | 850 | 780 | 2,400 | - |
| Niger | 1996-06 | 600 | 650 | 830 | 770 | 1,200 | 2,900 | 7,300 |
| Nigeria | 2001-08 | 780 | 720 | 770 | 1,300 | 1,900 | 2,400 | 1,900 |
| Pakistan | 2003-06 | 220 | 190 | 200 | 200 | 520 | 690 | 400 |
| Rep. Congo | 1998-05 | 550 | 580 | 800 | 740 | 1,700 | 2,300 | 510 |
| Uganda | 2004-11 | 400 | 330 | 640 | 1,100 | 1,800 | 3,200 | 5,300 |
| Zambia | 2000-07 | 150 | 300 | 630 | 1,300 | 1,600 | 1,600 | 4,000 |

Source: Nove et al. (2014).

do not control for other factors that affect maternal mortality. Levels of maternal mortality could be higher among young mothers due to lower access to health care and lower socio-economic status. Further simulation analysis would be needed to establish a stronger link between ending child marriage, early childbearing and maternal mortality.

IMPACT ON INTIMATE PARTNER VIOLENCE

Research suggests that marriage at an early age may increase risks of intimate partner violence (IPV) for women throughout the life course. The health implications of IPV, as well as their potential costs for women and households, can be serious. Analysis carried for this study suggests that when girls marry very early (at or under 15 years of age), there are statistically significant impacts on IPV in the majority of countries. In order to assess the potential reduction in IPV that could be achieved by ending child marriage, we use Demographic and Health Survey (DHS) data for eight sub-Saharan countries as well as Nepal and Pakistan. For Ethiopia and Niger, given that the module on violence was not included in the latest DHS, the analysis follows the same approach but is based on surveys implemented for this project. The intensity of IPV is captured through an index that takes a value between zero (no violence at all) and 100 (worst cases of violence).

Table 3 provides estimates of the impact of child marriage on the IPV index, after controlling for other variables also likely to affect IPV. The analysis is conducted for all married women in the sample. In a majority of countries, marrying at 15 or earlier is associated with a higher risk of IPV. For example, in Malawi, marrying at age 15 or less increases the index of IPV by 1.42 points on the scale from zero to 100. When marrying at age 16 or 17, direct impacts tend not to be statistically significant. In addition to these direct effects, however, there are also likely

to be indirect effects at work through the negative impact that child marriage has on girls' educational attainment, given that a reduction in IPV is often observed for women with a higher level of education.

The last two columns in Table 3 provide results on the reduction in IPV at the national level that could result from ending child marriage, considering only direct effects. In some countries, the reduction in IPV that would occur is substantial, and in four countries, IPV could be reduced by more than 10 percent if child marriage were eliminated. Estimates of potential impacts are also provided for a pooled dataset using DHS surveys for Africa, with IPV reduced by just under six percent. In sum, ending child marriage could make a major difference in reducing IPV in the majority of the studied countries. These reductions would be larger if the impacts of child marriage on education were also taken into account.

TABLE 3: IMPACT OF CHILD MARRIAGE ON INTIMATE PARTNER VIOLENCE, WOMEN AGES (INDEX FROM 0 TO 100)

| | Marginal impact of child marriage | | | National Impact | |
|-------------------------|-----------------------------------|----------------|----------------|-----------------|-----------------------|
| | Marrying at 15 or less | Marrying at 16 | Marrying at 17 | Absolute change | Percentage change (%) |
| Burkina Faso | 0.77 | NS | NS | -0.18 | -7.33 |
| Dem. Rep. of Congo | NS | NS | NS | - | - |
| Egypt | NS | NS | NS | - | - |
| Ethiopia | 2.39 | NS | NS | -0.92 | -10.37 |
| Malawi | 1.42 | NS | NS | -0.37 | -5.49 |
| Mali | 1.04 | NS | NS | - | - |
| Mozambique | NS | NS | NS | -0.96 | -13.17 |
| Nepal | 0.083 | NS | NS | -0.35 | -4.78 |
| Niger | NS | NS | NS | - | - |
| Nigeria | 0.73 | 0.73 | 1.23 | -0.46 | -12.57 |
| Pakistan | NS | NS | NS | - | - |
| Uganda | 6.34 | 5.87 | NS | -2.63 | -18.04 |
| Zambia | 1.14 | NS | NS | -0.23 | -2.81 |
| Africa data sets | 0.56 | NS | NS | -0.17 | -5.83 |

Source: Savadogo and Wodon (2017); see also Steinhaus et al. (2017) for Niger and John et al. (2017) for Ethiopia.

Note: NS = Not statistically significant at the 10 percent level.

