Sustained Effects on Economic Empowerment of Interventions for Adolescent Girls:

Existing Evidence and Knowledge Gaps

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1. Introduction

Adolescent girls face a multitude of hazards during their transition from childhood to adulthood ranging from school dropout, to child marriage, to adolescent childbearing, to physical and mental health problems, to gender based violence. In response to these risks, there has been an increase in the number and types of interventions targeting adolescent girls in low-and middle-income countries. Such interventions are wide ranging in their approaches and include, among others, safe spaces, vocational training, school based interventions, cash transfers, information campaigns and health-services. Rigorous evaluations of these interventions generally indicate positive, albeit modest, effects across a wide-range of capabilities.

Promising as findings from these studies are, the evidence relies mostly on short-term follow-up data, which leaves open the question of whether such programs can substantively improve the wellbeing of their beneficiaries well after the cessation of support. If the aim of these programs is to not only increase current welfare for adolescents, but actually to improve their lives in the long-run by making investments in their human and physical capital during an important period of transition in their lives, then it is important to find out whether the short-term improvements are ephemeral or sustained. The welfare of these adolescents as adults – as well as their families – will improve only if the interventions altered their life trajectories. Understanding these sustained effects becomes particularly important when one is tackling inherently long-run issues such as economic empowerment.

Kabeer (1999) defines empowerment as "the process by which those who have been denied the ability to make strategic life choices acquire such … ability." Essentially, Kabeer (1999) argues that two elements, resources and agency, determine an individuals' ability to exercise choice. While empowerment is inherently multi-dimensional[1]—including political, psychological, social, legal, and economic empowerment—we focus our attention on the latter. Golla et al. (2011) provide a more precise definition of economic empowerment which fits within this framework:

> *"A woman is economically empowered when she has both the ability to succeed and advance economically and the power to make and act on economic decisions. To succeed and advance economically, women need the skills and resources to compete in markets, as well as fair and equal access to economic institutions. To have the power and agency to benefit from economic activities, women need to have the ability to make and act on decisions and control resources and profits."*

Golla et al. (2011) note that in order for programs to improve women's economic empowerment – by affecting economic advancement and agency – programs must either increase the resources (financial, human, social or physical) available to women or redefine norms and institutions.

[1] See Pratley (2016) for a nice discussion.

Using this definition of economic empowerment, this paper explores existing evidence on the effects of adolescent girls' interventions on economic empowerment. We first expand on this definition and provide a brief conceptual framework that discusses the necessary conditions for adolescent girl interventions to have sustained effects on economic empowerment. This section also provides more detail on the set of indicators we use to measure economic empowerment and discusses the types of programs that exist for adolescent girls, exploring the pathways by which they might impact economic empowerment. Second, we turn to the empirical evidence on the impact of adolescent girl interventions, looking both at short-term (rapidly growing literature) and sustained impacts (limited literature) on economic empowerment. After providing an overall review of the existing evidence, we use the Schooling, Income and Health Risk (SIHR) study in Malawi as a case study. The SIHR study evaluates a two-year cash transfer experiment for adolescent girls and includes evidence on both short and long-run indicators of economic empowerment. The SIHR study serves as a useful example to illustrate some of the promise, and perils, of finding lasting effects of adolescent girls' programs on economic empowerment. Finally, we conclude with a discussion of the key knowledge gaps and recommend next steps for current policy design, as well as future programing and research.

2. Conceptual Framework

An intervention for adolescent girls has the potential to affect economic empowerment by changing either resources or norms and institutions, or both. For example, a conditional cash transfer program may improve school attainment. Or, a girls' club might provide a girl with the skills to negotiate safe sex or the confidence to speak up against gender-based violence. However, such programs must address the underlying context-specific constraints within which they are implemented in order to be successful in the short-run. Furthermore, for any intervention during adolescence to have a *sustained effect*, it needs to lead to an increase in the stock of some asset that produces a stream of returns in the future: i.e. some capital accumulation whether it takes the form of human, physical, or social capital. Palliative programs that do not provide the opportunity for adolescent females to accumulate assets, form agency, increase their capacity to aspire, or cause changes in their environment are unlikely to cause substantive long-term effects. Heckman and Corbin (2016) provide further structure to this argument noting *"At a point in time, agents have endowments, including cognitive skills, personality and character skills, and health, as well as access to information, financial resources, and peers. They combine to produce the space of potential actions ("capabilities"). Which actions (functionings) are selected depend on preferences (personal and social), norms, and the efforts of individuals which are shaped in part by both preferences and sociocultural norms" (Corbin and Heckman 2016, p10).* Corbin and Heckman (2016) also note that life skill formation is inherently dynamic, and thus investments across the life course are going to be critical to sustained effects on economic empowerment in adulthood. We now provide more detail on the set of measurable indicators that capture aspects of economic empowerment, before describing the types of adolescent girls programs we consider.

2.1 Indicators

One of the challenges in examining the effect of adolescent girl programming on economic empowerment is the vast set of possible indicators that could be used, which include outcomes directly affected by the program (e.g. direct outcomes such as knowledge accumulation), economic and social empowerment outcomes (e.g. intermediate outcomes such as gender division of household chores), and final outcomes (e.g. subjective well-being or earnings) (Bandiera 2014; United Nations Foundation and Exxon Mobil 2015). These outcomes might be measured at the individual, household, community, or institutional level. Moreover, these indicators evolve during the transition from adolescence to adulthood: for example, while educational attainment and delayed marriage and childbearing are key indicators during adolescence, earnings, control over assets, and bargaining power become more important upon transition into adulthood.

