

## NON-REIMBURSABLE TECHNICAL COOPERATION TC BRIEF

**JULY 1, 2008**

## I. GENERAL INFORMATION

<b>Country:</b>	Regional		
<b>Program name</b>	A quantitative Assessment of Early Childbearing and Educational Trajectories		
<b>Program number:</b>	RG-T1576		
<b>Project team:</b>	Emma Näslund-Hadley (SCL/EDU), Team Leader; Gabriela Vega (SCL/GDI); Claudia Cox (SCL/EDU); and Javier Cayo (LEG/SGO)		
<b>Executing agency:</b>	Inter-American Development Bank		
<b>Date of request:</b>	N/A		
<b>Beneficiaries:</b>	Ministries of education in the LAC region		
<b>Financing plan:</b>	IDB Finnish Technical Assistance Program (FTA):	US\$80,000	
	Local:	-	
	Total:	US\$80,000	
<b>Execution timetable:</b>	Execution period:	12 months	
	Disbursement period:	15 months	

## II. BACKGROUND

- 2.1 The total fertility rate has fallen in the Latin American and Caribbean (LAC) region since the 1970s. Until the end of the 1980s this tendency was also observed in the 15 to 19 year old age group. However, data from recent demographic and health surveys indicate that in many LAC countries adolescent fertility rates<sup>1</sup> have increased overall or for select quintiles of the population (Gwatkin et al, 2007). A quarter of women are mothers by age 19 in South America and by age 18 in Central America and the Caribbean. The contribution by women in the 15 to 19 age group to the total fertility rate has increased in almost all countries (ECLAC, 2006). This development contrasts sharply with the rest of the world, where decreases in the general fertility rates have been accompanied by reductions in adolescent fertility (UN, 2007). Only in Africa is the percentage of births to women under 20 years of age as high as in Latin America (16%), followed by 12% in North America, 8% in Asia and 7% in Europe (UNFPA, 2007).
- 2.2 Concerns about the elevated adolescent fertility rates in the region arise for several reasons. In the United States and Europe, a wide spectrum of studies has associated childbearing with long-term irreversible consequences for teenage mothers, including heightened risk of living in poverty, welfare dependency,

<sup>1</sup> The average number of births among women aged 15 to 19 years per 1,000 women in the age group.

marital instability, derailed education prospects, and intergenerational transmission of early parenthood (see e.g. Spivak et al, 1987 and Manlove, 1997). These findings were challenged in the 1990s by researchers who used natural experiments to document the effects of early childbearing, suggesting that the negative effects may be attributed to associated factors and may be transitory and that young mothers may overcome them over time (Geronimus and Korenman, 1992; Bronars and Jrogger, 1994; Hotz et al, 1997). More recent research has questioned the methodologies used in the natural experiments concluding that early childbearers today are at least as disadvantaged as teenage mothers in past generations and that early childbearing is an important policy issue (see e.g. Hoffman, 1998; Hofferth et al, 2001). In developing countries the research on the links between teenage childbearing and life outcomes is limited. In Latin America, based on studies from four countries –Barbados, Chile, Guatemala and Mexico– Buvinic concluded that early childbearing seems to entrench socioeconomic disadvantages that are present before teenagers enter motherhood.

- 2.3 In the area of education, research largely in the United States and Europe has estimated the effect of the age of first birth and educational outcomes. In the United States, teenage mothers have been found to complete 1.9 to 2.2 fewer years of schooling than women who delayed the birth of their first child until age 30 or older. The odds of teenage mothers completing high school are 10-12% of their childless peers and the odds of completing post-secondary education are 14-29% (Hofferth et al, 2001). In Sweden, in a study covering women born over three decades, the odds of teenage mothers having a low level of formal education are 70-90% higher as women who had their first child between 20 and 24 years of age. (Otterblad Olausson et al, 2001). In the case of teenage fatherhood, the effects on schooling and earnings are less clear-cut. A study in the United States found that although early fatherhood is associated with lower levels of schooling and census earnings, the effect is dampened once control variables are taken into account (Brien and Willis, 1997).
- 2.4 While information on the frequency of teenage childbearing in the LAC region is available through censuses and demographic and health surveys, the effects of adolescent childbearing on educational outcomes has not been assessed. The studies of Buvinic, on the links between early childbearing and poverty, did not assess the effects of early childbearing on educational outcomes. This lack of information is a problem to policy makers since they do not know if the negative educational outcomes of adolescent mothers reflect causality or simply correlation. If the answer is correlation, no specific education policy interventions or programs would be called for. If causality can be established, education policy makers have an important task to identify and apply the most effective responses to early childbearing.