CONCLUSIONS

Child marriage and associated early childbirths can have multiple health implications for girls, both during their adolescence and later in life. Noting that the analysis conducted for this study and summarized in this brief does not address all aspects of health that may be affected by child marriage, such as obstetric fistula and other maternal morbidities, sexually-transmitted infections (including HIV and AIDS), or mental health, for example, the magnitude of the impacts of child marriage on early childbearing, maternal mortality, and the risk of intimate partner violence can be summarized as follows.

First, our analysis suggests that in a set of 26 countries that account for an overwhelming majority of child marriages and early childbirths in the world, 84.4 percent of children born to mothers younger than 18 are likely to be due to child marriage and three in four women who had their first child before 18 probably did so because they married as children. Ending child marriage should therefore have a major positive impact towards reducing early childbirths globally.

Second, a recent study utilizing data from 144 countries suggests that adolescent girls ages 15-19 have an increased risk for maternal mortality as compared to women in their 20s, but this is not the case for most core focus countries for our study. Data are lacking for girls younger than 15, for whom the risks of maternal mortality and morbidity would likely be higher. This analysis is therefore limited, and due to desired fertility patterns, while ending child marriage should reduce risks of maternal mortality for adolescent girls, the overall effect on national maternal mortality ratios is not clear. Additional analysis would be needed to estimate the potential effect of ending child marriage on maternal mortality.

Third, the literature also suggests linkages between IPV and child marriage. Our study finds evidence of impact when considering women who married at age 15 or earlier in a majority of countries, but impacts when marrying at age 16 or 17 tend not to be consistently statistically significant. We further find that more than half of the countries in our study could see reductions in IPV at the national level if child marriage were eliminated. In some cases, the reductions are small, but in others they are quite large.

This particular brief in our series does not include cost estimates for some of the impacts being documented. This does not mean that the impacts have no associated costs. For example, by leading to early childbirths, child marriage has a large welfare cost due to its impact on population growth, as documented in the separate brief on that topic. Overall, the impacts of child marriage on women's health observed in this study, combined with the literature base on other potential health impacts for women, suggest that the practice has a number of negative health consequences, warranting interventions to end the practice.

REFERENCES

- John, N. et al. (2017). *Child Marriage and Intimate Partner Violence in Ethiopia*. Washington, DC: International Center for Research on Women.
- Nove, A., Z. Matthews, S. Neal, and A. V. Camacho (2014). Maternal Mortality in Adolescents Compared with Women of Other Ages: Evidence from 144 Countries, *The Lancet Global Health* 2(3): 155-64.
- Savadogo, A. and Q. Wodon (2017). *Impact of Child Marriage on Intimate Partner Violence across Multiple Countries*. Education Global Practice. Washington, DC: The World Bank.
- Steinhaus, M. et al. (2017) *Child Marriage and Intimate Partner Violence in Niger*. Washington, DC: International Center for Research on Women.
- Wodon, Q., C. Male, and A. Onagoruwa (2017). *A Simple Approach to Measuring the Share of Early Childbirths Likely Due to Child Marriage in Developing Countries*. Education Global Practice. Washington, DC: The World Bank.
- Wodon, Q. (2017). *Estimating the Economic Impacts and Costs of Child Marriage Globally: Methodology and Estimates*. Education Global Practice. Washington, DC: The World Bank.

The Economic Impacts of Child Marriage project is a collaborative effort by the International Center for Research on Women (ICRW) and the World Bank, with funding from the Bill & Melinda Gates Foundation and the Children's Investment Fund Foundation, and additional support from the Global Partnership for Education. This series of papers is jointly produced by the International Center for Research on Women and the World Bank and is available at www.costsofchildmarriage.org. The findings, interpretations and conclusions expressed in this paper are entirely those of the author(s) and should not be attributed in any manner to the World Bank, to its affiliated organizations or to members of its Board of Executive Directors or the countries they represent. Citation and the use of material presented in this series should take into account this provisional character. The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations and other information shown on any map in this work do not imply any judgment on the part of the World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

Information and illustrations contained in this report may be freely reproduced, published or otherwise used for noncommercial purposes without permission from the World Bank or ICRW. However, the World Bank and ICRW request that the original source be cited as the source.

Recommended citation: Wodon, Q., C. Male, N. Onagoruwa, A. Savadogo, John, N., and Petroni, S. (2017). *Economic Impacts of Child Marriage: Women's Health*. Washington, DC: The World Bank and International Center for Research on Women.

© 2017 The International Bank for Reconstruction and Development / The World Bank and the International Center for Research on Women (ICRW), Washington, DC 20433.



The economic
impacts of
child marriage