

The Implications of the Global Gag Rule on Family Planning Use in Peru and Bolivia

Avery Waite

Undergraduate Honors Thesis
Sanford School of Public Policy
Duke University
Durham, North Carolina
Fall 2014

Table of Contents

Abstract.....	3
Introduction.....	4
Main Question.....	5
Background	
i. United States International Family Planning Policy	5
ii. Health Systems of Peru and Bolivia	6
iii. Importance of Contraceptive Use.....	9
iv. The Determinants of Contraceptive Use.....	9
v. Argument.....	11
Hypotheses and Observable Implications.....	12
Methods and Data	
i. Data Sets.....	13
ii. Variables	16
iii. Data Analysis.....	17
Results	
i. Descriptive Statistics.....	19
ii. Time Trends in Contraceptive Use.....	20
iii. Regression Results.....	21
Limitations.....	25
Conclusion	
i. Use of Any Contraceptive Method Increased Over Time.....	26
ii. The Shift From Using No Method to Other Methods	26
iii. The Relationship Between the Global Gag Rule and the Use of Sterilization.....	27
iv. Policy Implications.....	28
Appendix	
i. Figure 1.....	29
ii. Figure 2.....	29
iii. Figure 3.....	30
iv. Figure 4.....	30
v. Figure 5.....	31
vi. Figure 6.....	31
vii. Figure 7.....	32
viii. Table 1.....	33
ix. Table 2.....	34
x. Table 2A.....	35
xi. Table 3.....	36
xii. Table 4.....	37
xiii. Table 5.....	38
References	39

Abstract

The implementation of the Global Gag Rule in 1984 meant that foreign nongovernmental organizations (NGOs) could not promote or perform abortions in order to maintain their aid from the United States. Although this policy focuses specifically on abortion, little research exists on the relationship between the Global Gag Rule and contraceptive behavior. Based on women's contraceptive choice data, this study uses a series of linear and fixed-effects regressions to determine changes in contraceptive behavior from 1990-2008 in Peru and Bolivia. Results indicate that during the George W. Bush administration, women had a lower probability of not using contraceptives and a higher probability of using traditional or folkloric methods than they did during the Clinton administration. Furthermore, women's risk of using tubal ligation was greater during the Clinton years compared to either Bush administration. The results suggest that the Global Gag Rule has real implications for women's contraceptive use, and that the implementation of this policy in the future will likely alter women's contraceptive choices and behaviors.

Introduction

President Ronald Reagan implemented the Global Gag Rule, also known as the Mexico City Policy, in 1984 at the United Nation's International Conference on Population (Crane, 2004). This policy prohibited NGOs from receiving United States aid unless they agreed not to advocate for the legalization of abortions or provide abortion referrals or services (O'Hanlon, 2009). Therefore, healthcare providers had to choose between offering these services to women and receiving United States aid. The policy has become a political football: it is repealed when a Democrat is in the White House, and reinstated when Republicans are in office (Smith, 2008).

Although the Global Gag Rule targeted abortion, the policy had other consequences for women around the world. Many developing countries no longer received contraceptive donations from the United States when the policy was in place (Crane, 2004). In addition, many NGOs and clinics in developing countries had to reduce their services or shut down due insufficient funding because they chose not to accept the restrictions (Cohen, 2003). Thus, the Global Gag Rule affected not only abortion services, but also services related to HIV, malaria, and contraceptives. Furthermore, the Global Gag Rule was unsuccessful in fulfilling its mission, as the number of safe and unsafe abortions in developing countries increased when it was in place (Crane, 2004).

The Global Gag Rule impacted many women's access to reproductive health services. This policy prohibited physicians from discussing abortion with women, regardless of the circumstances, and it forced international NGOs to decide between receiving United States aid and providing a full range of family planning services. This honors thesis explores how the Global Gag Rule affected women's contraceptive use in Peru and Bolivia.¹

¹ I choose these particular countries because of the existing datasets that have been collected over several years. In addition, I thought that the geographic proximity of Peru and Bolivia would provide an interesting comparison.

Main Question

How did the Global Gag Rule affect the use of family planning in Peru and Bolivia between 1990 and 2008?

Background

i. United States International Family Planning Policy

Support for international family planning has been controversial in United States for the past sixty years (Coleman, 2011). In 1965, the United States Agency for International Development (USAID) created its first family planning program to reduce fertility rates (O'Hagan, 2013). The Helms Amendment (1973), which outlawed the use of United States funds for abortions, was the first major piece of United States legislation concerning international family planning (KFF, 2014). In 1984, President Ronald Reagan expanded on the Helms Amendment by adopting the Mexico City Policy, commonly referred to as the Global Gag Rule (Crane, 2004). This policy states that foreign NGOs, in order to maintain their United States aid, cannot promote or perform abortions with any funding they receive (KFF, 2014). After its adoption, this policy became an instant target when party leadership changed in the White House. The Global Gag Rule was in effect under Reagan and George H.W. Bush from 1984 – 1992, repealed by Clinton from 1993-2000, reinstated by George W. Bush from 2001- 2008, and repealed by Obama in 2009 (Karimjee, 2011).

This instability in family planning policy led to varying levels of United States aid to developing countries. Under the Clinton administration, the United States was one of the largest distributors and purchasers of contraceptives internationally (UNFPA, 2008). In 1995, the United States made its largest family planning contribution in history, \$577 million (Crane, 2004). However, spending declined when Republicans took control of Congress in 1994 and reduced

USAID's reproductive health assistance (Crane, 2004). Figures 1 and 2 in the Appendix depict government spending on family planning, with aid fluctuating based on changes in Congress and White House leadership. As the figures indicate, funding levels to developing countries declined when the Republican Congress was elected during the Clinton administration.

When George W. Bush took office in 2001 and reinstated the Global Gag Rule, family planning aid for developing countries remained low. Prominent NGOs such as the International Planned Parenthood Federation and the United Nations Population Fund (UNFPA) lost funding because they would not accept the restraints, but hundreds of smaller NGOs agreed to the conditions of the policy (Crane, 2004). Under the Bush administration, family planning funding declined to \$394 million, making it difficult to accommodate the growing need for reproductive health services in developing countries (O'Hanlon, 2009). Figure 3 in the Appendix depicts United States family planning assistance over time adjusted for inflation, and it highlights the low family planning spending under the Bush administration (O'Hanlon, 2009).

In recent years, United States international family planning involvement has declined in Latin America (O'Hanlon, 2009). During the Bush administration, funding for Latin America declined from \$62.5 million to \$43.5 million (O'Hanlon, 2009). In 2002, Peru and Bolivia received \$14 million and \$13 million, respectively, but these numbers declined to \$5.2 million and \$9.1 million by 2007 (O'Hanlon, 2009). Under the Obama administration, Peru does not receive family planning assistance because they procure 100% of their needed contraceptives independently, and Bolivia receives around \$9 million (Bernier, 2012).

ii. Health Systems of Peru and Bolivia

A brief historical overview of Peru and Bolivia's health systems is necessary to understand the potential effects of the Global Gag Rule on contraceptive behavior. Compared to

Bolivia's system, Peru's health system is better able to procure and distribute contraceptives. In addition, Peru's health system provides contraceptives and family planning services through the public and private sectors at relatively low prices. While Bolivia's health system also relies on public and private provision, the supply of contraceptives is largely donation based. Without these donations, the price of contraceptives and family planning services would increase.

In 1985, Peru's Ministry of Health (MINSA) enacted the National Population Policy, which required the government to provide information and health services to people and help them make informed decisions about fertility (Gribble, 2007). From 1991-1995, the government replaced the National Population Policy with the National Family Planning Program, which focused on expanding family planning services to rural areas (Gribble, 2007). By 1995, MINSA provided free family planning services due to USAID donations (Gribble, 2007). However, USAID began reducing family planning and contraceptive aid to Peru in 1999, forcing MINSA to use public sector funds for contraceptives (O'Hanlon, 2009). Since 2005, Peru has obtained 100% of the contraceptives distributed by the public health systems with public sector funds, making it one of the few countries that was able to do so once USAID phased out donations (Dayaratna, 2006).

In Peru, the public and private sectors are responsible for distributing family planning supplies. MINSA obtains contraceptives from UNFPA, and distributes contraceptives through their facilities, which accounts for 60% of all family planning services (Dayaratna, 2006). Apoya a Programas de Población and INPPARES, two of the primary NGOs, distribute 30% of Peru's contraceptives at subsidized prices (Dayaratna, 2006). Finally, private sector pharmacies buy contraceptives from pharmaceutical companies, and they distribute 26% of the contraceptives

(Dayaratna, 2006). Cooperative purchases by NGOs allow Peruvians to obtain family planning like IUDs, condoms, and oral contraceptives at lower prices (Dayaratna, 2006).

Bolivia has made slower progress in family planning initiatives compared to other Latin American countries because they depend heavily on contraceptive donations. From 1996-1998, Bolivia offered its first free health plan, National Maternal and Child Insurance (SNMN), which covered 32 basic health services for pregnant women and children under five in public health facilities (Silva, 2010). From 1998-2003, the government implemented Basic Health Insurance (SBS), which provided all women of childbearing age with family planning and reproductive health services, and provided treatment and prevention of endemic diseases for everyone (Silva, 2010). Since 2003, the Universal Maternal and Child Insurance (SUMI) provides pregnant women (until six months after childbirth) and children under five with comprehensive care (Silva, 2010); the government expanded coverage to all women in 2005 (Bertrand, 2011). However, without United States donations, Bolivia would not be able to provide contraceptives for its population (Quesada, 2006).