### III. OBJECTIVE AND PROGRAM DESCRIPTION

- 3.1 **Overall objective.** The overall objective is to assess whether education policies that seek to expand schooling opportunities for pregnant students and teenage parents could contribute to improved life outcomes.
- 3.2 **Specific objectives.** To achieve its overall objective, the TC will contrast the educational outcomes of teenage mothers with women who delayed childbearing. To the extent it is possible also the teenage fathers will be included in this analysis. To achieve this objective, the study would seek to answer the following research questions: What is the effect of early childbearing on high school graduation and higher education attendance rates? Does early childbearing impact the number of years of schooling completed by age 29? What is the cost in terms of foregone future earnings due to school dropout? To answer these questions, the TC will finance two components.
- 3.3 **Component I. Literature review & research approach.** A literature review will be conducted to develop the research approach and identify the countries that will be included in the study. The countries will be selected to represent different stages in the demographic transition (with low, medium and high fertility levels).<sup>2</sup>
- 3.4 **Component II. Multivariate analyses.** Based on data from Demographic and Health Surveys (DHS) from six countries, odds ratios will be used to examine the effect of age at first birth among teenage mothers, and if possible fathers, on different educational outcomes (high school completion, college attendance, and years of schooling completed by age 29), using as comparison groups women who had their first child between 20 and 24 years of age and between 25 and 29 years of age and controlling for differences in the backgrounds of these mothers compared to later-fertility mothers. The control variables will include but are not limited to socio-economic factors, education of mothers, race, and area of residence (urban versus rural). If possible, estimation strategies to assess the degree of omitted variable bias (developed by Altonji, et al, 2005) will be used to quantitatively estimate the importance of any unobserved family background and school characteristics. Since the DHS household questionnaires do not normally include information on income and consumption, the household wealth index score developed by the World Bank will be used to determine the socio-economic level of the household.

### IV. JUSTIFICATION

- 4.1 **Relationship with the Bank's Strategy.** The credibility and effectiveness of the Bank as a development organization and its mandate to promote equitable growth dictate that the Bank remains sensitive to gender issues. The Bank's Social

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<sup>2</sup> High fertility countries with DHS available include Bolivia, Guatemala, Haiti or Paraguay. Medium fertility level countries include the Dominican Republic, Ecuador, El Salvador, Guyana, Honduras, Nicaragua and Peru. Low fertility level countries with DHS available are Brazil, Colombia, Mexico and Trinidad and Tobago.

Development Strategy Document (GN-2241-1) emphasizes the Bank's role in promoting the analysis of gender issues as a basis for the design of social policies. Furthermore, this policy recommends that Bank action implement a human development agenda over the life cycle and promotes successful transitions between life stages, such as the adolescent years.

- 4.2 **Risks.** The principal risk of this operation is the resistance that is often encountered in the Region to explicitly addressing issues of sexism and discrimination within the context of a public policy debate. The very visibility and global importance brought to the issue of early childbearing thanks to the wide spectrum of national and regional events that took place in 2004 in relation to the 10<sup>th</sup> anniversary of the International Conference on Population and Development (ICPD) will play a role in reducing resistance. Furthermore, the TC aims to raise the technical standard of the debate, offering new evidence to highlight any linkages between early childbearing and schooling.

## V. COST AND FINANCING

- 5.1 The total cost of the TC is US\$80,000, which will be charged against the resources of the Finnish Technical Assistance Program (FTA). See Annex I for budget details.

