

TEENAGE PREGNANCY AND OPPORTUNITIES IN LATIN AMERICA AND THE CARIBBEAN

ON EARLY CHILD BEARING, POVERTY AND ECONOMIC ACHIEVEMENT



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This regional study involved the preparation of seven studies, four on the intra- and inter-generational consequences of adolescent motherhood (Azevedo et al., 2012; Kruger and Berthelon, 2012; Arceo-Gomez and Campos Vazquez, 2011, Arias and Lopez-Calva, 2012); two on policies to prevent teenage pregnancy (Lopez-Calva and Perova, 2012; Azevedo and Favara, 2012), and one large-scale quantitative-qualitative study on adolescent fertility in Ecuador.

One of the background papers for this report (Arceo and Gomez, 2012) has been presented at the annual meeting of the European Society for Population Economics European in Bern (ESPE 2012), held at the Universidad Autónoma de Nuevo León en Monterrey, Mexico. It also benefited from comments from the Social Development Secretariat of Mexico.

The report was conducted under the guidance of Louise Cord (Sector Manager Poverty, Gender and Equity Group, Latin America and the Caribbean Region). The authors also want to express gratitude for the comments from the participants at the meeting with government officials in the Ministry of Social Development in Ecuador, and the Alta Consejería de Equidad de Género in Colombia. The team would also like to thank Jere Behrman, Laura Chioda, Tito Cordella, Augusto De la Torre, Amparo Gordillo, Jeni Klugman, Daniel Maceira, Francisco Ferreira, Margaret Grosh, Marco Francesconi and Susan Parker for their useful and constructive feedback and suggestions.

INTRODUCTION

In the fall of 2011, a wave of TV crews and newspaper reporters surprised the people of Toppensih, Washington. The media onslaught was seeking out Gaby Rodriguez, a Hispanic high school senior who made national headlines as the girl who faked her own pregnancy for a senior project. The 17-year-old Gaby announced her pregnancy and then analyzed the reactions of all she encountered over the next six months. A few key allies—including her mother, who designed her “extended belly,” and the school principal—remained silent in support of her experiment.¹

The *pregnancy project* sought to expose the existence, and challenge the validity, of stereotypes about Hispanic women. The charade explored the underlying motivations of the many who responded with a wide range of reactions. The author explains, “If you are to understand my story, I first need to tell you about my family and where I grew up.” Teenage pregnancy elicits diverse responses that require understanding a complex combination of circumstances, social conditions and background.

Many people expressed no surprise that Gaby was pregnant. She was the daughter of a teenage mom of Hispanic origin who had worked as a low-paid mechanic even while pregnant. Gaby had grown up in an environment where early child bearing was only natural. But not everybody shared this view. Gaby herself burst into tears when her science teacher, who considered her an excellent student with a vital future, expressed disappointment over her seemingly lost opportunities for a better life. The honest tears, she tells the readers, only added realism to the scene.

In some way, understanding the social dynamics and the diversity of reactions that her innovative scheme generated is at the core of the chapters that follow. The present report acknowledges first the complexity of the conditions associated with teenage pregnancy

¹ The complete story is told in Rodriguez, G., with J. Glatzer, *The pregnancy project: a memoir*. New York, NY: Simon & Schuster Books For Young Readers, (2012).

and early childbearing. It then attempts to build a framework that explores these issues in a systematic way in order to create the elements necessary to design effective policy interventions.

The specific objectives of this regional study are:

- i) To establish a thorough description of the magnitude of the issue and its potential implications for social advancement;
- ii) To advance the understanding of the risk factors, motivations and impacts at the household level--as a determinant of poverty and a cause of intra- and inter-generational poverty traps;
- iii) To illuminate the coping mechanisms and their individual and social implications;
- iv) To highlight the gender-related issues that have historically provoked asymmetric costs to boys and girls, and
- v) To provide elements that support specific policies on this matter.

The regional study achieves these objectives through the following sections:

- (i) Section 1 presents stylized facts on teen pregnancy with special attention to the historical trends and profiles from both LAC and the rest of the world. It also offers a systematic framework to study adolescent fertility choices and a discussion on related methodological issues.
- (ii) Section 2 investigates the factors that influence fertility decisions in general, as well as their relationship to poverty, employment conditions and social context. The crux of the analysis is an epidemiological risk-factors approach. While this analysis does not seek to establish causality, it does identify a set of risk factors that policies can potentially influence. From an epidemiological framework, the crucial intent is to identify the combination of circumstances that induce a higher likelihood of the event rather than the magnitude of marginal effects.
- (iii) Section 3 evaluates the current economic costs of teen pregnancy for individuals, households and society in terms of lost income, employment and educational achievement. Given data limitations, it is possible only in some cases to establish the effects on mobility and poverty traps that this type of shock has on household welfare (the parents and siblings of teenage pregnant women), partners and children, in addition to the long-term impact on the young mothers themselves.
- (iv) Section 4 provides a non-exhaustive summary of the main policy experience in implementing interventions to prevent teenage pregnancy and support teenage mothers. It includes new evidence on the effect of CCT and extended-hours programs in reducing teenage pregnancy.

EXECUTIVE SUMMARY

In the last decade, women have played a crucial role in the dramatic decline of poverty and inequality in Latin American and Caribbean countries (PLB, 2012). The increasing female participation in the labor market has generated large social benefits for the Latin America (LAC) region and, in particular, has helped in mitigating the negative effect during the last crisis. This is further detailed in the recent *World Bank Poverty and Labor Brief* (PLB, 2012), which also estimates that if female labor market participation had remained constant over the last decade, poverty reduction would have been 30 percent lower and the Gini inequality index 28 percent higher.

