

RESEARCH SUPPORT AGREEMENT

The Washington University (WU) and COLEGIO MAYOR DE NUESTRA SEÑORA DEL ROSARIO – School of Economics (COLLABORATOR) (hereinafter individually “Party” or collectively “Parties”) enter into this agreement to collaborate on certain research as further defined in the attached scope of work, (the “Project”). This Project will be conducted on a cost reimbursable basis between COLLABORATOR and WU.

Term

This Project period will be from March 1, 2020 through February 28, 2021.

Scope of Work

COLLABORATOR will perform the Project outlined in Attachment A, which is attached hereto.

Sum to be paid by the WU

WU will pay COLLABORATOR the sum of \$10,000.00 for this Project. WU will pay COLLABORATOR in accordance with the following payment schedule:

Upon contract execution:	\$2,500.00
On June 1, 2020:	\$2,500.00
On September 1, 2020:	\$2,500.00
Upon receipt of the final report:	\$2,500.00

Payment is subject to receipt of invoices from COLLABORATOR.

Termination

Either Party may terminate this agreement with 30 days written notice to the appropriate Party’s contact as shown in the Notice section of this agreement. In the event of early termination, COLLABORATOR shall be entitled to payment for costs incurred and non-cancellable obligations incurred prior to the effective date of termination.

Project Results

“Project Results” means the data, results and reports generated as a result of the Project, but does not include intellectual property. Each party hereby grants to the other party a fully paid-up, non-exclusive license to use such granting party’s Project Results for the recipient’s internal research, publication (subject to “Publication” section below) and education purposes.

Intellectual Property

Ownership of intellectual property, including all legal rights relating to inventions, patent applications, copyrights, trademarks, and any other legally protectable information, shall vest in the party whose personnel conceived the subject matter and first actually reduced the subject matter to practice, and such party may perfect legal protection therein in its own name and at its own expense.

Publication

It is anticipated that the parties will publish the Project Results jointly. The parties agree to abide by the policies of journals in which publications will appear as to such matters as the public release or availability of data related to the publication. Authorship of publications of the Project Results will be determined in accordance with academic standards and customs. One copy of all manuscripts will be submitted to WU at the time of publication.

If the parties decide not to publish the Project Results jointly, or no joint publication is released within a reasonable time, each party will have the opportunity to publish the Project Results. For independent publications or presentations by COLLABORATOR, COLLABORATOR shall provide WU a draft of proposed publications or presentations for review at least thirty (30) days prior to submission for publication

Liability

Each Party shall be responsible for its negligent acts or omissions and the negligent acts or omissions of its employees, officers, or director's, to the extent allowed by law.

Use of Name

No Party to this Agreement may use the name of any other Party or any of its employees, affiliates, contractors or agents in connection with any press release, advertising, promotional literature, or any other publicity matters without the prior written approval of such party; provided, however, that each Party may acknowledge in general terms the existence of this Agreement and Principal Investigators, as defined in Attachment A, may include this Agreement in external funding applications as Other Support.

Notice

Any notices required to be given hereunder should be directed to the appropriate party below:

The following contacts are responsible for the legal management of this Agreement.

THE WASHINGTON UNIVERSITY	COLLABORATOR
Megan M. White, JD Joint Research Office for Contracts One Brookings Drive, Campus Box 1054 St. Louis, MO 63130-4899 researchcontracts@wusm.wustl.edu 314-747-5292	Diego Bermúdez Rodríguez Diego.bermudez@urosario.edu.co Phone:+57-3008784538

The following contacts are responsible for the administrative and technical management of the project.

THE WASHINGTON UNIVERSITY	COLLABORATOR
Admin Contact: Meryl Kossmeyer, JD Email: makossmeyer@wustl.edu Phone: 314-747-5394 PI: Sanghmitra Gautam	Diego Bermúdez Rodríguez Diego.bermudez@urosario.edu.co Phone:+57-3008784538 PI: Paul Rodríguez.