While the specific set of indicators is ultimately going to be context and program specific, Golla et al. (2011) provide a useful structure to categorize types of indicators. Under power and agency they include: control over assets, control over decision-making, autonomy and mobility, self-confidence and self-efficacy, gender norms, and gender roles and responsibilities. For economic advancement they list: productivity and skills, business practice, income, consumption smoothing and risk, work environment, and prosperity (which includes individual and family wealth, asset and business ownership, as well as improved health and nutrition). Our analysis of the empirical evidence focuses on evaluations of adolescent girl programs that show impacts on outcomes that fit within one of these categories along the life course.

2.2 Adolescent Girls Interventions

Similarly to the wide variety of potential indicators, there are also numerous types of programs that could be considered adolescent girls interventions. Based on our review of the literature, including useful reviews such as McQueston, Silverman, and Glassman (2013), we include the following set of interventions in our analysis: life skills and vocational training, school-based interventions, cash transfer/financial incentive programs, information and awareness campaigns and role models, and health services and counseling. While the intervention itself may not specifically target adolescent girls, we restrict our analysis to papers that focus on economic empowerment outcomes for 10-19 year old adolescent girls.[2]

3. Empirical Evidence

Our review focuses on well-identified quantitative studies, including both experimental and quasi-experimental designs. We do not attempt to undertake a formal systematic review of the literature, but instead start our literature search with Baird, McIntosh and Özler (2016), Chakravarty, Haddock, and Botea (2015), McQueston, Silverman, and Glassman (2013), Moucheraud and Hasan (2015), and Özler (2016), and the relevant papers in there reference

[2] One limitation of a large segment of the literature discussed here is that it either focuses on children (6-12) or young adults (often 18-35), and often does not disaggregate by gender. This evidence base is still important, but specific implications for adolescent girls are not always clear.

list. Given that relevant literature reviews were recently conducted for these papers, we feel that this they provide us with a robust strategy of identifying relevant studies. We also contacted certain experts in the field to identify any recent working papers or ongoing work we might have missed, but the review here should not be viewed as comprehensive. Through this search strategy we identified a total of 51 papers that are summarized in Annex 1. The following sub-sections summarizes the evidence by type of program.

3.1 Life Skills and Vocational Training

Girls' clubs – for adolescent girls either in school or out of school - are becoming an increasingly common approach to empower adolescents, particularly girls. Programs that provide life skills and vocational skills (financial literacy and assets; livelihood skills; and employment assistance) can be categorized into two types: community-based and center-based (Chakravarty, Haddock and Botea 2015). The community-based model usually involves female mentors who meet regularly with a group of girls frequently over a period of months or even years, while the center based programs focus explicitly on developing employment- related skills and usually employ professional trainers.

Community-based programs both provide safe spaces for girls and aim to equip them with financial and social assets. The Empowerment and Livelihood for Adolescents Program (ELA) implemented by BRAC Uganda provided vocational and life skills training to 14-20 year old girls in development clubs held outside of school. The clubs meet five afternoons per week and are led by a peer mentor (Bandiera et al. 2015). Bandiera et al. (2015) find that, after two years, ELA clubs increased the likelihood that girls engage in income generating activities and raised their expenditure on private consumption goods by 38%. They also find that teen pregnancy fell by 26%, early entry into marriage/cohabitation by 58%, and the share of girls reporting sex against their will was cut in half. They conclude that the provision of hard and softs skills has the potential to empower. While these results are impressive, one downside is that only 21% of eligible girls offered to participate took up the program. Bandiera et al. (2015) also explore four-year impacts, and while they don't investigate specific outcomes due to differential attrition, they do find that intervention girls are more likely to migrate, suggesting that the intervention increased economic mobility. In Tanzania, Buehren et al. (2015) replicate Bandeira et al. (2015), but find no impact on economic, health and social outcomes. In addition to evaluating the standard ELA model, the authors also introduce a second treatment arm which combined the standard ELA model with microfinance. This combined model increased take-up and savings of participants compared with the standard ELA model, but similar to ELA no impacts were found on other outcomes. The stark difference in results between Buehren et al. (2015) and Bandeira et al. (2015) provide an important lesson in replicability across contexts.[3]

[3] Muz and Shah (2016) are also conducting ongoing work with ELA clubs in Tanzania focusing on the complementarity of demand and supply side interventions, as well as the role of working with boys alongside girls.

Other examples of community-based life skills/mentoring programs include three programs by the Population Council: the Berhane Hewan (BH) program in Ethiopia, the Adolescent Girls Empowerment Program (AGEP) in Zambia, and Ishraq in Egypt. The BH program targeted married and unmarried girls aged 10–19 and aimed to both prevent girls at risk of forced early marriage and support adolescent girls who are already married. It included three components: group formation by adult female mentors; support for girls to remain in school (including an economic incentive), and participation in non-formal education (e.g., basic literacy and numeracy) and livelihood training for out-of-school girls; and "community conversations," to engage the community in discussion of key issues (Erulkar and Muthengi 2009). The quasi-experimental evaluation of BH found suggestive effects of the program on delaying marriage, improved enrollment, and increased use of family planning methods, especially among early adolescents.

A quasi-experimental design was also used to evaluate Ishraq, a second-chance informal education and social support program for out-of-school adolescent girls in rural Upper Egypt (Sieverding and Elbadawy 2016). Village Youth Centers (YCs), traditionally used my males, were claimed as safe spaces for adolescent girls. Enrollment was voluntary and open to any out-of-school girl aged 11–15 in or nearby the village where the YC was located. Ishraq participants attended classes at their local YC three hours per day, four times per week for 20 months. The first three months focused exclusively on literacy before financial literacy, life skills and sports were also incorporated. Young women from the local community and with at least a secondary education were employed as Ishraq class teachers and also served as mentors for the participants. Comparing participants to non-participants, the authors find that Ishraq had positive impacts on literacy, attitudes toward sports, and reproductive health knowledge. Little impact was found on broader indicators of empowerment, and there was no impact on the attitudes of participants' mothers or brothers (Sieverding and Elbadawy 2016).