In the last decade, **LAC has been moving in the right direction and the region has experienced important gains in gender equality of endowments (assets) and economic opportunities.** Women's educational outcomes and health conditions have remarkably improved. In most LAC countries, girls have been achieving gender parity in primary school enrollment and even outperforming boys at the secondary and tertiary level. Increasing investments in human capital, together with the decline of fertility and the later age of marriage, have contributed to increased women's economic opportunities, in particular to their participation in the labor market, as participation rates grew 15 percent from 2000 to 2010.

However, **persistent barriers remain for women to expand their economic contribution, while significant gender gaps continue to exist in terms of equity, assets and agency**—defined as “the ability to make effective choices and to transform those choices into desired outcomes” (WDR, 2012).

While agency, understood as the capacity to do, to pursue life plans one has reason to value, is difficult to measure, domestic violence and teenage pregnancy are often

considered as manifestations of the lack of agency. Both manifestations, gender-based violence and teenage pregnancy tend to be high in the region, suggesting that women's control over their own lives and their capacity to pursue and achieve goals may be low. In this report we highlight the role played by informal institutional barriers, such as gender roles and social norms, in constraining women opportunities and agency.¹

Teen pregnancy and early childbearing remain a challenge in the region, particularly given the association of these phenomena with poverty and lack of opportunities, and the concern that it may prevent women from taking full advantage of their human development assets and opportunities.²

The present report reviews the factors associated with teenage pregnancy and early childbearing and builds a framework to explore these issues systematically, towards the design of effective policy interventions in LAC. The main message of the Report is that **poverty and lack of opportunities are key factors associated to early childbearing**. It emphasizes the relevance of strengthening agency and autonomy of women in their participation in markets, community and relationships, so that they can make effective choices and decide about the life plans they have reasons to value. The latter may involve non-traditional interventions and imposes a challenge for the design of effective policies.

This regional study involved the preparation of seven studies: four on the intra- and inter-generational consequences of adolescent motherhood (Azevedo et al., 2012; Kruger and Berthelon, 2012; Arceo-Gomez and Campos Vazquez, 2011, and Arias and Lopez-Calva, 2012); two on policies to prevent teenage pregnancy (Lopez-Calva and Perova, 2012; Azevedo and Favara, 2012), and one large-scale quantitative-qualitative study on adolescent fertility in Ecuador.

1 The WDR 2012 identifies five expressions of agency for women, namely: control over resources, freedom of movement, decision-making power in the family, freedom from the risk of violence, and ability to have a voice in society and influence policy.

2 There is an important distinction between the two events: teenage pregnancy rate refers to the number of *pregnant women* per 1000 women aged 15-19; adolescent fertility rate is defined as the number of *births* per 1000 women in this age range.

WHY WE SHOULD CARE ABOUT TEENAGE PREGNANCY?

Latin American and Caribbean countries have some of the highest teenage pregnancy rates in the world. In 2010, the LAC region came at a very close third ranking on the highest teenage fertility in the globe (72 births per 1000 women between 15 and 19 years of age), after Sub-Saharan Africa and South Asia (at 108 and 73 number of births, respectively). Indeed, most LAC countries fall within the top 50 countries with the highest adolescent fertility rate. Although the rates are declining worldwide, **Latin America's remarkably slow pace of decline compared to that of other regions is responsible for its gradual ascent towards the top of the adolescent fertility charts** (see Figure A).³

Significant differences exist within the region. Nicaragua, the Dominican Republic and Guatemala had the highest adolescent fertility rate in 2010 in LAC, with more than 100 births per 1000 women between ages 15 and 19. On the other hand, Peru, Haiti and Trinidad and Tobago had the lowest, with less than 50 births per 1000 women in the same age range.

Teenage childbearing has progressively become a policy concern, as **different studies have established a significant correlation between early motherhood, lower educational achievement, and poorer labor market outcomes for women**. Indeed, females seem to bear the short- and long-term implications of early childbearing disproportionately.

In comparison with countries of similar characteristics, the adolescent fertility rate found in LAC countries is higher than expected, even when accounting for different socioeconomic characteristics. The only exception refers to inequality. The results indicate that inequality indicators, including inequality of opportunities, contribute to better explain LAC's higher-than-expected adolescent fertility rate. It has been argued that the combination of being poor in an unequal society limits the perceived likelihood of future

³ The annualized rate of decline between 1997 and 2010 was 1.25% in LAC—the lowest after East Asia and the Pacific region. Indeed, the adolescent fertility rate curve in LAC is almost flat over time.

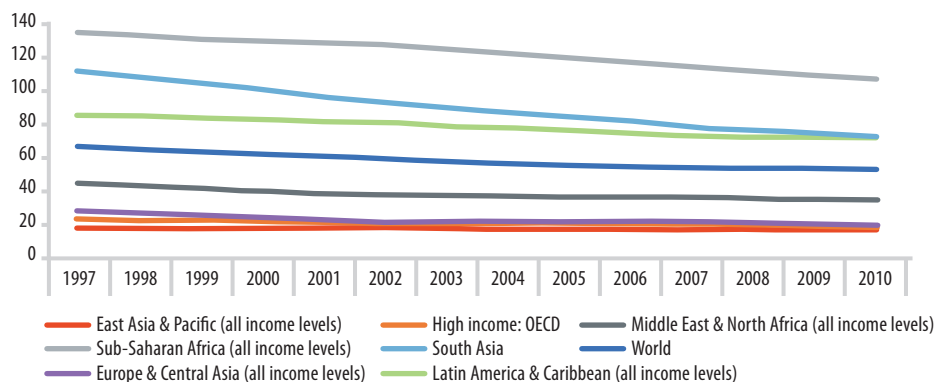
economic success, in favor of short-term satisfaction such as becoming pregnant at a young age (Kearney and Levine, 2011).