## VI. EXECUTING AGENCY AND MECHANISM

- 6.1 The proposed TC will be executed by the Education Division of the Department of Social Sectors (SCL/EDU) of the Inter-American Development Bank. The TC will have a disbursement period of twelve months and an execution period of fifteen months. The funds from the proposed TC will be used to finance the hiring of two international consultants. Standard Bank procedures will be followed for the selection, hiring and payment of consulting services.

## VII. MONITORING AND EVALUATION

- 7.1 **Technical and basic responsibility.** SCL/EDU will have the technical responsibility of administering the TC. All disbursements will be executed through the LMS and will require approval from the activity leader.
- 7.2 **Progress and final reports.** Within two weeks of signing their contracts, the two international consultants will submit to the Bank for its review an annotated work plan with dates for delivery of products. A report on the literature review, including recommendations on the countries to be included in the analysis, will be submitted to the Bank two months after the signature of the consultancy contracts. The results of the multivariate analysis will be submitted six months after the signature of the consultancy contracts. The final report will be delivered three months later.

## **VIII. ENVIRONMENTAL AND SOCIAL ASPECTS**

- 8.1 The Program is not anticipated to have direct environmental or social impacts and has been classified as a “C” according to the Safeguard Classification Tool. No environmental impact is foreseen as the initiative is limited to analytical work. No Bank resources will be used to finance investments in infrastructure of equipment.

## **IX. RECOMMENDATION**

- 9.1 Emma Näslund-Hadley (SCL/EDU) designated team leader for the referenced project recommends the approval of this operation and use of resources from the Finnish Technical Assistance Program (FTA) totaling up to US\$80,000.

## **X. CERTIFICATION**

- 10.1 I hereby certify that this operation was approved for financing under the Finnish Technical Assistance Program (FTA) through delegation of approval authority to the IDB as per Article 6.2.4 of the Cooperation Framework Agreement signed on December 10, 2003. Also, I certify that resources from the Finnish Trust Fund (FTA) are available for up to US\$80,000 in order to finance the activities described and budgeted in this document. This certification reserves resources for the referenced project for a period of twelve (12) calendar months counted from the date of signature below. If the project is not approved by the IDB within that period, the reserve of resources will be cancelled, except in the case a new certification is granted. The commitment and disbursement of these resources shall be made only by the Bank in US\$. The same currency shall be used to stipulate the remuneration and payments to consultants, except in the case of local consultants working in their own borrowing member country who shall have their remuneration defined and paid in the currency of such country. No resources of the Fund shall be made available to cover amounts greater than the amount certified herein above for the implementation of this TC Brief. Amounts greater than the certified amount may arise from commitments on contracts denominated in a currency other than the Fund currency, resulting in currency exchange rate differences, for which the Fund is not at risk

**(ORIGINAL SIGNED)**

**07/01/08**

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Marguerite S. Berger, Chief  
VPC/GCM

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Date

## **XI. APPROVAL**

**(ORIGINAL SIGNED)**

**07/01/08**

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Marcelo Cabrol  
Chief SCL/EDU

\_\_\_\_\_  
Date

**A quantitative Assessment of Early Childbearing and Educational Trajectories  
(RG-T1576)**

**DETAILED BUDGET**

Activity	Days/Units	Persons	Cost	Total
<b>Component I - Literature Review &amp; Research Approach</b>				<b><u>10,000</u></b>
<i>(i) Literature Review</i>				<b><i>4,250</i></b>
Consultancy days junior level	9	1	250	2,250
Consultancy days senior level	5	1	400	2,000
<i>(ii) Research Approach</i>				<b><i>5,750</i></b>
Consultancy days junior level	15	1	250	3,750
Consultancy days senior level	5	1	400	2,000
<b>Component II - Multivariate Analysis</b>				<b><u>70,000</u></b>
<i>(i) Analysis Low Fertility Countries</i>				<b><i>18,500</i></b>
Consultancy days junior level	58	1	250	14,500
Consultancy days senior level	10	1	400	4,000
<i>(ii) Analysis Medium Fertility Countries</i>				<b><i>18,500</i></b>
Consultancy days junior level	58	1	250	14,500
Consultancy days senior level	10	1	400	4,000
<i>(iii) Analysis High Fertility Countries</i>				<b><i>18,500</i></b>
Consultancy days junior level	58	1	250	14,500
Consultancy days senior level	10	1	400	4,000
<i>(iv) Preparation of Reports and Articles</i>				<b><i>14,500</i></b>
Consultancy days junior level	26	1	250	6,500
Consultancy days senior level	20	1	400	8,000
<b>TOTAL</b>				<b><u>80,000</u></b>