In Bolivia, the public and private sectors distribute contraceptives. The UNFPA donates contraceptives to the Ministry of Health, which distributes them through their facilities for free (Quesada, 2006). PROSALUD, the primary NGO, receives USAID donations and distributes contraceptives through their own facilities and through other NGOs. However, PROSALUD has started charging a small users fee to accommodate the reduced quantity of USAID donations (Bertrand, 2011). Finally, the private sector distributes family planning materials from PROSALUD and international suppliers through pharmacies (Quesada, 2006). Like Peru, Bolivia has no local producers of contraceptives, and municipalities must obtain contraceptives at high prices due to the decentralized health system (Quesada, 2006). However, USAID's

contraceptive donations allow Bolivians to obtain contraceptives such as IUDs and injectables at artificially low prices (Quesada, 2006). Once the level of USAID contraceptive donations decreases, obtaining family planning services will be very expensive (Quesada, 2006).

iii. The Importance of Contraceptive Use

Contraceptive use is necessary for women to plan their families and have more control over their futures. Globally, over 200 million women would like to avoid getting pregnant, and contraceptives are their way to do that (IPPF, 2013). With insufficient access to family planning and a growing number of unplanned births, women are more likely to face conflict in their relationships, elevating their odds of depression and anxiety (Sonfield, 2013). In addition, large family size and closely spaced births are associated with parents' decreased investment in their children (Frenette, 2011), which could negatively affect a child's development and educational achievement in the future (Sonfield, 2013). Existing research has also found a relationship between young, unmarried women's access to the pill and attainment of higher education. Teenage pregnancy is associated with a decrease in the likelihood a girl will graduate from high school or pursue higher education (Hock, 2008). Finally, earlier access to contraceptives is linked to a decrease in the wage gap between working mothers and women without children, thus providing women with a sense of economic empowerment (Sonfield, 2013). Therefore, a woman's access to contraceptives allows her to take a more active role in the work force, have more stable relationships, and invest more in the lives of her children and their futures.

iv. Determinants of Contraceptive Use

Certain demographic determinants and socioeconomic indicators are associated with women's family planning use and behavior worldwide. These factors include socioeconomic status, geographic location, relationship status, and education. Studies show that women from

lower socioeconomic backgrounds (Dehlendorf, 2010; Creanga, 2011; Singh, 2001; Jain, 2010) and rural areas (Beyene, 2013; El-Zanaty, 1996; Dobie, 1998; Ugal, 2009) are less likely to use and have restricted access to contraceptives compared to wealthier or urban women. The relationship between contraceptive use and partnership is less clear, with some studies finding that married women use family planning more often than unmarried women (UBOS, 2012; Li, 2013), and others concluding the opposite (Jones, 2012). Finally, education is an indicator of family planning use and fertility. Compared to uneducated woman, those who are educated have higher rates of family planning use (Shapiro, 1994; Mosher, 2004) and smaller, healthier families (Martin, 1995; Reading, 2011).

Latin America has the largest gap in contraceptive use between the wealthy and poor worldwide, especially when considering the modern contraceptive prevalence rate (MCPR) and unmet need (Gakidou, 2007). MCPR is the percent of women of reproductive age using a modern method, whereas unmet need refers to women who are fertile, sexually active, and not using contraceptives, despite not wanting to have another child (WHO, 2014). The average MCPR in Latin America is 67% (Bertrand, 2011). For poor and wealthy Bolivian women, the MCPR is 25% and 47%, respectively (Bertrand, 2011), and unmet need drops from 34% to 10% (Gribble, 2012). In Peru, MCPR for poor and wealthy women is 40% and 51% (Foreit, 2010), and unmet need drops from 15% to 3.1% (Population Reference Bureau, 2013).

Geographic location is another determinant of family planning use, with urban women using contraceptives more than rural women (Jelin, 2003). In Bolivia, a 15% gap in MCPR exists between urban and rural areas (Snow, 2011), and 30% of the women with unmet contraceptive needs reside in rural Bolivia (Westoff, 2006). The MCPR for rural and urban Peruvian women jumps from 33% to 54% (Dayaratna, 2006), and 12% of rural women have an unmet family

planning need (Dayartna, 2006). In both countries, urban women have greater access to public health services because of the high concentration of health facilities in cities (Silva, 2010; Bertrand, 2011).

Family planning programs often target married women, whose contraceptive use increased from less than 10% to about 60% in developing countries between 1960 and 2000 (Cleland, 2006). In Peru, the MCPR for married women remained around 50% from 2000-2009, but in Bolivia it increased from 25% to 35% between 1998- 2008 (Snow, 2011). In addition, only one-third of all married Bolivian women use highly effective contraceptive methods (female sterilization, injectable, or the pill), and one-quarter rely on less effective, traditional means like the rhythm method (Bertrand, 2011). Among single women ages 15-24 in both countries, periodic abstinence is the most widely used method. Condom use among single women is low, with an average of 20% and 10% use in Peru and Bolivia, respectively (Ali, 2005).

The relationship between contraceptive use and education holds true in Peru and Bolivia. Unmet need of women without formal education versus educated women is 16% and 0% in Peru (Dayaranta, 2006), and MCPR increases with each successive educational level (Heaton, 1998). In Bolivia, unmet need drops from 28% to 16% (Hussain, 2007) and MCPR increases from 22% to 44% for uneducated and educated women, respectively. Finally, educated women in both countries have greater knowledge of fertility and procreation (Tuman, 2007), which is associated with smaller families and increased opportunities outside of the home (WHO, 2013).

v. *Argument*

This project will investigate whether a relationship exists between the Global Gag Rule and women's use of family planning services. More specifically, it examines if women's overall use and contraceptive method choice changed in relation to the presence of the Global Gag Rule.

Use and method type might have changed if there was greater uncertainty about birth control and increased instability from healthcare providers due to lack of funding from the United States, making it more difficult to access contraceptives.

Hypotheses and Observable Implications

When the Global Gag Rule is in effect:

Hypothesis One: Fewer women use any form of family planning.

The observable implication for this hypothesis is that use of all kinds of family planning might decrease when the Global Gag Rule is in effect.

Hypothesis Two: Women switch to more traditional methods.

During the years of the Global Gag Rule it is possible that women switched to traditional methods because modern methods are harder to obtain.

Hypothesis Three: More women use a permanent family planning method.

It is possible that women's use of permanent methods will increase because abortions will be more difficult to access with fewer available clinics.

I examine the effect of the Global Gag Rule on contraceptive practices over time to test the validity of these hypotheses.

Methods and Data

This project uses statistical techniques to compare women's reported contraceptive behaviors when the Global Gag Rule is in effect to their behaviors when it is not, and to compare behaviors within countries. Since the Demographic and Health Surveys (DHS), described below, use the same basic survey model for all countries, it is possible to make cross-country comparisons. A series of linear regressions tests relationships between control variables and the

dependent variables associated with each hypothesis in order to provide insight into the relationship between the Global Gag Rule and contraceptive behavior in these countries.

i. *Data Sets*

To investigate this research question, five data sets from the DHS were used to analyze the variation in family planning use in Peru and Bolivia. DHS conducts nationally representative population-based surveys of reproductive health, family planning, and socioeconomic status in dozens of countries around the world. These surveys are conducted in partnership with an implementing agency in each country, often a National Statistical Office or the Ministry of Health (Ochoa, 2001). To keep data comparable across countries, DHS questionnaires are standardized.

DHS questionnaires include a household roster and information about housing characteristics. Any woman between the ages of 15 and 49 is also interviewed regarding demographic characteristics, reproductive health behavior and intentions, and contraceptive use. These interviews last about 40 minutes, and women's response rate in Latin America was 92% (Vassen, 2005). This response rate varied little across countries within the same region. Responses to the women's questionnaire will be used to answer this research question.

The surveys also include retrospective information on family planning and fertility outcomes that go back 80 months from the interview date. By reconstructing the contraceptive calendar, it is possible to see whether the same woman changed her family planning behavior over time. A contraceptive calendar is only available in surveys for Peru because Bolivia is a low contraceptive prevalence country, for which DHS uses a survey model with less detail on contraceptive questions. However, Bolivian participants answered questions about current

contraceptive use and family planning knowledge, providing an interesting comparison. Note that variables had the same meaning in each survey used in this study.

This study will focus on five cross-sectional DHS surveys: 1996, 2000, and 2004 for Peru and 1998 and 2003 for Bolivia. These years span a period before and after the Global Gag Rule was in place. The data presented in Figure 4 (see Appendix) shows the fraction of Peruvian women reporting about their contraceptive behavior during the various presidential administrations. Respondents to the 1996 survey report all of the data during the George H.W. Bush administration, and respondents to the 2004 survey report all of the data for the George W. Bush administration. However, women from all three surveys report their contraceptive behavior during the Clinton administration, because they report back 80 months from the date of the interview in the contraceptive calendar. For Bolivia, the 1998 survey contains reports about contraceptive behavior during the Clinton administration (no Gag Rule), and the 2003 survey covers the George W. Bush administration (Gag Rule in place). The surveys from Bolivia have sample sizes of 11,187 in 1998 and 17,654 in 2003. In Peru, the number of women sampled ranged from 27,843 (2000) to 28,951 (1996) to 41,648 (2004-2008).