This Report assumes the principle that **fertility decisions should be the result of choice, rather than defined by constraints.**⁴ Policies should enable teenagers to make informed fertility choices and widen the options from which they can affectively choose. Relaxing constraints may align individual decision with desirable social outcomes to the degree that teenage pregnancy is both a consequence and a cause of these constraints.

The present Report thus investigates the factors that influence fertility decisions in general, as well as the relationship of fertility decisions to poverty, employment conditions and social context. While the epidemiological approach utilized does not seek to establish causality, it does identify a set of risk-factors that policies can potentially influence.

Life circumstances such as poverty, low school quality, growing up in a single parent household, being born to a teen mother or having a sister who became pregnant as an adolescent, place girls at a higher risk. Distinguishing whether poor outcomes for teenage mothers seen later in life are the continuation of a lower economic trajectory, or whether early motherhood is their cause is complex. There are several methodologies to disentangle the potential effects of teenage pregnancy and childbearing from the other confounding factors (i.e. those factors that put teen mothers at the risk of early

FIGURE A. ADOLESCENT FERTILITY RATE BY WORLD REGIONS (1997-2010)



4 It is true, as the classic economic model has established that all the decisions are constrained, and there is no such thing as “unconstrained decision making.” By defining fertility decisions as the result of choice and not constraints, we refer to the concept of positive freedom in Berlin (1959) and “effective freedom” in Sen (1998).

pregnancy). The present study exploits these methodologies in order to estimate the effect of adolescent motherhood on maternal educational performance and labor market participation, as reviewed below.

A teen pregnancy in the household also has potential long-term effects on the child, the partner who fathered him, the parents of the mother, and the siblings of the pregnant woman. These results have individual and social relevance for welfare and productivity. The last sections of this Report evaluate the economic costs of teen pregnancy for individuals, households and society, and provide a review of some of the main policy experience in implementing interventions to prevent teenage pregnancy and support teenage mothers.

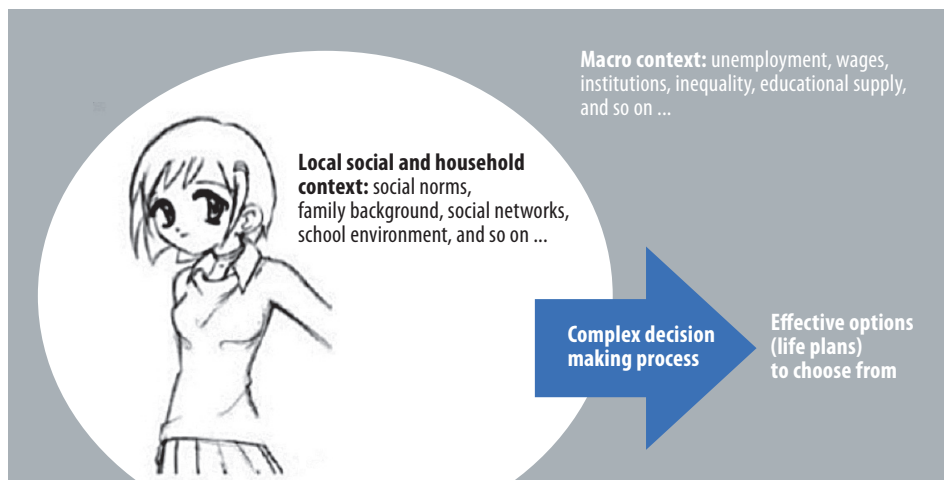
Teenage pregnancy is relevant from a development-policy perspective because early childbearing may have important intra- and inter-generational implications that could trigger intergenerational poverty traps. Teenage mothers are more vulnerable and typically lack private assets and human resources to cope with the new challenge. Even if teenage pregnancy is considered an event to be prevented due to the negative consequences it (might) involve and for the related social costs, some caution is needed given the complexity of the phenomenon. This report starts from the stylized fact that adolescent pregnancy is more likely to occur in a socioeconomic deprived context and avoids adopting a normative approach with respect to pregnancy *per se*. The main aim is to draw a comprehensive picture of adolescent fertility choice in LAC, proposing a review of the risk factors and consequences of teenage pregnancy with the final objective of designing effective policies.

RISK FACTORS

Three intertwined elements are highlighted throughout the report in the **decision-making process of teenage girls**. These are: (i) The **rationality** element involved in fertility decisions; (ii) The **behavioral issues** that restrict a strictly rational setting (including discounting, informational constraints, and self control), and (iii) The **social interactions and norms** (peer effects, social stigma, for example) that also affect the outcomes. This decision process is also affected by the macro context, the local social setting, and the household environment, defining the effective options available for teenage girls to determine their life plans (see Figure B).