Inter-American Development Bank  
Project Procurement Department (DEV/PRM)

**Project:** A Quantitative Assessment of Early Childbearing and Educational Trajectories  
**Operation number:** \_\_RG-T1576\_ and **Loan Contract/TC Agreement number:** N/A

**PROCUREMENT PLAN**  
**Simplified Model for Technical Cooperation up to \$150,000.00**

A) All contracts for the proposed TC will be carried out in accordance with the “**Policies for the Procurement of Goods and Works Financed by the Inter-American Development Bank**” (GN-2349-7), and “**Policies for the Selection and Contracting of Consultants Financed by the Inter-American Development Bank**” (GN-2350-7), and what is established in the Operative Plan’s Profile I *[if it correlates]* and the current Procurement Plan.

B) Executing Agency’s capacity and Procurement Supervision on the part of the Bank

*[In the cases of direct execution on the part of the Bank this section does not apply.]*

*N/A*

**Project:** A Quantitative Assessment of Early Childbearing and Educational Trajectories  
**Operation number:** RG-T1576\_ and **Loan Contract/TC Agreement number:** N/A

*[Procurement Plan for Consulting Services]*

Ref. No.	Description and type of the procurement contract	Estimated Contract Cost (US\$ 000)	Procurement method <sup>1</sup>	Review (ex-ante or ex-post)	Source of financing and percentage		Estimated Dates		Status (Pending, in process, awarded, cancelled)	Comments
					IDB %	Local / Other %	Publication of Specific procurement notice	Completion of contract		
	1. Consulting Services ○ Consulting Services 1 Multivariate analysis, senior consultant	US\$30,000	IICC	Ex-ante	100%	0%	n/a	April 2009	Pending	
	○ Consulting Services 2 Multivariate analysis, junior consultant	US\$40,000	IICC	Ex-ante	100%	0%	n/a	April 2009	Pending	

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National Advertising: Newspaper of national circulation or in the Official Gazette (if available through the Web), or on the electronic portal of free access where the Borrower advertises all government business opportunities. (If available).]

<sup>1</sup> **Consulting Firms:** QCBS: Quality- and cost –Based Selection; QBS: Quality Based Selection; FBS: Selection under a Fixed Budget; LCS: Least-Cost Selection; CQS: Selection based on the consultant' Qualifications; SSS: Single Source Selection. **Individual Consultants:** NICQ: National Individual Consultant selection based on Qualifications; IICC: International Individual Consultant selection based on Qualifications



**A QUANTITATIVE ASSESSMENT OF EARLY CHILDBEARING AND EDUCATIONAL  
TRAJECTORIES  
(RG-T1576)**

**REFERENCES**

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Manlove, Jennifer, Early Motherhood in an Intergenerational Perspective: The Experience of a British Cohort" in *Journal of Marriage and the Family*, Volume 59, Number 2, May 1997.

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Spivak, H. and Weitzman, M. “Social Barriers faced by adolescents and their Children” in *Journal of the American Medical Association*, Volume 11, 1987.

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Ziffer, Alicia, Promoción de la Equidad de Género en la Educación Básica – Programa Multifase para la Equidad de la Educación Básica, Santo Domingo, DR-T1021, January 2008.