Varying lengths of data collection for each survey requires that age act as a control variable in the regression models. New women are added with each survey, and the contraceptive calendars for different surveys overlap. For example, the calendars from the 1996 survey cover behaviors reported retrospectively by respondents to both the 1996 and 2000 surveys. This is important to note because women from an earlier survey will be older than those reporting from a later survey on a specific date. At the beginning and ending of these points of overlap in the contraceptive calendars, there will be abrupt changes in average age of respondents and these changes could generate spurious results. This is illustrated in Figure 5 (see Appendix), which

tracks the average age of women in each month of the contraceptive calendar. The abrupt declines in the average age graph are driven by the addition of younger women from a new survey year. Furthermore, the 2004 survey involved several repeated cross-sections, with annual sample refreshment; this refreshment leads to more drops in the average age line than there would have been if the survey involved only one cross-section based on one sample. In order to ensure that the dynamics indicated in Figure 5 do not generate inaccurate results, regressions always include controls for women's ages in each month.

Throughout the surveys, women are born in later years and are part of different birth cohorts (Figure 6 in the Appendix). A 19 year old when George H.W. Bush was president is likely very different from a 19 year old during the George W. Bush years due to the different cultural and political environments from the late 1980s to the mid-2000s. Ultimately, these differences could result in a change in contraceptive behavior and knowledge. Therefore, controlling survey year in the regression models is essential.

Finally, the data in each survey has been cut off one year from the last month of interviews (January 1996 for the 1996 survey, January 2000 for the 2000 survey, and January 2007 for the survey beginning in 2004). Although these are the months when the interviews took place, fewer women report on each of these months because of the retrospective nature of the contraceptive calendar. In the last month of interviews, fewer women reported compared to the previous months because each woman is asked to report on her contraceptive use in the 80 months prior to the interview. Therefore, a universal decline or increase appeared in the graphs of many variables. This decline was associated with a smaller number of women reporting in that month, and not due to an actual effect or time trend.

ii. *Variables*

Dependent Variables

The dependent variables together identify all the possible contraceptive behaviors that a woman could report. Contraceptive methods were classified into one of three categories: modern methods, which include oral contraception, intrauterine device (IUD), diaphragm/foam/jelly, injections, condom, tubal ligation (sterilization), vasectomy, and medical abortion; traditional methods, which include periodic abstinence, withdrawal, lactational amenorrhea (breastfeeding), or complete abstinence; and folkloric methods, which are often country specific.

Based on this classification, the dependent variables in all analyses are: a) using any method of contraception (in some regressions, expressed as its complement— using no method), b) using any modern, reversible methods, c) tubal ligation, and d) using any traditional or folkloric methods, medical or spontaneous abortion, or vasectomy. Each of these variables is coded dichotomously, where 1 indicates that a woman reports using that method and 0 indicates that she did not report using that method. If a woman reports using more than one method, DHS ranks modern methods over the other categories, followed by traditional methods and folkloric methods. Therefore, if a woman reports using *both* a traditional and a folkloric method, she will be coded as using a traditional method since traditional methods outrank folkloric ones.

Independent Variables of Primary Interest

The independent variables of interest were two dichotomous variables that indicated whether or not the Global Gag Rule was in place. The first specifies the time period when George H.W. Bush was president, and the second indicates when George W. Bush was in office. I divided the two Bush administrations into separate time periods because many methods were more accessible during the second Bush administration than they were during the first.

Other Independent Variables

Education is measured as the highest education level attained, and the choices are no education, primary (completed primary school), secondary (completed high school), and higher education. These four categories are coded as a series of dichotomous indicators.

The DHS surveys do not directly ask about income, so this study uses the DHS wealth index, which is based on data about a household's ownership of certain items, such as bicycles or televisions, access to water and sanitation facilities, and the materials the house is made of. Using principal components analysis (PCA), DHS took each individual household and put it on a scale of relative wealth. Based on that scale, indicator variables are included that identify whether a respondent's household was in the lowest, second, middle, fourth, or highest wealth quintile.

Marital status measures the current marital status of the respondents during the month of the interview. Respondents can choose between never married (single, not in a romantic relationship), married, living together, widowed, divorced, and partnered but not living together.

Regressions also include controls for number of children, survey year, and urban/rural status. Number of children is controlled using dichotomous indicators to identify whether a woman has no children, one to four children, or five or more children.

iii. Data Analysis

Linear Regressions

The following equation will be used to test the hypotheses.

$$\text{Dependent variable} = a + \beta_1\text{Bush1} + \beta_2\text{Bush2} + \beta_3\text{controls} + e$$

To test hypothesis one, the dependent variable was if a woman is using any contraceptive method; to test hypothesis two, separate regressions were run using four different dependent

variables: using no method, using a modern reversible method, using tubal ligation, or using a traditional, folkloric, or other method; to test hypothesis three, the dependent variable was tubal ligation (sterilization).

The coefficients of the independent variables (Bush 1 and Bush 2) indicate if a woman's risk of using a certain family planning method changed. Positive coefficients of the Gag Rule variables would indicate that a larger fraction of women used that method when the Global Gag Rule was in place compared to when it was not; negative coefficients would indicate the opposite.

To gain a better understanding of main model used to test hypothesis one, a series of eight supplementary models was used; in the first model, the Gag Rule indicators were the only independent variables; in each of the next seven, the following sets of control variables were added one after another: respondent's age, number of children, survey year, marital status, education, wealth, and geographic location. Building up to the main regression model in this way allowed me to observe how robust the observed associations between the Global Gag Rule and behavior are to including each set of controls.

To investigate whether or not women switched between method categories for hypothesis two, a series of linear regressions was used, which combines differences between different women and difference within the same woman across time periods. In addition, all regressions used to analyze hypothesis two were stratified on geographic location and education to see how the risks of using contraceptives varied for women with specific characteristics.

Fixed-Effects Regressions

To further investigate the second hypothesis about women switching between method categories, a series of fixed-effects regressions was used, which isolate only differences in

behavior within an individual woman at different points in time. Fixed-effects regression models are useful in this situation because they measure changes in an individual woman throughout her lifetime, but can only be estimated when the same woman's behavior is observed at multiple points in time. With DHS data, this is possible due to the retrospective contraceptive calendar. These models only included control variables that varied throughout the calendar (gag rule variables, children, and age); the effects of control variables that do not vary over time are absorbed in the woman fixed effect and so they could not be separately included in the regression.

Results

i. Descriptive Statistics

The following descriptive statistics highlight important differences in the characteristics of the women in Peru and Bolivia. Table 1 (see Appendix) describes the sample of 127,283 women interviewed across various survey years, of whom 98,442 (77.3%) are Peruvian and 28,841 (22.7%) are Bolivian. The average age of respondent women in both countries is around 29; age remains the same across survey years. The fraction of respondents who had never married at the time of the interview was 31.7% in Peru and 32.2% in Bolivia. In Bolivia, 42.6% of respondents were married compared to only 31.2% of Peruvian women. As to education, the largest fraction of Peruvian respondents had a secondary education, followed by women with a primary education. A greater fraction of Bolivian respondents had a primary education compared to a secondary education.

The distribution of women across wealth quintiles and geographic location was similar in both countries. An average of 16.8% of women came from the lowest wealth quintile in Peru and Bolivia. In the other four wealth quintiles, the fraction of women ranged from 18.5% to 22.7%.

Each quintile does not contain the same fraction of women because wealth quintiles were based on household information, and not every household had women respondents. In addition, the fraction of Peruvian and Bolivian women residing in urban areas was 63.8% and 66.0%, respectively.

Overall use of contraceptives in both countries was low: 54.4% of Peruvian women and 63.9% of Bolivian women reported that they were not currently using a contraceptive method.² In Peru, 23.3% of women used reversible methods and 15.9% used other methods, whereas in Bolivia, women's uses of reversible methods (15.9%) and other methods (15.6%) were similar, but use of sterilization was low.

ii. Time Trends in Contraceptive Use

The descriptive statistics indicate that contraceptive behavior changed over time. In addition to presenting overall statistics for each country on contraceptive use, Table 1 breaks contraceptive method categories down by survey year. In Peru, 6.4% of respondents to the 1996 survey had a tubal ligation. By 2000, this fraction increased to 8.0%, but then dropped to 7.1% by 2004. In Bolivia, the rate of sterilization increased very little between 1998 and 2003. Use of reversible methods increased over time in both countries. From 1996 to 2004, the use of reversible methods increased from 20.2% to 25.3% in Peru and from 11.6% to 18.7% in Bolivia. Over time, rates of using no method decreased in both countries. In Peru, 58.2% of women were not using contraceptives in 1996 compared to 51.5% in 2004. In Bolivia, the fraction of women not using contraceptives decreased between 1998 and 2003 from 69.7% to 60.2%. Finally, the use of other methods increased over time according to the later surveys from Peru and Bolivia.

² As a point of comparison, the fraction of women in Latin America who report that they are using a contraceptive method is 62% (Doskoch, 2013).

The graphical representation of the time pattern in tubal ligation in Peru appears different in the Clinton administration than it does in the George H.W. Bush and George W. Bush administrations. Figure 7 in the Appendix shows the percentage of women who reported having had a tubal ligation, broken down by survey. In all three surveys, the percentage of sterilized women increases over time, because women will be older on average later in the surveys, and older women are more likely to be sterilized than younger women. The large decline at the end of the 2000 survey can be attributed to fewer women reporting in the final months of the survey as compared to previous months.

iii. Regression Results

Due to the absence of the same level of information from the Bolivia data, the following results focus primarily on the findings from Peru.

Hypothesis One Results: When the Global Gag Rule is in place, do fewer women use any form of family planning?

