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REPRODUCTIVE HEALTH AND ECONOMIC DEVELOPMENT: WHAT CONNECTIONS SHOULD WE FOCUS ON?

Reproductive health is a critical component of human capital.

30%

higher were the wages earned by women in Bangladesh who received RH services.

Each birth can reduce a woman's involvement in the labor force by up to 2 years.

Economists, demographers, and policymakers have long debated the relationships between reproductive health (RH), population change, and economic well-being. In recent years, however, a growing number of studies across disciplines have shown that declines in fertility affect the structure of a country's population. The emerging age structure has a lower dependency ratio (fewer young and older people per working-age adult), which creates a window of opportunity for economic development.¹ To take advantage of this opportunity, nations and families must also invest more resources in health, education, and productivity—referred to as human capital. Reproductive health—defined in this brief as the use of effective contraception, use of health care during pregnancy and childbirth, and health care for infants—is a critical component of human capital. Investments in RH are linked to lower fertility and reduced maternal and child morbidity and mortality, thereby improving overall health and quality of life.

Policymakers are faced with critical questions as to the extent to which improvements in RH contribute to broader economic returns. This brief examines the emerging evidence base for answering three questions about the relationship between RH and three important areas of human capital development:

- Do healthier women with fewer children invest more in human capital?
- Do women participate more in labor markets?
- Does better RH increase a woman's ability to earn and save more, and thus help her and her family escape poverty?

RH and Human Capital

Women who have better RH status tend to invest more resources in their own and their children's health, education, and future productivity. Research suggests three pathways through which improved



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RH fosters investments in human capital. As women have better access to high-quality RH information and services, their overall health and their children's health tend to improve. Developments in maternal and child health also contribute to longer life expectancy, thereby creating a stronger rationale for women to invest in their children's education as well as their own. Finally, access to family planning services contributes to a reduction in fertility, which frees up household resources and allows women to make more investments in education.

New evidence supports these arguments. A vast literature in medicine, public health, and the social sciences agrees that improved maternal nutrition and increased access to RH services and commodities leads to higher birth weights, lower levels of child mortality, better child nutrition, and improved cognitive development.² At the same time, a growing number of studies demonstrate that children born to malnourished mothers or mothers who experienced



a negative health shock (such as suffering from malnutrition or contracting an infectious disease) during pregnancy are more likely to develop heart disease, diabetes, and stroke.³ Children who experience better physical health and fewer negative health shocks during their lifetimes also reach a higher, more productive potential and effectively reap the benefits from investments in their health and education. Given that better-educated children are expected to be more productive in the future, parents of healthier children are motivated to further invest in their child's schooling.

Health policy programs and interventions can also have a positive impact on educational attainment and schooling. In Matlab, Bangladesh, for example, mothers in designated treatment areas received access to integrated family planning and maternal and child health services over a 20-year period. As a result, children from these treatment areas received higher test scores than their peers from comparison areas where women did not receive improved services.⁴ In Tanzania, providing iodine supplementation to pregnant women and children had the rather significant effect of increasing child schooling attendance by about half a year, with larger gains for girls.⁵

The evidence also reveals that women who delay, space, or limit their births—and have fewer children—have more opportunities to allocate their time and resources toward investing in each child's health and education. This idea is referred to as the "quantity-quality trade-off" and has recently been validated by evidence from several countries. In Matlab, declines in fertility and improved maternal health ultimately contributed to an increase in children's educational attainment and lower levels of child labor.⁶ In Colombia, women between the ages of 15 to 19 who received the services of the PROFAMILIA family planning program obtained seven more weeks of schooling each year than women who did not receive these services. This implies that for women who complete an average of seven years of schooling, receiving family planning services could help them gain as much as one more year of schooling.⁷ Both studies are careful to point out that better access to RH programs led to lower fertility, and that the lower fertility led to higher levels of

education among children. By ensuring that the programs were not implemented in response to demand or patterns of declining fertility, the studies demonstrate that family planning interventions positively affect women's educational attainment.