AGEP is currently the subject of a RCT being conducted by the Population Council. The program is providing 10,000 vulnerable unmarried girls aged 10-19 in rural and urban Zambia with combinations of: (1) health and financial education and life skills during weekly girls group meetings led by young women from the community; (2) vouchers entitling girls to health services provided by facilities in the community; and (3) girl-friendly individual savings accounts developed in partnership with a Zambian financial institution. The evaluators are interested in the impact of AGEP on reducing early marriage; sexually transmitted infections (including HIV) and unintended pregnancy. The evaluation (results pending) will look at results both immediately after the two year program and two years after the program concludes (Population Council 2015).[4]

The Towards Economic and Sexual Reproductive Health Outcomes for Adolescent girls (TESFA) program in Amhara, Ethiopia targeted ever married adolescent girls aged 14-19 using a group-based peer-education/facilitation model to deliver training that was supplemented by an in-depth community engagement approach. The program was implemented over a period

[4] Kishoree Kontha in Bangladesh also operates through small peer-led sessions in Safe Spaces, but it also includes an incentive component (Field and Glennerster 2007) so we choose to discuss it in section 3.3.

of a single calendar year, with groups meeting twice a month. 'Social Analysis and Action' (SAA) groups, comprised of influential community members, supported the girl groups by assisting in the identification and recruitment of potential participants, providing ongoing support to participants, and acting as agents of change in their own right. All girls received training and counseling on intra-household communication emphasizing conflict resolution techniques. Groups of participants were divided into four arms: (1) arm 1 received training on a tailored SRH curriculum; (2) arm 2 received economic empowerment training based on the Village Saving and Loans Association (VSLA) model; (3) arm 3 integrated both SRH and EE elements into a single complementary curriculum; and (4) arm 4 acts as a comparison group (Edmeades, Lantos and Mekuria 2016). Using quasi-experimental methods, and ignoring the EE only arm, Edmeades, Lantos and Mekuria (2016) find that while the SRH arm generally outperformed the combined arm in terms of SRH outcomes, the combined arm outperformed the SRH arm when examining EE outcomes. The authors note that the "findings suggest that programmers may face a choice between a program model that delivers somewhat greater impact in terms of SRH outcomes and one that delivers somewhat smaller effects across a broader range of outcomes" (Edmeades, Lantos and Mekuria 2016).

Center-based programs are also known as Technical and Vocational Training Programs (or TVET) and are aimed at adolescents who are out of school. The Economic Empowerment of Adolescent Girls and Young Women in Liberia was a one-year program that provided six months of classroom-based technical and life skills training, followed by six months of support (Adoho et al. 2014). The short-term evaluation at the end of the program showed strong employment and earnings gains but no effects on a wide range of sexual and reproductive health outcomes. Charkravarty et al. (2015) use a quasi-experimental design to evaluate the Employment Fund (EF) in Nepal, one of the largest youth training initiatives in the country. Starting in 2010, the EF aimed to reach more young women (16-24) through the Adolescent Girls Employment Initiative (AGEI). AGEI led to strong improvements in non-farm employment and monthly earnings for men and women, and younger women benefited as much as older women. However, the evaluation found no impact on knowledge of HIV, desired fertility, contraceptive use, or fertility for either male or female participants one year after the training (Chakravarty et al. 2015).

A job-training program in the Dominican Republic (Juventud y Empleo) led to small increase in earnings, but no improvements in employment rates or job formality for women approximately two years after graduation, but decreased pregnancy rates among late adolescents by about 5 percentage points (Ibarraran et al. 2014). Brudevold et al. (2016) evaluate the Girls Empowered by Microfranchise (GEM) project targeted at 18-19 year old young women implemented by the International Rescue Committee (IRC) in Nairobi. Using a RCT, the authors compare participation in GEM to a cash grant arm (worth $250) to a pure control. While both treatment arms improve income and other measures of employment in the short term, 12-18 months post-program the majority of effects have dissipated. Moreover, the authors find no impacts on health or broader empowerment measures (Brudevold et al. 2016).

There are many similar programs targeting unemployed youth, aged anywhere from 16-35. These programs typically do not have an adolescent or gender focus and results are not broken down by age. That said, they may serve as an important transition from schooling or girls clubs into employment. For example, Blattman, Fiala and Martinez (2013) evaluate the Youth Opportunities Program (YOP) in Uganda which invited groups of young adults to apply for cash grants (about $382 per group member) to start a skilled trade. After four years, relative to the control group, the program increases business assets by 57%, work hours by 17%, and earnings by 38%, with similar effects for men and women. Hicks et al. (2015) look at the impact of providing a voucher to out of school youth for vocational training (worth about US$460). They find that it encouraged women to prefer and ultimately enroll in traditionally male-dominated trades but did not affect overall educational attainment for either gender. They find limited impact on earnings. Attanasio, Kugler and Meghir (2011) evaluate Jóvenes en Acción, a training program for disadvantaged youth aged 18-25, which provided three months of in-classroom training and three months of on-the-job training to young people. The program had limited impacts for men, but raised earnings and employment for women. Attanasio et al. (2015) revisit the effects of the program 10 years after it ended, and find sustained effects on employment in the formal sector, earnings, and increased high-school graduation, with effects once again stronger for women. The authors, however, find no effect on fertility decisions or marital status.

Maitra and Mani (2014) use a RCT to evaluate a subsidized vocational training program in stitching and tailoring, targeted at women between ages 18 and 39 years, with at least 5 or more grades of schooling residing in low socio-economic areas or slums of New Delhi, India. They find that both immediately after the program and 18 months later treatment women are more likely to be employed, work additional hours per week, and earn approximately 150 percent more per month than women in the control group (Maitra and Mani 2014). Cho et al. (2016) use a phase in design to evaluate a vocational and entrepreneurial training for Malawian youth aged 15-24. The program they evaluate was designed to provide apprenticeship rather than classroom-based training. The authors find that both men and women self-report gains in skills, but that otherwise benefits largely accrue only to men. There is no significant change in women's time use and training was more costly for women. In addition, while men see improvements in well-being and confidence, women do not. Women are less likely to have given birth in the past year, but ultimately Cho et al. (2016) conclude that women participate in training in a more constrained environment, thus limiting the impact of the intervention on women.