The notion *agency* plays a fundamental role. Agency is the capacity women have to establish goals, pursue them and decide among life plans they have reason to value. Women may get pregnant due to a lack of agency—by following existing norms, due to peer pressure, or by having low bargaining power in their relationship and being thus unable to have their partners agree on the use of contraceptives. But in some contexts,

FIGURE B. ADOLESCENT FERTILITY: A COMPLEX DECISION-MAKING PROCESS



getting pregnant may also be a way for poor young women to acquire control over their lives and obtain the respect of their community/family, proving childbearing to be a channel to achieve (in some contexts the only option of) social mobility.

Using data from the United Nations Population Division and World Development Indicators, the present study analyzes the macro-level risk factors associated with the phenomenon.⁵ The results indicate that **adolescent fertility in Latin American countries correlates positively with poverty, inequality**, public health expenditure, female labor force participation rate, and the share of women in wage employment. Conversely, adolescent fertility correlates negatively with the share of rural population and unemployment. The findings must be interpreted with caution given reverse causality problems, as many of the confounding risk factors might be endogenous. Rather than making causal inferences, the attempt is to display significant associations between the adolescent fertility rate and the main characteristics that correlate with the phenomenon.

At the micro level, the study uses DHS data for several countries (Bolivia, 2008; Colombia, 2010; Dominican Republic, 2007; Haiti, 2006; Honduras, 2006; and Peru, 2008) and a linear probability model regression to present estimates of the probability of becoming a teenage mother. The findings suggest that **adolescents who have more education, live in urban areas and come from wealthier families have a lower probability of getting pregnant**. Pregnant teenagers are more vulnerable and poorer than comparable adolescents who do not have children. For instance, in Mexico, pregnant teenagers are more likely to be indigenous and to come from less wealthy families, while in Peru, the incidence of teenage motherhood is smaller in the wealthier quarter of the population than at lower levels of wealth distribution. Teenagers who do not live in the same household as their fathers are also more likely to become pregnant.

The data shows **a trend of earlier sexual activity along with an increase in the average age at first marriage—weakening the usual link of marriage with sexual activity**. Vital statistics from Brazil, Mexico and Colombia further underscore the link with civil status, finding that maternal age at childbirth is generally increasing. The results suggest that marriage has deterrent effects on the age of mother. In other words, **being married is positively correlated with maternal age (delaying pregnancy)**.

Evidence from both developed and developing countries reveals a **negative association between education and total fertility**. The opportunity cost of childbearing is higher for more educated women, while poor quality education might lead adolescents to believe that education cannot change their future, adjusting thus their aspirations and expectations

⁵ The study uses a pooled sample of cross-country and time-series observations spanning the period 1990 to 2010 (130 countries; 26 of those from LAC). The United Nations Population Division provided data on the adolescent birth rate; all other data is from the WDI.

towards short-term targets. Estimates using DHS data in 2005 for Bolivia, Colombia, the Dominican Republic, Haiti and Peru, find that the fertility rate jumps in the years of education where certificates are issued (i.e., completed primary and secondary education). This suggests either that adolescents *plan* to get pregnant (after obtaining their primary or secondary education diploma) or that staying in school reduces the risk of getting pregnant.

The sexual behavior and fertility choices of adolescents are affected through different mechanisms. Scarce family resources and poor within-family relationships might limit adolescent opportunities by reducing the relative cost of getting pregnant. Children from deprived backgrounds are more likely to have lower aspirations for their future and the attainment of salient goals. Related to aspirations, and their role in decision-making, is the notion of agency. Indeed, fertility choice is widely recognized as an expression of agency, where early sexual initiation and teen childbearing are correlated with its absence.

While many indirect measures to proxy agency exist, developing a comprehensive indicator of agency to assess a causal relation with the observed outcome is complex. Most cases consider one single dimension of agency, such as contraceptive use, at a time. According to the 2005 DHS data for different cohorts of women in Bolivia, Colombia, Dominican Republic, Haiti and Peru mentioned above, **younger women use fewer contraceptive methods**. Although knowledge and rationality are two key factors in the decision to have protected sexual relations, **self-confidence plays an important role too, given that contraceptive use requires negotiation with the partner**. Previous studies find that prior low self-confidence is predictive of subsequent reports of a range of risky behaviors and has thus been conceptualized as a potential protective factor.

The DHS data for Bolivia, Colombia, the Dominican Republic, Haiti, Honduras and Peru indicates that teenagers using *traditional* contraceptive methods have a lower probability than those who do not use any contraceptives, in all countries.⁶ However, the use of modern contraceptive methods positively correlates with the probability of getting pregnant in three (Colombia, the Dominican Republic, Honduras) of the six countries. Different explanations might exist for the positive correlation. Knowing about a method does not necessarily ensure its proper use, which could increase the likelihood of pregnancy for those newly sexually active. It might also be the case that those using these contraceptive methods have a more intense sexual activity and thus a higher risk of becoming pregnant. **The use of condoms in the first sexual intercourse does relate negatively to the probability of getting pregnant**. This suggests that sexual education and access to contraceptive methods is crucial to prevent motherhood among the youngest. Moreover, they use of that specific contraceptive technology may be an indicator of empowerment in the relationship, given the cost that men associate with the use of condoms (Gertler, et al. 2005).

⁶ Modern methods include female and male sterilization, oral and intrauterine contraceptives, and condoms, among others; traditional methods include periodic and withdrawal. Further details found in the Report.