This study uses a series of linear regression models to address the first hypothesis. Table 2 (see Appendix) summarizes the results of the Gag Rule variables across the eight models. According to the regression outputs, women during the George H.W. Bush administration had a lower risk of using a contraceptive method compared to the Clinton years. However, their risk of using family planning increased during the George W. Bush administration. In addition, the coefficients of the Gag Rule variables change with the addition of each control variable. Therefore, Models 1 through 7 indicate how much of the observed differences in Model 8 can be attributed to the Global Gag Rule. The greatest change in the coefficients occurs when survey year is added into the regression model, which highlights the importance of accounting for changing norms and other social changes that came with the passage of time.

The main results (Model 8) indicate that compared to the Clinton years, a woman's risk of using any contraceptive method was 4.23 percentage points lower during the George H.W. Bush administration. However, during the George W. Bush administration, a woman's risk of using any method was 1.31 percentage points higher than it was during the Clinton administration. Therefore, overall levels of contraceptive use increased over time.

The complete regression outputs can be seen in Table 2A (see Appendix). Looking across all eight models, it is clear that teenagers have a much lower risk (9.34% in Model 8) of using contraceptives compared to women in their twenties, and women in their thirties have an increased risk (4.78% in Model 8) of using a family planning method. Before controlling for the number of children already born in Model 3, women over forty had a greater risk of using a family planning method, but the results beyond Model 3 indicate that women over forty with a given number of children are less likely to use contraception than women who have had the same number of children, but who are twenty years younger.

The addition of the other control variables provides insight into the relationship between certain characteristics and contraceptive use. Relative to women with one to four children, women without children and women with five or more children were less likely to use contraceptives. Furthermore, the addition of survey year shows that over time, women's risk of using family planning increases. In Model 8, a woman's risk of using contraceptives was 2.11 percentage points higher in the 2000 survey and 6.23 percentage points higher in the 2004 survey than it was in the 1996 survey. A number of other characteristics were associated with increased contraceptive use including being married or living with a partner, having a higher education, being in the highest wealth quintile, and living in an urban area.

Hypothesis Two Results: When the Global Gag Rule is in place, do women switch to more traditional methods?

A series of models was used to detect whether or not women switched between method categories. As shown in Table 3 (see Appendix), results indicate that women were less likely to have had a tubal ligation during the two Bush administrations than they were during the Clinton years (see All Women row). During the George H.W. Bush administration, the fraction of women using contraceptives was 4.23 percentage points higher compared to women during the Clinton administration. However, more women were using contraceptives during the George W. Bush administration, and the coefficients suggest that they moved from using no method to using reversible and other contraceptive methods.

When these regressions are stratified on education and geographic location, women were more likely to use certain contraceptive method categories over time. Women had an increased risk of not using contraceptives when George W.H. Bush was president, and a decreased risk of not using family planning when George W. Bush was in office. During the later Bush administration, when women moved out of the not using category, they started using other methods and reversible methods. With the exception of women with no education, this finding held true when stratified on education and geographic location. However, for women with no education, neither of the Gag Rule coefficients was statistically significant for other methods. Finally, during both Bush administrations, women had lower risks of using sterilization.

To further investigate these findings, a series of fixed-effects regressions was used to determine changes in contraceptive behavior in each woman over time. Results from these regressions are shown in Table 4 (see Appendix). All women had a higher risk of not using contraceptives during the George H.W. Bush administration compared to the Clinton years.

Furthermore, women's risks of using sterilization, reversible, or other methods were lower when George H.W. Bush was in office. However, with the exception of women with no education, women had a lower risk of not using contraceptives when George W. Bush was in office, and a greater risk of using other methods. In addition, women had a lower risk of using reversible methods when George W. Bush was in office compared to the Clinton years. Stratifying on education and geographic location reveals that less educated and rural women drive these patterns.

Hypothesis Three Results: When the Global Gag Rule is in place, do more women use a permanent family planning method?

The linear regression outputs summarized in Table 5 (see Appendix) indicate that when the Global Gag Rule was in place, women had a decreased risk of using sterilization. Compared to the Clinton years, women's risk of undergoing tubal ligation was 0.47 percentage points lower during the George H.W. Bush administration and 0.70 percentage points lower during the George W. Bush administration. Both of these percentage decreases are statistically significant. This finding holds true when the sterilization regressions are stratified on education and geographic location. In each of these instances, the coefficients of the Gag Rule variables are negative, indicating that women during either Bush administration have a lower risk of using sterilization (see Table 3).

The coefficients of the control variables indicate other interesting relationships between the use of sterilization and certain types of women. Teens, women in their thirties, and women in their forties all had a greater risk of using sterilization compared to women in their twenties. In addition, women who have more than four children, a primary or secondary education, or who live in a rural area have a greater risk of using sterilization. Compared to women who are not

married, women who are married, living together, or divorced all have higher risks of using sterilization, but widows and women not living with their partners had lower risks. Finally, compared to women in the highest wealth quintile, women in the lower quintiles had a decreased risk of using sterilization.

Limitations

The goal of this study was to examine the relationship between the presence of the Global Gag Rule and contraceptive use in Peru and Bolivia. Many important control variables such as education, geographic location, wealth, and number of children were included in the analysis. However, other important characteristics such as the political, social, and economic situations in these countries from the late 1980s through the mid-2000s were not included in the analysis. It is likely that the political or economic environment at the time might also account for some of the variation in the models that were not explained by this study.

The accuracy of the contraceptive calendar is another potential limitation of this study. The survey requires that women recollect information about their contraceptive use for the 80 months prior to the interview. While the interviewers use months when a woman gave birth to anchor their memories, some women may not have been able to accurately report their contraceptive behaviors, even with the help of those salient events to guide them.

Finally, because Bolivia is a low contraceptive prevalence country, the contraceptive calendar was not recorded in the Bolivia surveys. Therefore, I was unable to perform the same level of analysis for Bolivia as for Peru and to undertake a more precise comparison of both countries. This discrepancy in availability of data has to that extent limited the scope of this study.

Conclusion

This study examined the relationship between women's contraceptive use and the presence of the Global Gag Rule. Using five DHS datasets, a series of linear and fixed-effects regressions was run to determine changes in contraceptive behavior between 1990-2008 in Peru and Bolivia. Access to contraceptives is important for women around the world because it is linked to higher levels of educational achievement for women, greater workplace participation for women with children, and an increased investment in each child a woman has. The results suggest that the Global Gag Rule has real implications for women's contraceptive use, and that women's contraceptive choices change depending on the status of the Global Gag Rule.

i. Use of Any Contraceptive Method Increased Over Time

The hypothesis one results indicate that the use of any contraceptive method increased over time, as women had a lower risk of using a method during the George H.W. Bush administration, but a greater risk of using a method when George W. Bush was in office. This finding does not support hypothesis one, which stated that use of any contraceptive method would decrease when the Global Gag Rule was in effect. The increased use of contraceptives over time could be attributed to greater availability, increased knowledge of side effects and effectiveness, and acceptance of contraceptives. With this increased acceptance, more women were able to use family planning compared to in the earlier years when contraceptives were more controversial.

ii. The Shift From Using No Method to Using Other Methods

The results of this study, which support hypothesis two, found that during the George W. Bush administration, women had a lower risk of not using family planning compared to the Clinton years. In addition, women who started using contraceptives switched into the "other"

method category; most of the contraceptive behaviors in this category are less effective than modern reversible methods. For example, the most commonly used methods in this category are periodic abstinence and withdrawal, which are less effective than modern reversible methods such as oral contraception or IUDs. This indicates that women were trying to control their fertility because they report using a contraceptive method, but may nonetheless have been less likely to achieve their family planning objectives using the methods they chose.

The switch from no method to other methods can likely be explained by the closing of clinics due to the funding cuts during the Global Gag Rule. Using a traditional or a folkloric method does not require women to meet with a doctor or visit a clinic, as knowledge of these methods is typically passed down from generation to generation. However, using a permanent or reversible modern method requires women to visit a health clinic in order to obtain her method of choice. With fewer clinics available when the Global Gag Rule was in place, many women did not have access to effective contraceptives.

iii. The Relationship Between the Global Gag Rule and the Use of Sterilization

During both Bush administrations, a woman's risk of undergoing tubal ligation was lower than it was during the Clinton administration. This held true when the regressions were stratified on education and geographic location. These results do not support hypothesis three, which stated that women's use of permanent family planning methods would increase when the Global Gag Rule was in place. An explanation for the decline in the use of sterilization during the years when the Global Gag Rule was in place also has to do with the closing of clinics and restricted access to doctors. Tubal ligation is an invasive procedure that requires a trained professional to perform the operation. Therefore, with fewer available clinics, women's access to trained health personnel was restricted, and they were more likely to use a different contraceptive method.

iv. Policy Implications

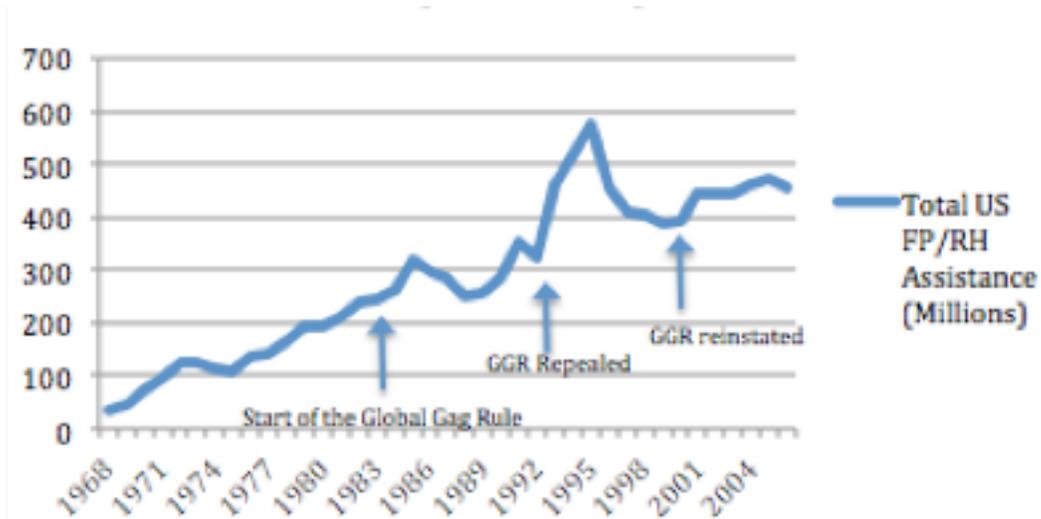
Given the history of the Global Gag Rule, it is likely that the next time a Republican is elected to the White House, this policy will be reinstated. Democrats are currently trying to pass the Global Democracy Protection Act, a piece of legislation that would permanently repeal the Global Gag Rule, but they are having a difficult time garnering support in Congress. Therefore, it is likely that the Global Gag Rule will be reinstated in the future. While this policy does not directly affect United States citizens, it does impact women and families in all countries around the world that seek monetary assistance or contraceptive donations from the United States.