While both types of skills programs seem to cause increases in employment, earnings, and consumption in the short-run, there is limited evidence on long-run impacts. Moreover, when long-run impacts do exist they appear to be more pronounced in middle-income settings. Short-run impacts on reproductive and sexual health (SRH) outcomes are mixed. Some programs may delay pregnancy during the program with no effects of total fertility in the longer run while others might cause declined fertility due to increased labor market participation or heightened expectations regarding the future. Chakravarty, Haddock and Botea (2015) conclude that such programs are heterogeneous in what they provide and their duration; that the most promising programs take place in girls-only or girl-friendly settings and provide a combination of information about SRH and complementary training and assets; and finally that more research is needed to isolate effective components of such interventions.

3.2 School Based Interventions

Arguably, the most important accumulation of capital during adolescence is that of learning through schooling. While formal school enrollment, attendance, and even attainment remain imperfect proxies for learning and human capital accumulation in general in many poor countries, many programs aim to increase attainment and test scores by reducing the cost of schooling for girls. These barriers to schooling (and the interventions that address them) consist of three types: direct costs of schooling (school fees, uniforms, etc.); indirect costs of schooling (e.g. distance to school or safety); and opportunity costs of schooling (foregone earnings, marriage, domestic chores, etc.).[5]

The launch of universal (free) primary education initiatives across Sub-Saharan Africa caused massive jumps in enrollment, allowing girls to close the enrollment gap with boys at the primary level, as in a large-scale tuition-waiver program for secondary schools in The Gambia (Blimpo, Gajigo, and Pugatch 2015). Eliminating fees in the public sector may increase access among the poor but also shift children from better-off families into private schools, which generally perform better than public schools even when they are low cost (Adelman and Holland 2015; Bold et al. 2011; Bold, Kimenyi, and Sandefur 2013; Lucas and Mbiti 2012). Governments can also decide to subsidize school supplies: a low-cost program in Kenya that provided school uniforms to sixth graders reduced adolescent girls' dropout, pregnancy, and marriage in the short- and medium-run, but had no impact on sexually transmitted infections (Duflo, Dupas, and Kremer 2015a). Kremer, Miguel and Thornton (2009) find that merit based scholarships fort 6th grade girls increased test scores by 0.19 standard deviations. However, provision of textbooks did not lead to any improvements in schooling, other than among the strongest students (Glewwe, Kremer, and Moulin 2009).

Innovative school based programming could also improve outcomes. There is a growing literature on financial education programs in secondary school which could prove important for economic empowerment, but there is limited information on girl specific outcomes and current evidence is mixed (see, for example: Bruhn et al. (2016); Berry, Karlan and Pradhan (2015)). Bjorvatn et al. (2015) do disaggregate by gender when they evaluate an edutainment show on entrepreneurship broadcast over three months on national television in Tanzania. Using an encouragement design in 43 secondary schools in Dar es Salaam, the authors found that while the show increased entrepreneurship and strengthened entrepreneurial traits, it had a negative impact on school performance, with results more pronounced for females. This is an important result and points to the potential tradeoffs of introducing financial education into the school system.

Building "girl-friendly schools" is a highly effective means of increasing access to schooling, whether it is by building schools within villages (Burde and Linden 2013; Jacoby and Mansuri 2011; Kazianga et al. 2013), building girls' secondary schools (Andrabi, Das, and Khwaja 2013), building schools with girl-friendly amenities (Kazianga et al. 2013), or providing safe transportation for girls (Muralidharan and Prakash 2016). In addition to building girl-friendly schools, hiring contract teachers can be cost-effective in raising test scores in and of itself, and additionally by reducing class size, but managing and scaling up such programs can be politically challenging (Duflo, Dupas, and Kremer 2015b; Muralidharan and Sundaraman 2013; Bold et al. 2013; Muralidharan 2015).

[5] The remainder of this sub-section makes liberal use of Özler (2016).

Finally, many factors compete for girls' time in developing countries, increasing the opportunity cost of schooling both in absolute terms and relative to boys. For example, adolescent girls are responsible for collecting water in many countries, and reducing distance to the water source or providing piped-in water would significantly reduce the enrollment gap between boys and girls particularly in settings with low overall enrollment and large gender gaps (World Bank 2011; Koolwal and van de Walle 2013). Similarly, caring for younger siblings competes with school time, and opening community daycare centers can increase school attendance among girls 10–15 years old (Martinez, Naudeau, and Pereira 2012).

3.3 Cash Transfers/Financial Incentives

Conditional cash transfer (CCT) programs are common in the toolbox of social protection programs and work by decreasing the opportunity cost of schooling by tying payments to households to proper school participation by school-aged children. While many cash transfer programs benefitting adolescents are conditional, many are simply labeled, while a few are unconditional. A recent systematic review of cash transfer programs by Baird et al. (2013) focusing on 5-22 year olds indicates that both conditional and unconditional cash transfer programs improve school enrollment and attendance, with little effect on test scores – generally confirming findings from earlier reviews of conditional cash transfer programs (Fiszbein and Schady 2009; Saavedra and Garcia 2012). Baird et al. (2013) finds that CCTs increase the odds of school enrollment among girls significantly more so than UCTs, but urge the readers to exercise caution due to the small number of studies that disaggregate effects by gender.

