The Effect of Fertility on Mothers' Labor Supply over the Last Two Centuries

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Abstract

This paper documents the evolving impact of childbearing on the work activity of mothers between 1787 and 2015. It is based on a compiled data set of 441 censuses and surveys, representing 103 countries and 48.4million mothers, using the International and U.S. IPUMS, the North Atlantic Population Project, and the Demographic and Health Surveys. Using twin births (Rosenzweig and Wolpin 1980) and same gendered children (Angrist and Evans 1998) as instrumental variables, we show three main findings: (1) the effect of fertility on labor supply is small and often indistinguishable from zero at low levels of income and economically large and negative at higher levels of income; (2) these effects are remarkably consistent both across time looking at the historical time series of currently developed countries and at a contemporary cross section of developing countries; and (3) the results are strikingly robust to other instrument variation, different demographic and educational groups, rescaling to account for changes in the base level of labor force participation, and a variety of specification, sampling, and data construction decisions. We show that the negative gradient in female labor supply is consistent with a standard labor-leisure model augmented to include a taste for children. In particular, our results appear to be driven by a declining substitution effect to increasing wages that arises from changes in the sectoral and occupational structure of female jobs into formal non-agricultural wage employment as countries develop.

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I. Introduction

The relationship between fertility and female labor supply is widely studied in economics. For example, the link between family size and mother's work decisions is used to explain household time allocation and the evolution of women's labor supply, particularly among rapidly growing countries in the second half of the 20th century (Carlinger, Robinson, and Tomes 1980; Angrist and Evans 1998; Del Boca, Pasqua, and Pronzata 2005; Cristia 2008; Bruijns 2014; and Hupkau and Leturcq 2016). Development economists relate the fertility-work relationship to the demographic transition and study its implications for economic growth (Bloom, Canning, and Sevilla 2001). Yet despite the centrality of these issues in the social sciences, there is no unified evidence on whether this relationship has evolved over time and with the process of economic development.

Our contribution is to provide such evidence that spans not only a plausible cross-section of countries at various stages of development but also historical examples from currently developed countries going back to the late 18th century.[1] To provide consistent estimates over time and space, we use two common instrumental variables strategies: (i) twin births introduced by Rosenzweig and Wolpin (1980) and applied repeatedly since (e.g., Bronars and Grogger 1994; Black, Devereux, and Salvanes 2005; and Caceres-Delpiano 2006) and (ii) the gender composition of the first two children introduced by Angrist and Evans (1998). We implement these estimators using four large databases of censuses and surveys: the Integrated Public Use Micro Sample (IPUMS) International (212 country-years), the IPUMS U.S. (15 U.S. censuses and 4 Puerto Rican censuses), the North Atlantic Population Project (18 country-years), and the

[1] A related paper by Chatterjee and Vogl (2017) studies how fertility in the developing world responds to long-run growth.

Demographic and Health Surveys (192 low-income country-years). Together, the data cover 441 country-years, and 48.4 million mothers, stretching from 1787 to 2015 and, consequently, a large span of economic development.

A natural starting point in thinking about the fertility-labor supply relationship is Angrist and Evans (1998). Based on U.S. IPUMS data from 1980 and 1990, Angrist and Evans document a negative effect of fertility on female labor supply using both gender mix and twin births as instruments for subsequent children, a result also established by Bronars and Grogger (1994).[2] Alternative instruments that rely on childless mothers undergoing infertility treatments in the U.S. and Denmark (Cristia 2008 and Lundborg, Plug, and Rasmussen 2016) or natural experiments like the introduction of birth control pills (Bailey 2013) or changes in abortion legislation (Bloom et al. 2009 and Angrist and Evans 1996) similarly conclude that children have a negative effect on their mother's labor supply or earnings. This instrument-invariant robustness is particularly notable since each IV uses a somewhat different subpopulation of compliers to estimate a local average treatment effect. That the results are consistent suggests wide external validity (Angrist, Lavy, and Schlosser 2010; Bisbee et al. 2015).

However, we show that the negative relationship between fertility and mother's work behavior holds only for countries at a later stage of economic development. At a lower level of income, including the U.S. and Western European countries prior to WWII, there is no relationship between fertility and mother's labor supply. The lack of an impact at low levels of development corresponds with Aguero and Marks' (2008, 2011) study of childless mothers undergoing infertility treatments in 32 developing countries and Godefroy's (2016) analysis of

[2] For discussions of the validity of various fertility instruments, see for example Rosenzweig and Wolpin (2000), Hoekstra et al. (2007), Angrist, Lavy, and Schlosser (2010), and Bhalotra and Clarke (2016). Clarke (2016) provides a useful summary of the empirical literature.

changes to women's legal rights in Nigeria.[3] Strikingly, combining U.S historical data with data from a broad set of contemporary developing countries, we find that the negative gradient of the fertility-labor supply effect with respect to economic development is remarkably consistent across time and space. That is, women in the U.S. at the turn of the 20th century make the same labor supply decision in response to additional children as women in developing countries today. Moreover, we show that the negative gradient is exceedingly robust to a wide range of data, sampling, and specification issues, such as using alternative instruments, development benchmarks, initial family sizes, sample specification criteria, conditioning covariates including those highlighted by Bhalotra and Clarke (2016), and measures of mother's labor supply, as well as rescaling the estimates to account for varying secular rates of labor force participation and a variety of other adjustments to make our data historically consistent.

The empirical regularities we describe support a standard labor-leisure model augmented to include a taste for children. As wages increase during the process of development, households face an increased time cost of fertility but also experience increased income. With a standard constant elasticity of substitution utility function, the former effect dominates as countries develop, creating a negative gradient.

Indeed, in exploring the mechanism behind our result, we document that the income effect from rising wages is likely invariant to economic development but the substitution effect falls from zero to negative and economically important as real GDP per capita increases. We argue that the declining substitution effect arises from changes in the sectoral and occupational structure of female jobs, as in Goldin (1990) and Schultz (1991). In particular, as economies

[3] The contrast between the impact of infertility treatments in developing (Aguero and Marks 2008, 2011) and developed countries (Cristia 2008 and Lundborg, Plug, and Rasmussen 2016) is noteworthy since, by construction, our instruments are only able to identify the labor supply effect from unexpected children beyond the first kid.

evolve, women's labor market opportunities transition from agricultural and self-employment to urban wage work. The latter tends to be less compatible with raising children and causes some movement out of the labor force (e.g. Jaffe and Azumi 1960; McCabe and Rosenzweig 1976; Kupinsky 1977; Goldin 1990; Galor and Weil 1996; Edwards and Field-Hendrey 2002; and Szulga 2013). In support of this channel, we show that the negative gradient is steeper among mothers with young children that work in non-professional occupations. Moreover, a growing literature documents a causal relationship between access to child care or early education and the propensity of mothers to work (Berlinski and Galiani 2007; Baker, Gruber, and Milligan 2008; Cascio 2009; Havnes and Mogstad 2011; Fitzpatrick 2012; and Herbst 2017), a finding that could be consistent with leaving the workforce when labor market opportunities become less compatible with child rearing.

Our main empirical findings have important implications both for understanding the historical evolution of women's labor supply and the relationship between the demographic transition and the process of economic development. As Goldin (1990) documents in her comprehensive study of women's work in the 20th century, women's labor supply follows a U-shape over the process of economic growth, first declining before eventually increasing. Our results suggest that declining fertility may have contributed to the upswing in women's labor supply in much of the developed world during the second half of the century. Moreover, family policies (Olivetti and Petrolgolo 2017) and childcare costs (Del Boca 2015; Herbst 2015; and Kubota 2016) likely played a role. At the other end of the economic development spectrum, our results suggest that the demographic transition to smaller families probably does not have immediate implications for women's labor supply and growth. This in turn reinforces a claim in the demographic transition literature (e.g. Bloom, Canning, and Sevilla 2001) that family planning policies are unlikely to enhance growth through a labor supply channel (although such policies could still be desirable for other reasons).

Our paper is organized as follows. We begin by sketching a model highlighting the key mechanism driving fertility's impact on labor supply. Section III explains our empirical strategy, followed in section IV by a description of the data. Section V presents our findings, along with a series of robustness checks. Section VI analyzes potential channels for our results, and section VII briefly concludes.

II. Sketch of a Model

We believe the differential female labor supply response to children over the development cycle can be explained within a standard labor-leisure model. In particular, consider a constant elasticity of substitution (CES) utility function defined over consumption *c*, leisure *d*, and fertility *n*:

(1) $$U(c,d,n) = \left[\gamma(c+c_0)^\rho + \alpha d^\rho + \beta\left(\frac{n}{N}\right)^\rho\right]^{1/\rho}$$

where c_0 <0 is subsistence consumption and utility from fertility is relative to potential reproductive capacity *N*. Equation (1) is a CES variant of the model used by Bloom et al. (2009). Total time (normalized to 1) is allocated between leisure *d*, childcare *bn* (where *b* is the time cost per child), labor *l*, and non-market household work ε:

(2) $$1 = l + d + bn + \varepsilon$$

Assuming households do not save, consumption is derived directly from earned income:

(3) $$c = wl.$$

Substituting equations (2) and (3) into (1), we obtain the household utility function:

(4) $$V(l,n) = \left[\gamma(wl + c_0)^\rho + \alpha(1 - l - bn - \varepsilon)^\rho + \beta\left(\frac{n}{N}\right)^\rho\right]^{1/\rho}.$$

The first order conditions are:

(5) $$\partial V/_{\partial l} = \frac{1}{\rho} v^{\left(\frac{1}{\rho}-1\right)}[\rho\gamma w(wl + c_0)^{\rho-1} - \alpha\rho(1 - l - bn - \varepsilon)^{\rho-1}] = 0$$

$$\partial V/_{\partial n} = \frac{1}{\rho} v^{\left(\frac{1}{\rho}-1\right)}[-\alpha\rho b(1 - l - bn - \varepsilon)^{\rho-1} + \beta\rho N^{-\rho} n^{\rho-1}] = 0$$

where $v \equiv \left[\gamma(wl + c_0)^\rho + \alpha(1 - l - bn - \varepsilon)^\rho + \beta\left(\frac{n}{N}\right)^\rho\right]$. Re-arranging yields:

(6)

$$l = \frac{\left(\alpha^\theta - \alpha^\theta\epsilon - w^\theta\gamma^\theta c_0\right) - \alpha^\theta bn}{w^{\theta+1}\gamma^\theta + \alpha^\theta}$$

$$n = \frac{\alpha^\theta b^\theta(1 - \varepsilon - l)}{\beta^{\theta N^{-\rho\theta}} + \alpha^\theta b^{\theta+1}},$$

where $\theta \equiv 1/(\rho - 1)$. Note that in the solution:

(7)

$$\frac{\partial l}{\partial n} = -\frac{\alpha^\theta b}{w^{\theta+1}\gamma^\theta + \alpha^\theta} < 0$$

and $\partial^2 l/\partial n\partial w < 0$ if $\rho \in (0,1)$ or the elasticity of substitution is between (0,∞). Of note, the model predicts the effect of fertility on labor supply becomes more negative as the wage increases. As the wage increases, the agent experiences both a substitution and income effect. The former arises because an increase in the wage causes the price of leisure and the time-cost of children to also increase, leading to a substitution into labor and out of children. Higher wages also increase income, which moves households away from labor and toward children. When the elasticity of substitution is positive, the substitution effects tends to dominate, increasing the responsiveness of labor to fertility as the wage goes up.

In a small number of low-income countries, including pre-WWI U.S., we estimate a modest positive labor supply response to children. While equation (7) predicts a negative response, a positive result is possible with a simple extension of the model. Suppose there is a consumption (e.g., food) cost to children so $c = wl - kn$, and for simplicity set c_0 and ε to zero. The first-order condition with respect to labor, with rearrangement, now becomes:

(8)

$$l = \frac{\alpha^{\theta} + n\left(w^{\theta}\gamma^{\theta}k - \alpha^{\theta}b\right)}{w^{\theta+1}\gamma^{\theta} + \alpha^{\theta}}.$$

In this case $\partial l/\partial n > 0$ is consistent with $w > \alpha^{\theta}b/\gamma^{\theta}k$. An increase in fertility implies an increased time cost but also a reduction in consumption, making increased labor more valuable. With a sufficiently high wage, the last effect can dominate leading to increased labor. In this case, $\partial^2 l/\partial n\partial w < 0$ without further assumptions, so we would continue to expect a negative gradient of the fertility-labor relationship with respect to the wage.[4]

III. Empirical Strategy

Our empirical analysis adopts the standard approach of exploiting twin births and gender composition as sources of exogenous variation in the number of children to identify the causal

[4] Note $\operatorname{sgn}(\partial^2 l/\partial n\partial w) = \operatorname{sgn}\left(-\gamma^{\theta}k\gamma w^{\theta} + \theta k w^{-1}\alpha^{\theta} + (\theta+1)\alpha^{\theta}\right) = -1$ if $\rho \in (0,1)$.

effect of an additional child on the labor force activity of women (e.g. Rosenzweig and Wolpin 1980; Bronars and Grogger 1994; Angrist and Evans 1998; and Black, Devereux, and Salvanes 2005). In particular, for twin births, consider a first stage regression of the form:

$$(9) \quad z_{ijt} = \gamma S_{ijt} + \rho w_{ijt} + \pi_{jt} + \mu_{ijt}$$

where z_{ijt} is an indicator of whether mother *i* in country *j* at time *t* had a third child, the instrument S_{ijt} is an indicator for whether the second (and third) child are the same age (twins), w_{ijt} is a vector of demographic characteristics that typically include the current age of the mother, her age at first birth, and indicators for the gender of the first two children, and π_{jt} are country-year fixed effects. γ measures the empirical proportion of mothers with at least two children who would not have had a third child in the absence of a multiple second birth.

The local average treatment effect (LATE) among mothers with multiple children is identified from a second stage regression:

$$(10) \quad y_{ijt} = \beta z_{ijt} + \alpha w_{ijt} + \theta_{jt} + \varepsilon_{ijt}$$

where y_{ijt} is a measure of labor supply for mother *i* in country *j* at time *t* and β is the IV estimate of the pooled labor supply response to the birth of twins for women with at least one prior child.[5] Our baseline twin estimates condition on one prior child, as in Angrist and Evans (1998), to provide a family-size-consistent comparison so that both the same-gender and twins IV study the effect of a family growing from two to three children.

While twins are a widely-used source of variation for studying childbearing on mother's labor supply, it is by no means the only strategy in the literature. Perhaps the leading alternative

[5] The reported estimates of β are weighted by the household weights supplied by the various surveys or censuses, normalized by the number of mothers in the final regression sample.

exploits preferences for mixed gender families (Angrist and Evans 1998). In particular, Angrist and Evans estimate a first-stage regression like equation (9) but, for S_{ijt}, substitute twin births for an indicator of whether the first two children of woman i are of the same gender (boy-boy or girl-girl). Again, the sample is restricted to women with at least two children and γ measures the likelihood that a mother with two same gendered children is likely to have additional children relative to a mother with a boy and a girl.

Both twins and same gender children have been criticized as valid instruments on the grounds of omitted variables biases. Twin births may be more likely among healthier and wealthier mothers, and can consequently vary over time and across geographic location (see e.g. Rosenzweig and Wolpin 2000; Hoekstra et al. 2007; Bhalotra and Clarke 2016; and Clarke 2016). While the same gender instrument has proven quite robust for the U.S. and other developed countries (Butikofer 2011), there are many reasons to be cautious in samples of developing countries (Schultz 2008). Among other factors, there is the concern that same-gender siblings may be less costly to raise, leading to a violation of the exclusion restriction (Rosenzweig and Zhang 2009). More directly, households may practice either sex selection or selective neglect of children based on gender (e.g. Ebenstein 2010 and Jayachandran and Pande 2015).

We adopt the broad view of Angrist, Lavy, and Schlosser (2010) that the sources of variation used in various IV strategies are different and, therefore, so are the biases. As such, each IV provides a specification check of the other. In this spirit, we also provide a series of LATE estimates that show a) twin results at alternative family parities, b) twins results of the same gender versus mixed gender,[6] c) findings from a third instrument introduced by Klemp and Weisdorf (2016), which relies on exogenous variation in the timing of first births, and d) directly employ the methodology in Angrist, Lavy, and Schlosser (2010) that combines multiple IV estimates. Additionally, to the extent possible, we show how our results vary when we control for education and health measures such as height and body mass index that have been highlighted as key determinants of twin births (Bhalotra and Clarke 2016).

The literature analyzes a number of measures of y_{ijt}, including whether the mother worked, the number of hours worked, and the labor income earned. These measures are sometimes defined over the previous year or at the time of the survey. In order to include as wide a variety of consistent data across time and countries as possible, we typically focus on the labor force participation (LFP) of mothers at the time of a census or survey. When LFP is unavailable, especially in some of the pre-WWII censuses, we derive LFP based on whether the woman has a stated occupation. Section V.f.3 discusses the robustness of the results to several alternative labor market measures, including mismeasurement of occupation-based LFP (e.g. Goldin 1990).

In concordance with much of the literature, our standard sample contains women aged 21 to 35 with at least two children, all of whom are 17 or younger. We exclude mothers who gave birth before age 15 and families where a child's age or gender is imputed. Furthermore, we drop mothers with an imputed age, who live in group quarters, or whose first child is a multiple birth.[7] It is worth emphasizing that the restrictions on mother's (21-35) and child's (under 18) age may

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[6] Monozygotic (MZ) twinning is believed to be less susceptible to environmental factors. Hoekstra et al. (2007) provides an excellent survey of the medical literature. Since we cannot identify MZ versus dizygotic (DZ) twins in our data, we take advantage of the fact that MZ twins are always the same gender, whereas DZ twins share genes like other non-twin siblings and therefore are 50 percent likely to be the same gender.

[7] These restrictions depart from Angrist and Evans (1998). The final restriction takes care of rare cases of triplets.

allay concerns about miscounting children that have moved out of the household.[8] We also experiment with even younger mother and child age cut-offs, which additionally provides some inference about difference in the labor supply response to younger and older offspring. Further sample statistics, as well as results when these restrictions are loosened, are provided in the Appendix.

We present our results stratified by time, country, level of development, or some combination. The prototypical plot stratifies countries-years into seven real GDP per capita bins (in 1990 U.S. dollars): under $2,500, $2,500-5,000, $5,000-7,500, $7,500-10,000, $10,000-15,000, $15,000-20,000, and over $20,000. To be concrete, in this example, all country-years where real GDP per capita are, say, under $2,500 in 1990 U.S. dollars are pooled together for the purpose of estimating equations (9) and (10). Similarly, countries with real GDP per capita between $2,500 and $5,000, and so on, are also pooled together for estimation. The plots report estimates of γ and β, and their associated 95 percent confidence interval based on country-year clustered standard errors, for each bin.