ON THE CONSEQUENCES OF EARLY CHILDBEARING

The literature indicates that early childbearing can affect various dimensions of the mother's economic opportunities, such as education, earnings, labor participation and her prospects on the marriage market.⁷ In addition, a teen pregnancy in the household might have potential long-term effects on the child, the partner who fathered it, the parents of the mother (through an income shock and reduction in consumption if the woman and child remain in their household), and the siblings of the pregnant woman due to natural competition for fixed resources within the household.

This section provides new evidence on the consequences of teenage pregnancy found in LAC.

In particular we focus on the consequences for the mother and the child, and the potential impact on gender inequality. As highlighted in the economic literature on teen motherhood, being a mother as an adolescent is an “endogenous” event, more likely to occur in deprived socio-economic contexts. **Teen mothers differ along a number of important unobserved dimensions from women who delay childbearing.** This has serious implication on identifying the casual effect of early childbearing. The evidence of the effect of teenage motherhood can be capturing correlations instead of casual relations. **This is the reason why studies on the consequences of teenage motherhood are often unable to ascertain causality.** Indeed, part of the negative outcomes attributed to teenage pregnancy might be due to the absence of opportunities and the poor educational and economic opportunities that teen mother are facing.

We find evidence that, conditional on being pregnant as a teenager, there are small **negative effects of teenage motherhood on maternal outcomes** (higher likelihood to drop out of school, lower likelihood of enrollment in secondary education)—although the magnitude of these effects varies according to the methodology utilized. Teen pregnancy

7 General LAC evidence suggests that in most cases teenage pregnancy correlates negatively with each of these socioeconomic outcomes. For example, Buvinic (1998) uses data from Chile, Barbados, Guatemala and Mexico to show that adolescent mothers are more likely to live in poverty.

is also found to have negative effects on the marriage prospects of teenage mothers. In terms of labor market outcomes, contrasting effects are found: one study finds evidence that teenage pregnancy reduces work hours, while another finds that women who gave birth as adolescents are actually more likely to be employed. **Regarding consequences on the child, the report finds evidence of no lasting effect on development indicators—being more associated to socioeconomic conditions—but negative effects of early childbearing,** on other outcomes such as increasing the probability of engaging in risky behavior. The evidence of a negative effect on the child's nutritional status at an early age appears to fade off over time.

These results are robust **even when controlling for unobservable confounding factors.** As expected, the magnitude of the effect of teenage pregnancy on the outcomes considered is lower than when considering simply correlation, given that the methodological approach used allow us to recover the effect of teenage motherhood “net” of any other confounding factors. The results found, and the caveats and limits of the analysis performed are further discussed below.

Furthermore, this report provides **evidence, when the mother is a teenager, of a higher risk of maternal mortality, fetal death, infant mortality and suicide.** Teen mothers are also more likely to live in a single-headed household, to divorce, or to have poorer opportunities in the marriage market. Moreover, the cost related to the potential psychological consequences of being pregnant during adolescence or the risk of serious complications from unsafe abortions are not counted, as this Report focuses on the cost of teen motherhood, and not of teen pregnancy.

Beyond the methodological issues highlighted—regarding correlations versus causal relations—the **evidence suggests that teen motherhood does have cost and implies a risky event for the mother and the child.** The effects on some observable outcomes, such as educational achievement and income, are lower than typically assumed, for women who are in the risk group (the gap in these indicators with respect to women out of the risk group is unambiguously positive).

In addition to the potential cost of early motherhood for the adolescent mother, evidence from other studies suggests that early motherhood might disturb the household equilibrium with negative externalities on the well-being of the other household members. Given data limitations in LAC, it is possible only in some cases to establish the effects on mobility and poverty traps that this type of shock has on household welfare. For example, the study by Arceo-Gomez and Campos-Vazquez (2011) does not find evidence of an effect on the outcomes of other household members. Further research on the impact beyond the mother and the child can shed additional light on the subject.

It is worth highlighting that most of the analysis in this Report has focused on the individual cost of early motherhood and does not account for the public cost. However, as noted by Azevedo et al. (2012), Mexican women **who gave birth during adolescence are more likely to participate in social programs and depend on social assistance income**. This suggests that even in the best scenario in which teenage childbearing does not generate an individual cost for the actors involved, **it does represent a cost for society**, indicating that policy design to align individual decision with desirable social outcomes is desirable.

Fiscal costs related to early childbearing include health-related ones, both in prevention and health care provision for young mothers and their children, as well as costs related to education, including foregone returns from investment in girls and boys who abandon school. Additional costs include those of specific programs that aim to reduce the incidence of the phenomenon and mitigate its impact.

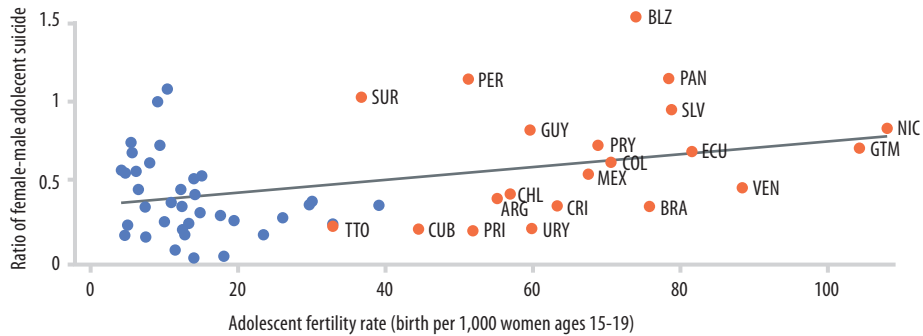
A. CONSEQUENCES FOR THE MOTHER

As noted, failure to account for systematic differences in unobservable characteristics between teen mothers and those teens that do not bear children might lead to overestimation of their effect or a misunderstanding of the true issues behind the development of the mother in poverty. Some of the methodologies that control confounding factors include the standard OLS and natural experiment (often using miscarriages) approach; propensity-score-matching; and within-family fixed effects—the latter which compare teen mothers with sisters (or in some cases cousins) who timed their births at different stages. The present study estimates the effect of adolescent motherhood on maternal educational performance and labor market participation, using these three methodological approaches.