Most cash transfer programs benefitting adolescent girls are social protection programs targeted towards families with children, and do not have a specific focus on adolescent girls.[6] We know of three transfer programs that either specifically target adolescent girls or target families with adolescents: the first is the Zomba Cash Transfer Program in Malawi, which is the program evaluated in the SIHR by Baird, McIntosh, and Özler, and discussed in much greater detail in section 3.6 below. The other two are transfer programs to delay marriage, one in India (Apni Beti Apni Dhan (ABAD)) and one in Bangladesh (Kishoree Kontha (KK)). In India, ABAD offered cash transfers at two different points in time to eligible disadvantaged households in Haryana. First, the program offered a small cash disbursement of $8 to mothers within 15 days of delivering a daughter. Second, the program offered a savings bond in the name of the girl that was to be redeemable for an expected $380 USD when the girl turned 18, conditional on the girl remaining unmarried (Nanda et al. 2016). Using a quasi-experimental design, Nanda et al. (2016) find that ABAD did not significantly affect the probability of marriage largely because households saw this money as contributing to the dowry. The authors do find that the probability of completing 8th grade increases under the program and that girls' aspirations to study beyond 12 grade significantly increased. But there was no effect on whether the girls completed 12th grade nor on the mother's aspirations that the daughter studies beyond 12th grade. There was also no change in gender equitable attitudes among mothers or girls (Nanda et al. 2016). The authors ultimately conclude that the CCT

[6] See Özler (2015) for a broader discussion of the evidence on the effectiveness of conditional and unconditional cash transfers.

was not sufficient to change prevailing gender roles and expectations and that "CCTs need to be further enhanced with complementary interventions that will change attitudes, enhance the quality of schools to incentivize higher levels of education, and increase opportunities for girls and women to learn, work, and participate productively in society" (Nanda et al. 2016).

The KK program targeted 15-17 year-old females in Bangladesh. The program had four treatment arms: KK basic (girls' clubs that meet 3-5 days a week for 2 hours for 6 months with peer led education aimed to enhance basic literacy, numeracy, life skills, and nutritional and reproductive knowledge); KK Basic and Livelihood (added basic financial skills); incentive (a conditional (on staying unmarried) in-kind transfer of 4 liters of cooking oil every 4 months (worth the equivalent of $15 a year) as an incentive to delay marriage for girls below the legal age of marriage (18 years)); and a control arm. While the researchers are currently evaluating the effects of the program, preliminary evidence suggests that the KK program without incentive had limited effect. On the other hand, this early evidence suggests that girls in the incentive arms had lower marriage rates and improved educational outcomes (Glennerster 2013).

3.4 Information and Awareness Campaigns, Role Models, and Aspirations

While many programs try to increase school participation, households may decide not to invest in girls' schooling either because they correctly perceive low returns or because they have incomplete information about job opportunities for women and returns to schooling. Such situations are common and can arise when there are no well-paying or safe jobs nearby; information about suitable jobs for young women is not readily available; or information about returns to schooling is incomplete. Recent evidence suggests that investments in skills acquisition through schooling can rise significantly among adolescent girls without the provision of subsidies or financial assistance when jobs and information become available.

In Bangladesh and India, the availability of white-collar jobs requiring skills such as English, computers, math, and literacy significantly increased school enrollment (Heath and Mobarak 2015; Munshi and Rosenzweig 2006; Oster and Steinberg 2013). The gender effects depend on the type of jobs and how they are advertised, but they are generally localized, indicating that lack of information may be a constraint. When job recruiters conducted information sessions for women only and advertised the jobs as for women with a secondary education, parents' investments in their daughters' schooling rose substantially: there were increases in school enrollment, particularly in English and computer courses, delays in marriage and childbearing, and even increases in the body mass index of girls aged 5–15 (Jensen 2012).

Sometimes, lack of information about the returns to education can be a barrier. For example, providing statistics about the distribution of jobs by education level and the mean earnings of 25-year-old males and females in Madagascar (Nguyen 2008) or information about higher returns to schooling for high-school graduates (boys only) in the Dominican Republic (Jensen 2010) led to higher school attendance, attainment, and test scores. However, two school counseling interventions in China, similar to that in the Dominican Republic, had no effect on dropout rates or lasting effects on school attainment (Loyalka et al. 2013; Huan et al. 2014 - discussed in Glewwe and Muralidharan 2015).

Such barriers can combine with norms and aspirations to lower schooling investments. In the Dominican Republic, girls were reluctant to estimate future earnings because they thought they would never work (Nguyen 2008). In India, a third of the villages were randomly assigned to have female "pradhans"; in villages with female leaders for two consecutive terms, the gender gap in school enrollment disappeared and the aspirations of girls and their parents rose (Beaman et al. 2012). In Malawi, an adolescent beneficiary of the Zomba Cash Transfer Program told the female administrator of the program "we did not know women can be bosses," with the implication being that at least part of the reason underlying the increased school attendance under the CCT intervention may have been the presence of a strong, female role model and the desire to be like her in the future.

Information can also be used to promote outcomes beyond schooling. Dupas (2011) tested the impact of providing information on the relative risk of HIV infection by partners' age. She found that the intervention led to a 28 percent decrease in teen pregnancy with substitution away from older partners. Le Ferrara, Chong and Duryea (2012) look at the role of television in promoting changing gender norms. They find that Globo, a soap opera in Brazil that portrayed smaller families, lowered fertility, particularly for women of lower socioeconomic status and those in later stages of fertility. The results highlighted in this sub-section point to the importance of complementing skill building and economic support with features such as targeted information, changed aspirations, and roll-models in order to influence economic empowerment.

3.5 Sexual and Reproductive Health Services[7]

Lack of adequate sexual and reproductive health services have numerous adverse consequences for adolescent females that ultimately impact economic empowerment including mistimed or unintended pregnancies in many countries. For example, Cameroonian women under the age of 20 also have the greatest percentage of mistimed or unintended pregnancies compared to all other age groups – with more than 30% of the births to this group unwanted or wanted later (ICF International 2011). Teenage births can have adverse outcomes on birth outcomes.[8] They can also lead to early (or shotgun) marriages, which, in turn, can lower adolescents' future welfare as adults (Baird, McIntosh, and Özler 2016).[9] Improvement

[7] For further reading on this issue, there are two relevant recent journal supplements in the Journal of Adolescent Health. The first is titled "What Works? Systematic Assessments of Sexual and Reproductive Interventions for Young People in Low- and Middle-Income Countries" (What Works 2016) and the second is titled "Interventions to Address Adolescent Health and Well-Being: Current State of the Evidence" (Patton and Temmerman 2016).