IV. Data

We estimate the statistical model using four large databases of country censuses and surveys.

a. U.S. Census, 1860-2010

The U.S. is the only country for which regular historical microdata over a long stretch of time is available.[9] We use the 1 percent samples from the 1860, 1870, 1950, and 1970 censuses; the 5 percent samples from the 1900, 1960, 1980, 1990, and 2000 censuses; the 2010 American Community Survey (ACS) 5-year sample, which combines the 1 percent ACS samples for 2008

[8] As a robustness check, we also use information about complete fertility when it is available.
[9] We use a sporadic time-series for Canada, UK, Ireland, and France as well.

to 2012; and the 100 percent population counts from the 1880, 1910, 1920, 1930, and 1940 censuses.[10] Besides additional precision, the full count censuses allow us to stratify the sample by geography (e.g. states) to potentially take advantage of more detailed cross-sectional variation.

IPUMS harmonizes the U.S. census samples to provide comparable definitions of variables over time. However, there are unavoidable changes to some of our key measures. For example, the 1940 census is the first to introduce years of completed schooling and earnings; therefore, when we show results invoking education or earnings, we exclude U.S. data prior to 1940. Perhaps most important, the 1940 census shifted our labor supply measure from an indicator of reporting any "gainful occupation" to the modern labor force definition of working or looking for work in a specific reference week. Fortunately, there does not appear to be a measurable difference between these definitions in 1940 when both measures are available. Nevertheless, there is concern that women's occupations (e.g. Goldin 1990), as well as fertility (Moehling 2012), could be systemically under- or over-reported especially in U.S. census samples for 1910 and earlier. We present a number of robustness checks meant to isolate these mismeasurement issues in Section V.f.3.

While the 1880, 1920, 1930, and 1940 full count censuses are fully harmonized with the IPUMS samples, the 1910 full count census is not yet. For our purposes, the most important

[10] For information on the IPUMS samples, see Steven Ruggles, J. Trent Alexander, Katie Genadek, Ronald Goeken, Matthew B. Schroeder, and Matthew Sobek, ***Integrated Public Use Microdata Series: Version 5.0*** [Machine-readable database], Minneapolis: University of Minnesota, 2010. The 100 percent counts were generously provided to us by the University of Minnesota Population Center via the data collection efforts of ancestry.com. Those files have been cleaned and harmonized by IPUMS. The 1890 U.S. census is unavailable and U.S. censuses prior to 1860 do not contain labor force information for women.

feature missing from the unharmonized data is child-mother linkages. Accordingly, we create family links ourselves using the IPUMS rules.[11]

For Puerto Rico, we use the 5 percent census samples from 1980, 1990, and 2000. As in the U.S., we also include the 2010 Puerto Rico Community Survey 5-year sample, which combines the 1 percent samples for 2008 to 2012. Prior censuses are either missing labor force data or reliable information about real GDP per capita.

b. IPUMS International Censuses, 1960-2011

IPUMS harmonizes censuses from around the world, yielding measures of our key variables that are roughly comparable across countries and time. We use data from 212 of the 301 country-year censuses between 1960 and 2015 that are posted at the IPUMS-I website.[12] Censuses are excluded if mother-child links or labor force status is unavailable (83 censuses)[13] or age is defined by ranges rather than single-years (6 censuses).[14]

c. North Atlantic Population Project (NAPP), 1787-1911

The North Atlantic Population Project (NAPP) provides 18 censuses from Canada, Denmark, Germany[15], Great Britain, Norway, and Sweden between 1787 and 1911. As with

[11] , The close correspondence between the estimates for the 1 percent and full count samples for 1910 suggests the absence of family linkages in the 1910 full count data is not a significant issue (see Figure 5).
[12] This information is as of June 28, 2016, when we downloaded the data. The tabulations of available countries exclude the U.S. and Puerto Rico.
[13] This unfortunately affects some censuses from Canada and the U.K. Similar to the U.S., the international linking variables use relationships, age, marital status, fertility, and proximity in the household to create mother-child links. Sobek and Kennedy (2009) compute that these linking variables have a 98 percent match rate with direct reports of family relationships.
[14] The 1971 to 2006 Irish censuses use ages ranges for adults but not for children younger than 20. Therefore, twins are identifiable and we do not exclude this data.
[15] The NAPP 1819 German data is from the small state of Mecklenburg-Schwerin, rather than the whole region of Germany. However, we refer to it as Germany for expositional purposes.

IPUMS data, these samples are made available by the Minnesota Population Center.[16] For most samples, NAPP generates family interrelationship linkages. However, in a few cases (Canada for 1852, 1871, and 1881 and Germany in 1819), such linkages are not available. In those cases, we use similar rules developed to link mothers and children in the U.S. full count census. Also, consistent with the pre-1940 U.S. censuses, labor force activity is based on whether women report an occupation rather than the modern definition of working or seeking work within a specific reference period, and education is unavailable.[17]

d. Demographic and Health Surveys (DHS), 1990-2015

To collect additional observations from low-income environments, we supplement the censuses with the Demographic and Health Surveys (DHS), a series of nationally representative surveys of mothers and children in developing countries.[18] There have been six waves of DHS surveys, beginning in the mid-1980s and running roughly every 5 years thereafter. From the initial set of 254 country-year surveys, we exclude samples missing age of mother, marital status of mother, current work status, whether the mother works for cash, and birth history. These restrictions exclude the first wave of the DHS, when the surveys were in a relatively nascent state. We further exclude countries without valid real GDP per capita data (see below), leaving 692,923 mothers in 192 country-years.

As a detailed survey rather than a census, the DHS includes a number of questions that are especially valuable for testing the robustness of our census results. First, detailed health

[16] For additional information about the NAPP samples, see Minnesota Population Center (2015), North Atlantic Population Project: Complete Count Microdata**,** Version 2.2 [Machine-readable database], Minneapolis: Minnesota Population Center.
[17] In the NAPP, the occupation definitions are based on the variables *occgb, occhisco,* and *occ50us*. Note that the NAPP occupation classifications are different than those used in the U.S. censuses, with the exception of the occupational coding used for Canada in 1911.
[18] For additional information about the DHS files see ICF International (2015). The data is based on extracts from DHS Individual Recode files. See http://dhsprogram.com/Data/.

information allows us to control for characteristics that may be related to a mother's likelihood of twinning (Bhalotra and Clarke 2016). Second, we can make use of an indicator of whether children are in fact twins to test how accurate our coding of census twins might be. Appendix Figure A1 illustrates the high degree of correspondence between twinning rates when we define twins using "real" multiple births and those imputed for children sharing the same birth-year. Nevertheless, to keep the DHS results comparable to the censuses,[19] our baseline DHS estimates identify twins based on the census year-of-birth criterion.

The DHS has a number of labor force variables but none that directly compare to those in the censuses. We chose to use an indicator of whether the mother is currently working since it is most correlated with the IPUMS labor force measures (see Appendix Figure A2).

e. Real GDP per Capita

Real GDP per capita (in US$1990) is collected from the Maddison Project.[20] To reduce measurement error, we smooth each GDP series by a seven year moving average that includes three trailing and three leading years around the census/survey. We are able to match 441country-years to the Maddison data.[21] This leaves a total of 48,423,496 mothers aged 21 to 35 with at least two children who are present in our baseline estimates.

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[19] In addition, we only consider living children who reside with the mother to keep the DHS comparable with our census samples.

[20] See http://www.ggdc.net/maddison/maddison-project/home.htm.

[21] In a few minor cases, we were not able to match a country to a specific year but still left the census in our sample because we did not believe it would have impacted their placement in a real GDP per capita bin. In particular, the censuses of Denmark in 1787 and 1801 are matched to real GDP per capita data for Denmark in 1820 and Norway in 1801 is matched to data for Norway in 1820. Excluding these country-years has no impact on our results. More importantly, the Maddison data ends in 2010 and therefore censuses or surveys thereafter are assigned their most recently available real GDP per capita data.

When we split the 1930 and 1940 full population U.S. censuses into the 48 states and DC, we bin those samples by state-specific 1929 or 1940 income-per-capita.[22] The income data are converted into 1990 dollars using the Consumer Price Index.

f. Summary Statistics

Table 1 provides descriptive statistics separately for the U.S. and non-U.S. samples as well as by real GDP per capita bins. Given the large number of country-years from the DHS, 192 out of 441 samples are from countries outside the U.S. with an income below $2,500 (in 1990 U.S. dollars). Nevertheless, most GDP per capita bins have a large number of mothers for both the U.S. and non-U.S. samples. Summary statistics for a number of individual variables, including share in the labor force, number of children, mother's age at survey, 2nd child is multiple birth, are also presented in Table 1. Appendix Table A1 additionally provides descriptive statistics for all individual country-year datasets.

V. Results

a. OLS Estimates

We begin with estimates from OLS regressions of the labor supply indicator on the indicator for a third child and the controls described above. These results do not have a clear causal interpretation, but they are useful for establishing key data patterns. In Figure 1, we plot the coefficients for the U.S., the non-U.S. countries, and the combined world sample (labeled "All"). Country-year observations are binned into seven ranges of real GDP per capita, as

[22] http://www2.census.gov/library/publications/1975/compendia/hist_stats_colonial-1970/hist_stats_colonial-1970p1-chF.pdf.

reported on the x-axis (e.g. $0-2,500, $2,500-5,000, etc.). Figure 1's point estimates and standard errors are shown in Table 2.[23]

All three plots exhibit a similar pattern. At low levels of real GDP per capita, the OLS estimate of the effect of children on mother's labor supply is negative and statistically significant at the 5 percent level but small in magnitude (e.g. -0.022 (0.005) in the lowest GDP bin). As real GDP per capita increases, the effect becomes more negative, ultimately flattening out between -0.15 and -0.25 beyond real GDP per capita of $15,000. Appendix Figure A3 shows similar evidence for the four other countries – Canada, France, Ireland, and the U.K. – for which we have census data at distinctive points of their development cycle.[24] In these cases, we also see a similar, albeit noisier, negative gradient as these economies grow.

Figure 2 plots the U.S.-only OLS results over time.[25] These estimates start out negative, albeit relatively small (e.g. -0.011 (0.004) in 1860 and -0.013 (0.0004) in 1910), decrease from 1910 to 1980, at which point the magnitude is -0.177 (0.001), and flattens thereafter. Note that due to the sample size, 95 percent confidence intervals are provided but not visible at the scale of the figure.

Figure 3 plots the OLS estimates by real GDP per capita separately by time periods (pre-1900, 1900-1950, 1950-1989, and 1990+). Years prior to 1950 combine U.S. census and NAPP data. Years thereafter include all four of our databases. The same general pattern appears *within*

[23] In this and subsequent figures, we present 95 percent confidence interval bands based on standard errors clustered at the country-year level.

[24] There are five Canadian censuses from 1871-2011, four British censuses from 1851-1991, eight Irish censuses from 1971-2011, and eight French censuses from 1962-2011. Pre-WWII microdata are not available for the Irish and French censuses. We also do not have access to British or Canadian census microdata around WWII and cannot identify households in some of the more recent IPUMS samples.

[25] Blue circles represent IPUMS samples and red diamonds represent full population counts. We take the high degree of correspondence between the estimates in years with both as validation of our implementation of mother linkages in the full count data.

time periods.[26] The effect of fertility on labor supply tends to be small at low levels of GDP per capita but increases as GDP per capita rises.

b. Twins IV

The left panel of Figure 4 shows the first-stage effect, γ in equation (9), of a twin birth on our fertility measure, the probability of having three or more children. For the U.S., non-U.S., and combined world samples, there is a notable positive and concave pattern, with the first-stage increasing with higher real GDP per capita up to $15,000 or so and flattening thereafter. Note that the regression specification controls for the mother's age, but does not, indeed cannot, control for the number of children or target fertility. Therefore, the positive gradient over real GDP per capita reflects the negative impact of income on target fertility and hence the heightened impact of a twin birth on continued fertility relative to a non-twin birth.[27] Regardless, in all cases, the instrument easily passes all the normal statistical thresholds of first-stage relevance, including among countries with low real GDP per capita and high fertility rates.

The right panel of Figure 4 plots β, the instrumental variables effect of fertility on mother's labor supply.[28] In the world sample, β is mostly statistically indistinguishable from zero among countries with real GDP per capita of $7,500 or less. Thereafter, it begins to decline and eventually flattens out between -0.05 and -0.10 at real GDP per capita at around $15,000 and higher.[29] The results for the U.S. and non-U.S. samples are similar in that there is a notable

[26] Relative to Figure 1, we combined some real GDP per capita bins because of small sample sizes within these tight time windows.

[27] The first stage coefficient, γ, is E{z=1|S=1,w} – E{z=1|S=0,w}. Mechanically, E{z=1|S=1,w}=1 because of the definition of twins. This means that if, for example, γ=0.6, then E{z=1|S=0,w}=0.4, implying that 40 percent of mothers would have a third child if their second child is a singleton. The increasing coefficient over real GDP per capita means having a third child after a singleton second child is declining with development.

[28] The point estimates and standard errors from Figure 4 are also shown in Table 2.

[29] By comparison, Angrist and Evans (1998) report a twins IV estimate of -0.087 for the 1980 U.S. census.

negative gradient with respect to real GDP per capita. For example, above $20,000, the U.S. estimate is -0.070 (0.008) while the non-U.S. estimate is -0.105 (0.003).

In Figure 5, we show the U.S. twin results by census decade. The pattern is broadly similar to the previous figure. The magnitude of the first stage is increasing over time, and the second-stage IV results exhibit a pronounced negative gradient, particularly post-WWII.[30] The same pattern appears within time periods (Figure 6) and begins to notably decline prior to the wide-spread availability of e modern fertility treatments like IVF in wealthy countries and after modern census questions on labor force participation and fertility were introduced. Finally, the pattern appears across data sets (Appendix Figure A4) and geographic regions of the world (Appendix Figure A5), including four other developed countries in which we have longer time-series (Appendix Figure A6). In two of those countries -- the U.K. and Ireland – we have the data to estimate a near zero β at a low--income period and an economically large and negative β in a high-income period in their history.

c. Are There Positive Labor Supply Effects Among the Lowest Income Countries?

One surprising finding is that at low real GDP per capita levels, we sometimes estimate a positive labor supply response to childbearing. That is particularly evident in the pre-WWI U.S. estimates displayed in Figure 5, in addition to periodically positive but not statistically significant effects for some low-income post-1990 countries.[31] The U.S. positive results are not

[30] In our binned samples, we only include the U.S. full population for 1880 and 1910 to 1940. However, we display the single-year estimates from the IPUMS random samples for these years in Figures 2 and 5. We take the high degree of correspondence between the 1910 IPUMS and full population estimates as validation of our implementation of mother linkages.

[31] See Appendix Figures A5. On the regional figure, the estimates tend to be not statistically, nor economically, different from zero at low income levels, with the exception of a single pooled sample from Asia, which is positive and significant. The Asian sample between $5,000-7,500 consists of 522,757 observations from 15 country-years. The pooled result for these 15 samples is almost completely driven by Turkey in 1990 and 2000, which have IV estimates of 0.200 (0.023) and 0.150 (0.017) and make up 163,770 and 180,069 observations, respectively.

statistically significant different from zero for the early census samples (1860, 1870), but they are for the full population counts of 1880 and 1910.

While these positive results are not artifacts in the statistical sense, it is worth noting that the underlying rates of labor force participation for U.S. women are very low at this time in history (e.g. 6.2 and 11.8 percent for 1880 and 1910 mothers, respectively). As such, a positive effect could reflect that low income mothers are more likely to work after having children, for example because subsistence food and shelter are necessary, whereas childcare might be cheaply available. Section II discusses a simple extension to our theoretical model, the introduction of a consumption cost to children, which implies the potential for a positive labor supply response to additional children. Such a framework may be especially relevant for the subpopulation of compliers for the local average treatment effect – that is, mothers induced to have children who would not have otherwise.

To gain further insight into the low real GDP sample results, we split the U.S. 1930 and 1940 full population counts by state of residence and pool states into income-per-capita estimation bins (matching what we did with countries in previous figures). Figure 7 shows the now familiar upward sloping pattern to the first stage results by real income per capita. In the second stage, we see that the effect of fertility on labor supply is in general statistically indistinguishable from zero at low income levels in 1930 and 1940 and overlaps with the low-income post-1990 non-U.S. results (shown in the green line). But we also find a small positive effect from the lowest income states in 1930, seemingly corroborating the positive estimates from a lower income U.S. pre-WWI.[32]

[32] For the 1930 census, the states in that lowest bin ($2,000-3,000) are: Alabama, Arkansas, Georgia, Mississippi, North Carolina, North Dakota, New Mexico, South Carolina, and Tennessee.

d. Same Gender IV

Next, we discuss results, displayed in Figure 8, that use the same gender instrument.[33] Like the twins IV, we estimate a positive gradient to the first stage with respect to real GDP per capita, although the interpretation of this pattern is different than for twins. In particular, the same-gender first-stage picks up the increased probability that a mother opts to have more than two children based on the gender mix of her children (rather than picking up the proportion of mothers with incremental fertility when the twin instrument is zero, i.e., for non-twin births). Most importantly, we again see a negative gradient on the second stage IV estimates, from a close-to-zero effect among low GDP countries to a negative and statistically significant effect at higher real GDP per capita that flattens at around $15,000. Again, the negative estimates appear in the U.S. post-WWII (Appendix Figure A7).

Our main intention is to highlight the similar shapes of the labor supply effect across the development cycle, despite using instruments that exploit difference sources of variation.[34] Indeed, when we combine all possible instrument variation into a singled pooled estimator, as in Angrist, Lavy, and Schlosser (2010), our weighted average twin and same gender IV results also, unsurprisingly, shows the same strong negative gradient. That said, the magnitude of the same gender IV result is larger than the twin IV result at the high GDP per capita bins.[35] Since this is a local average treatment effect, this disparity suggests a greater effect of fertility on labor supply for those women induced to have an incremental child based either on son preference or the taste for a gender mix compared to those encouraged to higher fertility by a twin birth.

[33] The point estimates and standard errors from Figure 8 are shown in Table 2.

[34] Like the twins estimates, we also find additional systematic evidence of a positive fertility-labor supply effect at low levels of income, which are statistically significant for the 1910, 1930, and 1940 U.S. censuses (see Appendix Figure A7).