Using the 2006 round of the Mexican Survey of Demographic Dynamics (ENADID), Azevedo et al. (2012) identify the impact of childbearing among teenagers who become pregnant using miscarriages as a natural experiment (estimating the cost of early childbearing *conditional* on being pregnant). The study does not find negative consequences in specific economic indicators, such as employment and education, for the mothers who as teenagers bear a child, conditional on the fact that they were already in the risk group. Women who gave birth during adolescence, however, are found to be more likely to participate in social programs and depend on social assistance income.

Additional evidence from Mexico suggests that becoming pregnant during adolescence has negative effects on the opportunities of the mother. Arceo-Gomez and Campos Vazquez (2011) find that **teenage pregnancy decreases years of schooling, lowers school attendance and reduces work hours**. Contrary to the previous analysis estimating

FIGURE C. FEMALE-MALE ADOLESCENT SUICIDE RATIO CONDITIONAL ON ADOLESCENT FERTILITY RATE IN LAC AND OECD, 2005



Source: PAHO, 2005.

the cost of early childbearing conditional on being pregnant, this study uses a propensity score matching technique to estimate the cost of adolescent childbearing by comparing teen mothers to adolescents who delayed childbearing. In addition to the negative effect on education and labor outcomes, Arceo-Gomez and Campos Vazquez find significant **negative effects on the market opportunities for marriage of teen mothers.**

Kruger and Berthelon (2012) use nine rounds of Chilean household surveys (1990 -2009) to analyze adolescent fertility as a determinant of high school dropout. They estimate propensity score matching and fixed-family effects for a large sub-sample of sisters to control for selection bias and unobservable characteristics at the household and municipality levels. Their findings indicate that **teenage motherhood significantly reduces the probability of high school completion.** Once they control for unobservable characteristics at the household level, however, the negative consequences of teen childbearing are reduced substantially.

These three studies suggest that controlling for selection bias is crucial in producing an accurate portrait of the consequences of teenage pregnancy. The results are in line with previous evidence from developed countries indicating that when the model used is controlling effectively for confounding factors, the negative effects attributed to teenage motherhood reduces significantly. In addition to differences in the methodological approach, the contrasting results from the three studies may be explained by differences in characteristics across the three samples of adolescents.⁸ The exercises also highlight

8 For example, the adolescents in the sample used by Azevedo et al. (2012) are on average (i) older; (ii) more likely to live in rural areas; (iii) have less education (despite being older); (iv) are less likely to be single; (v) are less likely to be currently employed, and (vi) have lower labor income (than the sample used in Kruger and Berthelon, 2012).

the fact that **ascertaining casual relations between teenage motherhood and future outcomes is sensitive to methodological issues.**

On the other hand, among the limitations of these analyses lies the fact that—as in the case of other similar studies—**they estimate the cost of early childbearing vis-à-vis the cost of teen pregnancy.** Abortion is illegal in most LAC countries, and the lack of abortion data prevents its analysis. In the region, unsafe abortion practices are widespread, especially for young mothers. Second, the studies do not consider that **teenage pregnancy is associated with a higher risk of maternal mortality, fetal death, infant mortality and suicide** (Figure C). Third, except for Kruger and Berthelon (2012), the studies do not explicitly take into account the fact that teen motherhood may be a source of inequity. Teenage motherhood is not only more likely to occur among the poorest but also its effects are more likely to be negative and stronger among this group, as individuals have fewer resources to cope with the new challenge and to recover from the shock. Early childbearing may also have important negative intergenerational effects and/or negative consequences on the other household members.

B. INTERGENERATIONAL LINKS AND CONSEQUENCES FOR OTHER HOUSEHOLD MEMBERS

Previous research reveals important negative intergenerational effects of teenage motherhood. Studies focus either on the effects of childbearing on maternal investments in human capital or on the consequences of teenage childbearing on the development of the child. In terms of the latter, existing studies analyze the effect of being born to a teenage mother on a variety of outcomes, such as low cognitive test scores, behavioral outcomes, grade repetition and economic disadvantage. The past evidence reviewed on the Report suggests significant effects on the behavior of children but no effect on academic outcomes at later stages in life.

Within the framework of this Report, Arias and Lopez-Calva (2012) investigate the impact of teenage pregnancy on child outcomes using the three waves of the Young Lives (YLS) project for the Peruvian sample. The study analyzes anthropometric outcomes as well as child performance in terms of cognitive skills, for both the young cohort and the older cohorts of children. They use pooled OLS estimation and add time and regional fixed effect. Their results suggest that the negative effect of early childbearing on child nutritional status is reversible. **Children born to teen mothers appear worse off in the first year of their life but they catch up relatively quickly**, so that any differences to children born to older mothers disappears by age five. On the other hand, **these children face a higher risk of presenting risky behaviors/behavioral problems when they become adolescents.**

Teen childbearing is also likely to impact the living arrangement of the nuclear household. Evidence from the United States suggests that teen childbearing will probably affect the marital prospects of the woman negatively. Within this Report, Arceo-Gomez and Campos-Vazquez (2011) find that in the short run, Mexican **teenagers who become pregnant have higher marriage rates than those who do not**. However, while in the long run these teenagers have a higher probability of being married, they also present a higher probability of being separated or divorced. Their results contrast with those of Buvinic (1998), which finds little evidence of negative consequences of early childbearing on the marriage prospects of the mother in Barbados, Chile, Guatemala and Mexico.