Finally, there is also evidence that investments in maternal health services lead to higher life expectancy and lower levels of maternal mortality, which in turn lead to higher levels of literacy and schooling among women. In Sri Lanka, a 70 percent drop in maternal mortality risk between 1946 and 1953 created a 15 percent increase in life expectancy for school-age girls, which led to increasing female literacy by 2.5 percent and female years of education by 4 percent.⁸ In Africa, reduced life expectancy due to HIV significantly lowered subsequent investments in schooling: Each year of life lost resulted in five fewer months of schooling completed.⁹ However, these findings may overestimate the true impact of health on educational attainment, given that schooling levels can be determined by factors others than health. For example, poor health may increase the demands on the time of caretakers and negatively pressure household budgets, which in turn may adversely affect educational attainment and attendance. Nevertheless, the impact of poor health on education and schooling outcomes is significant.

RH and Labor Force Participation

Lower fertility and improved RH can affect labor force participation in two important ways. Firstly, family planning and access to RH services help women to better control the timing and number of births. Improving a woman's capacity to regulate her fertility and to plan childbearing allows her to redirect resources toward schooling, job training, and working outside the home. Secondly, children who benefited from their mother's quantity-quality trade-offs may also be presented with greater labor market opportunities in the future.

Recent evidence from both large-scale and small-scale studies confirms the extensive relationship between improved RH and labor force participation. One study of 97 countries found that higher fertility is associated with lower labor force participation of women during their fertile years. On average, each additional child reduces female labor force participation by 5 to 10 percentage points for women between the ages of 20 and 44. When summing up these estimates over the reproductive life of an average woman, the study findings imply that each birth can reduce a woman's involvement in the labor force by as much as two years.¹⁰

Country-specific studies that analyze changes at the individual level also find similar effects. In Colombia, for example, recent evidence suggests that women who had access to family planning as teenagers completed about half a year more of schooling over their lifetimes, were 7 percent more likely to work in the formal sector, and were 2 percent less likely to cohabit with male partners outside of marriage.¹¹ In Indonesia, a reduction of one

birth on average over a period of 20 years increased the likelihood of female labor force participation by 20 percent.¹²

Research has shown that health shocks, especially negative shocks such as contracting HIV and sexually transmitted infections, may also affect a woman's ability to work outside the home. In South Africa, evidence from a nationally representative survey suggests that being HIV positive is associated with a 6 to 7 percentage-point increase in the likelihood of being unemployed.¹³ A study in Kenya showed that providing access to HIV treatment increased employment by 20 percent and hours worked by 35 percent.¹⁴

In some contexts, however, female labor force participation may decline as fertility decreases or as educational attainment increases. For example, in Bangladesh, providing family planning and RH services to adult women in assigned treatment areas significantly improved their health and educational well-being, yet their participation in wage employment declined. Social and cultural norms that restrict female mobility, particularly for wealthy and high-status women, may allow women to receive RH services and have fewer children but may also require her to work at home rather than to engage in salaried labor. However, estimates indicate that those women who received RH services and who chose a paid job still earned wages that were 30 percent higher than those women who did not receive services. This outcome is largely driven by improved schooling opportunities and the resulting higher wages for women in treatment villages.¹⁵

RH and Income/Assets

Declining fertility and improved RH ultimately have a positive impact on income growth and asset accumulation at both the household and country levels. There are several channels through which lower fertility and improved health may improve a household's economic well-being.¹⁶ To begin with, healthier people work more and are physically and cognitively stronger, and are therefore more likely to be productive, to earn higher incomes, and to accumulate more assets. Secondly, healthier people live longer and consequently have more opportunities to benefit economically from human capital investments. This positive relationship between health and wealth, referred to as the "health-wealth" hypothesis, is reinforced by decreasing fertility and the quantity-quality trade-off.

At the country level, improved RH can affect income and asset growth in additional ways. Better health leads to greater longevity, which can lead to higher levels of savings by individuals who anticipate extended periods of retirement. Increased savings creates more accumulated financial capital that can be used for future investment and asset accumulation. Furthermore, lower fertility and slower population growth may increase the number of working-age individuals relative to the number of children. A larger share of working-age individuals in the population is an important determinant for increased labor force productivity, higher per capita income, and long-term economic growth.