[35] For example, at the $20,000 and above bin, the twin estimate is -0.070 (0.008) for the U.S. sample and -0.105 (0.003) for the non-U.S. sample. By comparison, the same gender estimates are -0.121 (0.008) for the U.S. sample and -0.173 (0.019) for the non-U.S. sample.

e. Hours

The results thus far are reported for the labor force participation margin. Figure 9 plots twin IV results for the number of hours worked per week among women that are working. We include all country-years that contain a measure of hours worked, which unfortunately limits us to 39 censuses.[36] Nevertheless, we again find no evidence of a labor supply response among mothers in low-income countries and a negative response of about 0.85 hours per week among mothers in higher-income countries. As a benchmark, employed mothers work, on average, just under 33 hours per week in countries with real GDP per capita above $20,000, suggesting a roughly 2½ percent average decline in hours as a result of an additional child, conditional on working.

f. Robustness

This section describes a series of tests examining the consequence of omitted variables bias, alternative benchmarks of development, and a variety of data definition and sampling considerations.

f.1 Omitted Variables and Alternative Sources of Identification

Twin and same gender instruments are susceptible to omitted variables biases. These biases are likely to differ across instrument, suggesting that the twins and same gender IV estimates can be specification checks of each other (Angrist, Lavy, and Schlosser 2010). However, in this subsection, we push this idea further by providing three other sets of estimates that exploit alternative sources of instrument variation or control for observable characteristics that are known to explain variation in the treatment.

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[36] We use eight U.S. censuses (1940-2010) and 31 censuses from other countries. The DHS and NAPP do not contain information about hours worked per week. When hours are reported as a range, we use the center of the interval.

First, we examine a third instrument for fertility – the time that elapses between the parents' marriage and the couple's first birth ("time to first birth" or TFB) – introduced by Klemp and Weisdorf (2016).[37] A long line of research in demography and medicine (e.g. Bongaarts 1975) uses birth spacing, not necessarily limited to first births, as an indicator of fecundity. While there is mixed evidence on the extent to which spacing is idiosyncratic (see e.g. Feng and Quanhe 1996, Basso, Juul, and Olsen 2000, and Juul, Karmaus, and Olsen 1999), Klemp and Weisdorf argue that TFB is especially hard to predict based on observable characteristics outside of parent age and consequently is a valid indicator of ultimate family size. Because TFB requires marriage and birth dates, which are only available in the DHS, we cannot replicate the negative gradient across the development cycle. However, we do find that the TFB IV estimates are economically small and positive and statistically similar to twin IV and same gender estimates at the same low GDP level.[38]

Second, our baseline twin estimates condition on families with one child and compare those who then have a twin birth to those who have a singleton birth. Following Angrist, Lavy, and Schlosser (2010), we condition on different family size parities to capture variation from different sets of mothers. For example, one might expect that mothers with a large number of previous children would be less likely to adjust their labor supply in response to unexpected incremental fertility (for example, because of low incremental childcare costs for higher births). Indeed, as shown in Figure 10, we observe a stronger first stage effect for the sample that conditions on more children, especially at higher income levels. In the second stage, we see a notably, although not always statistically significantly, more negative effect in high-income

[37] Unfortunately, our data does not allow us to systematically study other instruments used in the literature, such as the use of infertility treatments (Cristia 2008; Aguero and Marks 2011; Lundborg, Plug, and Rasmussen 2016), changes in access to birth control (Bailey 2013), or other policy changes (Bloom et al. 2009; Godefroy 2016).
[38] The TFB IV estimates using the DHS data are: 0.031 (0.018), 0.047 (0.015), and 0.044 (0.014) for the $0-2,500, $2,500-5,000, and $5,000-10,000 GDP per capita bins, respectively.

countries for women starting with one child. However, the pattern of results is similar regardless of how many children are in the household when the twins are born. In all nonzero family size circumstances (up to three initial children), we continue to find no effect among low income countries and an increasingly larger negative effect among higher income countries, flattening out around $20,000 per capita.[39]

Third, it has been noted by many researchers, most recently Bhalotra and Clarke (2016), that mothers of twins may be positively selected by health and wealth.[40] We provide two additional pieces of evidence that this selection process is not driving the negative labor supply gradient. When we control for the observable characteristics that have been highlighted by Bhalotra and Clarke (2016), such as mother's education, medical care availability, and mother's health, our results are statistically identical to the baseline estimates without these controls.[41] In addition, a strand of the medical literature argues that there is a different process of selection into monozygotic and dizygotic twins (see e.g. Hoekstra et al. 2007). The proportion of dizygotic twins is affected by environmental and genetic factors of the type discussed by Bhalotra and Clarke (2016). By contrast, the proportion of monozygotic twins appears to be relatively constant

[39] Unfortunately, by construction, the twin, same gender, and time to first birth instruments are unable to identify the labor supply effect from an unexpected first child. The best evidence in the literature uses otherwise childless mothers undergoing infertility treatments and finds large negative labor supply responses in the U.S. and Denmark (Cristia 2008 and Lundborg, Plug, and Rasmussen 2016) but no impact among 32 developing countries (Aguero and Marks 2008, 2011). We cannot replicate this finding with our methodology. And indeed, we find OLS estimates are negative and economically large throughout the development cycle and do not decline as real GDP per capita grows. Of course, the OLS estimates are clearly not causal but they at least give us pause as to how much to extrapolate our results to first children.

[40] Related, Rosenzweig and Zhang (2009) argue twins are less costly to raise than two singleton births spaced apart. While we cannot fully address this concern, we can restrict the analysis to mothers with close birth-spacing. Appendix Figure A8 shows that this restriction has little impact on our results.

[41] Appendix Figure A9 plots the results with and without mother's education covariates using all available censuses and the DHS. Health measures are available only in the DHS. We are able to roughly replicate Bhalotra and Clarke's association between twinning and doctor availability, nurse availability, prenatal care availability, mother's height, mother's BMI (underweight and obese dummies), and infant mortality prior to birth. When we specifically control for these measures, our labor supply IV estimates are identical to the baseline for the <$2,500 bin and only slightly larger but statistically and economically indistinguishable for the $2,500-$5,000 bin (-0.006 (0.031) versus 0.012 (0.028)) and $5,000 and over bin (-0.075 (0.042) versus -0.043 (0.039)).

over time (and thus the development cycle) and therefore unaffected by their omitted variables bias concern. Of course, we cannot identify monozygotic and dizygotic twins in our data but we can exploit the fact that monozygotic twins are always same gender, whereas dizygotic twins are an equal mix of same and opposite gender (like non-twin siblings).[42] In Figure 11, we report that results are statistically indistinguishable across same and opposite gender twins, lending additional credence to the view that our results are not driven by omitted variable bias with respect to twinning.

f.2 Alternative Development Benchmarks

The labor supply patterns we have documented thus far are based on an economy's real GDP per capita. The key model prediction, however, is based on the substitution and income effects arising from changes to a woman's wage. Unfortunately, data limitations make it difficult to show world results stratified by female (or overall) wages. Rather we try several other relevant benchmarks.

First, we use the 1940 to 2010 U.S. censuses to compute average female real wage rates by state and census year.[43] Analogous to the real GDP per capita bins used in prior figures, state-years are stratified into four real hourly wage bins, ranging from under $6 to over $12 per hour, based on the average wage in the state at that time. Similar to the GDP per capita results, we find no labor supply effect at the lowest real wage levels and larger negative effects as the

[42] The rate of monozygotic twinning is approximately 4 per 1000 births and is constant across various subgroups (Hoekstra et al. 2007). Under the standard assumption that dizygotic twins have a 50 percent chance of being the same gender, approximately 43 to 59 percent of same-gender twins are monozygotic across the various GDP bins. Notably, the proportion of monozygotic twins will be highest in low-GDP countries, where Bhalotra and Clarke (2016) find the potential for the omitted variable bias is greatest.

[43] There is no wage data prior to 1940. For all persons aged 18 to 64, we calculate the average hourly wage rate as annual earned income divided by weeks worked times hours worked per week. The age range overlaps with the cohort of mothers used in our baseline sample but we do not condition on gender or motherhood. The results are robust to using the average wage rate of men or women only as well. Wages are inflation adjusted using the consumer price index to 1990 dollars and winsorized at the 1st and 99th percentiles in each census prior to taking means.

real hourly wage rises (Figure 12). Second, we report IV results from the U.S. and non-U.S. samples stratified by the average education level of women aged 21 to 35 (Figure 13).[44] We again find no effect at low education levels (below 9 years) but decreasing negative effects thereafter. Third, and perhaps more directly tied to Schultz (1991), we find the same pattern by agricultural output. In this case, the negative gradient begins when agricultural employment drops below 15 percent.

f.3 Data Issues

Several variable definition choices that we make in our baseline estimates could conceivably be problematic, including a) using calendar year to identify twins, b) using occupation to define LFP in historical censuses, and c) counting biological children. We discuss each of these issues in turn.

Since few censuses record multiple births or the birth month/quarter, out of necessity we label siblings born in the same year as twins. Naturally, this classification raises the risk that two births in the same calendar year could be successive rather than twins (so-called Irish twins). Fortunately, a small share of our data provide quarter or month of birth or direct measures of multiple births, allowing us to compare twins based on more precise birth dates with our baseline year-of-birth twins. The black line in Figure 14 represents our baseline reported in earlier figures. The blue line uses a subset of countries with quarter or month of birth. By and large, we see a very similar negative gradient despite a notably smaller sample of country-years. To make the comparison cleaner, we also re-estimated the baseline year-of-birth estimates with the sample of countries that provide quarter or month of birth (red line). Although the pattern gets noisier with

[44] Again, data availability limits our analysis to 1940 and later. We also exclude 30 country-years where years of education are not provided. By 1940, U.S. women in their twenties and thirties had, on average, at least 9 years of education. Consequently, the U.S. is included only in the two highest education bins (9-12 and 12+ years).

smaller sample sizes, the twin estimates based on year-of-birth appear to be, if anything, biased away from zero in low-income countries.

A second measurement issue relates to our labor supply outcome. As mentioned earlier, our historical results (1930 and earlier) use an occupation-based measure of labor force participation.[45] Post-1940, we switch to the modern LFP definition based on whether the person is working or searching for work at the time of the survey. When both LFP measures are available, initially and most prominently in the 1940 U.S. census, changing LFP definitions has no impact on our results. Using the full population 1940 U.S. census, we find a 0.95 *cross-state* correlation between the two measures and a 0.82 *cross-state* correlation of the IV results (Appendix Figure A10). More generally, Figure 15 illustrates the same general pattern of results when using: a) an occupation-based LFP for all post-1940 censuses that contain occupation, b) an indicator of whether the mother is employed at the time of the census/survey or c) an indicator of whether the mother worked over the prior year.[46]

Despite an apparent correspondence between the modern definition of LFP and the historical occupation-based "LFP," there is still valid concern that specific women's occupations are misreported and therefore could bias our results. In particular, Goldin (1990) highlights the mismeasurement of agricultural women workers in cotton growing states, an undercount of women in manufacturing, and mismeasurement of boardinghouse keepers. While it is not possible to directly address the issues raised by Goldin, Figure 16 present results that

[45] The 1910 and 1930 U.S. censuses ask about current work status. Following the IPUMS, we indicate a woman is in the labor force if she has a stated occupation and is currently working. See https://usa.ipums.org/usa-action/variables/LABFORCE#comparability_section.

[46] The baseline LFP, employment, and occupation-work results (black, blue, and red lines) use identical samples. The sample size for worked last year (green line) is roughly 1/9 as large as the other samples. Despite different sample composition, the worked last year results still correspond well with the results from other employment measures.

individually and simultaneously adjust the sample for each of these groups.[47] Again, the findings are qualitatively similar to our baseline.

Another measurement concern relates to non-biological children and children who have left the household. Data identifying biological children are not consistently available across censuses. However, when we have information on the number of children to which a mother has given birth, we find that restricting our sample to mothers where this number matches the total number of children in the household has little impact on the results (see Figure 17). This restriction addresses concerns resulting from infant mortality, older children moving out the household, compilations resulting from step-children, and children placed into foster care (Moehling 2002).

More broadly, we find it reassuring that the key pattern in the data is preserved when excluding the lower quality pre-1940 data altogether. Namely, the female labor supply response to children in 1940 was economically small (Figures 5, 7, Appendix A7) and only gets significant post-1940.[48] We take this to imply that our main inferences are not driven by inconsistent historical data and sampling. In addition, our various robustness checks suggest that data issues are not the reason for the relatively constant labor supply response to children in the half century or so leading up to WWII.

Finally, our findings are robust to a number of other reasonable tweaks to our specification, variable definitions, and sample selection, such as excluding country-year fixed

[47] That is, we exclude women in cotton growing states and who list their industry as manufacturing. As an upper bound for boardinghouse keeper employment, we recode women as employed if the household has any members who identify their relationship to the household head as a boarder.

[48] Of the four countries outside of the U.S. that we have some time-series variation, we only have censuses pre- and post-WWII for the U.K and Canada. For the U.K., the 1851, 1881, and 1911binned estimate is -0.016 (0.010) and the 1991 estimate is -0.160 (0.045). For Canada, the 1871, 1881, and 1891-binned estimate is -0.012 (0.002) and the 2011 estimate is -0.169 (0.039). See Figure A6.

effects[49] and alternative ways to specify the mother's age and age at first birth covariates, as well as parsing the sample by age, age at first birth, education, and marital status of the mother.[50] While we find consistently larger negative effects among single (relative to married) and younger (relative to older) mothers, especially in countries with higher GDP per capita, those cases still exhibit the same negative gradient across development. Moreover, there is no statistical or economic difference across gender and mother's education at any level of GDP per capita. Using the methods proposed by Angrist and Fernandez-Val (2010) and Bisbee et al. (2015) to calibrate our IV estimates to a common LATE, namely the LATE for compliers in the U.S. in 1980, also has no impact on the results (Appendix Figure A16).[51]

VI. Channels

This section explores some of the potential mechanisms that account for the remarkably robust negative income gradient of mother's labor supply response to children.[52]

a. Accounting for Base Rates of Labor Force Participation

One possibility is that the negative gradient is simply a function of the base rate of labor force participation. With respect to our theoretical model, a lower base rate of labor force participation would imply more corner ($l = 0$) cases, for which there is no scope for a negative fertility effect on labor supply. This mechanically limits the scale of any average causal effect of fertility. We can account for this possibility by rescaling estimates to the relevant base rate. The logic of this rescaling is based on the assumption that effects tend to be monotonic in the population under study. That is, write the average effect in population *s* as,

[49] In the absence of fixed effects, the fertility effect is positive at some low income levels. However, that result is driven by some outliers in our data (e.g., Nigeria in 1990 with an estimate of 0.497 (0.130) based on 2,644 mothers).
[50] These figures can be found in Appendix Figures A11 to A15.
[51] In particular, this exercise targets the estimation to the covariate distribution of compliers in the U.S. in 1980.
[52] As the main area of interest is the causal labor supply effect of children and the strength of the instruments are apparent, we stop reporting the first-stage estimates. For brevity, we concentrate solely on the twin estimates.

(11) $$\beta_s = E_s[Y_1 - Y_0],$$

where Y_1 and Y_0 are potential labor outcomes (with support $\{0,1\}$) under the condition of three or more children and less than three children, respectively. Effect monotonicity implies $Y_1 \leq Y_0$, which also means

(12) $$E_s[Y_1 - Y_0 | Y_0 = 0] = 0.$$

This further implies that

(13) $$\beta_s = E_s[Y_1 - Y_0 | Y_0 = 1]\mathrm{E_s}[Y_0],$$

in which case the average effect of having three or more children *among those for which there can be an effect* is given by

(13) $$\beta_s^r = E_s[Y_1 - Y_0 | Y_0 = 1] = \frac{\beta_s}{\mathrm{E_s}[Y_0]}.$$

Comparing trends in β_s versus β_s^r allows us to assess the influence of base participation rates.

For example, suppose we have two populations, *s* and *s'*, perhaps corresponding to the same country at different points in time or to two countries at different levels of development. If $\beta_s < \beta_{s'}$ but $\beta_s^r = \beta_{s'}^r$ and $E_s[Y_0] < E_{s'}[Y_0]$, we could infer that the effect of fertility *among those for whom an effect is possible* is constant, but that an increase in the base rate of participation from population *s* to *s'* leads to a stronger average effect when taking all women in the populations into account. Such a pattern would suggest no fundamental change in the way fertility tends to affect labor supply. If, however, we see that $\beta_s^r < \beta_{s'}^r$ then this would suggest that the negative gradient in the average effect is not simply a function of changes in the base rate.[53]

[53] This rescaling recovers a meaningful effect in populations for which the monotonicity assumption is reasonable. Rescaling would not be valid in country-years, such as those described in Section V.c, where we estimate statistically significant positive fertility effects. Our figures are based on samples that include positive estimates. If we apply our rescaling strategy to country-year samples for which we observe either negative or (statistically

Given that we are estimating complier LATEs via IV, the populations indexed by s correspond to the compliers in our various country years. As such, the relevant base rate, $E_s[Y_0]$, corresponds to the labor force participation rate among compliers with instrument values equal to 0. We compute these complier-specific rates using the IV approach of Angrist, Pathak, and Walters (2013).[54]

Figure 18 shows the rescaled baseline twins estimates. For the U.S., the rescaling results in a substantial flattening past $7,500 per capita. For the non-U.S. populations, the rescaled estimates are consistent (taking into account the uncertainty in the estimates) with a flattening after $10,000 per capita. However, a negative gradient is still evident over lower levels of income. This indicates that the decline in the labor supply effect of an additional child is not solely driven by increases in the base rate of mother's LFP and motivates further analysis into the channel driving the negative gradient, particular over income levels under $10,000 per capita. The analyses below examine results both with and without the base-rate rescaling.

b. **Changes to the Income and Substitution Effect Across Stages of Development**

We believe much of the remaining negative gradient is due to a declining substitution effect, in combination with an unchanging income effect resulting from increasing wages for women during the process of economic development.

We identify the substitution effect primarily through changes in job opportunities. This exercise is motivated by previous work that documents a U-shape of female employment with development in the U.S. (Goldin, 1990) and across countries (Schultz 1991 and Mammen and Paxson 2000). Schultz (1991) shows that the U-shape is not observed within sector. Rather, it is

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indistinguishable from) zero fertility effects, we still recover a comparable negative gradient, although, unsurprisingly, labor supply responses at all real GDP per capita levels become more negative.

[54] Specifically, we stack the two-stage estimation used in Angrist, Pathak, and Walters to calculate the complier-control mean with our baseline two-stage least squares regression to get the covariance between the base rate and the labor supply effect.

explained by changes in the sectoral composition of the female labor force. In particular, women are less likely to participate in unpaid family work (mostly in agriculture) and self-employment and more likely to be paid a wage in the formal sector in the later stages of the development process. In addition, we have reason to believe that the changes in the types of jobs that women have over time might become less compatible with raising children. For example, in rural agricultural societies, women can work on family farms while simultaneously taking care of children but the transition to formal urban wage employment is less compatible with providing care at home (Jaffe and Azumi 1960; McCabe and Rosenzweig 1976; Kupinsky 1977; Goldin 1990; Galor and Weil 1996; Edwards and Field-Hendrey 2002; and Szulga 2013).