Given that in many cases the teen mothers live in the parental house after the birth of the child, both the parents and siblings are likely to be affected. For example, the household's wealth may decrease, with potential consequences on the sibling's development, particularly if they are of schooling age. The time allocation of both parents and siblings may also change through the substitution of child care for previously free or working hours. The study by Arceo-Gomez and Campos-Vazquez (2011) is one of the few papers investigating the consequences of early childbearing on parents for LAC. However, **the authors do not find evidence of an effect of teenage pregnancy on the outcomes of other household members**, such as the work hours of the parents or the income per capita of the household.

C. SOURCES OF INEQUITY AND COPING STRATEGIES

From an equity perspective, two potential sources of inequity relate to teenage pregnancy. The first refers to the gender-related source of inequity, with evidence suggesting that the mother suffers disproportionately the burden of early childbearing. The second potential source relates to the socioeconomic background of the teen mother. **The long-term burden and the available options as coping strategies are unequally distributed within the group of girls who face teenage pregnancy**. These conditions depend on the specific circumstances of different groups.

Regarding the latter potential source of inequity, it is quite plausible that the impact of early childbearing will vary depending on the characteristics of the mothers as well as on the setting where they give birth. Azevedo et al. (2012) find evidence of the heterogeneity of the effects of teenage childbearing on the labor market outcomes in Mexico along three dimensions: age at birth, ethnicity and wealth. They find that an increase in the asset index (proxy for wealth) by one standard deviation raises the probability of employment by 16 percentage points. The easier access to jobs for the adolescent mothers from wealthier families might indicate a better social network and a

job-searching process with stronger parental support. They also find that the likelihood of employment is lower among indigenous adolescent mothers, probably due to the group's stronger association with poverty.

Interestingly, the impact of adolescent childbearing on labor income evolves in the opposite direction. The earnings of adolescent mothers are lower among women with higher asset indices, and higher among women who gave birth at the age of 16 and younger. The findings might result from the support received by their families and network. Wealthier families may be able to help their daughters financially, alleviating the pressure to drop out of school and find a job to support the baby. Similarly, younger mothers might be more likely to remain in their parents' home with the potential of free childcare.

POLICY OPTIONS

Evidence shows that, even after controlling for the initial lack of economic opportunities of teen mothers, early childbearing potentially decreases their future educational achievements and may affect their labor market opportunities. Early childbearing can also have important effects on the intergenerational transmission of poverty by placing the children of teen mothers at a higher risk of behavioral problems and risky behaviors. There is also evidence towards a correlation between teen childbearing, maternal mortality and suicide rates, especially among the youngest. Furthermore, teenage mothers are more likely to rely on social assistance, which implies a public cost for society. The potential individual cost for the mother and the child, as well as the public cost of teenage childbearing, call for an enhanced policy design, one which takes into account the complexity of the phenomenon.

At the macro level, the evidence indicates that the **reduction of inequality and the creation of more opportunities for women can reduce the risk of teenage pregnancy and ameliorate the effects of early childbearing.** Policies and programs that reduce poverty and gender inequalities are critical. At the micro level, the policy objective should be to **widen the set of options for women, as well as their capacity to be in effective control over their lives**—enhancing agency—so that fertility decisions are made on the basis of life plans they have reasons to value and teenage pregnancy is not the only option at hand or an unintended consequence of behavioral inconsistencies.

The last section of the Report provides a non-exhaustive summary of the main policy experience in implementing interventions to prevent teenage pregnancy and support teenage mothers. It also includes new evidence on the effect of conditional cash transfer (CCTs) and extended-hours programs in reducing teenage pregnancy.

Most interventions to prevent teen pregnancy in the past have focused on improving the quality of education and health services. They have sought to provide youth-friendly reproductive health services and enhance the sexual and reproductive-health knowledge of teenage girls and boys. **Recent programs, alternatively, aim to**

raise the opportunity cost of pregnancy by helping teens remain in school and/or by increasing their access to employment. The Report reviews different policy interventions implemented in Latin America and other developing regions, for which impact evaluations are available. The policy interventions found are classified around six categories: school-based programs; peer education; contraceptive use; extended school hours programs; CCTs, and youth training programs.

The Report then examines the **channels through which different interventions have reduced the likelihood of teen pregnancy** to improve the design of effective policies. The main potential channels identified refer to (i) opportunities and endowments/assets, and (ii) agency. The analysis presented throughout this Report has been divided into risk factors and consequences. Risk factors can be addressed through policy interventions that focus on increasing education, health, and employment prospects in communities. **These interventions can affect fertility choices by increasing the opportunities and assets of teenage girls.** In addition to the indirect effect that these interventions can also **have on increased aspirations and self-confidence**, interventions such as information and access to contraceptives, and peer programs can have a direct impact on fertility choices **through increased agency**. In this sense—while the division between agency, and assets and opportunities, is helpful for illustrative process—it is understood that most interventions are not purely one or the other, and that there is often a (desirable) virtuous feedback within them.