**A QUANTITATIVE ASSESSMENT OF EDUCATIONAL TRAJECTORIES AND EARLY  
CHILDBEARING  
(RG-T1576)**

**TERMS OF REFERENCE**

**CONSULTANCY: SENIOR CONSULTANT**

**I. Background**

- 1.1 The total fertility rate has fallen in the Latin American and Caribbean (LAC) region since the 1970s. Until the end of the 1980s this tendency was also observed in the 15 to 19 year old age group. However, data from recent demographic and health surveys indicate that in many LAC countries adolescent fertility rates<sup>1</sup> have increased overall or for select quintiles of the population (Gwatkin et al, 2007). A quarter of women are mothers by age 19 in South America and by age 18 in Central America and the Caribbean. The contribution by women in the 15 to 19 age group to the total fertility rate has increased in almost all countries (ECLAC, 2006). This development contrasts sharply with the rest of the world, where decreases in the general fertility rates have been accompanied by reductions in adolescent fertility (UN, 2007). Only in Africa is the percentage of births to women under 20 years of age as high as in Latin America (16%), followed by 12% in North America, 8% in Asia and 7% in Europe (UNFPA, 2007).
- 1.2 Concerns about the elevated adolescent fertility rates in the region arise for several reasons. In the United States and Europe, a wide spectrum of studies has associated childbearing with long-term irreversible consequences for teenage mothers, including heightened risk of living in poverty, welfare dependency, marital instability, derailed education prospects, and intergenerational transmission of early parenthood (see e.g. Spivak et al, 1987 and Manlove, 1997). These findings were challenged in the 1990s by researchers who used natural experiments to document the effects of early childbearing, suggesting that the negative effects may be attributed to associated factors and may be transitory and that young mothers may overcome them over time (Geronimus and Korenman, 1992; Bronars and Jrogger, 1994; Hotz et al, 1997). More recent research has questioned the methodologies used in the natural experiments concluding that early childbearers today are at least as disadvantaged as teenage mothers in past generations and that early childbearing is an important policy issue (see e.g. Hoffman, 1998; Hofferth et al, 2001). In developing countries the research on the links between teenage childbearing and life outcomes is limited. In Latin America, based on studies from four countries – Barbados, Chile, Guatemala and Mexico – Buvinic concluded that early childbearing seems to entrench socioeconomic disadvantages that are present before teenagers enter motherhood.

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<sup>1</sup> The average number of births among women aged 15 to 19 years per 1,000 women in the age group.

- 1.3 In the area of education, research largely in the United States and Europe has estimated the effect of the age of first birth and educational outcomes. In the United States, teenage mothers have been found to complete 1.9 to 2.2 fewer years of schooling than women who delayed the birth of their first child until age 30 or older. The odds of teenage mothers completing high school are 10-12% of their childless peers and the odds of completing post-secondary education are 14-29% (Hofferth et al, 2001). In Sweden, in a study covering women born over three decades, the odds of teenage mothers having a low level of formal education are 70-90% higher as women who had their first child between 20 and 24 years of age. (Otterblad Olausson et al, 2001). In the case of teenage fatherhood, the effects on schooling and earnings are less clear-cut. A study in the United States found that although early fatherhood is associated with lower levels of schooling and census earnings, the effect is dampened once control variables are taken into account (Brien and Willis, 1997).
- 1.4 While information on the frequency of teenage childbearing in the LAC region is available through censuses and demographic and health surveys, the effects of adolescent childbearing on educational outcomes has not been assessed. The studies of Buvinic, on the links between early childbearing and poverty, did not assess the effects of early childbearing on educational outcomes. This lack of information is a problem to policy makers since they do not know if the negative educational outcomes of adolescent mothers reflect causality or simply correlation. If the answer is correlation, no specific education policy interventions or programs would be called for. If causality can be established, education policy makers have an important task to identify and apply the most effective responses to early childbearing.

## II. Objectives

- 2.1 **Overall objective.** The overall objective of the Consultancy is to assess whether education policies that seek to expand schooling opportunities for pregnant students and teenage parents could contribute to improved life outcomes.
- 2.2 **Specific Objectives.** To achieve this overall objective, the Consultancy will contrast the educational outcomes of teenage mothers with women who delayed childbearing. To the extent it is possible also the teenage fathers will be included in this analysis. To achieve this objective, the study would seek to answer the following research questions: What is the effect of early childbearing on high school graduation and higher education attendance rates? Does early childbearing impact the number of years of schooling completed by age 29? What is the cost in terms of foregone future earnings due to school dropout?

## III. Activities and Responsibilities

- 3.1 To achieve the objectives set forth above, the Consultancy will consist of two mutually reinforcing components: (i) Literature Review & Research Approach; and (ii) Multivariate Analysis.