Given that consistent information on occupations and sectors across our many samples is limited, we rely on two coarse indicators of job type that can be consistently measured in almost all of our data. First, we try to capture the distinction between urban/rural and formal/informal occupations by changing the outcome to be whether women work for a wage or work but are unpaid. These results, unscaled (left) and scaled (right), are presented in Figure 19. We find the changing relationship between fertility and labor supply is driven by women who work for wages. The response from women who are working but not for wages is small and statistically indistinguishable at different levels of real GDP per capita. Note again, that since these are rescaled estimates the gradient – or lack thereof – is driven not by changes in aggregate levels of labor force participation at different levels of GDP per capita, but by changes in the labor-childbearing tradeoff at the individual level.

A second proxy of sectoral shifts is whether women work in the agricultural or non-agricultural sectors (Figure 20). Although the scaled results presented in the right plot are unfortunately noisy for agricultural labor, the labor supply response of women in non-agricultural sectors becomes clearly more negative as real GDP per capita rises.

In settings where nearly all labor is in the formal sector, it becomes especially hard to identify differences in the effects of women's labor market opportunities. In light of the inherent selection problem around observed wages, the fertility response literature has long used a woman's education to proxy for the type of jobs and wages available to her. While Gronau (1986) documents several results finding education is correlated with a fertility response, this correlation appears to reverse once Angrist and Evans (1998) apply instrumental variables. We find no strong heterogeneity by education (Appendix Figure A14). We also observe in Figure 21 that fertility has almost no differential effect across the development cycle on female labor supply to professional occupations, despite the fact that these occupations tend to have higher wages.[55] Instead, the changing gradient seems to be driven entirely by women who work in non-professional occupations, suggesting either that education and professional status are poor proxies for the substitution effect, or that the opportunity differences they capture are small in comparison to the sectoral shifts out of agricultural and non-wage work.[56]

By contrast, we believe the income effect of rising wages is likely small and invariant to the stage of development.[57] We show this result in two ways. First, we look at the husband's labor supply response to children using the same twin IV estimator. A long literature, tracing

[55] Professional occupations are defined somewhat differently across data sources. For the U.S., we define professionals as Professional, Technical, or Managers/Officials/Proprietors. This definition corresponds to 1950 occupation codes 0-99 and 200-290. For IPUMS-I, we use the International Standard Classification of Occupations (ISCO) occupation codes. For the NAPP, we use the Historical ISCO codes, except for 1911 Canada where we use 1950 U.S. occupation codes. We dropped the 1851 and 1881 U.K censuses due to difficulty convincingly identifying professionals. For the DHS, we use their occupation codes. In all non-U.S. sources, we define professionals as close as possible to the U.S.

[56] Note that $\partial^2 l/\partial n \partial w$ becomes more negative as the level of the mother's wage declines. Thus the model predicts that the negative gradient will be sharper among lower-skilled women.

[57] Henceforward, we will present the unscaled twin IV estimates since changes in the base rate of mothers' work are less of a concern.

back to classic models of fertility such as Becker (1960) and Willis (1973), argues that an increase to the husband's wage increases the demand for having children, possibly because men spend less time rearing children. That is, the income effect is dominant. In Figure 22, we return to the unscaled estimates and show that the husband's labor supply response is economically indistinguishable from zero and invariant to the level of real GDP per capita.

Second, we use the 1940 to 2010 U.S. censuses, which contain hourly wages of husbands, to measure the differential labor supply response of women throughout the hourly wage distribution of their spouse. One version of those results, where mothers are stratified into three real wage groups of their husbands (under \$10, \$10-\$16 and above \$16 measured in 1990 dollars), is displayed in Figure 23.[58] Generally, we find no differential response, again suggestive that the income effect is unlikely to be a driver of the negative gradient in the labor supply response to children over the development cycle.

c. **Child Care Costs**

A key factor driving the relationship between mother's labor supply and children is the time cost of raising kids.[59] One simple indication that child care costs could be a relevant channel is visible in Figures 24 and 25, which stratify the samples by six year age bins of the oldest or youngest child respectively. Regardless of kids' ages, we find a negative gradient, with the labor supply elasticity declining at real GDP per capita around \$7,000 - \$15,000. However, the gradient is monotonically sharper for families with younger children who typically require more care, and especially among mothers in non-professional occupations with younger children

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[58] Figure 22 is an extension of Figure 12, where the states are grouped into bins by the average wage of all 18-64 year olds and mothers are separated within bins by their spouse's wage.

[59] Recall equation (7): $\frac{\partial l}{\partial n} = -\frac{\alpha^{\theta} b}{w^{\theta+1}\gamma^{\theta}+\alpha^{\theta}} < 0$ where b is the time cost of children.

(Table 3).[60] In particular, among mothers with a child under 6, the impact of a child on working in a non-professional occupation falls by -0.066 (0.010) in countries with real GDP per capita above $10,000 relative to countries below $10,000.[61] By comparison, the non-professional gradient falls to -0.054 (0.011) and -0.020 (0.021) for mothers with a youngest child between 6 to 11 and 12 to 17. Strikingly, the labor supply gradient among professional occupations is invariant to the age of the youngest child. These results are at least suggestive that non-professional mothers, who are most exposed to sectoral shifts over the development cycle, may also be least likely to be able to pay for childcare costs through formal wage work.

Ideally, we would test the importance of child care costs with convincing sources of exogenous variation across countries or over time. Unfortunately, we are not aware of such variation that is broadly conducive with our data. There is, however, a growing literature that uses quasi-experimental variation in access to child care or early education to study mother's labor supply in individual countries, including the U.S. (Cascio 2009; Fitzpatrick 2012; Herbst 2017), Argentina (Berlinski and Galiani 2007), Canada (Baker, Gruber, and Milligan 2008), and Norway (Havnes and Mogstad 2011). Summarizing this literature, Morrisey (2017) concludes that the availability of child care and early education generally increases labor supply of mothers, although there is some response heterogeneity across countries.[62][63] We view this literature as at

[60] There is a monotonic relationship between age of children and time spent on child care. For example, in the U.S. Time Use Survey, 21-35 year old women with two children at home where one was under 6 spent 2.9 hours per day, on average, on child care (plus an additional 2.5 hours per day on other household activities). By comparison, when the youngest child is 6 to 11 or 12 to 17, mothers spend 1.8 and 1.3 hours per day, respectively, on child care. For the subset of mothers who are not working, child care takes up 6.8 (youngest child under 6), 5.4 (6 to 11), and 4.7 (12 to 17) hours per day.

[61] For exposition and due to sample size concerns that arise when dividing samples too finely, country-years in Table 3 are sorted into two real GDP per capita bins: above and below $10,000. The bottom row, labeled "gradient," is the difference.

[62] Herbst (2017) in particular provides an example from the WWII-era U.S. Lanham Act that offered childcare services to working mothers with children under 12. State variation of funding offered a natural experiment in a period when we find the aggregate labor supply response of mothers to additional children was close to 0. Herbst reports that additional child care funding raised mother's labor force participation in this period as well.

least consistent with the possibility that the negative labor supply gradient may be amplified if child care costs increase because jobs become less conducive to child rearing, and, if so, this dynamic appears to primarily impact lower wage mothers with young children.

d. **Access to Oral Contraceptives**

Lastly, the evidence from countries for which we have data spanning the development cycle (see Figures 5 and Appendix A6) show that mothers' labor supply response to children likely falls in the decades immediately after WWII, a period in which birth control pills were introduced and widely dispersed in the developed world. To test whether our results are possibly related to this new development, we examine differences in the timing in which U.S. states allow access to birth control pills among 18 to 21 year olds (Bailey et. al. 2012). Using mothers in the 1970 and 1980 censuses and a difference-in-difference design, we find no evidence that access to birth control impacted the labor supply decisions of mothers in response to unexpected births.[64] Combined with a robust cross-sectional negative mother labor supply gradient over the last couple of decades, when much of the world has access to oral contraceptives, we do not see compelling evidence that changing access to birth control is likely an important explanation of our main findings.

VII. Conclusion

In her classic monograph of the evolution of women's work in the United States, Goldin (1990) documents a U-shaped evolution of women's labor supply over the 20th century. At the

[63] We have examined non-exogenous sources of variation in childcare costs. For example, we split country-years by the propensity at the national level of households to have access to multigenerational living arrangements or pre-school attendance, two sources of childcare that vary across the development cycle (e.g. Ruggles 1994). We compute the share of households in multigenerational living arrangements using our census data and use pre-school attendance data collected by the World Bank. We find no evidence that either impacts mothers' labor supply decisions. Without a fuller model that allows us to understand the sources of variation in multigenerational families and pre-schools, these results are inconclusive. Nevertheless, they highlight our caution in overinterpreting the role that child care costs may play in explaining the negative labor supply gradient.
[64] These results are available upon request.

same time, she notes the paucity of historical causal evidence on the link between fertility and labor supply. A parallel literature in development economics has investigated the implications of evolving patterns of fertility in developing countries on economic growth (and implicitly labor supply). While there have been many notable and pioneering studies on the effect of fertility on labor supply in developing countries, they naturally tend to focus on single countries or non-causal evidence.

Using a twin birth and same gender of the first two children as instruments for incremental fertility, this paper links these two literatures by examining causal evidence on an evolution of the response of labor supply to additional children across a wide swath of countries in the world and over 200 years of history. Our paper has two robust findings. First, the effect of fertility on labor supply is small, indeed typically indistinguishable from zero, at low levels of income, and negative and substantially larger at higher levels of income. Second, the magnitude of these effects is remarkably consistent across the contemporary cross-section of developing countries and the historical time series (using primarily U.S. census data but also other developed-country historical samples from the NAPP), as well as across demographic and education groups.

Our results are consistent with a standard labor-leisure model. As income increases, individuals face an increased time cost of looking after children but also experience higher incomes. The former dominates the latter. This substitution effect seems to arise from changes in the sectoral and occupational structure of female jobs, in particular the rise of non-professional, non-agricultural wage work that flourishes with development. We also show that the negative gradient is steeper among mothers with young children that work in non-professional occupations and that access to child care subsidies may attenuate the negative gradient, suggesting that the affordability of child care costs may play a key role in declining LFP during the development cycle.

In discussing the evolution of female labor force participation in the United States, Goldin (1990) notes that "… women on farms and in cities were active participants [in labor] when the home and workplace were unified, and their participation likely declined as the marketplace widened and the specialization of tasks was enlarged." In examining the relationship between labor supply and fertility over the process of development, we arrive at a parallel conclusion. The declining female labor supply response to fertility is especially strong in wage work that is likely the least compatible with concurrent childcare.

We see three implications of our results. First, in thinking about the U-shaped pattern of labor force participation that has been widely document in the economic history literature, our results suggest that decreases in fertility play a significant causal role in explaining part of this effect. As fertility rates have declined over the latter half of the 20th century, the responsiveness of labor supply to fertility has increased, contributing to increases in female labor force participation. Second, among developing countries, our results however suggest that changes in fertility tend not to have a large impact on labor force participation, arguing against fertility-reduction policies specifically motivated by women's labor force participation and its contribution to growth. Third, at least when it comes to fertility and labor supply, our results point to a remarkable consilience between historical and contemporary developing country data, suggesting that each of these disciplines has important insights for the other.

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Table 1 - Sample Summary Statistics by GDP Group

GDP	N. Mothers	N. Samples	In Labor Force	3 or More Children	2nd Child is Multiple Birth	Number of Children (in Household)	Mother's Age at Survey	Mother's Age at First Birth	First Child is Boy	Second Child is Boy	Age of First Child	Age of Second Child
	US											
0-2,500	32,531	2	5.1%	62.5%	0.74%	3.27	29.02	21.04	50.8%	50.7%	7.99	5.18
2,500-5,000	2,557,639	2	6.2%	63.9%	0.68%	3.32	28.99	20.95	50.7%	50.8%	8.04	5.31
5,000-7,500	12,959,066	3	9.2%	55.5%	0.86%	3.09	29.30	21.13	50.6%	50.6%	8.17	5.46
7,500-10,000	4,706,116	2	10.6%	47.0%	0.87%	2.88	29.48	20.94	50.8%	50.8%	8.54	5.66
10,000-15,000	470,378	1	22.8%	55.1%	1.70%	2.99	29.30	21.40	51.0%	50.8%	7.90	5.28
15,000-20,000	598,515	2	46.8%	39.0%	1.29%	2.58	29.68	21.07	51.2%	51.0%	8.61	5.68
20,000-35,000	1,312,550	3	62.9%	36.6%	1.46%	2.50	30.28	21.85	51.1%	50.9%	8.42	5.17
	Non-US											
0-2,500	9,676,791	213	43.3%	57.2%	1.28%	3.06	29.07	20.66	50.7%	51.5%	8.41	5.44
2,500-5,000	7,617,815	103	36.1%	50.7%	1.05%	2.96	29.82	21.19	51.1%	51.0%	8.63	5.50
5,000-7,500	4,192,823	52	36.8%	45.9%	1.22%	2.77	29.43	20.46	50.9%	50.8%	8.97	5.77
7,500-10,000	2,184,583	20	34.9%	43.9%	1.25%	2.69	29.54	20.66	51.1%	50.7%	8.89	5.62
10,000-15,000	614,503	19	37.9%	36.3%	1.19%	2.61	29.99	21.63	51.4%	51.2%	8.36	5.25
15,000-20,000	415,161	10	56.1%	30.6%	1.19%	2.41	30.73	22.61	51.4%	51.2%	8.13	4.90
20,000-35,000	1,085,025	9	73.7%	29.0%	1.44%	2.38	31.23	24.00	51.2%	51.1%	7.23	4.00

Table 2 - Baseline Estimates by GDP Group

							OLS		*Twin IV*				*Same-Sex IV*			
	US			***non-US***			***US***	***non-US***	***US***		***non-US***		***US***		***non-US***	
GDP	*N. Mothers*	*N. Samples*	*LFP*	*N. Mothers*	*N. Samples*	*LFP*			***FS***	***2S***	***FS***	***2S***	***FS***	***2S***	***FS***	***2S***
0-2,500	32,531	2	5.1%	9,676,791	213	43.3%	**-0.018**	**-0.022**	**0.345**	**0.119**	**0.411**	-0.005	**0.015**	-0.068	**0.028**	**-0.046**
							(0.006)	(0.005)	(0.018)	(0.005)	(0.018)	(0.009)	(0.007)	(0.162)	(0.007)	(0.019)
2,500-5,000	2,557,639	2	6.2%	7,617,815	103	36.1%	**-0.023**	**-0.058**	**0.345**	**0.035**	**0.473**	-0.014	**0.009**	**0.036**	**0.030**	-0.018
							(0.000)	(0.007)	(0.005)	(0.005)	(0.036)	(0.011)	(0.000)	(0.007)	(0.007)	(0.012)
5,000-7,500	12,959,066	3	9.2%	4,192,823	52	36.8%	**-0.033**	**-0.088**	**0.452**	0.009	**0.545**	-0.003	**0.014**	**0.037**	**0.035**	**-0.037**
							(0.009)	(0.012)	(0.014)	(0.011)	(0.020)	(0.015)	(0.002)	(0.008)	(0.002)	(0.013)
7,500-10,000	4,706,116	2	10.6%	2,184,583	20	34.9%	**-0.064**	**-0.113**	**0.541**	**-0.017**	**0.548**	**-0.033**	**0.021**	**0.073**	**0.032**	-0.001
							(0.001)	(0.004)	(0.002)	(0.001)	(0.023)	(0.011)	(0.000)	(0.002)	(0.001)	(0.029)
10,000-15,000	470,378	1	22.8%	614,503	19	37.9%	**-0.117**	**-0.138**	**0.452**	**-0.033**	**0.604**	**-0.089**	**0.035**	**-0.084**	**0.035**	**-0.061**
							(0.001)	(0.023)	(0.002)	(0.010)	(0.064)	(0.016)	(0.001)	(0.034)	(0.004)	(0.035)
15,000-20,000	598,515	2	46.8%	415,161	10	56.1%	**-0.171**	**-0.276**	**0.594**	**-0.064**	**0.719**	**-0.127**	**0.050**	**-0.125**	**0.042**	**-0.204**
							(0.010)	(0.034)	(0.045)	(0.015)	(0.038)	(0.036)	(0.005)	(0.004)	(0.002)	(0.020)
20,000-35,000	1,312,550	3	62.9%	1,085,025	9	73.7%	**-0.149**	**-0.247**	**0.636**	**-0.070**	**0.706**	**-0.105**	**0.049**	**-0.121**	**0.038**	**-0.173**
							(0.010)	(0.009)	(0.007)	(0.008)	(0.003)	(0.003)	(0.001)	(0.008)	(0.001)	(0.019)

Table 3 - Estimates on Professional Status by Age of Youngest Child

	Professionals			*Non-Professionals*		
GDP Bin	*0 to 5*	*6 to 11*	*12 to 17*	*0 to 5*	*6 to 11*	*12 to 17*
<10k	**-0.007**	**-0.006**	**-0.005**	0.001	-0.007	-0.008
	(0.002)	(0.002)	(0.003)	(0.006)	(0.006)	(0.015)
>10k	**-0.026**	**-0.014**	**-0.024**	**-0.065**	**-0.060**	-0.028
	(0.004)	(0.005)	(0.006)	(0.008)	(0.009)	(0.015)
Gradient	**-0.019**	-0.009	**-0.019**	**-0.066**	**-0.054**	-0.020
	(0.004)	(0.005)	(0.007)	(0.010)	(0.011)	(0.021)