This study has found that the Global Gag Rule is associated with a change in contraceptive use and behavior, especially when it comes to sterilization and the use of other methods. When this policy is reinstated in the future, many women may start using ineffective folkloric or traditional methods instead of more reliable forms of family planning like reversible modern methods. In addition, the rate of tubal ligation may also decrease due to the limited access to healthcare professionals and clinics.

Ultimately, reduced access to an array of family planning methods could lead to a growing rate of unplanned pregnancies and an increase in the number of abortions, which defeats the intended purpose of the Global Gag Rule. The results of this study have shown that the Global Gag Rule has real implications for women's contraceptive choice and behavior. In the future, United States policy makers need to be aware of the power that this policy has over contraceptive use and not just its effects on abortion. Furthermore, this policy has greater implications for women who are poorer, have lower educational achievement, or live in rural areas. Access to contraceptives will give women greater control over their own lives, and allow them to safely and accurately control their fertility.

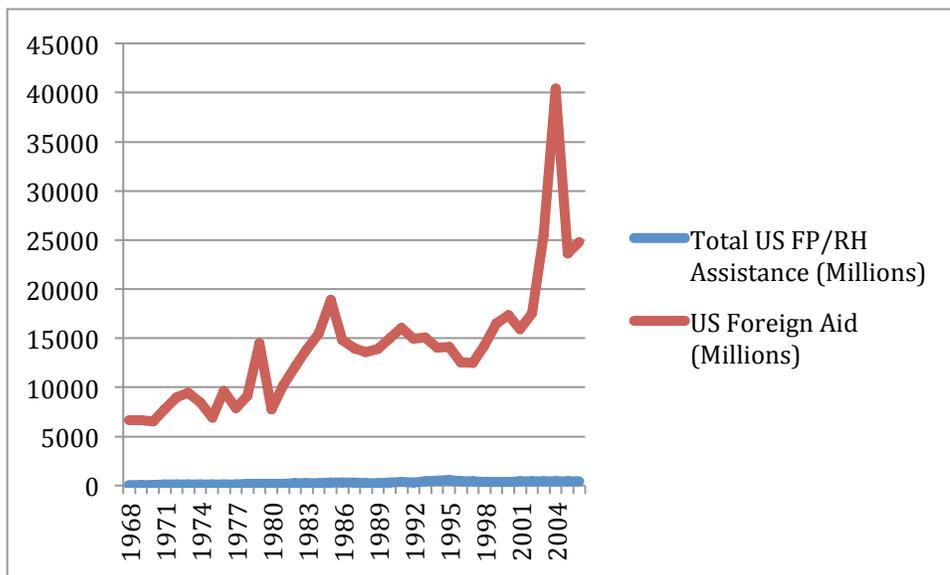
Appendix

Figure 1: Total United States Family Planning and Reproductive Health Assistance (Millions).



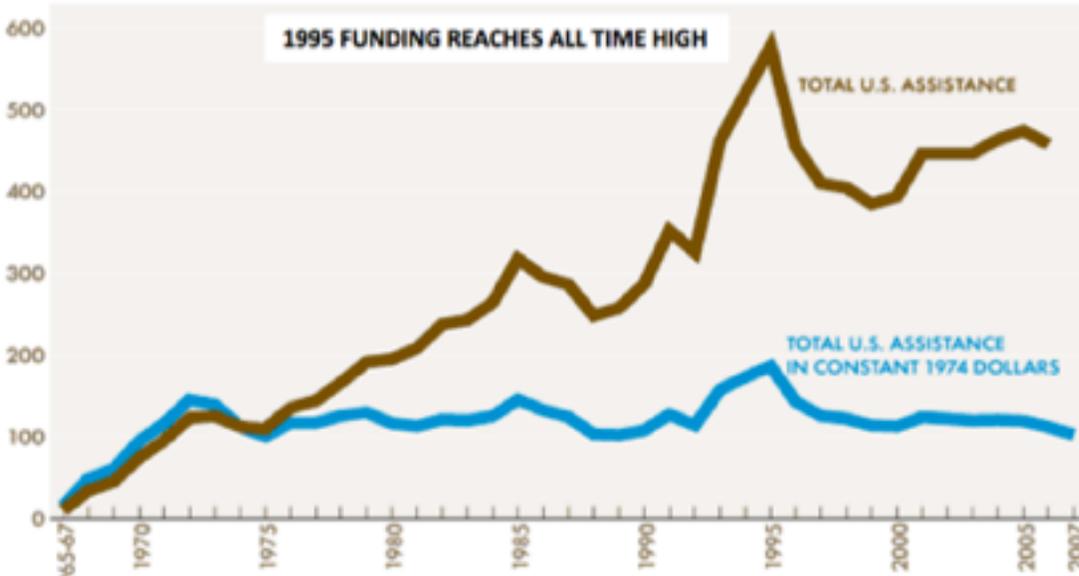
Source: O'Hanlon, 2009

Figure 2: Total United States Family Planning and Reproductive Health Assistance Compared with the Total United States Foreign Aid Budget.



Note that in Figure 2, it is nearly impossible to see the Family Planning spending line because this budget accounts for so little of United States foreign aid spending as a whole.

Figure 3: Total United States Family Planning and Reproductive Health Assistance (Millions) when accounting for inflation over time. Source: O’Hanlon, 2009.