- 3.2 The main activities to be developed by the Consultancy will be those that are described below, without prejudice to those activities that arise during the implementation and that are necessary to achieve the previously indicated objective.

**A. Literature Review & Research Approach**

- 3.3 The main activity of the Senior Consultant is to act as a methodological advisor who oversees, guides and closely reviews the research approach developed by the Junior Consultant.

**Activities:**

- a) Based on a rigorous literature and data review, identify 6 countries that will be included in the study. The countries will be selected to represent different stages in the demographic transition (with low, medium and high fertility levels).
- b) Develop a research approach for the analysis to be undertaken under Component II. Prior to initiating the work under Component II, the Bank should give its approval to the research design.

**Expected Products:**

- 3.4 Together with the Junior Consultant, the Senior Consultant should produce a short report, proposing a research approach.

**B. Multivariate Analysis**

- 3.5 The aim of this Component is to contrast the educational outcomes of teenage mothers with women who delayed childbearing. The main activity of the Senior Consultant is to oversee, guide and closely review the work of the Junior Consultant.

**Activities:**

- a) Based on data from demographic and health surveys (DHS) from 6 countries, use odds ratios to examine the effect of age at first birth among teenage mothers, and if possible fathers, on different educational outcomes (high school completion, college attendance, and years of schooling completed by age 29), using as comparison groups women who had their first child between 20 and 24 years of age and between 25 and 29 years of age and controlling for differences in the backgrounds of these mothers compared to later-fertility mothers. The control variables should include but are not limited to socio-economic factors, education of mothers, race, and area of residence (urban versus rural).

- b) If possible, to apply the Conditional Model of Unobservables (a method developed by Krauth 2005 and Altonji, et al, 2005 ) which will allow to explore the causal effect of the variable of interest that might be correlated with relevant unobserved variables.

### **Expected Products:**

- 3.6 Together with the Junior Consultant, the Senior Consultant should produce a report, detailing the results of the multivariate analysis and participate in co-authoring an academic paper based on the findings.

## **IV. Methodology**

- 4.1 Literature review and multivariate analysis of DHS surveys.

## **V. Products**

- 5.1 The expected products of the consultant are those listed above. It is expected that the reports will be presented to the Bank according to the following schedule:
  - a) Within two weeks after signing the consultancy contract, together with the Junior Consultant, the Senior Consultant will submit to the Bank for its review an annotated work plan with dates for delivery of products.
  - b) Within four weeks after signing the consultancy contract, together with the Junior Consultant, the Senior Consultant will submit to the Bank for its review a proposed research approach.
  - c) Within three months after signing the consultancy contract, together with the Junior Consultant, the Senior Consultant will submit to the Bank the analysis of two countries.
  - d) Within six months after signing the consultancy contract, together with the Junior Consultant, the Senior Consultant will submit to the Bank the analysis of two additional countries.
  - e) Nine months after the signature of the consultancy contracts, together with the Junior Consultant, the Senior Consultant will submit a draft report outlining the results of the complete multivariate analysis. The final report will be delivered two months later.

## **VI. Selection and Qualifications of the Consultant**

- 6.1 The Senior Consultant selected should have the following characteristics:
- 6.2 **Qualifications:** Ten years experience in quantitative research in the social sectors, including the use of econometric and statistical tools. Masters or

preferably PhD degree in Economics. Experience from education related research is preferable.

- 6.3 **Duration:** All consultant services should be completed within twelve (12) months as of the signature of the contract.
- 6.4 **Location:** The country of origin of the consultant.
- 6.5 **Timeframe:** Project will begin on 7 July 2008.

## **VII. Payment of Services**

- 7.1 Payments will be made according to the following schedule:
  - 40% upon receipt and approval of the work plan;
  - 20% upon receipt and approval of the first multivariate analysis;
  - 20% upon receipt and approval of the second multivariate analysis;
  - 20% upon receipt and approval of the final report.