Figure 1 - OLS, by Real GDP/Capita

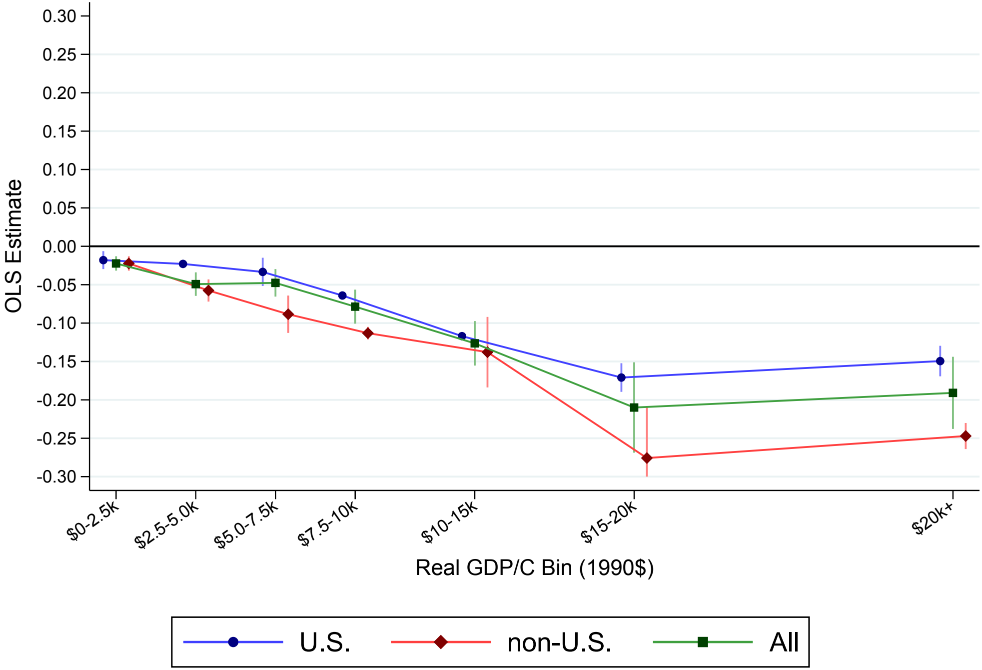


Figure 2 - OLS, U.S. by Time

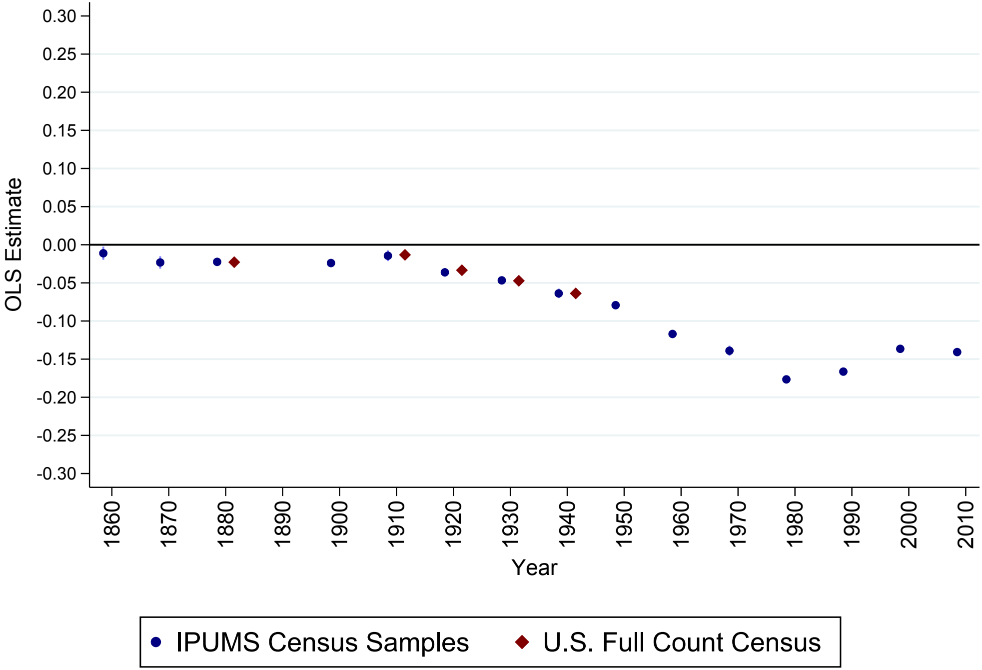


Figure 3 - OLS, by Time and Real GDP/Capita Bin

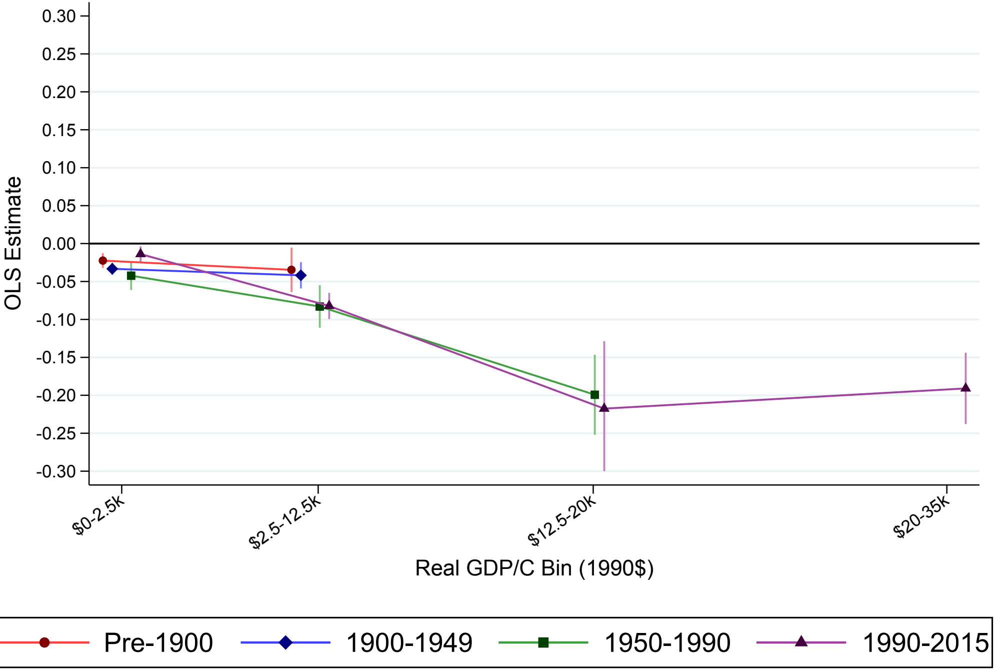


Figure 4 - Twin IV, by Real GDP/Capita

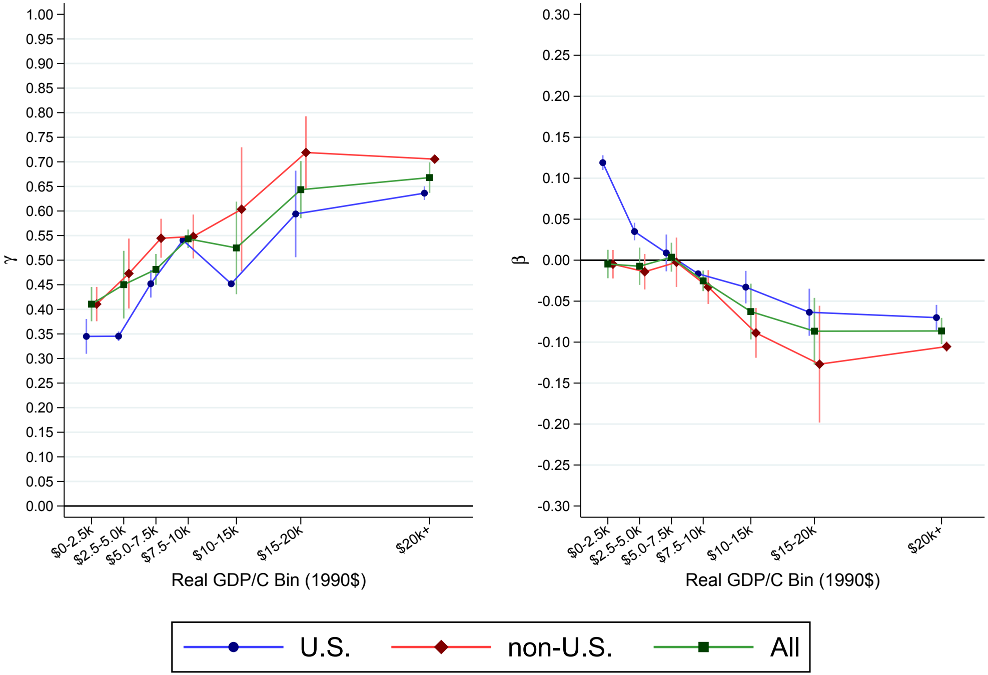


Figure 5 - Twin IV, U.S. by Time

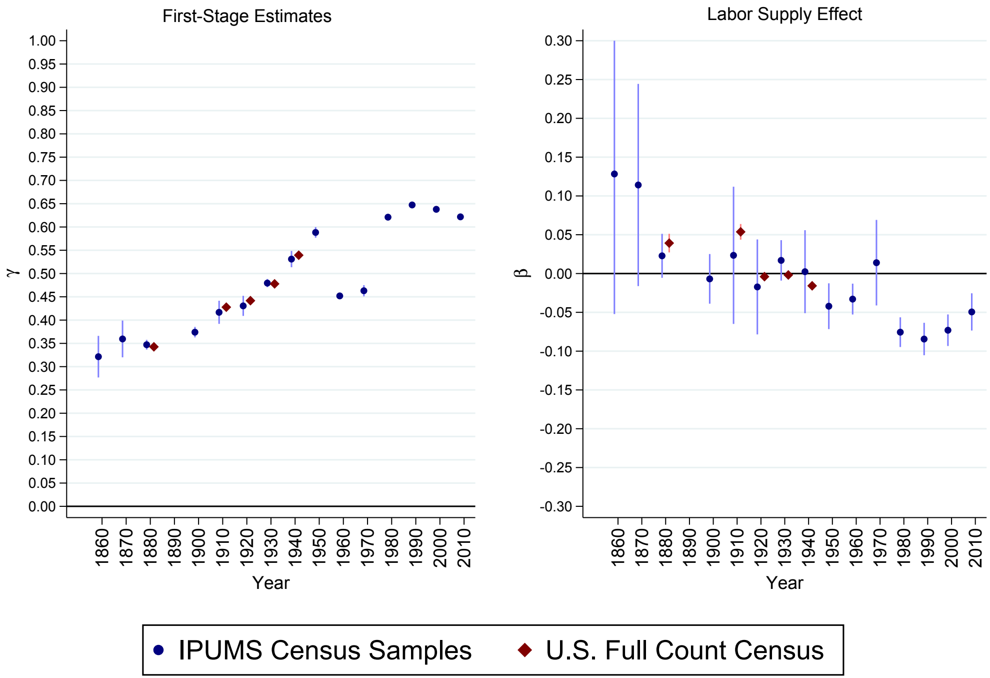


Figure 6 - Twin IV, by Time and Real GDP/Capita Bin

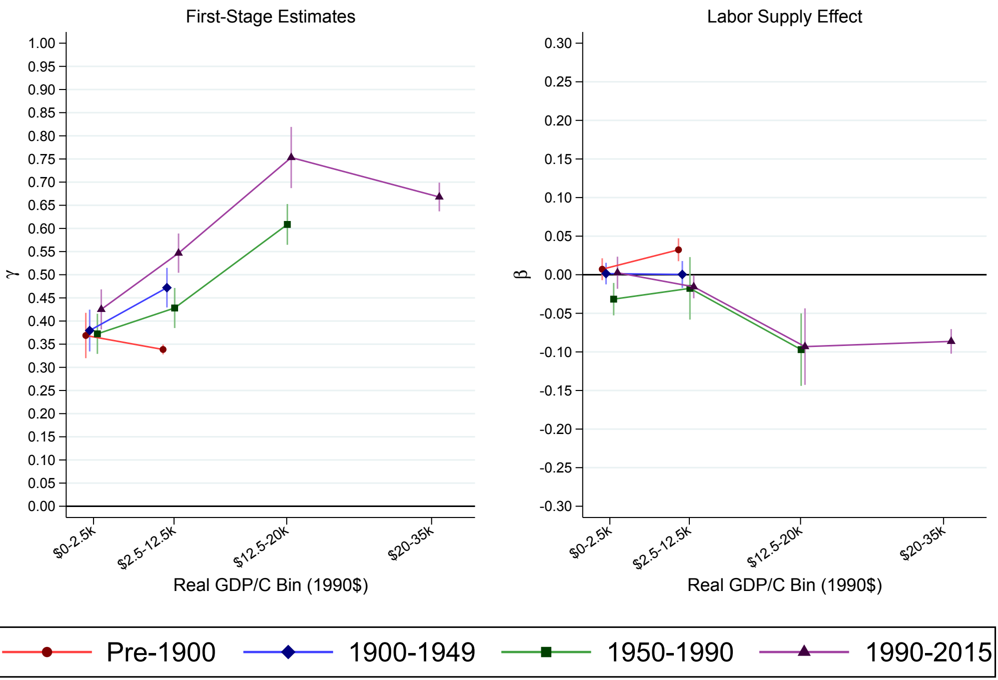


Figure 7 - U.S. States in 1930 and 1940, Twin IV

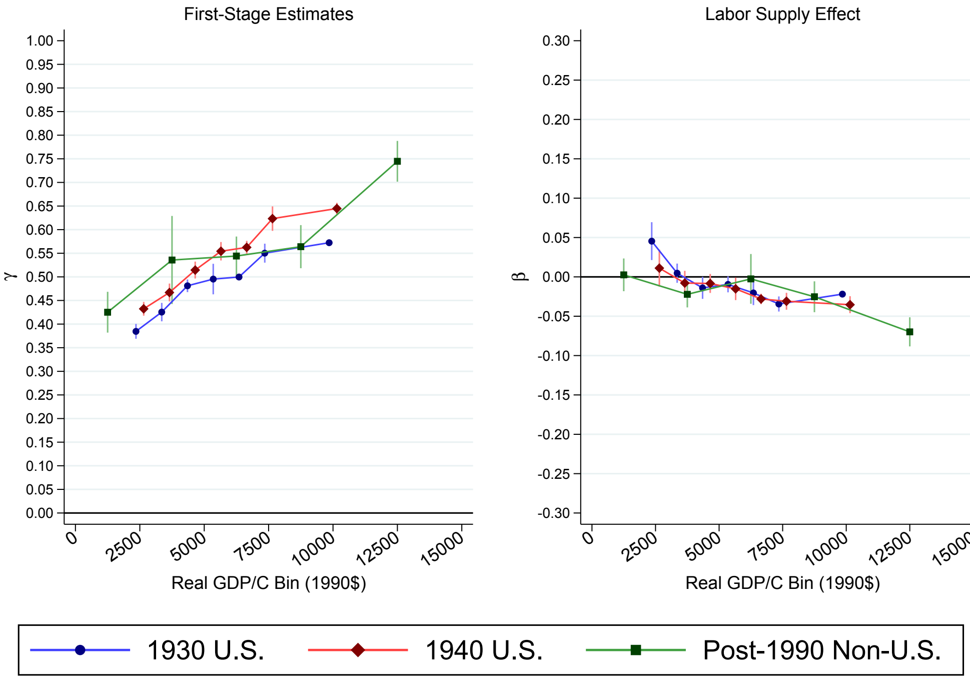


Figure 8 - Same Gender IV, by Real GDP/Capita

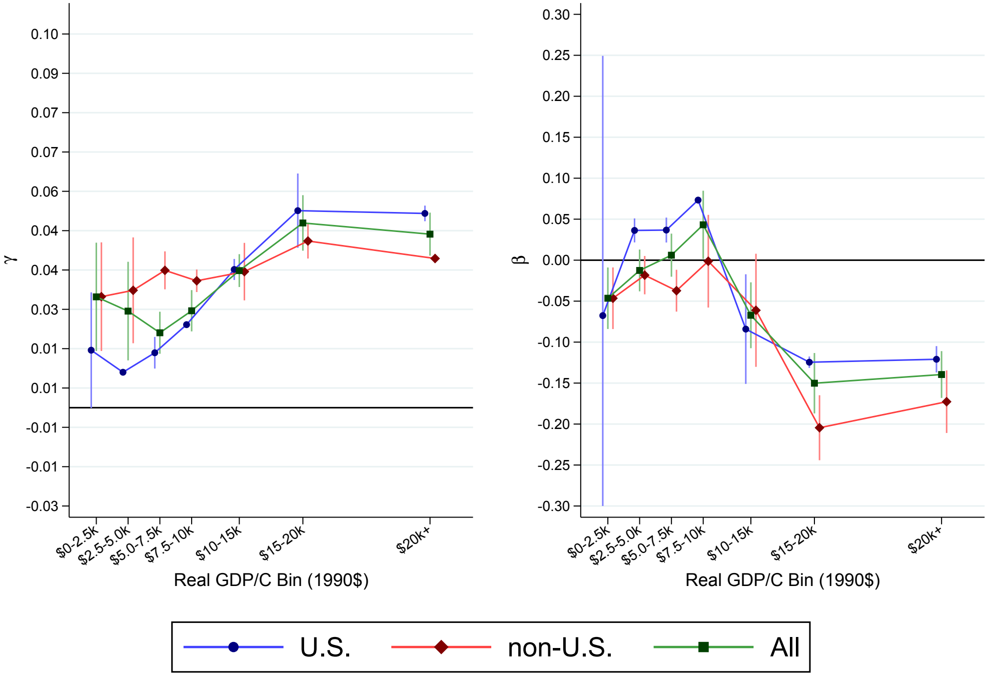


Figure 9 - Hours Conditional on Working, Twin IV

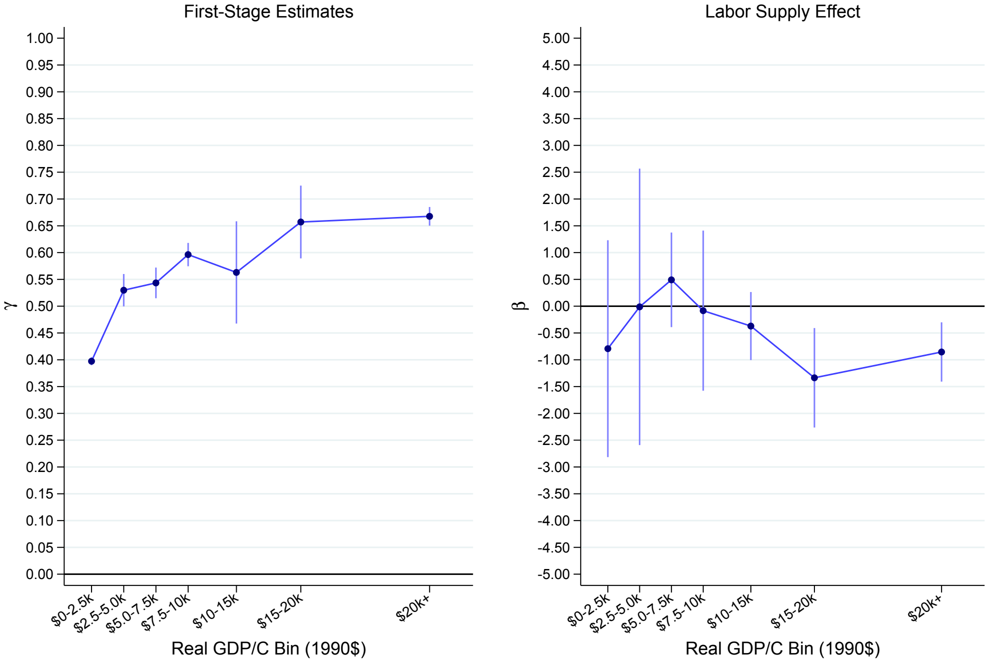


Figure 10 - Different Child Parities, Twin IV