[8] Outcomes such as very preterm and preterm deliveries, low birth weight, being small for gestational age, infant mortality, and late fetal death are all correlated with teenage births. Earlier the age at birth, the worse these outcomes usually are. Biomedical literature suggests two main pathways for the inherent effect of age at birth, rather than the effect of factors correlated with young age: gynecological immaturity (poor intrauterine growth, immature cervical blood supply, etc.) and nutritional competition for growth. However, these pathways have not been empirically confirmed (Smith and Pell 2001).

[9] Early marriage can increase poverty (Dahl 2010); decrease school attainment and literacy, use of preventive health services during pregnancy, and agency due to the divergence in age between spouses (Field and Ambrus 2008; Jensen and Thornton 2003); and lead to reduced investments in professional careers and increased divorce rates through the lower quality of matches in the marriage market (Goldin and Katz 2002).

in these services—and tailoring them towards adolescents—thus potentially has important ramifications for long-run economic empowerment.

Despite the desire to delay childbearing, many adolescents do not use modern contraceptives: for example in Cameroon, only 48% of sexually active unmarried women use modern contraceptives – the majority of which are condoms (ICF International 2011). At least part of the reason for low take-up of sexual and reproductive health services (and health services more generally) is that these services are not specifically targeted to adolescents outside of a few safe spaces/girls' clubs programs. In fact, in many countries, there is resistance on the part of both parents and health care workers to provide sexual and reproductive health services to adolescent females. In line with government policy in Bangladesh, many providers mentioned a woman's being nulliparous as a contraindication to the use of IUD (Alam, Bradley, and Shabnam 2007); misconceptions of the suitability of IUDs for nulliparous women are also prevalent in the U.S. (Tyler et al. 2012). In many countries – such as Bangladesh, Cameroon, or Zambia – health providers are reluctant to provide family planning services to adolescent females or to females of any age without the explicit consent of their husbands (Government of the Republic of Zambia 2013; Ashraf, Field, and Lee 2014).

A potentially effective, but yet unproven, way to reach adolescents is to ensure that services are youth-friendly – for example, training that teaches providers to be nonjudgmental and friendly, communications targeted to adolescents, and supportive community activities (Chandra-Mouli, Lane, and Wong 2015). Despite efforts of several governments, such as that of Zambia, which removed spousal consent requirements in 2005 and, more recently, aimed to establish youth-friendly services, the stigma surrounding sexual activity and the use of family planning by adolescent females causes them to avoid using health clinics for services.[10] This has caused some governments and NGOs to try delivering family planning services to adolescents with a decentralized distribution at the community and household level, i.e. a "door-to-door" approach rather than a facility-based one.[11]

The evidence suggests that most effective programs combine supply- and demand-based strategies to increase knowledge of family planning and decrease fertility – either through comprehensive, multi-sectoral programs or through national family planning programs (Moucheraud and Hassan 2015), although it should be noted that such programs are not generally targeted to adolescents or tailored to their specific needs. For example, in Ghana, communities that received both visits from nurses and some basic health and family planning services from trained community volunteers, showed large increases in family planning knowledge and declines in total fertility rates compared with the control communities

[10] For example, in Bangladesh, "Married sisters, sisters-in-law, or other older women frequently supplied girls directly or indirectly via their husbands with oral contraceptive pills in anticipation of their initiation as sexually active, married women." (MacQuarrie et al. 2015) In Tanzania, stigma towards young FP deters many from seeking FP services in the health facilities, as many fear being recognized or being judged by providers in health facilities, leading many young people, specifically students, to receive family planning services from local drug stores. However, without proper counseling, there is high discontinuity – especially once they start experiencing side effects (Rusibamayila et al. 2016).

[11] This statement is based on email communication with Arianna Zanolini of the American Institutes for Research (http://www.air.org/person/arianna-zanolini).

(Debpuur et al. 2002) A recent systematic review found that demand generation interventions, particularly financial incentives, contribute to increases in modern contraceptive use among adults of reproductive age, but that more studies with robust designs are needed to identify the most effective interventions (Belaid et al. 2016). The Colorado Family Planning Initiative (CFPI) in the U.S., which supplied free IUDs and contraceptive implants to low-income women, while equipping clinic staff and providers with more knowledge about long-term reversible contraceptive (or LARCs) insertion, promotion, and counseling, caused a large increase in the percentage of teens using these highly effective contraceptive methods within five years (Lindo and Packham 2015). The increase from less than 3% of females aged 15-19 using LARCs in Colorado in 2008 to almost 25% in 2014, which stands in stark contrast to the trend in the rest of the U.S., led to sharp declines in teen birth rates: 5% between 2008 and 2012 and 7% after the first year of CFPI's inception. Increased research on the role of youth friendly services in promoting adolescent well-being in low and middle income countries, particularly in terms of sexual and reproductive health, would help fill an important gap in the evidence base.

3.6 Case Study: Schooling, Income and Health Risk (SIHR) Study

We now turn from the broad evidence base and use the Schooling, Income and Health Risk (SIHR) study as a case study to investigate some of these issues in more detail. SIHR, which evaluates the Zomba Cash Transfer Program (ZCTP) in Malawi, is the only study of cash transfers we know of that has a specific focus on 13-22 year old adolescent girls, including providing part of the monthly transfer directly to the adolescent girl. SIHR was designed to test the importance of key parameters in the design of cash transfer programs—most notably the conditionality of transfers on school attendance—as well as to understand the impact of cash transfers on a broad range of economic empowerment outcomes.