Source: O’Hanlon, 2009

Figure 4: Fraction of Women Coming From Each Survey Over Three Periods of Time

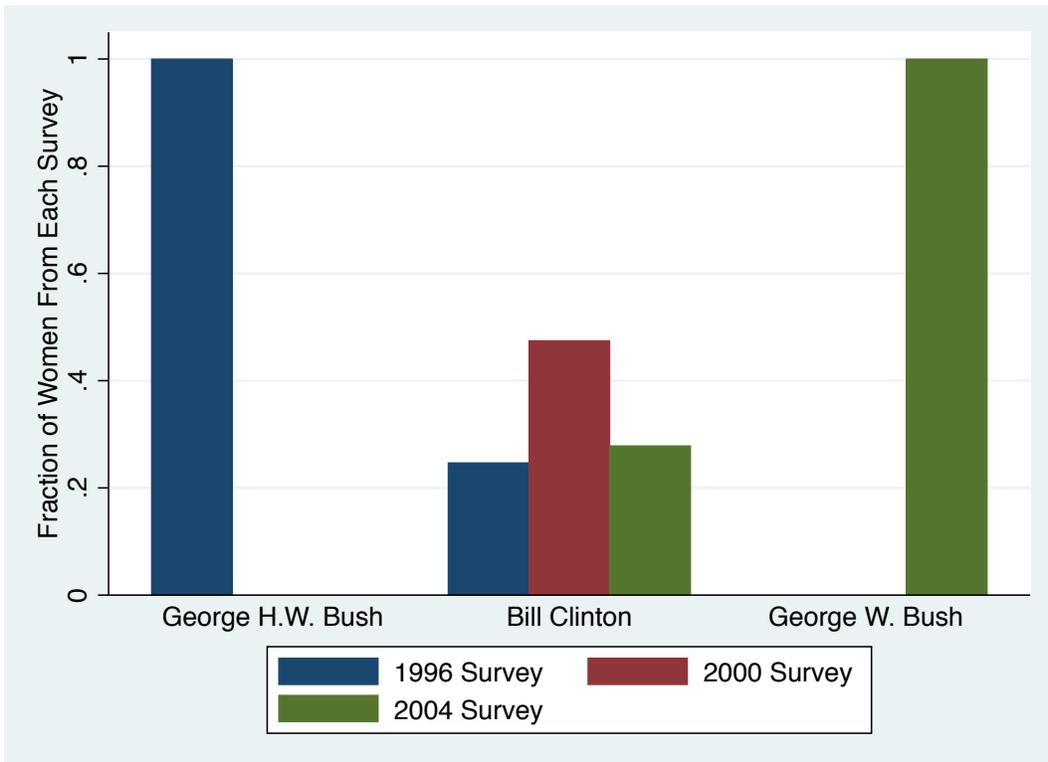


Figure 5: Average Age of Women Over Time

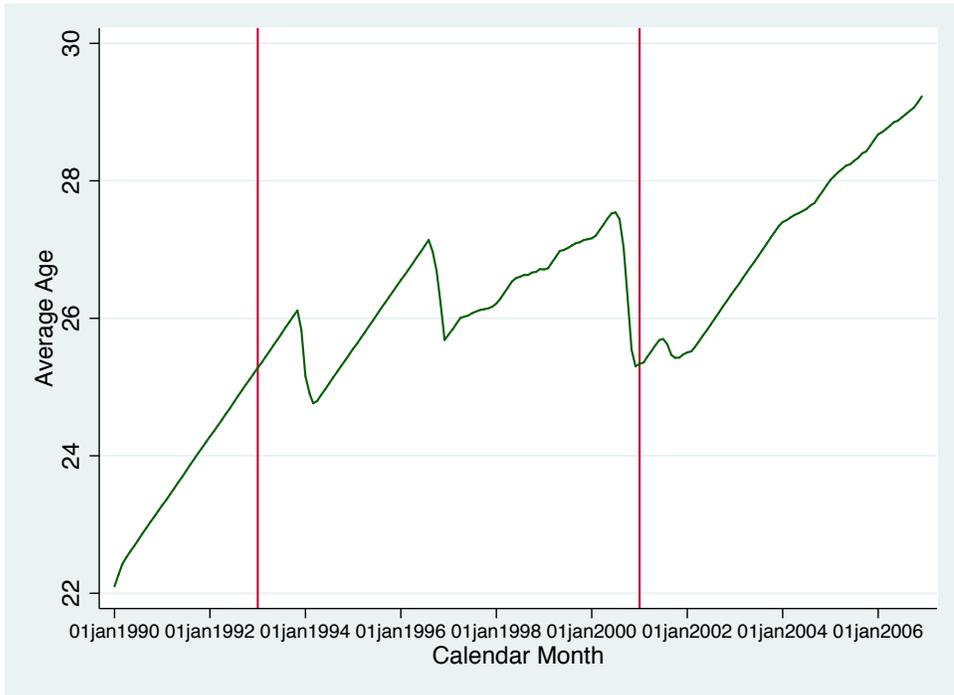


Figure 6: Average Year of Birth

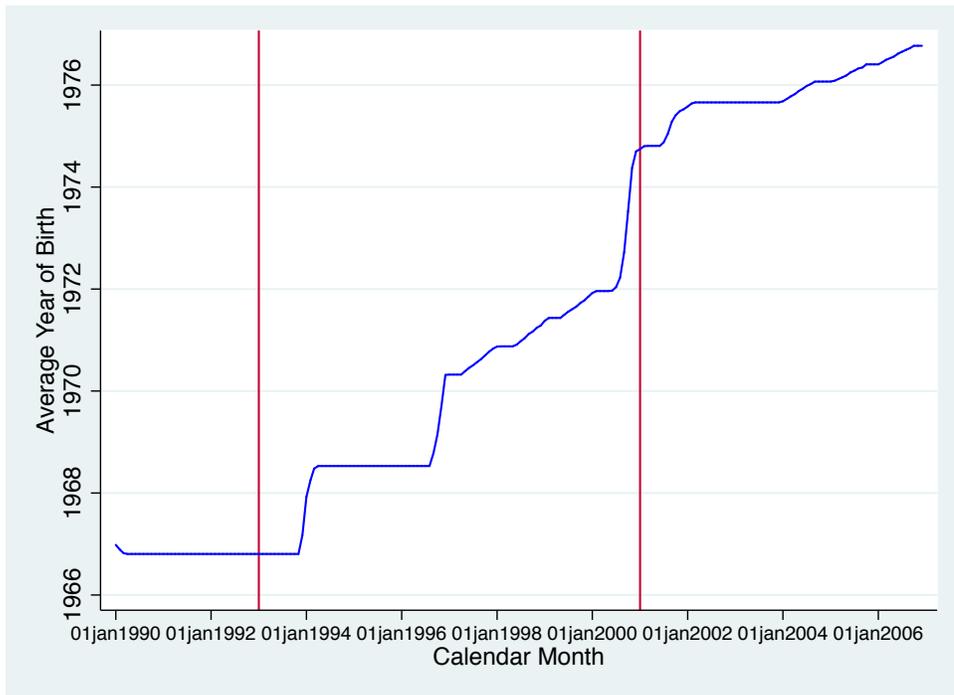


Figure 7: Percentage of Sterilized Women in Each Month

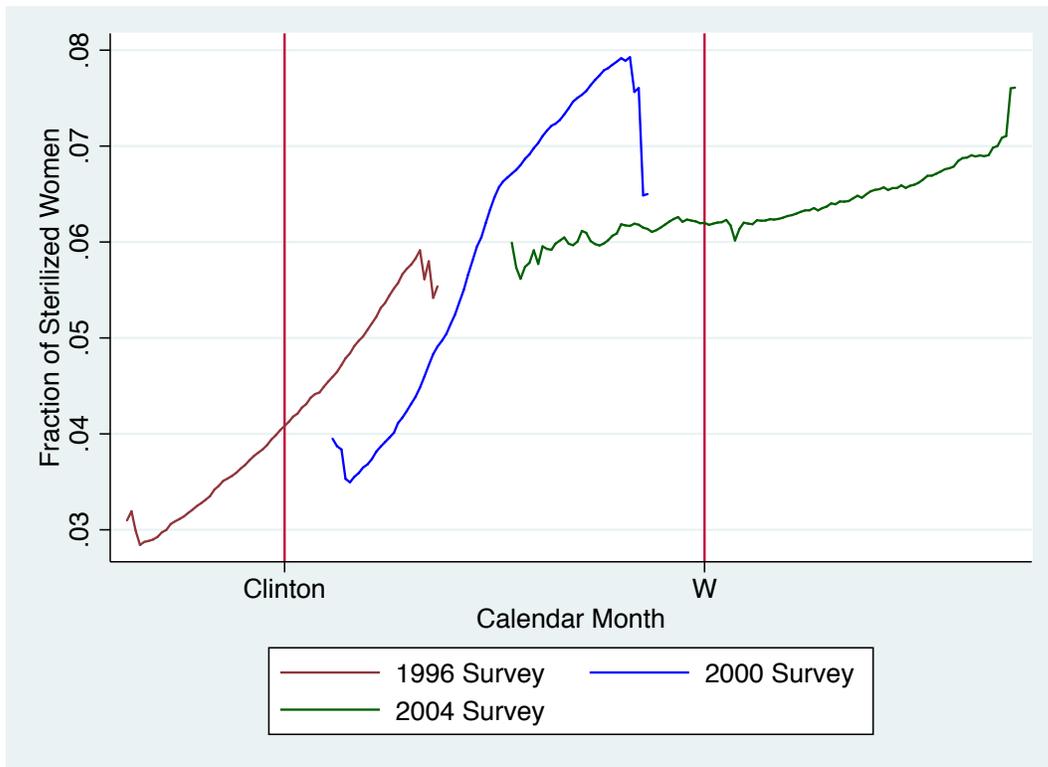


Table 1: Summary Statistics for Peru and Bolivia by Survey Year

Variable	Peru				Bolivia		
	Combined	1996	2000	2004	Combined	1998	2003
Basic Demographics (Mean, SD)							
Age	29.6 (9.9)	28.9 (9.6)	29.4 (9.8)	30.2 (10.0)	29.1 (9.9)	29.1 (9.9)	29.0 (9.9)
Children	2.1 (2.2)	2.2 (2.3)	2.1 (2.2)	2.0 (2.1)	2.3 (2.3)	2.6 (2.8)	2.2 (2.3)
Marital Status (%)							
Never Married	31.7	31	32.6	31.6	32.2	32.8	31.7
Married	31.2	35.5	32.3	27.5	42.6	45.8	40.7
Living Together	28.7	35.5	32.3	27.5	17.6	45.8	40.7
Widowed	1.1	1.2	1.7	0.7	1.4	1.5	1.4
Divorced	0.2	0.2	0.2	0.2	1.4	0.9	1.8
Not Living Together	7.1	6	6.2	8.4	4.7	4.5	4.9
Education (%)							
No Education	5.6	7.6	6.3	3.9	7.6	9.6	6.3
Primary	31.3	33.2	33.1	28.7	42.3	36.1	46.3
Secondary	40.6	39.3	41.3	41.1	36.2	39.6	34
Higher	22.5	20.1	19.3	26.3	13.9	14.8	13.3
Wealth (%)							
Lowest Quintile	16.8	21	20.5	11	16.8	19.9	14.9
Second Quintile	21.6	19.8	22.1	22.6	18.5	17.7	18.9
Middle Quintile	22.7	20.3	22.3	24.6	20.6	20.2	20.8
Fourth Quintile	20.3	19.9	19.5	21.3	22.3	21.5	22.8
Highest Quintile	18.7	19	15.7	20.5	21.8	20.6	22.6
Geographic Location (%)							
Urban	63.8	66.1	61.31	63.97	66.0	66.3	65.7
Rural	36.2	33.9	38.69	36.03	34.0	33.7	34.3
Method Type (%)							
Sterilized	7.1	6.4	8	7.1	4.5	4.2	4.6
Reversible	23.3	20.2	23.6	25.3	15.9	11.6	18.7
Not Using	54.4	58.2	54.8	51.5	63.9	69.7	60.2
Other	15.9	15.2	13.2	15.9	15.6	14.5	16.3
Observations							
N (women)	98,442	28,951	27,843	41,648	28,841	11,187	17,654

Note: For the sake of being able to compare Peru and Bolivia, these statistics are presented only for the time of the interview for women in both countries.