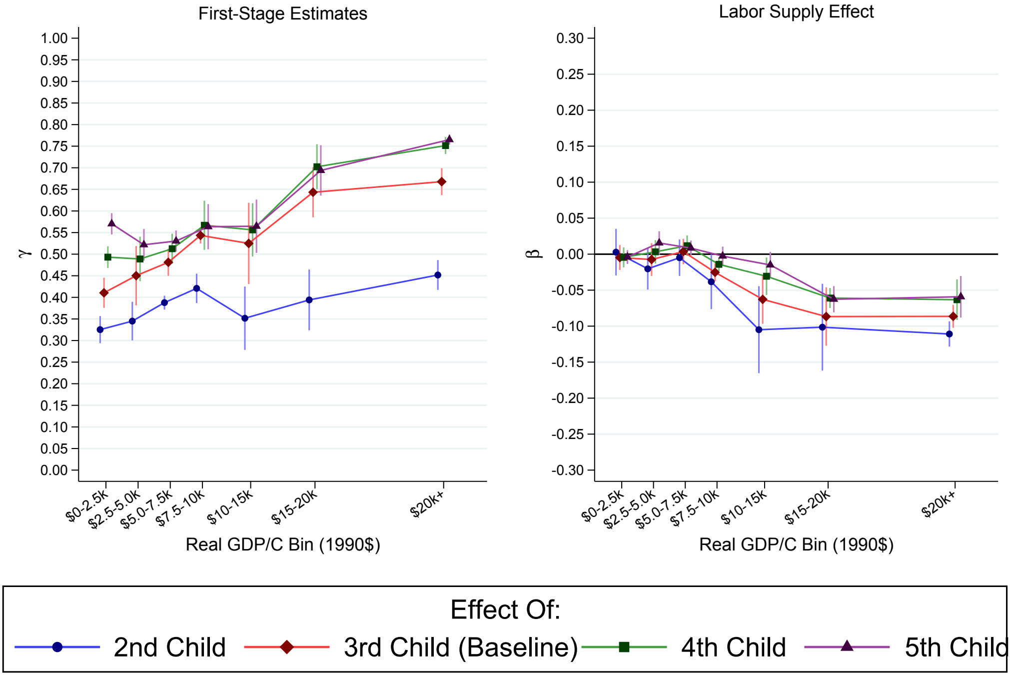


Figure 11 - By Gender of Twins

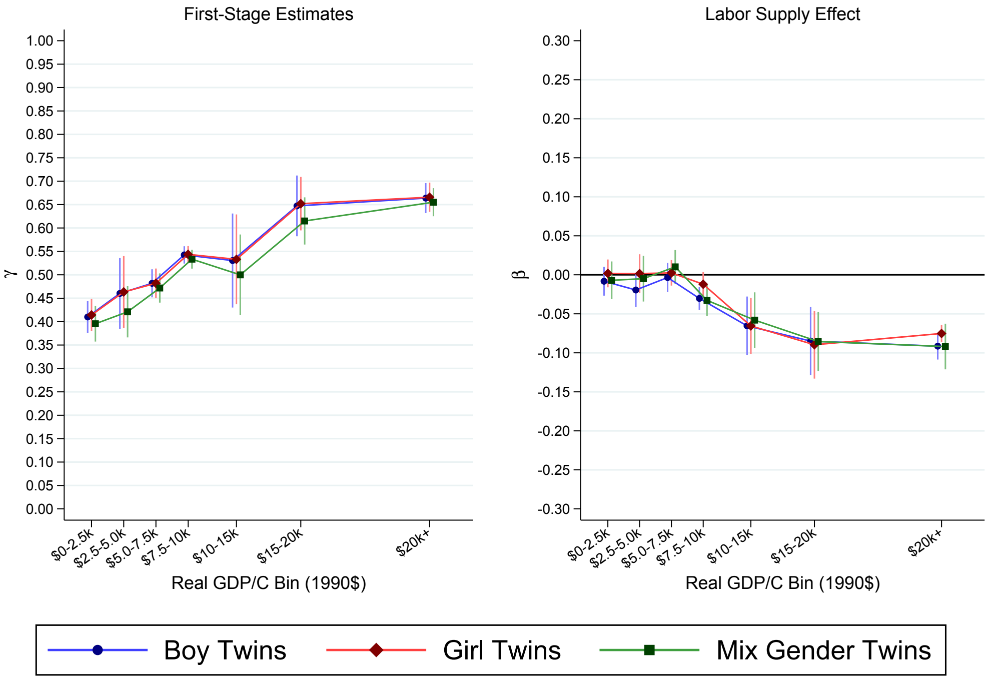


Figure 12 - Alternative Development Benchmark by U.S. State Mean Hourly Wage, 1940-2010, Twin IV

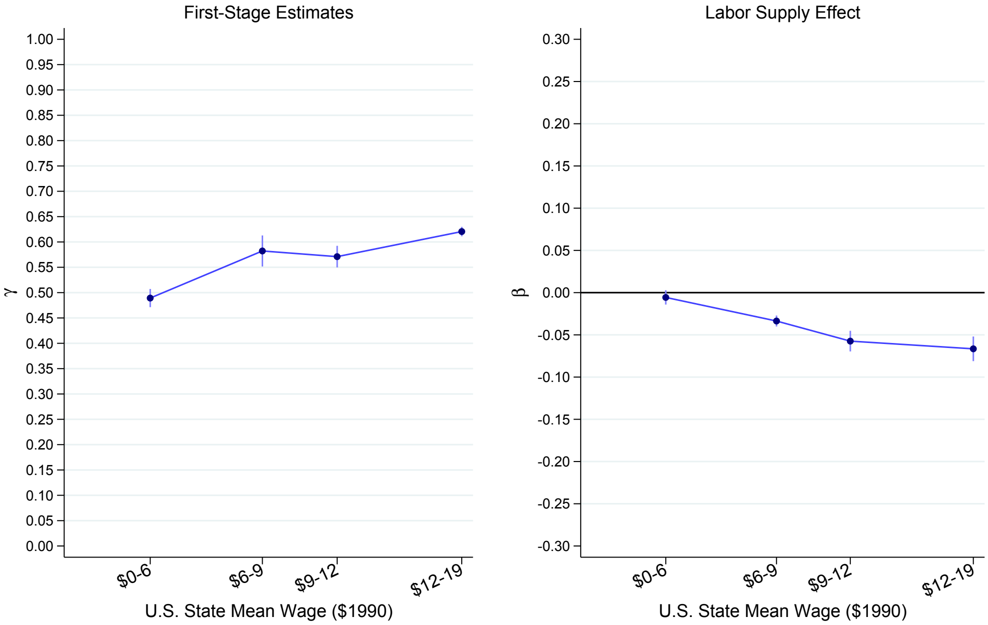


Figure 13 - Alternative Development Benchmark, by Female Education, Twin IV

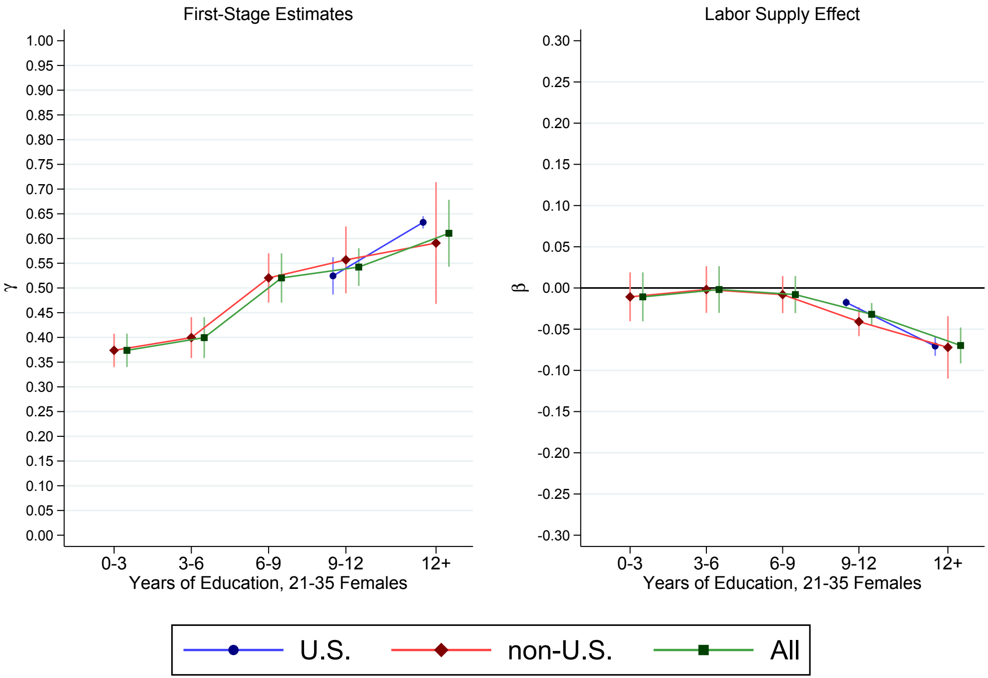


Figure 14 - By Definition of Twins

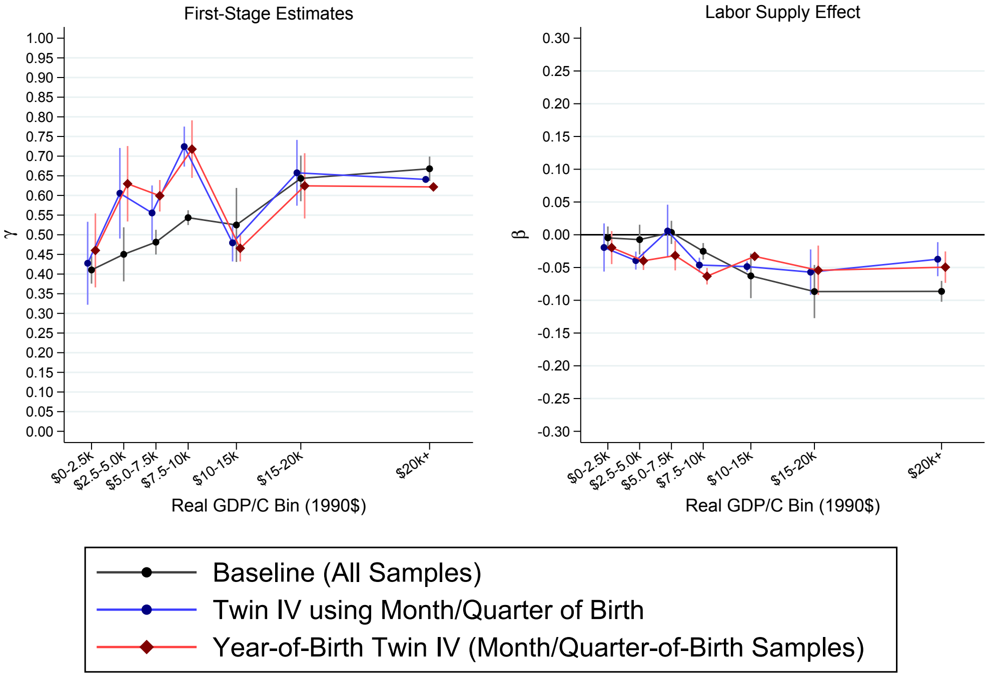


Figure 15 - By Alternative Labor Supply Measures, Twin IV

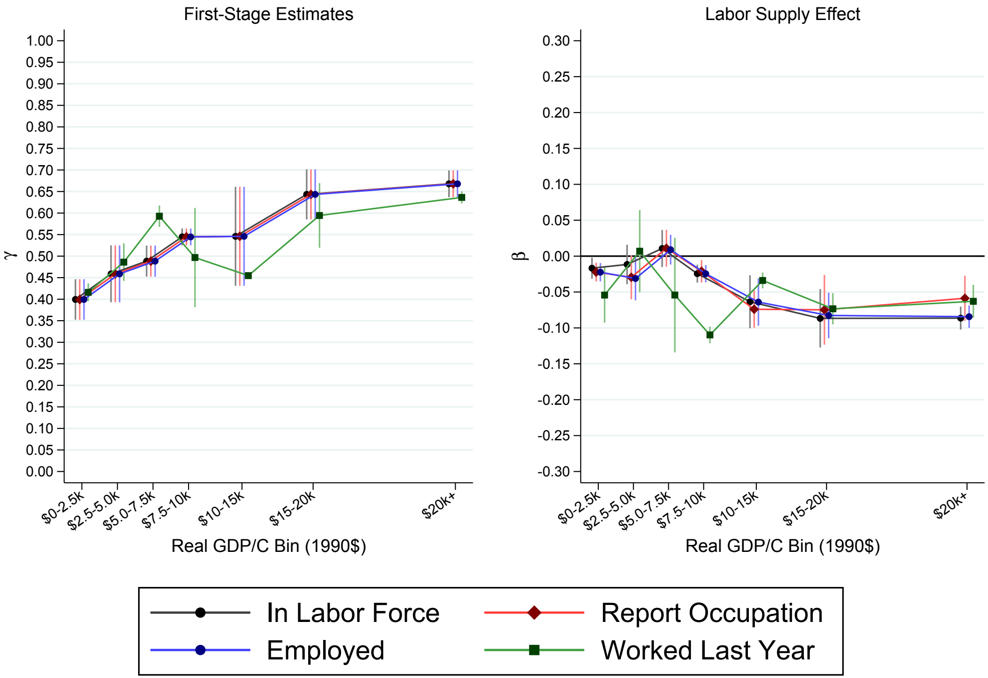


Figure 16 - U.S. Estimates Adjusted for Mismeasured Occupations, Twin IV

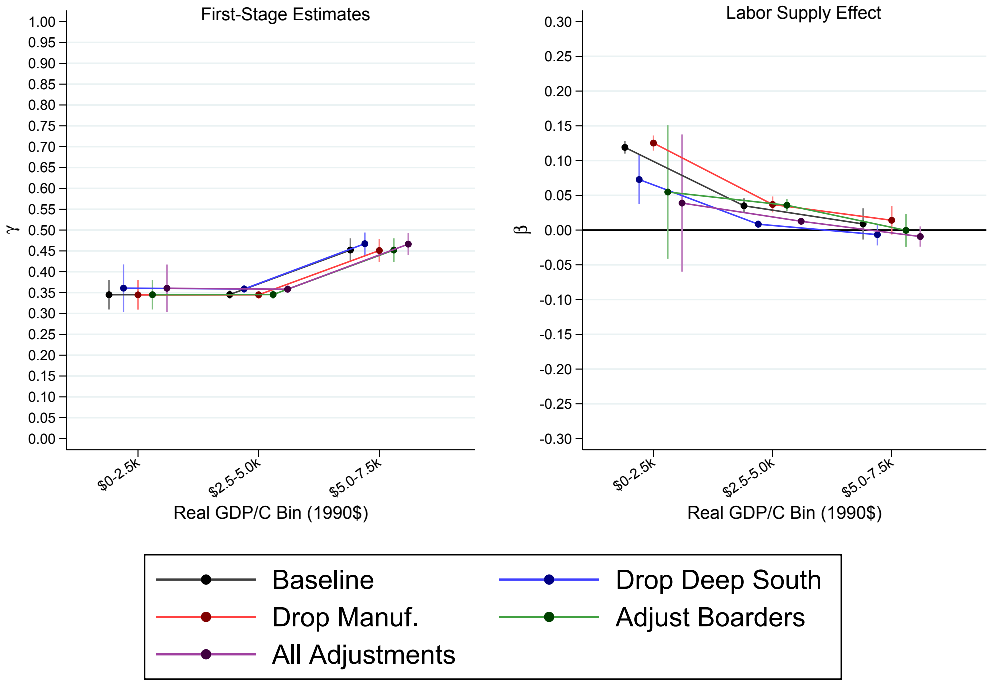


Figure 17 - Robustness to Non-Biological Children
Country-Years with Information on Number of Children Ever Born