Specifically, SIHR assessed the effects of offering cash transfers to families of school-age girls for a period of two years. Treatment was assigned first at the enumeration area (EA) level (an EA is approximately 250 households); 88 to treatment and 88 to control. All baseline dropouts in treatment EAs received conditional cash transfers (CCTs), while a further experiment was performed within the larger cohort of baseline schoolgirls. For them, 46 EAs were assigned to CCTs, 27 were assigned to unconditional cash transfers (UCTs), and 15 were assigned to receive no transfers in order to study spillovers. The amount of money received by the household head was randomized between $4 and $10 at the EA level, and the core respondents were assigned their own individual transfer amounts from between $1 and $5 in a public lottery. Offer letters explaining treatment were distributed in December 2007, payments began in February 2008 and continued through the end of 2009.

Girls receiving UCTs simply had to show up at a local distribution point each month to pick up their transfers. Monthly school attendance for all girls in the CCT arm was checked and payment for the following month was withheld for any student whose attendance was below 80% of the number of days school was in session for the previous month. However, participants were never removed from the program for failing to meet the monthly 80% attendance rate, meaning that if they subsequently had satisfactory attendance, then their payments would resume.

The one- and two-year impacts suggest that cash transfers had significant effects on outcomes ranging from education to early marriage and pregnancy to mental health, with important differences across treatment arms and baseline schooling status. Among baseline schoolgirls the short-term evidence showed that a two year cash transfer program can improve education outcomes (Baird, McIntosh, and Özler 2011), significantly delay marriage and pregnancy among school-aged girls (Baird et al. 2016; Baird, McIntosh, and Özler 2011); reduce the prevalence of HIV and HSV-2 (Baird et al. 2012); and improve psychological wellbeing (Baird, de Hoop, and Özler 2013).

These results, however, varied markedly depending on whether the young women were in the CCT or UCT treatment group. This trade-off is most starkly illustrated in Baird, McIntosh, and Özler (2011). While there were modest enrollment effects in both the CCT and the UCT arms, the impacts in the UCT arm were only 43% as large of those in the CCT arm. There were also significant increases in attendance and learning in the CCT arm, with no effects in the UCT arm. Thus, in terms of schooling outcomes, the short-term results suggest that the CCT program outperformed the UCT program. In the UCT arm, however, there were significant reductions in early marriage and teenage pregnancy, reductions that were not present in the CCT arm. These reductions in the UCT group were largely due to an income effect—as opposed to a schooling one – mostly due to the effect of cash transfers among those who dropped out of school while receiving UCTs. Thus, the schooling gains among baseline schoolgirls in the CCT arm were achieved by denying transfers to *non-compliers* (i.e. those who dropped out of school despite the CCT offers) who are shown to be particularly 'at risk' for early marriage and teenage pregnancy upon dropout. In other words, the conditionality to attend school in CCT programs has a significant marginal effect on educational outcomes over and above a UCT intervention, but this comes at the cost of denying transfers to those who do not comply with the conditions for one reason or another.

While the experimentation with conditionality was only conducted among baseline schoolgirls, we also investigated the impact of CCTs on baseline dropouts, a smaller, older, and more vulnerable group of young females. The effects of cash transfers in this at-risk group were much larger in magnitude than the effects among baseline schoolgirls. For example, at the one-year follow-up, 17 percent of the control group of baseline dropouts reported having returned to school, compared with 61 percent of those offered CCTs. Moreover, by the end of the program young women offered CCTs had enrolled in school for 2.4 more terms (over a base of 1), were 8.2 percentage points less likely to have ever been pregnant and 12.6 percentage points less likely to have been ever married (Baird, Chirwa, de Hoop, and Özler 2016).

These varied findings on the short-run impacts of the ZCTP suggest that the trajectories of impact may diverge across the strata and treatment arms of the study. We re-interviewed these young women in 2012, two years after the cessation of the program to assess whether effects across a wide variety of domains were sustained or fleeting. These results are detailed in Baird, McIntosh and Özler (2016). The authors find that the short-term improvements in the UCT arm observed during and at the end of the program failed to translate into higher welfare in the longer-run. In this group, the end of the cash transfer program was immediately followed by a marriage and baby boom among the beneficiaries, who reported lower levels of

empowerment and had husbands with lower cognitive ability compared with both the CCT and the control groups. However, consistent with improved health and nutrition during the program, there was evidence of improved physical development – measured by height-for-age z-scores – among children born to UCT beneficiaries during the program. The lack of persistent effects two years after the end of the program suggest that money is very effective in alleviating a multitude of problems that adolescent females face in this context, but also that such effects might be fleeting – at least after a two-year program implemented during mid-adolescence – because the transfers led to no discernible capital accumulation of any type.

Among those who were in school at baseline, CCTs did not have any lasting effects, positive or negative, mainly because the transfers were inframarginal with respect to school attainment: for example, 88% of the control group in this stratum had completed primary school two years after the end of the program. On the other hand, CCTs caused large and sustained effects on school attainment, incidence of marriage and pregnancy, age at first birth, total number of births, and desired fertility among those who had already dropped out of school at baseline. This result stems from the fact that the CCTs were highly effective in allowing a very large share of this group to return to school, which had knock-on effects on other outcomes. In contrast with the marital outcomes in the UCT group, the increased educational attainment in this group led to assortative matching: their husbands were significantly more likely to have completed secondary school. Unfortunately, even in this stratum, there were no improvements in important longer-term economic empowerment outcomes, such as individual earnings, per-capita household consumption, health and nutrition, or subjective wellbeing. The lack of impact on economic outcomes for women in this context is discouraging but might partly reflect the lack of labor market opportunities for young women. As in many parts of sub-Saharan Africa, where the majority of the population is involved in agriculture and informal sector activities, a very small percentage of our sample reports working for wages (or in a household enterprise). It may also reflect low returns to education due to poor learning outcomes in schools: while test scores in math and reading comprehension modestly improved in the CCT arm in the short run, the absolute levels of math and reading ability are very low in our study population in Malawi.