Table 2: Gag Rule variables from the Results of the Linear Regression predicting the use of any contraceptive method in Peru. The statistics presented are coefficients (multiplied by 100 for percentages) with standard errors in parentheses.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Administration								
Bush 1(Gag Rule in Effect)	-8.28 (0.24)	-5.31 (0.21)	-5.11 (0.20)	-2.90 (0.17)	-4.17 (0.17)	-3.90 (0.17)	-4.20 (0.17)	-4.23 (0.17)
Clinton (No Gag Rule)	-	-	-	-	-	-	-	-
Bush 2 (Gag Rule in Effect)	7.88 (0.25)	6.55 (0.21)	6.53 (0.19)	1.57 (0.26)	2.18 (0.25)	1.83 (0.25)	1.24 (0.24)	1.31 (0.24)

Table 2A: Linear regression analysis for variables predicting the use of any contraceptive method in Peru. The statistics presented are coefficients (multiplied by 100 for percentages) with standard errors in parentheses.

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6	Model 7	Model 8
Administration								
Bush 1 (Gag Rule in Effect)	-8.28 (0.24)	-5.31 (0.21)	-5.11 (0.20)	-2.90 (0.17)	-4.17 (0.17)	-3.90 (0.17)	-4.20 (0.17)	-4.23 (0.17)
Clinton (No Gag Rule)	-	-	-	-	-	-	-	-
Bush 2 (Gag Rule in Effect)	7.88 (0.25)	6.55 (0.21)	6.53 (0.19)	1.57 (0.26)	2.18 (0.25)	1.83 (0.25)	1.24 (0.24)	1.31 (0.24)
Age								
Teen		-38.13 (0.20)	-13.98 (0.23)	-14.10 (0.23)	-11.14 (0.23)	-10.19 (0.23)	-9.33 (0.23)	-9.34 (0.23)
In 20s	-	-	-	-	-	-	-	-
In 30s		13.00 (0.28)	6.04 (0.28)	5.69 (0.28)	6.03 (0.27)	6.26 (0.26)	4.79 (0.26)	4.78 (0.26)
Over 40		3.96 (0.43)	-2.99 (0.44)	-2.96 (0.44)	-1.94 (0.42)	-0.65 (0.41)	-3.21 (0.41)	-3.23 (0.41)
Children								
No Children			-40.61 (0.25)	-40.62 (0.25)	-29.06 (0.32)	-31.59 (0.31)	-31.96 (0.31)	-31.91 (0.31)
One to Four Children	-	-	-	-	-	-	-	-
Five or More Children			-5.98 (0.42)	-5.84 (0.42)	-7.82 (0.40)	-1.71 (0.40)	-0.35 (0.40)	-0.36 (0.40)
Surveys								
1996 (PE3)	-	-	-	-	-	-	-	-
2000 (PE4)				1.95 (0.27)	2.02 (0.26)	1.95 (0.25)	2.03 (0.25)	2.11 (0.25)
2004 (PE5)				7.15 (0.32)	7.22 (0.31)	6.35 (0.30)	6.09 (0.30)	6.23 (0.30)
Marital Status								
Not Married	-	-	-	-	-	-	-	-
Married					24.87 (0.34)	25.82 (0.33)	26.22 (0.33)	26.32 (0.33)
Living Together					19.18 (0.29)	20.91 (0.28)	21.97 (0.28)	21.91 (0.28)
Widowed					-14.55 (1.10)	-11.19 (1.09)	-10.13 (1.08)	-10.13 (1.08)
Divorced					-1.55 (3.04)	-5.12 (3.03)	-5.30 (3.02)	-5.27 (3.02)
Not Living Together					-2.67 (0.50)	-2.30 (0.50)	-1.82 (0.49)	-1.95 (0.49)
Education								
No Education						-26.38 (0.53)	-16.49 (0.57)	-16.21 (0.57)
Primary						-11.46 (0.27)	-4.72 (0.31)	-4.50 (0.31)
Secondary						-2.30 (0.22)	-0.60 (0.23)	-0.58 (0.23)
Higher	-	-	-	-	-	-	-	-
Wealth								
Lowest Quintile							-16.42 (0.36)	-14.49 (0.43)
Second Quintile							-7.09 (0.31)	-5.73 (0.35)
Middle Quintile							-2.26 (0.28)	-1.81 (0.29)
Fourth Quintile							-0.97 (0.41)	-0.89 (0.28)
Highest Quintile	-	-	-	-	-	-	-	-
Geographic Location								
Rural	-	-	-	-	-	-	-	-
Urban								2.24 (0.27)

Table 3: Gag Rule Variables for the Results of the Linear Regressions for all women and Stratified on Education and Geographic Location. The statistics presented are coefficients (multiplied by 100 for percentages) with standard errors in parentheses.

		Sterilized	Reversible	Not Using	Other
All Women					
	Bush 1	-0.47 (0.06)	-3.26 (0.15)	4.23 (0.17)	-0.50 (0.14)
	Bush 2	-0.70 (0.16)	1.32 (0.25)	-1.30 (0.24)	0.69 (0.22)
No Education					
	Bush 1	-0.64 (0.19)	-3.35 (0.41)	4.15 (0.63)	-0.13 (0.54)
	Bush 2	-0.22 (0.92)	2.55 (1.18)	-1.80 (1.45)	-0.49 (1.25)
Primary Education					
	Bush 1	-0.70 (0.12)	-4.12 (0.25)	5.16 (0.32)	-0.30 (0.25)
	Bush 2	-0.82 (0.37)	1.14 (0.49)	-0.96 (0.50)	0.56 (0.46)
Secondary Education					
	Bush 1	-0.38 (0.09)	-2.84 (0.24)	3.76 (0.26)	-0.45 (0.21)
	Bush 2	-0.76 (0.23)	1.11 (0.36)	-1.19 (0.33)	0.83 (0.30)
Higher Education					
	Bush 1	-0.81 (0.14)	-2.22 (0.35)	3.88 (0.38)	-0.74 (0.32)
	Bush 2	-0.35 (0.27)	1.67 (0.49)	-2.13 (0.49)	0.72 (0.40)
Urban					
	Bush 1	-0.60 (0.08)	-2.92 (0.19)	3.91 (0.21)	-0.31 (0.17)
	Bush 2	-0.65 (0.21)	1.24 (0.32)	-1.11 (0.30)	0.46 (0.26)
Rural					
	Bush 1	-0.24 (0.09)	-3.99 (0.21)	5.06 (0.30)	-0.77 (0.24)
	Bush 2	-0.70 (0.25)	1.43 (0.39)	-1.82 (0.41)	1.06 (0.37)

Note: Reference group is the Clinton Administration (Gag Rule not in place).

Table 4: Gag Rule Variables for the Results of the Fixed Effects Regressions for all women and Stratified on Education and Geographic Location. The statistics presented are coefficients (multiplied by 100 for percentages) with standard errors in parentheses.

	Sterilized	Reversible	Not Using	Other
All Women				
Bush 1	-1.17 (0.06)	-1.67 (0.15)	3.75 (0.17)	-0.84 (0.14)
Bush 2	0.24 (0.16)	-0.38 (0.19)	-1.54 (0.21)	1.63 (0.16)
No Education				
Bush 1	-0.50 (0.18)	-1.27 (0.41)	1.90 (0.64)	-0.18 (0.54)
Bush 2	0.40 (0.25)	-1.20 (0.77)	1.68 (1.09)	-0.96 (0.93)
Primary Education				
Bush 1	-1.23 (0.11)	-2.29 (0.25)	4.27 (0.32)	-0.72 (0.25)
Bush 2	-0.07 (0.07)	-1.49 (0.36)	-0.50 (0.42)	2.04 (0.34)
Secondary Education				
Bush 1	-1.11 (0.09)	-1.62 (0.23)	3.67 (0.26)	-0.86 (0.21)
Bush 2	0.21 (0.07)	-0.37 (0.28)	-1.69 (0.30)	1.80 (0.23)
Higher Education				
Bush 1	-1.45 (0.14)	-1.01 (0.34)	3.82 (0.38)	-1.22 (0.32)
Bush 2	0.63 (0.12)	0.90 (0.39)	-2.95 (0.42)	1.34 (0.32)
Urban				
Bush 1	-1.42 (0.08)	-1.25 (0.19)	3.38 (0.21)	-0.63 (0.17)
Bush 2	0.39 (0.07)	-0.43 (0.24)	-1.21 (0.26)	1.19 (0.19)
Rural				
Bush 1	-0.63 (0.08)	-2.40 (0.22)	4.36 (0.30)	-1.29 (0.24)
Bush 2	-0.02 (0.06)	-0.31 (0.30)	-2.09 (0.36)	2.34 (0.29)

Note: Reference group is the Clinton Administration (Gag Rule not in place).