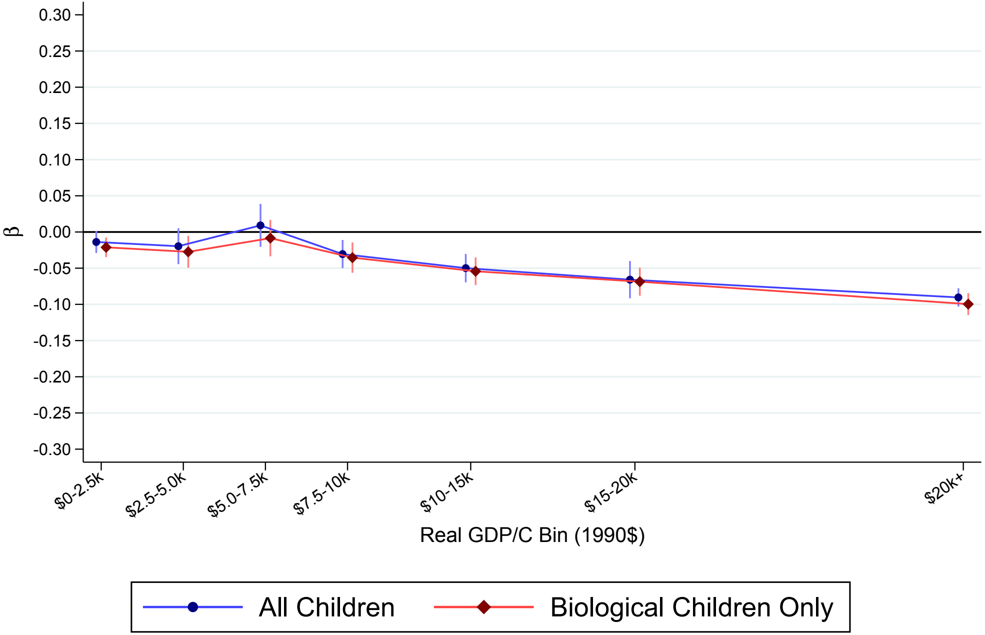


Figure 18 - Twin IV, by Real GDP/Capita

Rescaled by Complier-Control Outcome Mean

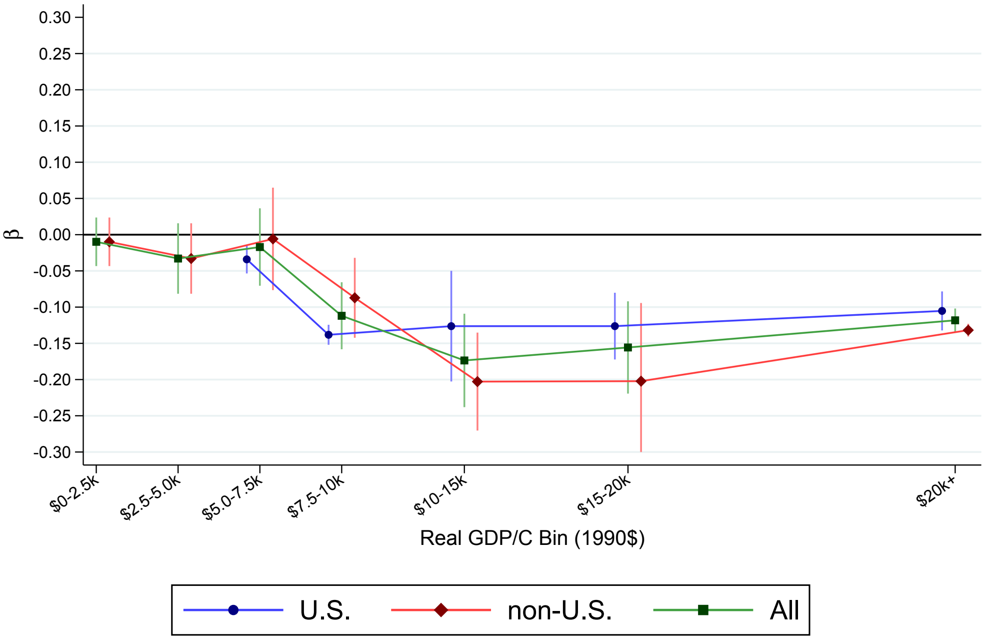


Figure 19 - By Class of Worker, Twin IV

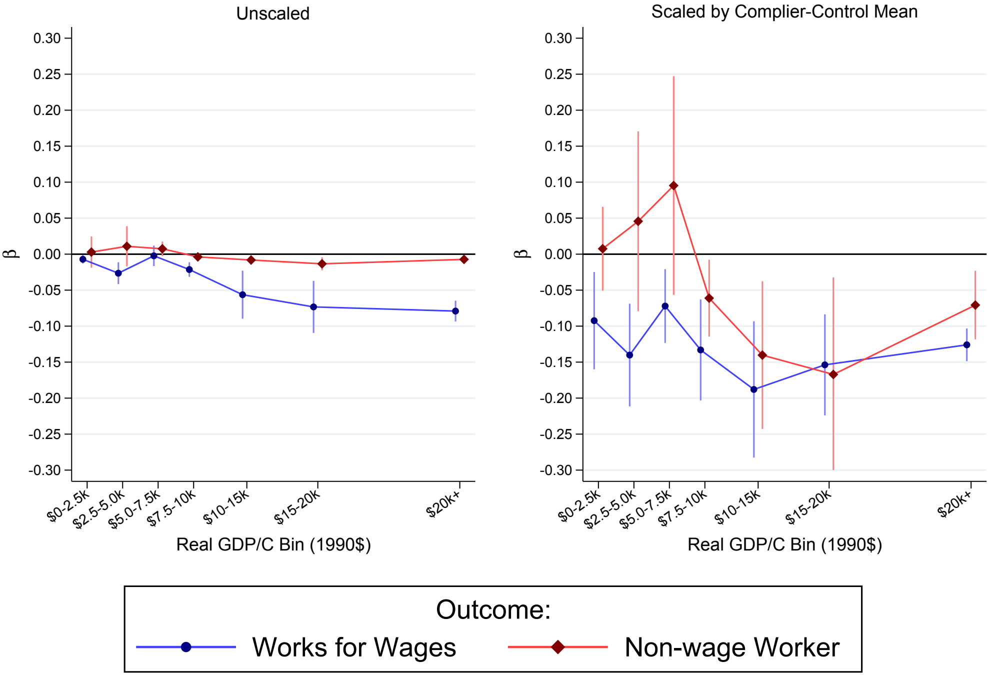


Figure 20 - By Agricultural Occupation of Worker, Twin IV

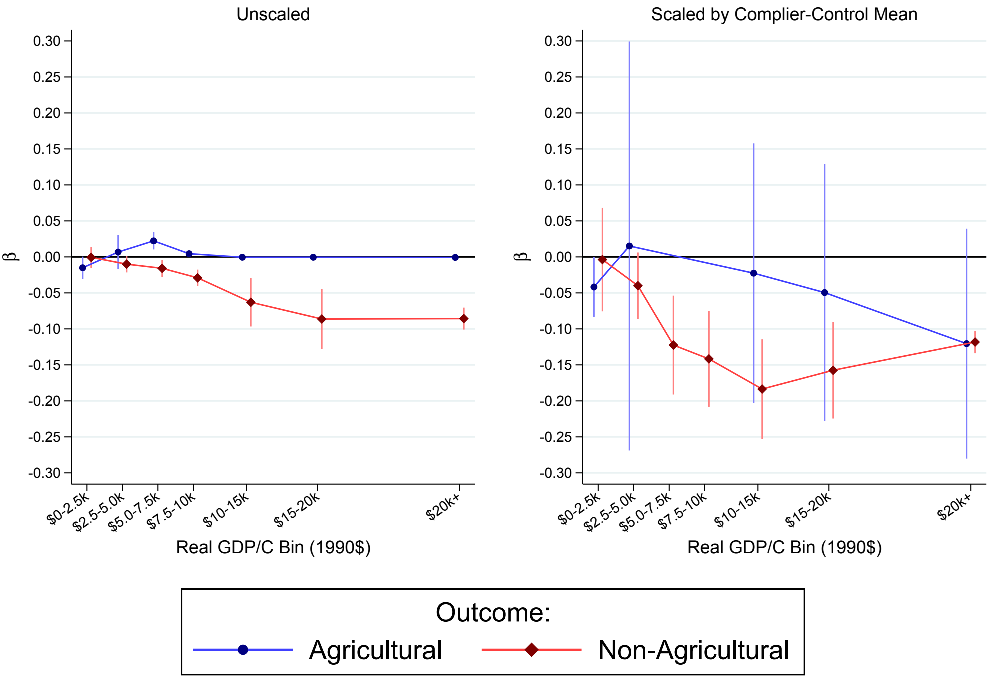


Figure 21 - By Professional Occupation of Worker, Twin IV

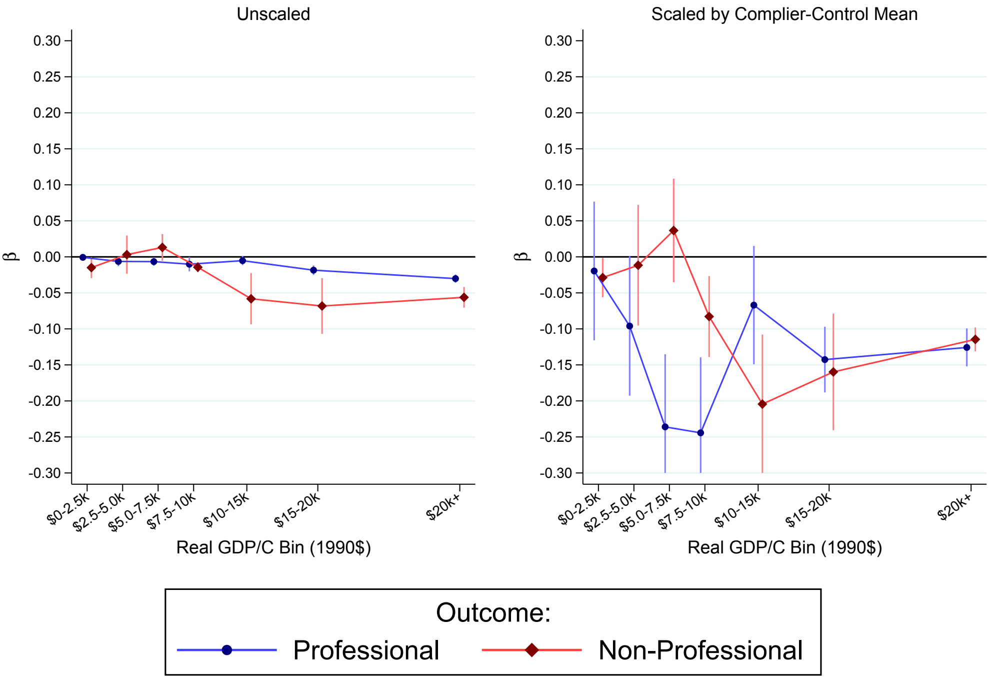
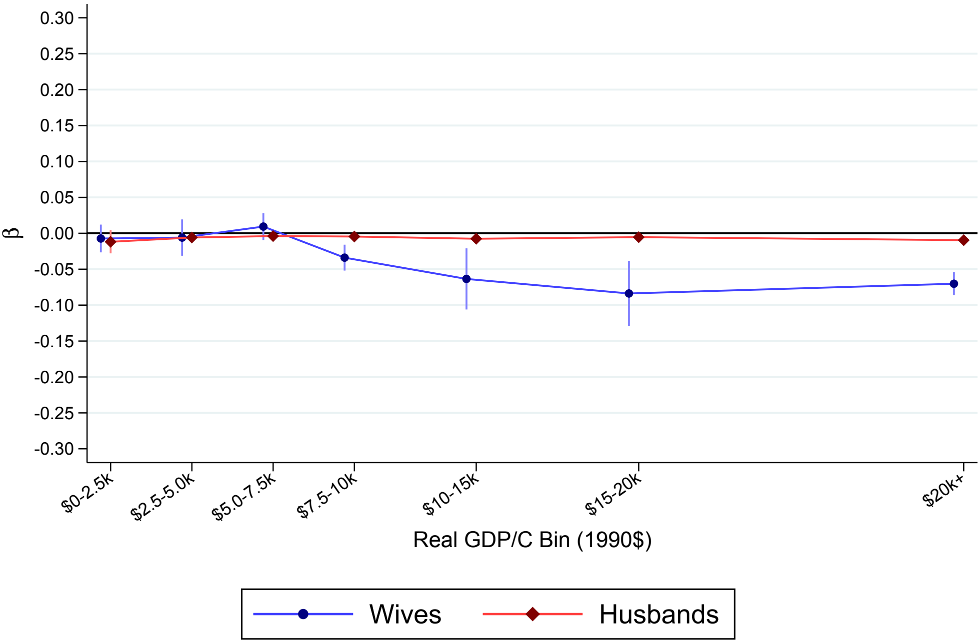


Figure 22 - By Husband and Wife, Twin IV



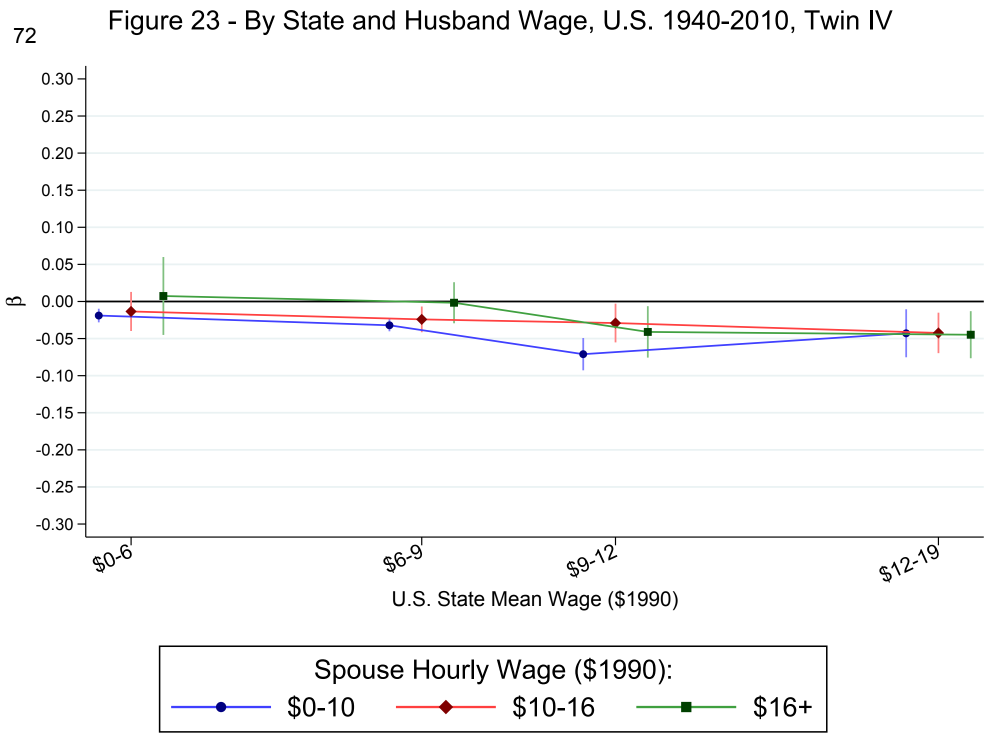


Figure 23 - By State and Husband Wage, U.S. 1940-2010, Twin IV
0.30
0.25
0.20
0.15
0.10
0.05
0.00
-0.05
-0.10
-0.15
-0.20
-0.25
-0.30
β
$0-6
$6-9
$9-12
$12-19
U.S. State Mean Wage ($1990)
Spouse Hourly Wage ($1990):
$0-10
$10-16
$16+