Our study provides some important guideposts for the design of effective adolescent-focused cash transfer programs. The powerful and multifaceted impacts of the program on the lives of the beneficiaries highlights the power of cash transfers to create opportunities for at-risk young women – while it was in place. However, the evaporation of many of these impacts when the money ran out, along with the lack of any impact on economic outcomes in any group, suggests that short-lived cash transfer programs during adolescence are insufficient for the economic empowerment of young women. While it is possible that a program that lasted for more than two years or a program that started earlier in the adolescents' life might have led to increased human capital accumulation and a broader set of sustained effects, substantive long-term gains in economic empowerment seem unlikely without policies that create more economic opportunities for young women.

These findings are also important in thinking about the potential for sustained effects of programming targeting adolescents more generally. Many adolescent girl programs are similarly short in duration, typically one to two year programs. Thus, readers should remain skeptical about the prospects of meaningful long-term effects based on the usually short-run impacts reported from evaluations of these programs. Moreover, the majority of programs target older adolescents—there is a dearth of evidence on programming for young adolescence—which may be too late to alter their trajectory. Finally, many adolescent programs target one capability area—health, education, economic, etc.—there is still much to be learned about the optimal combination of adolescent interventions for sustained effects.

4. Discussion and Recommendations for Policy and Research

In this paper, we reviewed the space of interventions targeted to adolescent females and young women to get a sense of their effects on economic empowerment. It should be noted that ours is a diligent reading of the literature, but it is not a systematic review. We noted that many interventions targeted to adolescents are short in duration and show modest short-term effects in many instances. We also noted that such programs have to cause some durable accumulation of capital – whether it is capital, human, or social – in order to have lasting impacts during and after the transition into adulthood. Even then, without a change in the norms surrounding these young women or opportunities for them to take advantage of their increased resources, short-term gains can be fleeting.

The evidence we summarized in this paper more or less bears out these observations. While there are not many evaluations interventions that follow adolescent females and young women into adulthood, the studies that exist generally do not point to meaningful and sustained effects on key indicators of economic empowerment. Whether it is life skills and/or vocational training programs, cash transfers, or sexual and reproductive health services, it's difficult to point to programs with great promise. Admittedly, part of this is due to a lack of evidence rather than a lack of impact, but nonetheless it is hard to derive programmatic policy implications from the existing evidence.

The evidence base lacks two key components: (i) programs that are carefully thought through and constructed for early, middle, and late adolescents with programs adjusting and linking to each other during the entire period of adolescence and taking into account the local context; and (ii) long-term evaluations of such programs that will hopefully not only show short- and medium-term impacts but substantive changes in the lives of these adolescents as young adults, as well as the welfare of the children. Currently, such programming and evaluation strategies are in short supply, but there are ambitious initiatives in the planning stages that are trying to address this problem.

Other than a statement of "more research is needed," what can we take away from the evidence we summarized? First, it is possible that short-term, and often times substantial, impacts on schooling or earnings among adolescents and young women do not translate into discernible impacts in their lives later on, because either follow-up or complementary programs are needed to navigate the multitude of challenges these women growing up in difficult environments face. Second, evidence suggests that when women-friendly job

opportunities arrive in the vicinity and families of adolescent girls and young women are informed of these opportunities, families often invest in their daughters for them to acquire the necessary skills (provided that this market exists) to take these jobs. Evidence suggests that this can happen without any government support and implies that the other constraints, such as restrictive cultural norms, mentioned as barriers to female labor market participation may not always be the key constraint to women's empowerment. That said, growth policies should always consider equal (or even preferential) access to opportunities for women: often times, jobs may not be considered safe or desirable for women for a variety of reasons. Labor market policies that take gender seriously within the local context may well be important to advance women's empowerment. Finally, evidence suggests that access to girl-friendly family planning services is simply dismal – even in countries that are not very restrictive with respect to female sexuality: the stigma surrounding adolescent sexual behavior keeps them away from health clinics, and those who attend often face health workers who are at best not trained to serve adolescent girls and worse are reluctant to provide any services to them. Even married women face challenges of receiving services with their husbands' consent in many settings and misconceptions of providing IUDs to nulliparous women persist to this day. However, the use modern contraception that is convenient and very effective, such as implants and IUDs (or LARCs) is gaining ground among teenagers in settings as diverse as the United States and Ethiopia. The possibility of free or subsidized provision of such methods to adolescents brings with it the promise of large declines in unwanted or mistimed teenage births and the complications for the mother and the child that accompany them. On the other hand, caution is required because preventing teen pregnancies and early marriages might have limited effects in the long-run if they are not accompanied by the accumulation of some other capital – as we saw in the case study of Malawi in Section 3.6

Moving forward, researchers and policy-makers need to keep five important things in mind. First, people need to recognize that short-term program impacts may not be informative of longer-term outcomes; and so monitoring and evaluation well after the end of an intervention is critical to see if short-term improvements translate into sustained gains. Second, without a substantial accumulation of some form of capital (physical, human, or social) sustained gains from programs targeting young women are unlikely to be realized. Third, details of program design matter, and complex trade-offs exist. For example, a program designed to protect adolescent girls from early marriage will likely look very different than a program that seeks to improve long-term educational outcomes. Policy makers and researchers must be clear on their objective. Fourth, timing of limited duration programs towards periods of vulnerability is critical. Finally, the lack of labor market and empowerment effects from the SIHR study may point to a need for concurrent interventions. These can include policies that increase the supply of quality education (building girl-friendly schools); improve returns to education (provision of and information about jobs for women); and change norms and aspirations of adolescent girls and their families.

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