## **A QUANTITATIVE ASSESSMENT OF EDUCATIONAL TRAJECTORIES AND EARLY CHILDBEARING**

**(RG-T1576)**

### **TERMS OF REFERENCE**

#### **CONSULTANCY: JUNIOR CONSULTANT**

### **I. Background**

- 1.1 The total fertility rate has fallen in the Latin American and Caribbean (LAC) region since the 1970s. Until the end of the 1980s this tendency was also observed in the 15 to 19 year old age group. However, data from recent demographic and health surveys indicate that in many LAC countries adolescent fertility rates<sup>1</sup> have increased overall or for select quintiles of the population (Gwatkin et al, 2007). A quarter of women are mothers by age 19 in South America and by age 18 in Central America and the Caribbean. The contribution by women in the 15 to 19 age group to the total fertility rate has increased in almost all countries (ECLAC, 2006). This development contrasts sharply with the rest of the world, where decreases in the general fertility rates have been accompanied by reductions in adolescent fertility (UN, 2007). Only in Africa is the percentage of births to women under 20 years of age as high as in Latin America (16%), followed by 12% in North America, 8% in Asia and 7% in Europe (UNFPA, 2007).
- 1.2 Concerns about the elevated adolescent fertility rates in the region arise for several reasons. In the United States and Europe, a wide spectrum of studies has associated childbearing with long-term irreversible consequences for teenage mothers, including heightened risk of living in poverty, welfare dependency, marital instability, derailed education prospects, and intergenerational transmission of early parenthood (see e.g. Spivak et al, 1987 and Manlove, 1997). These findings were challenged in the 1990s by researchers who used natural experiments to document the effects of early childbearing, suggesting that the negative effects may be attributed to associated factors and may be transitory and that young mothers may overcome them over time (Geronimus and Korenman, 1992; Bronars and Jrogger, 1994; Hotz et al, 1997). More recent research has questioned the methodologies used in the natural experiments concluding that early childbearers today are at least as disadvantaged as teenage mothers in past generations and that early childbearing is an important policy issue (see e.g. Hoffman, 1998; Hofferth et al, 2001). In developing countries the research on the links between teenage childbearing and life outcomes is limited. In Latin America, based on studies from four countries – Barbados, Chile, Guatemala and

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<sup>1</sup> The average number of births among women aged 15 to 19 years per 1,000 women in the age group.



Mexico – Buvinic concluded that early childbearing seems to entrench socioeconomic disadvantages that are present before teenagers enter motherhood.

- 1.3 In the area of education, research largely in the United States and Europe has estimated the effect of the age of first birth and educational outcomes. In the United States, teenage mothers have been found to complete 1.9 to 2.2 fewer years of schooling than women who delayed the birth of their first child until age 30 or older. The odds of teenage mothers completing high school are 10-12% of their childless peers and the odds of completing post-secondary education are 14-29% (Hofferth et al, 2001). In Sweden, in a study covering women born over three decades, the odds of teenage mothers having a low level of formal education are 70-90% higher as women who had their first child between 20 and 24 years of age. (Otterblad Olausson et al, 2001). In the case of teenage fatherhood, the effects on schooling and earnings are less clear-cut. A study in the United States found that although early fatherhood is associated with lower levels of schooling and census earnings, the effect is dampened once control variables are taken into account (Brien and Willis, 1997).
- 1.4 While information on the frequency of teenage childbearing in the LAC region is available through censuses and demographic and health surveys, the effects of adolescent childbearing on educational outcomes has not been assessed. The studies of Buvinic, on the links between early childbearing and poverty, did not assess the effects of early childbearing on educational outcomes. This lack of information is a problem to policy makers since they do not know if the negative educational outcomes of adolescent mothers reflect causality or simply correlation. If the answer is correlation, no specific education policy interventions or programs would be called for. If causality can be established, education policy makers have an important task to identify and apply the most effective responses to early childbearing.

## II. Objectives

- 2.1 **Overall objective.** The overall objective of the Consultancy is to assess whether education policies that seek to expand schooling opportunities for pregnant students and teenage parents could contribute to improved life outcomes.
- 2.2 **Specific Objectives.** To achieve this overall objective, the Consultancy will contrast the educational outcomes of teenage mothers with women who delayed childbearing. To the extent it is possible also the teenage fathers will be included in this analysis. To achieve this objective, the study would seek to answer the following research questions: What is the effect of early childbearing on high school graduation and higher education attendance rates? Does early childbearing impact the number of years of schooling completed by age 29? What is the cost in terms of foregone future earnings due to school dropout?