Many studies now show that early-life health shocks such as poor RH and maternal malnutrition are associated with a range of outcomes, including: decreased cognitive test scores and lower schooling attainment; lower occupational status and earnings; nonparticipation in the labor force; and chronic disease and disability before—and more notably after—the age of 50.¹⁷ Other studies show that infections during pregnancy, such as hookworm and malaria, can also have lifelong impacts on health and wealth.¹⁸

Estimates from smaller studies are consistent with these findings. In China, evidence from a longitudinal survey suggests that better health of individual household members is associated with higher incomes. People in excellent health had household income levels 166.6 yen, or approximately 10 percent to 13 percent higher than those with poorer health, and this effect was often more pronounced for women in rural areas.¹⁹ Similarly, a set of studies from Bangladesh suggests that declines in fertility and child mortality contributed to poverty alleviation through: significantly more schooling for sons, better nutrition as measured by body mass index (BMI) for daughters, and comparatively higher wage rates for more educated women.²⁰ Households in treatment villages reported up to a 25 percent gain in household assets per adult; moreover, the research findings also show a decrease in the shares of household assets that rely on child labor. Such households held a larger share of assets in financial savings, jewelry, orchards and ponds, hous-



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ing, and consumer durables, which may be better substitutes for old-age support than support traditionally provided by children.

At the country level, much new evidence supports the hypothesis that a healthier, better-educated, and more productive population has lower levels of child mortality. Increases in child survival rates ultimately reduce the demand for more children, as parents can be more certain that they need not have many children in order to maintain their desired family size. As the fertility rate falls, the number of working-age individuals increases relative to the number of child dependents. At the same time, fewer resources are needed to meet the needs of a smaller youth cohort, which means that more resources become available for other economic development investments. This shift in the population age structure creates a window of opportunity for increased economic growth and productivity—the “demographic dividend.”

While demographic pressures are alleviated whenever the fertility rate falls, countries need to take advantage of the released resources to effectively reap a demographic dividend. Together with decreasing fertility, increased investments in the education and health of the youth cohort can lead to a higher-skilled labor force and greater labor force participation; together, these increases contribute to higher rates of savings and investment. These changes result in higher per capita income and accelerated economic development. Evidence of a demographic dividend can be seen in the economic growth and productivity in East and Southeast Asia, Latin America, the Middle East and North Africa, and the Pacific Islands.²¹ The dividend began in East Asia in the 1970s, in South Asia in the 1980s, and in sub-Saharan Africa beginning after 2000. Estimates indicate that a rise in the ratio of working to nonworking populations may have increased the annual output per capita growth rates in these regions by as much as 0.5 to 0.6 percentage points between 1970 and 2000. Such dividends are increasingly highlighted in discussions about the need for investing in RH in sub-Saharan Africa.

Conclusions

Social scientists and policymakers agree that expanded access to RH services lowers fertility and improves maternal and child health. New literature argues that improving access to RH services may also contribute to economic development and helps individuals and families escape from poverty. The pathways highlighted by this literature are quite complex. Moreover, the research consists of a broad array of methods and conclusions. Large cross-national data sets provide estimates of associations between RH interventions and economic outcomes. Country-specific studies often exploit policy experiments to estimate the precise impact of specific RH interventions, but these studies are generally small in scale and their conclusions cannot necessarily be generalized to other geographies, economies, or contexts.

Despite the limitations of recent research, a consensus is nevertheless emerging. Reproductive health improvements:

- Extend life expectancy for mothers and children.
- Increase incentives to invest in schooling and other forms of human capital.
- Create opportunities for participation in labor markets.
- Raise individuals' capacities to be productive in labor markets.
- Lead to higher incomes and higher levels of asset accumulation.

Improving access to RH services may be an especially effective (and cost-effective) intervention for improving people's health, education, and productivity—which can help them to escape poverty. Reproductive health certainly offers many benefits, but one of the challenges decisionmakers face is how to allocate limited resources across the range of efforts that contribute to economic development—including, for example, education, infrastructure, and resource management. Ultimately, further study will be required to identify the potential advantages to investing in RH services compared to other efforts; until then, however, countries with high fertility and high levels of maternal and child mortality would be well-advised to expand access to RH services as part of their economic development strategies. Such investments could provide many immediate rewards, as well as health, social, and economic benefits for years to come.

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