Independent Contractor

The relationship of the Parties under this agreement is that of independent contractors and they are not agents, employees, partners or joint venturers of one another. No Party has the authority to bind any other Party in a contract or to incur any debts or obligations on behalf of any other party, and no Party (including any employee or other representative of a Party) shall take any action that attempts or purports to bind any other Party in contract or to incur any debts or obligations on behalf of any other Party, without the affected Party's prior written approval.

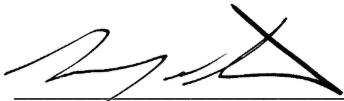
Integration

This agreement sets forth the entire understanding between the Parties and cannot be changed except by written agreement executed by an authorized representative of each Party

Counterparts, Electronic Signatures

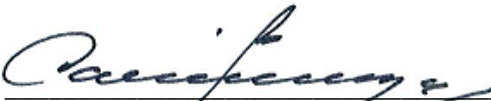
The Parties hereto represent and warrant that they person executing this Agreement on behalf of each Party has full power and authority to enter into this Agreement and that the Parties are authorized by law to perform the Project set forth above. This Agreement may be executed in counterparts, each of which shall be fully effective as an original, and all of which together shall constitute one and the same instrument. This agreement and related documents will be considered signed when the signature of a Party is delivered by facsimile or digital transmission to the other party. Such signatures shall be treated in all respects as having the same effect as the original signature.

THE WASHINGTON UNIVERSITY



Megan M. White 4/24/2020
Date
Director, Research Contracts
Joint Research Office for Contracts

COLLABORATOR



Carlos Eduardo Sepúlveda Rico Date: 2/04/2020
Dean at School of Economics
Colegio Mayor de Nuestra Señora del Rosario

ATTACHMENT A SCOPE OF WORK

CHILD HEALTH

Existing work at the intersection of development economics and early childhood development emphasizes the link between differential child investment and differences over the life-cycle of children e.g. human capital accumulation. For this reason, household investments are crucial during the first years of a child's life. Yet, such investments not only respond to expected outcomes of children but also to pressures coming from intra-household dynamics. For instance, it is well known that child related gender-preferences have an impact on maternal behaviors such as length of breastfeeding.

RESEARCH QUESTION(S) OF INTEREST

This project focuses on identifying the role of intra-household spouse interactions in shaping both maternal health during childbearing years and the consequent impact on child health.

There exist several distinct examples in the literature that have independently explored the relationship between the position of the woman within the household and health of household members e.g. women and children.

However, there exists a gap in a unifying empirical framework that can identify within household interaction and map observed behavior in the data to determinants of health and human capital outcomes of household members e.g. consumption patterns of mothers and children.

DATA

The primary data source for this project is drawn from the India Human Development Survey (IHDS). This is a publicly available dataset housed and developed with the Indian Census Bureau by research partners at the University of Maryland. The project also draws from several other existing data sources. These data sources include census data collected by the Census Bureau for Government of India along with detailed household panel. The specific data-sets include (i) the India Human Development Survey (IHDS), the National Family Health Survey (NFHS) and (iii) District Health Survey (DHS). These are household surveys (most often repeated cross sections) which include a wide range of characteristics of couples which allow to identify marriage market matches and intra-household bargaining power. Access for using these data sets have been already granted, and they can be linked with state and district level figures coming from administrative sources (such as 2001 and 2011 census).

STRUCTURAL APPROACH

In contrast to previous work on the topic. The focus of the paper would be to explicitly model intra-household behavior through a collective household framework. The model assumptions impose a structure on the data observed. This enables us to incorporate and rationalize several reduced form hypothesis simultaneously that may or may not be independent and thereby have confounding effects.

However, the numerous hypothesis across several strands of the literature have been treated as independent and explored in isolation.