Table 5: Logistic regression model for the use of Tubal Ligation (sterilization) in Peru

Variable	Coefficients (Standard Error)
Age	
Teen	0.81 (0.07)
In 20s	-
In 30s	8.16 (0.19)
Over 40	11.94 (0.33)
Administration	
Bush 1(Gag Rule in Effect)	-0.47 (0.06)
Clinton (No Gag Rule)	-
Bush2 (Gag Rule in Effect)	-0.70 (0.16)
Children	
No Children	-3.12 (0.09)
One to Four Children	-
Five or More Children	3.94 (0.37)
Surveys	
1996 (PE3)	-
2000 (PE4)	1.43 (0.17)
2004 (PE5)	1.93 (0.21)
Marital Status	
Not Married	-
Married	3.18 (0.17)
Living Together	1.23 (0.10)
Widowed	-2.16 (0.81)
Divorced	1.55 (2.24)
Not Living Together	-0.61 (0.27)
Education	
No Education	-1.44 (0.41)
Primary	2.53 (0.24)
Secondary	1.85 (0.17)
Higher	-
Wealth	
Lowest Quintile	-4.76 (0.31)
Second Quintile	-2.12 (0.27)
Middle Quintile	-0.50 (0.23)
Fourth Quintile	-0.17 (0.23)
Highest Quintile	-
Geographic Location	
Rural	-
Urban	1.37 (0.21)

References

- Ali, M. M. & J. Cleland (2005). Sexual and reproductive behaviour among single women aged 15–24 in eight Latin American countries: a comparative analysis. *Social Science & Medicine*, **60**(6): 1175-1185.
- Beyene, B. (2013). Open-Air Classes in Ethiopia on Family Planning, HIV. *Impatient Optimists*. Bill & Melinda Gates Foundation.
- Bernier, J., Boehne, K., Grossman- Crist, S., & Schuelke, E. (2012). USAID’s Strategic Framework: Examples from Haiti, Bolivia and Peru. *The Heinz Journal*, **9**(2).
- Bertrand, J. T. (2011). USAID Graduation from Family Planning Assistance: Implications for Latin America. Bureau for Latin America and the Caribbean, USAID: 57-67.
- Cleland, J., et al. (2006). Family planning: the unfinished agenda. *The Lancet*, **368**(9549): 1810-1827.
- Cohen, S. A. (2003). Global gag rule revisited: HIV/AIDS initiative out, family planning still in. *The guttmacher report on public policy*, **6**(4): 1-3.
- Coleman, Isobel. (2011). Family Planning and U.S. Foreign Policy. Council on Foreign Relations. Mar 2014.
- Crane, B & Dusenberry, J. (2004). Power and Politics in International Funding for Reproductive Health: the US Global Gag Rule. *Reproductive Health Matters*, **12**(24): 128-137.
- Creanga, A. A., Gillespie, D., Karklins, S., & Tsui, A. O. (2011). Low use of contraception among poor women in Africa: an equity issue. *Bulletin of the World Health Organization*, **89**(4), 258-266.
- Dayaratna, V., Quesada, N., Gribble, J., Abramson, W., Sarley, D., Lamadrid, C., Olson, N., & Siman Betancourt, V. (2006). Contraceptive Procurement Policies, Practices, and Options: Peru. Arlington, VA: DELIVER, and Washington, DC: USAID | Health Policy Initiative TO1, for the U.S. Agency for International Development.
- Dehlendorf, C., Rodriguez, M. I., Levy, K., Borrero, S., & Steinauer, J. (2010). Disparities in family planning. *American journal of obstetrics and gynecology*, **202**(3), 214-220.
- Dobie, S. A., Gober, L., & Rosenblatt, R. A. (1998). Family planning service provision in rural areas: a survey in Washington state. *Family Planning Perspectives*, **30**(3).
- Doskoch, P. (2013). Global Levels of Contraceptive Use by Married Women Have Risen, Especially in Developing Countries. Guttmacher Institute.

El-Zanaty, F. H., Sayed, H. A., Zaky, H. H., & Way, A. A. (1996). Egypt Demographic and Health Survey 1992.

Foreit, K., Karra, M., & Pandit-Rajani, T. (2010). Disentangling the effects of poverty and place of residence for strategic planning. Health Policy Initiative, USAID.

Fort, A. L. (1989). Investigating the Social Context of Fertility and Family Planning: A Qualitative Study in Peru. International Family Planning Perspectives, **15**(3): 88-95.

Frenette, M. (2011). Why do larger families reduce parental investments in child quality, but not child quality per se?. Review of Economics of the Household, **9**(4), 523-537.

Gakidou, E. & Vayena, E. (2007). Use of Modern Contraception by the Poor Is Falling Behind. PLoS Med **4**(2): e31. doi:10.1371/journal.pmed.0040031

Gribble, J.N. (2012). World Population Data Sheet 2012. Washington, DC: Population Reference Bureau.

Gribble, J. N., et al. (2007). Family Planning Policies and Their Impacts on the Poor: Peru's Experience. International Family Planning Perspectives, **33**(4): 176-181.

Hayford, S. R., & Guzzo, K. B. (2010). Age, relationship status, and the planning status of births. Demographic Research, **23**(13), 365-398.

Hock, H. (2008). The pill and the college attainment of American women and men, working paper, Washington, DC: Mathematica Policy Research.

Hussain, R., Bankole, A., & Singh, S. (2007). Women with an unmet need for contraception in developing countries and their reasons for not using a method. Guttmacher Institute.

International Planned Parenthood Federation.(2013). Family Planning and Access to Contraceptives.

Jain, A. K., & Ross, J. A. (2012). Fertility differences among developing countries: are they still related to family planning program efforts and social settings?. International Perspectives on Sexual & Reproductive Health, **38**(1).

Jelin, E., & Díaz-Muñoz, A. (2003). Major trends affecting families: South America in perspective. United Nations.

Jones, J., Mosher, W., & Daniels, K. (2012). Current contraceptive use in the United States, 2006–2010, and changes in patterns of use since 1995. National health statistics reports, **60**, 1-25.

Kaiser Family Foundation (KFF). (2014). The U.S. Government and International Family Planning & Reproductive Health: Statutory Requirements and Policies. The Henry J. Kaiser

Family Foundation.

Karimjee, M. (2011). A History of the Global Gag Rule. *Global Post*.

Kent, M. (2010). South American Transition to Low Fertility Spreads to Paraguay. *Population Reference Bureau*.

Li, J., Temmerman, M., Chen, Q., Xu, J., Hu, L., & Zhang, W. H. (2013). A review of contraceptive practices among married and unmarried women in China from 1982 to 2010. *The European Journal of Contraception and Reproductive Health Care*, 18(3), 148-158.

Manning, W. D., Longmore, M. A., & Giordano, P. C. (2000). The relationship context of contraceptive use at first intercourse. *Family planning perspectives*, 32(3).

Mosher, W. D. and N. C. f. H. Statistics (2004). Use of contraception and use of family planning services in the United States, 1982-2002, Citeseer.

O'Hagan, R. (2013). USAID Family Planning Program Timeline: Before 1965 to the Present. Washington, DC, USAID.

O'Hanlon, B. (2009). USAID's Funding Decisions on Reproductive Health and Family Planning. Paper Commissioned by the Hewlett Foundation (April 2009). [http://www.scribd.com/doc/35165686/USAID% E2 80](http://www.scribd.com/doc/35165686/USAID%E2%80).

Ochoa, L.H. and Reyes, J. (2001). Encuesta Demográfica y de Salud Familiar 2000. Demographic and Health Surveys.

Population Reference Bureau. (2013). Contraceptive Use Among Married Women Ages 15-49, by Method Type.

Quesada, N., Abramson, W., Siman Betancourt, V., Dayaratna, V., Gribble, J., Sarley, D., Lamadrid, C., Olson, N., & Juan Agudelo. (2006). Contraceptive Procurement Policies, Practices, and Options: Bolivia. Arlington, VA.: DELIVER, and Washington, DC: USAID | Health Policy Initiative TO1, for the U.S. Agency for International Development.

Reading, B. F. (2011). Education Leads to Lower Fertility and Increased Prosperity. *Education*.

Shapiro, D., & Tambashe, B. O. (1994). The impact of women's employment and education on contraceptive use and abortion in Kinshasa, Zaire. *Studies in Family Planning*, 96-110.

Silva, E., & Batista, R. (2010). Bolivian maternal and child health policies: Successes and failures. FOCAL.

Singh, S., Darroch, J. E., & Frost, J. J. (2001). Socioeconomic Disadvantages and Adolescent Women's Sexual and Reproductive Behavior: The Case of Five Developed Countries. *Family planning perspectives*, 33(6).

- Smith, G. (2008). Politics of Aid, The. Human Rights. **35**: 2.
- Snow, J. (2011). Regional Approach Improves Access to Contraceptives in Latin America: Creating Sustainable Family Planning Programs through Country Collaboration. D. Project. Arlington, VA, USAID.
- Sonfield, A., Hasstedt, K., Kavanaugh, M. L., & Anderson, R. (2013). The Social and Economic Benefits of Women's Ability to Determine Whether and When to Have Children.
- Tarnoff, C. (2010). Foreign Aid: An Introduction to US Programs and Policy. DIANE Publishing.
- Task Order 1 (2007). The Challenge of Family Planning Supplies in Latin America: How Contraceptive Security Committees are Making a Difference. H. P. Initiative. Washington, DC, USAID.
- Tuman, J. P., et al. (2007). The effects of education on fertility in Colombia and Peru: implications for health and family planning policies. Global Health Governance **1**.
- Ugal, D., Ashipu, B., & Obi, P. (2009). Attitudes of Rural Women Towards Family Planning and Fertility in Obudu Local Government Area of Cross River State. *Available at SSRN 1513982*.
- Uganda Bureau of Statistics (UBOS) and ICF International, Uganda Demographic and Health Survey 2011, Kampala, Uganda: UBOS; and Calverton, MD, USA: ICF International, 2012.
- UNFPA, (2008). Donor Support for Contraceptives and Condoms for STI/HIV Prevention, Washington, DC, USAID.
- Vaessen, M., et al. (2005). Chapter XXII The Demographic and Health Surveys. United Nations Statistical Division, United Nations Department of Economic and Social Affairs (Eds.), Household surveys in developing and transition countries. New York, NY: United Nations. Retrieved March **26**: 2010.
- Westoff, Charles F. 2006. New Estimates of Unmet Need and the Demand for Family Planning. DHS Comparative Reports No. 14. Calverton, Maryland, USA. Macro International Inc.
- World Family Map. (2013). Mapping Family Change and Child Well-Being Outcomes.
- World Health Organization. (2013). Family Planning.
- World Health Organization. (2014). Unmet Need for Family Planning.