On the consequence side, different support has been provided to teen mothers, including psychological support and counseling, as well as childcare, educational scholarships and other programs that seek to improve the future economic opportunities for vulnerable mothers. The following table shows an example of the framework used to review the different policy interventions:

For instance, **CCTs affect teenage pregnancy through different mechanisms.** CCT programs increase educational enrollment due to the conditionality that the family has to comply with in order to receive the transfer. More challenging is to understand why attending school reduces the probability of adolescent pregnancies. The potential channel suggested refers to the change in opportunities and aspirations. Plausibly, the mechanism responsible for the observed reduction in fertility through higher school participation might be an increase of the perceived opportunities. If this is the case, the opportunity costs of pregnancy might be higher and might convince teens to disengage from risky behaviors. Increased levels of education may also strengthen self-confidence and impact the capacity to aspire, increasing the agency of teen girls. Alternatively, school attendance might decrease teen pregnancy by changing the time allocation of adolescents and thus reduce the amount of time available for sexual activity. Through

FIGURE D. MAPPING THE AVAILABLE POLICY OPTIONS

| | ASSETS/OPPORTUNITIES | AGENCY |
|--------------|---|--|
| RISK FACTORS | CCTs, Youth Training, Extended School-Hours | Peer education, school-based, contraceptive use |
| CONSEQUENCES | Childcare Programs, Educational Scholarships, Flexible School-Hours | Counseling, mentoring, and psychological support |

the regular health-checks requirement, CCT programs may also indirectly increase the contraceptive knowledge for the entire family.

The Report reviews the evidence from four different CCT programs in Latin America: *Familias en Accion* and *Subsidio Educativo* in Colombia, *Juntos* in Peru, and *Bolsa Familia* in Brazil. The evidence suggests that a positive effect might be triggered by increased school attendance. According to Cortes et al. (2011), the effect of educational CCT programs depends on the definition of conditionality. Indeed, they find that both *Subsidio Educativo* and *Familias en Accion* are effective in increasing school enrollment. However, only *Subsidio Educativo* reduces teenage pregnancy. Their study suggests that after controlling for other factors, the imposition of a performance requirement is the key to the *Subsidio Educativo* program, providing students with enough incentives to reduce teenage childbearing.

Similarly, Lopez-Calva and Perova (2012) indicate **that school attendance is one of the plausible mechanisms responsible for the observed decrease in fertility among the *Juntos* beneficiaries.** They find that the *Juntos* program indeed increases average school attendance in the district. However, it is not clear which are the channels through which the increased school attendance reduces teenage pregnancy. Azevedo and Favara (2012) explore the association between receiving the *Bolsa Familia* benefit and teen fertility. Their preliminary results suggest that ***Bolsa Familia* is negatively associated to teen childbearing during the period considered,** particular among younger teenagers.

In the case of extended school-hours programs, **Berthelon and Kruger (2011) find that longer hours in school reduced teen motherhood in Chile.** Their paper analyzed the effect of a nation-wide education reform that extended the school day, increasing the amount of time students spent in school by almost 22 percent. Since they analyze the reform's short-run impact, any effect is likely arising from the fact that students spend a greater number of hours per day under adult supervision, limiting the possibility to

engage in risky sexual behavior that can result in pregnancy. The results of the study reveal important time-allocation change effects of the longer school day. Teens living in municipalities with greater access to full-day high schools had a lower probability of becoming mothers. The reform accounts for approximately one third of the reduction in adolescent motherhood in Chile.

These results hold important messages and policy implications. Among them, the study finds evidence of important social returns on the reform through the reduction of adolescent motherhood, which should improve the future economic opportunities of Chilean youth. Additionally, the strongest impacts occurred among poor urban young women, improving the economic outlook for underprivileged teenagers. In the long run, this may contribute to reduce inequities in the labor market opportunities for high- versus low-income young women.

The evidence discussed in the Report illustrates the many risk factors and mechanisms related to teen pregnancy. The complexity of teenage fertility decisions suggests that **a multi-sectoral approach might be more effective than single interventions in reducing the adolescent fertility rate and helping mitigate the adverse consequences of teenage pregnancy.** The need for a multi-sectoral approach originates from the nature of the fertility decision. As noted, the risk factors are closely intertwined and strategic investments must be made to curb the multiple vulnerabilities that place girls at risk of unintended pregnancies. Moreover, the prevalence of teen mothers among the poorest encourages policymaking to address difficult social problems; in particular, to widen the set of opportunities for those who view having a child as their only path of social mobility.

In terms of the intergenerational links, the welfare consequences of teenage pregnancy can be ameliorated if the socioeconomic conditions of children born from teenage mothers are improved. **There is little evidence in the LAC region of centralized programs that help teenage mothers, and in most cases ex-post evaluations have not been carried out.** Most support (counseling centers, mentoring, psychological support, childcare, and flexible school-hours programs) occurs at the local level through the efforts of community organizations, women's associations, and NGOs. Some exceptions stand out, for instance Mexico's Scholarship Program to Support Basic Education for Young Mothers and Pregnant Youth (*Promajoven*). Given the very high correlation between early child bearing and poverty, and the fact that the effects of teenage pregnancy on children can be reversed, interventions that target households of teenage mothers and carry out interventions to improve the conditions in which children are raised—for instance through nutritional and educational programs—can be useful.

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