WEIDENBAUM CENTER SMALL GRANT APPLICATION
21ST SEPTEMBER, 2019

SANGHMITRA GAUTAM
ASSISTANT PROFESSOR,
DEPARTMENT OF ECONOMICS,
WASHINGTON UNIVERSITY IN ST LOUIS

PROJECT TITLE: *Examining the role of intra-household bargaining in determining maternal and child health*

Project collaborator(s) PAUL ANDRES RODRIGUEZ LESMES, ASSISTANT PROFESSOR OF ECONOMICS, UNIVERSIDAD DEL ROSARIO.

RESEARCH OBJECTIVE

CHILD HEALTH

Existing work at the intersection of development economics and early childhood development emphasises the link between differential child investment and differences over the life-cycle of children e.g. human capital accumulation. For this reason, household investments are crucial during the first years of a child's life. Yet, such investments not only respond to expected outcomes of children but also to pressures coming from intra-household dynamics. For instance, it is well known that child related gender-preferences have an impact on maternal behaviours such as length of breastfeeding.

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RELATED LITERATURE

The impact of household bargaining on intra-household behaviour and health outcomes.

- **INTRA-HOUSEHOLD BARGAINING AND CHILDBEARING CAPABILITIES:** Calvi (2019) has emphasised a largely negative relationship between age and BMI. She argue that the reason behind is that women loose their bargaining power in the household once their ability to get pregnant declines. This is reflected in an increase of relative poverty of women within the household.

- **IMPACT OF MATERNAL HEALTH ON CHILD HEALTH ENDOWMENT:** Several papers have explored the relationship between maternal health and children's health endowment (e.g. height, birth weight) as indicative of early childhood development.

Most notably the observation made by Jayachandran and Pande (2017) where the pattern of child height at the country level is has a negative correlation with the birth order and gender of the children born within the household. The author's provide a unifying explanation for the results which relate to the position of the woman/mother, gender of her first born and allocation of resources to subsequent children.

Spears and Coffey (2019) explore a similar relationship and find a positive relationship between birth order and child height which contrasts with the finding in Jayachandran and Pande (2017). Spears and Coffey (2019) put forth the argument that the negative relationship noted by other papers in the literature is largely driven by lack of control for sibsize which differs in India compared to other countries in Africa. Once sibsize is accounted for Spears and Coffey (2019) find a positive relationship between birth order and child height.

- **ONGOING RESEARCH: MARRIAGE MARKETS AND ROLE OF SANITATION AS A PRE-MARITAL INVESTMENT**

This project also relates and expands on our broader research objective on the role of intra-household bargaining in informing policy design e.g. targeting of conditional cash transfers. In an earlier related project we have studied the role of women in determining patterns of household investment in preventive healthcare technologies e.g. sanitation. Previous analysis suggests that intra-household interactions are integral to the allocation and consumption of resources which in turn determines the health status of household members

OUTLINE OF RESEARCH DESIGN

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BUDGETED TIME AND FUNDS

Given the data heavy nature of the project drawn across multiple data sets. The budget request entail funds primarily towards research assistant time.

TASKS:

A substantial amount of the requested grant support would be to support research assistant time. The bulk share of time devoted to data cleaning and descriptive data analysis across and within data sets. The key initial task to be completed with the requested funds is an empirical/exploratory analysis of the existing multiple data sets.

BUDGETED TIME:

The total time allocated towards research assistance to be approximately 5-10 hrs per week covered over a period of 9-12 months. Total funds requested towards employing research assistance support approx USD 9,200.

Funds budgeted for research travel approximately USD 2,000. These funds would be used towards expenses incurred to visit co-authors and present current work.

WORK PRODUCT AND TIMETABLE

- **Over the next 6 months:** Descriptive analysis of the data-sets with respect to child height, given birth order and gender, and individual position within the household, and across households differing on the observed bargaining power of its members.
- **Over the next 8-12 months:** The dynamic collective model will be paired with the results from the data in order to asses predictions. Given this, the estimated model will allow us to simulate policies impacts on child height that either improve the bargaining power of women in the households, or social programs that provide external support to the household.