### **III. Activities and Responsibilities**

- 3.1 To achieve the objectives set forth above, the Consultancy will consist of two mutually reinforcing components: (i) literature Review & Research Approach; and (ii) Multivariate Analysis.
- 3.2 The main activities to be developed by the Consultancy will be those that are described below, without prejudice to those activities that arise during the implementation and that are necessary to achieve the previously indicated objective.

#### **A. Literature Review & Research Approach**

- 3.3 The purpose of this Component is to develop a research approach.

##### **Activities:**

- a) Based on a rigorous literature and data review, identify 6 countries that will be included in the study. The countries will be selected to represent different stages in the demographic transition (with low, medium and high fertility levels).
- b) Develop a research approach for the analysis to be undertaken under Component II. Prior to initiating the work under Component II, the Bank should give its approval to the research design.

##### **Expected Products:**

- 3.4 Together with the senior consultant, the Junior Consultant should produce a short report, proposing a research approach.

#### **C. Multivariate Analysis**

- 3.5 The aim of this Component is to contrast the educational outcomes of teenage mothers with women who delayed childbearing.

##### **Activities:**

- a) Based on data from demographic and health surveys (DHS) from 6 countries, use odds ratios to examine the effect of age at first birth among teenage mothers, and if possible fathers, on different educational outcomes (high school completion, college attendance, and years of schooling completed by age 29), using as comparison groups women who had their first child between 20 and 24 years of age and between 25 and 29 years of age and controlling for differences in the backgrounds of these mothers compared to later-fertility mothers. The control variables should include but are not limited to socio-economic factors, education of mothers, race, and area of residence (urban versus rural).

- b) If possible, to apply the Conditional Model of Unobservables (a method developed by Krauth 2005 and Altonji, et al, 2005 ) which will allow to explore the causal effect of the variable of interest that might be correlated with relevant unobserved variables.

### **Expected Products:**

- 3.6 The Consultancy should produce a report, detailing the results of the multivariate analysis and participate in co-authoring an academic paper based on the findings.

## **V. Methodology**

- 4.2 Literature review and multivariate analysis of DHS surveys.

## **V. Products**

- 5.2 The expected products of the consultant are those listed above. It is expected that the reports will be presented to the Bank according to the following schedule:
  - a) Within two weeks after signing the consultancy contract, together with the Senior Consultant, the Junior Consultant will submit to the Bank for its review an annotated work plan with dates for delivery of products.
  - b) Within four weeks after signing the consultancy contract, together with the Senior Consultant, the Junior Consultant will submit to the Bank for its review a proposed research approach.
  - c) Within three months after signing the consultancy contract, together with the Senior Consultant, the Junior Consultant will submit to the Bank the analysis of two countries.
  - d) Within six months after signing the consultancy contract, together with the Senior Consultant, the Junior Consultant will submit to the Bank the analysis of two additional countries.
  - e) Nine months after the signature of the consultancy contracts, together with the Senior Consultant, the Junior Consultant will submit a draft report outlining the results of the complete multivariate analysis. The final report will be delivered two months later.

## **VI. Selection and Qualifications of the Consultant**

- 6.1 The Consultant selected should have the following characteristics:
- 6.2 **Qualifications:** Five years experience in quantitative research in the social sectors, including the use of econometric and statistical tools. Masters degree in Economics. Experience from education related research is preferable.

- 6.3 **Duration:** All consultant services should be completed within twelve (12) months as of the signature of the contract.
- 6.4 **Location:** The country of origin of the consultant.
- 6.5 **Timeframe:** Project will begin on 7 July 2008.

#### **VIII. Payment of Services**

- 7.1 Payments will be made according to the following schedule:
- 40% upon receipt and approval of the work plan;
  - 20% upon receipt and approval of the first multivariate analysis;
  - 20% upon receipt and approval of the second multivariate analysis;
  - 20% upon receipt and approval of the final report.