Figure 24 - By Age of Oldest Child, Twin IV

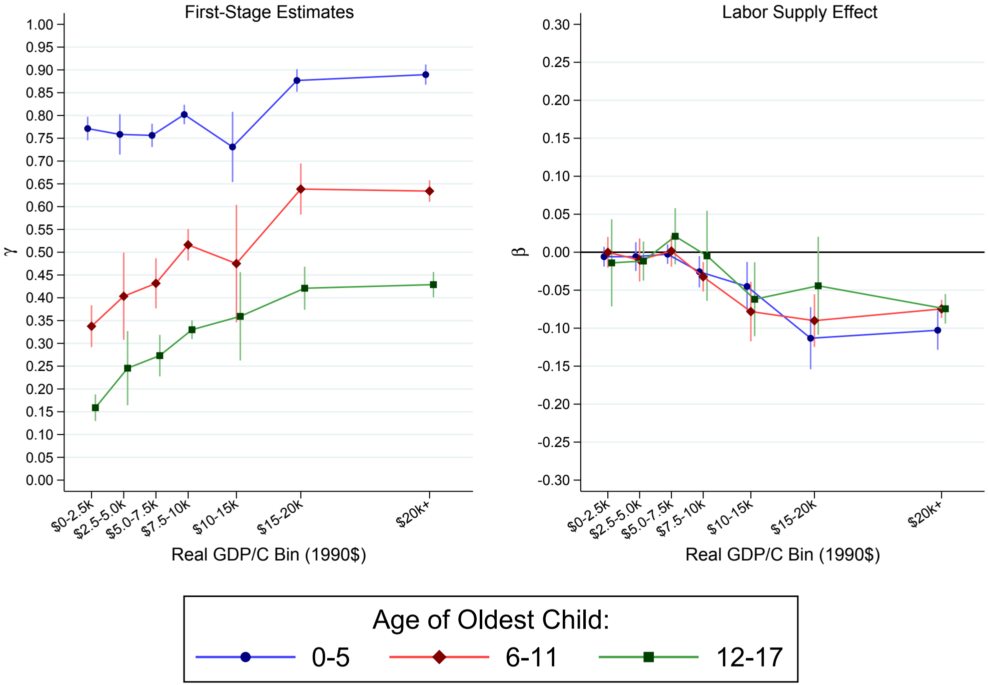


Figure 25 - By Age of Youngest Child, Twin IV

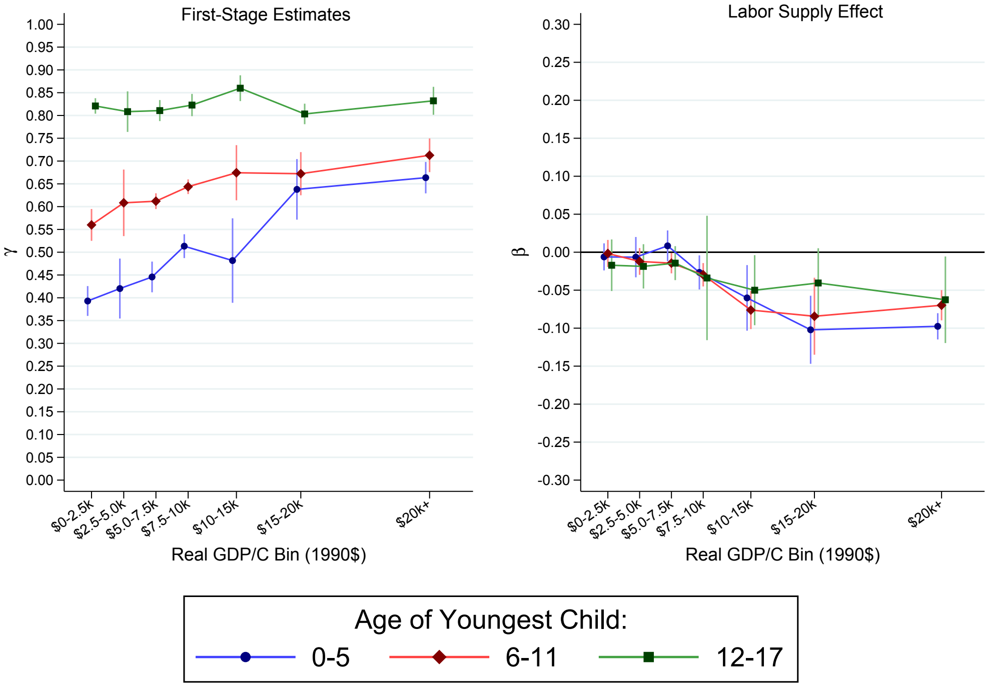


Table A1 - Country-Year Statistics and Estimates

$0-2,500 GDP/Capita Bin

Country	Year (#Samples)	Source	N	Percent of Pooled	Mean GDP/C	In Labor Force	3 or More Children	2nd Child is Multiple Birth	Mother's Age at Survey	Mother's Age at First Birth	Education?	Month/Quarter of Birth?	OLS	FS, Twin IV	2S, Twin IV	FS, Same-Sex	2S, Same-Sex
Pooled	**215**		**9,709,322**		**$1,362**	**43.2%**	**57.2%**	**1.28%**	**29.1**	**20.7**			**-0.022**	**0.411**	-0.005	**0.028**	**-0.046**
													(0.005)	(0.018)	(0.009)	(0.007)	(0.019)
Bangladesh	1991	IPUMS-I: Asia	702,804	7.24%	$647	4.1%	62.3%	1.09%	28.5	19.7	1.000	0.000	**-0.026**	**0.429**	**0.023**	**0.027**	-0.027
													(0.001)	(0.003)	(0.006)	(0.001)	(0.017)
Bangladesh	1993	DHS	3,703	0.04%	$684	17.2%	59.6%	0.39%	27.9	18.4	1.000	1.000	**-0.069**	**0.550**	0.003	**0.044**	-0.231
													(0.015)	(0.059)	(0.199)	(0.015)	(0.288)
Bangladesh	1996	DHS	3,272	0.03%	$749	38.6%	57.3%	0.41%	28.1	18.3	1.000	1.000	**-0.048**	**0.370**	**-0.872**	**0.050**	0.237
													(0.020)	(0.071)	(0.285)	(0.016)	(0.366)
Bangladesh	1999	DHS	3,590	0.04%	$827	22.7%	54.8%	0.46%	28.3	18.5	1.000	1.000	**-0.068**	**0.515**	0.071	**0.067**	-0.274
													(0.017)	(0.036)	(0.239)	(0.015)	(0.230)
Bangladesh	2001	IPUMS-I: Asia	754,996	7.78%	$885	8.2%	50.9%	1.01%	29.0	19.7	1.000	0.000	**-0.022**	**0.495**	**0.084**	**0.037**	**-0.192**
													(0.001)	(0.002)	(0.008)	(0.001)	(0.018)
Bangladesh	2004	DHS	3,825	0.04%	$991	23.5%	52.1%	0.51%	28.2	18.3	1.000	1.000	**-0.060**	**0.574**	-0.054	**0.054**	-0.324
													(0.017)	(0.055)	(0.159)	(0.016)	(0.295)
Bangladesh	2007	DHS	3,438	0.04%	$1,125	34.3%	46.2%	0.64%	28.4	18.5	1.000	1.000	**-0.099**	**0.414**	0.438	**0.091**	-0.149
													(0.021)	(0.049)	(0.309)	(0.018)	(0.207)
Bangladesh	2011	IPUMS-I: Asia	466,242	4.80%	$1,276	5.8%	40.0%	0.65%	29.2	19.5	1.000	0.000	**-0.021**	**0.623**	0.003	**0.067**	**-0.023**
													(0.001)	(0.003)	(0.007)	(0.001)	(0.010)
Bangladesh	2011	DHS	5,606	0.06%	$1,276	11.5%	40.7%	0.41%	28.4	18.4	1.000	1.000	**-0.057**	**0.624**	0.153	**0.089**	0.137
													(0.010)	(0.035)	(0.155)	(0.014)	(0.111)
Benin	1996	DHS	1,620	0.02%	$1,195	92.2%	59.5%	1.00%	28.5	20.6	1.000	1.000	-0.025	**0.318**	-0.588	0.019	1.100
													(0.016)	(0.083)	(0.458)	(0.020)	(1.436)
Benin	2001	DHS	1,741	0.02%	$1,302	92.1%	58.6%	1.21%	28.9	20.7	1.000	1.000	0.004	**0.456**	**0.171**	0.009	0.188
													(0.017)	(0.049)	(0.021)	(0.019)	(1.465)
Benin	2006	DHS	5,847	0.06%	$1,360	88.0%	61.0%	1.63%	28.9	20.8	1.000	1.000	-0.005	**0.449**	-0.038	0.007	-0.413
													(0.011)	(0.031)	(0.080)	(0.011)	(1.450)
Bolivia	1992	PUMS-I: America	33,935	0.35%	$2,265	44.3%	62.2%	0.78%	29.1	20.5	1.000	0.000	**-0.043**	**0.376**	-0.002	**0.016**	0.237
													(0.006)	(0.014)	(0.081)	(0.005)	(0.345)
Bolivia	1994	DHS	2,391	0.02%	$2,354	57.9%	63.7%	0.87%	29.2	20.6	1.000	1.000	**-0.058**	**0.336**	-0.442	**0.032**	0.777
													(0.026)	(0.059)	(0.326)	(0.019)	(0.855)
Brazil	1960	PUMS-I: America	164,570	1.69%	$2,296	8.5%	68.0%	0.74%	28.7	20.8	1.000	0.000	**-0.037**	**0.331**	0.018	**0.014**	0.024
													(0.002)	(0.006)	(0.025)	(0.002)	(0.096)
Brazzaville (Cong	2005	DHS	1,651	0.02%	$2,091	70.7%	51.9%	1.47%	28.6	20.3	1.000	1.000	0.029	**0.442**	0.106	-0.001	0.476
													(0.030)	(0.050)	(0.212)	(0.025)	(18.771)
Burkina Faso	1996	IPUMS-I: Africa	58,935	0.61%	$885	76.9%	65.1%	1.59%	28.6	19.7	1.000	1.000	**0.007**	**0.301**	0.067	0.005	0.019
													(0.004)	(0.009)	(0.045)	(0.003)	(0.658)
Burkina Faso	2006	IPUMS-I: Africa	80,012	0.82%	$1,122	66.6%	61.9%	1.89%	28.5	19.9	1.000	1.000	**0.032**	**0.368**	-0.030	0.002	-2.061
													(0.004)	(0.007)	(0.033)	(0.003)	(3.243)
Burkina Faso	1993	DHS	1,982	0.02%	$833	61.5%	65.0%	0.60%	28.6	20.0	1.000	1.000	-0.028	**0.419**	-0.168	0.015	-0.917
													(0.031)	(0.053)	(0.399)	(0.019)	(1.970)
Burkina Faso	1998	DHS	1,870	0.02%	$934	70.9%	61.7%	0.70%	28.6	20.1	1.000	1.000	0.009	**0.436**	0.070	0.017	1.487
													(0.027)	(0.085)	(0.295)	(0.019)	(2.107)
Burkina Faso	2003	DHS	3,569	0.04%	$1,046	92.0%	61.8%	0.76%	28.7	20.0	1.000	1.000	**0.038**	**0.370**	-0.325	0.022	0.531
													(0.016)	(0.045)	(0.269)	(0.016)	(0.617)
Burkina Faso	2010	DHS	5,722	0.06%	$1,234	79.7%	62.7%	0.97%	28.6	20.0	1.000	1.000	0.000	**0.454**	-0.029	0.012	0.468
													(0.015)	(0.038)	(0.132)	(0.011)	(1.061)
Cambodia	1998	IPUMS-I: Asia	65,026	0.67%	$1,183	82.7%	60.9%	0.62%	29.6	21.0	1.000	0.000	**0.010**	**0.380**	**-0.140**	**0.028**	0.073
													(0.004)	(0.013)	(0.055)	(0.003)	(0.108)
Cambodia	2000	DHS	3,705	0.04%	$1,325	72.3%	60.0%	0.39%	29.9	21.2	1.000	1.000	-0.005	**0.430**	**0.385**	**0.034**	-0.238
													(0.020)	(0.047)	(0.202)	(0.016)	(0.506)
Cambodia	2005	DHS	3,619	0.04%	$1,929	64.5%	50.5%	0.53%	29.4	20.9	1.000	1.000	**-0.078**	**0.453**	0.060	**0.056**	-0.353
													(0.022)	(0.062)	(0.272)	(0.017)	(0.347)
Cambodia	2008	IPUMS-I: Asia	63,509	0.65%	$2,316	87.6%	45.9%	0.88%	29.2	20.6	1.000	0.000	**0.005**	**0.547**	-0.041	**0.048**	0.070
													(0.003)	(0.010)	(0.027)	(0.003)	(0.055)
Cambodia	2010	DHS	3,761	0.04%	$2,450	70.0%	41.9%	0.19%	29.1	21.0	1.000	1.000	**-0.073**	**0.439**	0.008	**0.064**	-0.002
													(0.022)	(0.050)	(0.275)	(0.017)	(0.291)
Cambodia	2014	DHS	4,031	0.04%	$2,450	71.5%	38.5%	0.51%	30.1	21.4	1.000	1.000	**-0.129**	**0.667**	-0.127	**0.042**	-0.313
													(0.021)	(0.039)	(0.211)	(0.017)	(0.424)
Cameroon	1976	IPUMS-I: Africa	32,831	0.34%	$1,058	49.1%	63.9%	2.20%	28.4	19.8	1.000	1.000	**-0.025**	**0.376**	-0.009	**-0.008**	0.107
													(0.006)	(0.008)	(0.050)	(0.005)	(0.675)
Cameroon	1987	IPUMS-I: Africa	47,169	0.49%	$1,472	48.7%	66.2%	2.89%	28.2	19.8	1.000	0.000	**-0.036**	**0.377**	-0.023	0.003	-1.401
													(0.005)	(0.006)	(0.036)	(0.004)	(2.149)
Cameroon	1991	DHS	1,061	0.01%	$1,154	66.0%	71.7%	1.16%	28.2	19.5	1.000	1.000	**-0.111**	**0.377**	**-0.696**	0.015	0.991
													(0.038)	(0.073)	(0.291)	(0.025)	(2.771)
Cameroon	1998	DHS	1,300	0.01%	$1,033	78.2%	64.5%	1.31%	28.6	19.9	1.000	1.000	0.004	**0.364**	0.209	0.030	-0.304
													(0.028)	(0.065)	(0.203)	(0.023)	(0.803)
Cameroon	2004	DHS	2,434	0.03%	$1,139	71.3%	62.3%	1.13%	28.3	20.1	1.000	1.000	-0.022	**0.446**	-0.017	-0.016	0.652
													(0.024)	(0.037)	(0.195)	(0.018)	(1.405)
Cameroon	2005	IPUMS-I: Africa	83,411	0.86%	$1,149	48.9%	68.0%	6.83%	28.5	20.0	1.000	1.000	**-0.017**	**0.470**	**0.043**	**-0.013**	-0.085
													(0.004)	(0.003)	(0.015)	(0.003)	(0.263)
Cameroon	2011	DHS	3,690	0.04%	$1,179	73.0%	62.7%	1.74%	28.4	20.3	1.000	1.000	-0.023	**0.428**	0.124	0.017	0.518
													(0.020)	(0.030)	(0.122)	(0.015)	(1.097)
Canada	1871	NAPP	2,014	0.02%	$1,718	1.1%	71.9%	0.36%	29.3	21.4	0.000	0.000	-0.015	**0.215**	0.125	0.022	-0.034
													(0.010)	(0.072)	(0.196)	(0.021)	(0.238)
Canada	1881	NAPP	178,949	1.84%	$1,955	2.2%	68.5%	0.69%	29.3	21.7	0.000	1.000	**-0.013**	**0.298**	-0.011	**0.009**	0.036
													(0.001)	(0.006)	(0.013)	(0.002)	(0.082)
Canada	1891	NAPP	14,506	0.15%	$2,343	6.9%	66.9%	0.41%	29.5	21.8	0.000	1.000	0.003	**0.338**	-0.042	0.002	2.140
													(0.006)	(0.032)	(0.110)	(0.008)	(9.979)
Central African F	1994	DHS	1,514	0.02%	$568	83.3%	63.8%	0.45%	28.4	20.0	1.000	1.000	0.014	**0.424**	0.186	-0.014	-1.296
													(0.023)	(0.097)	(0.234)	(0.022)	(2.499)
Chad	1996	DHS	2,348	0.02%	$448	45.1%	69.4%	0.94%	28.2	19.5	1.000	1.000	-0.027	**0.424**	**0.542**	**-0.041**	-0.648
													(0.029)	(0.059)	(0.241)	(0.016)	(0.590)
Chad	2004	DHS	1,874	0.02%	$643	77.0%	68.2%	0.18%	28.1	19.4	1.000	1.000	0.009	**0.465**	-0.035	-0.028	0.532
													(0.030)	(0.089)	(0.319)	(0.023)	(0.895)
China	1982	IPUMS-I: Asia	570,519	5.88%	$1,224	87.0%	48.1%	0.46%	30.2	22.0	1.000	0.000	**-0.024**	**0.566**	**-0.024**	**0.068**	**-0.043**
													(0.001)	(0.006)	(0.012)	(0.001)	(0.013)
China	1990	IPUMS-I: Asia	614,197	6.33%	$1,955	89.3%	30.4%	0.85%	29.7	22.4	1.000	1.000	**0.002**	**0.712**	**-0.023**	**0.123**	**-0.011**
													(0.001)	(0.002)	(0.006)	(0.001)	(0.006)
Comoros	1996	DHS	631	0.01%	$625	43.9%	67.5%	1.27%	28.9	20.7	1.000	1.000	0.008	**0.351**	**0.849**	-0.036	-1.249
													(0.050)	(0.077)	(0.435)	(0.031)	(1.554)
Congo	2007	DHS	2,729	0.03%	$240	74.8%	64.0%	1.12%	28.4	20.3	1.000	1.000	0.023	**0.396**	**-0.565**	0.020	-0.711
													(0.029)	(0.065)	(0.274)	(0.022)	(1.349)
Congo	2013	DHS	5,657	0.06%	$260	77.1%	67.0%	1.07%	28.4	20.4	1.000	1.000	-0.012	**0.309**	-0.103	-0.009	-0.085
													(0.020)	(0.048)	(0.275)	(0.014)	(1.818)
Denmark	1787	NAPP	24,456	0.25%	$1,274	2.5%	51.8%	0.53%	30.6	24.0	0.000	0.000	**-0.015**	**0.492**	0.010	**0.012**	0.431
													(0.002)	(0.020)	(0.031)	(0.006)	(0.274)
Denmark	1801	NAPP	27,372	0.28%	$1,274	1.9%	52.8%	0.53%	30.5	24.2	0.000	0.000	**-0.015**	**0.455**	0.018	**0.015**	-0.052
													(0.002)	(0.020)	(0.030)	(0.005)	(0.114)
Dominican Repu	1981	PUMS-I: America	22,567	0.23%	$2,368	28.2%	65.5%	3.23%	28.5	20.2	1.000	0.000	**-0.097**	**0.357**	-0.013	**0.013**	0.809
													(0.009)	(0.010)	(0.055)	(0.007)	(0.719)
Egypt	1986	IPUMS-I: Africa	394,535	4.06%	$2,449	10.3%	66.3%	1.91%	29.5	20.9	1.000	1.000	**-0.081**	**0.326**	**-0.020**	**0.025**	-0.044
													(0.001)	(0.003)	(0.010)	(0.001)	(0.038)
El Salvador	1992	PUMS-I: America	27,018	0.28%	$2,285	31.8%	56.7%	1.36%	28.8	19.9	1.000	1.000	**-0.148**	**0.436**	0.063	**0.019**	0.013
													(0.006)	(0.011)	(0.058)	(0.006)	(0.297)
Ethiopia	2000	DHS	3,712	0.04%	$562	57.1%	64.5%	0.25%	28.6	20.0	1.000	1.000	**-0.071**	**0.445**	0.086	0.002	-7.698
													(0.028)	(0.145)	(0.483)	(0.017)	(62.193)
Ethiopia	2005	DHS	3,747	0.04%	$672	25.5%	71.6%	0.45%	28.9	19.6	1.000	1.000	**-0.112**	**0.380**	0.173	0.001	2.517
													(0.024)	(0.058)	(0.405)	(0.016)	(34.880)
Ethiopia	2007	IPUMS-I: Africa	73,510	0.76%	$771	74.6%	69.6%	0.98%	28.6	19.3	1.000	0.000	**-0.009**	**0.341**	0.048	0.004	-0.233
													(0.004)	(0.008)	(0.047)	(0.003)	(0.789)
Ethiopia	2011	DHS	4,461	0.05%	$935	37.1%	67.8%	0.93%	28.8	19.7	1.000	1.000	-0.045	**0.244**	0.311	0.011	-1.494
													(0.028)	(0.070)	(0.533)	(0.018)	(3.104)
Germany	1819	NAPP	2,062	0.02%	$986	3.7%	55.0%	0.72%	30.1	22.3	0.000	1.000	-0.022	**0.464**	0.116	0.029	0.152
													(0.014)	(0.061)	(0.186)	(0.028)	(0.406)
Ghana	1993	DHS	1,355	0.01%	$1,133	85.4%	56.7%	1.18%	29.2	20.8	1.000	1.000	-0.033	**0.459**	-0.111	0.017	1.125
													(0.022)	(0.063)	(0.199)	(0.023)	(1.936)
Ghana	1998	DHS	1,153	0.01%	$1,282	86.5%	53.9%	1.33%	29.2	20.9	1.000	1.000	-0.010	**0.452**	0.140	0.003	-6.209
													(0.023)	(0.067)	(0.142)	(0.026)	(48.365)
Ghana	2000	IPUMS-I: Africa	72,394	0.75%	$1,353	86.7%	55.6%	2.98%	29.4	20.5	1.000	0.000	**0.008**	**0.446**	-0.002	0.003	-0.721
													(0.003)	(0.005)	(0.017)	(0.003)	(1.364)
Ghana	2003	DHS	1,316	0.01%	$1,471	90.4%	52.3%	0.91%	29.4	21.0	1.000	1.000	-0.024	**0.440**	-0.106	-0.026	0.675
													(0.021)	(0.091)	(0.202)	(0.026)	(0.961)

Ghana	2008	DHS	1,043	0.01%	$1,767	90.3%	49.9%	1.26%	29.5	21.2	1.000	1.000	-0.003	**0.507**	-0.237	-0.003	11.178
													(0.023)	(0.071)	(0.235)	(0.030)	(121.874)
Ghana	2010	IPUMS-I: Africa	99,670	1.03%	$1,922	86.1%	55.6%	2.98%	29.4	20.8	1.000	0.000	**-0.008**	**0.434**	-0.014	**0.011**	-0.147
													(0.003)	(0.004)	(0.015)	(0.003)	(0.205)
Ghana	2014	DHS	2,053	0.02%	$1,922	83.2%	52.1%	1.80%	29.5	21.4	1.000	1.000	-0.028	**0.511**	-0.194	0.028	-0.012
													(0.022)	(0.050)	(0.183)	(0.023)	(0.710)
Guinea	1983	IPUMS-I: Africa	20,684	0.21%	$539	49.7%	52.3%	3.55%	28.8	20.2	1.000	0.000	**-0.030**	**0.456**	**-0.100**	0.004	-2.530
													(0.008)	(0.008)	(0.041)	(0.006)	(3.992)
Guinea	1996	IPUMS-I: Africa	37,807	0.39%	$555	71.7%	61.9%	2.36%	28.7	20.1	1.000	1.000	0.006	**0.376**	**-0.095**	0.000	-33.935
													(0.005)	(0.008)	(0.042)	(0.004)	(2071.208)
Guinea	1999	DHS	2,027	0.02%	$587	84.5%	62.2%	1.21%	29.0	20.0	1.000	1.000	0.008	**0.355**	-0.002	**0.031**	-0.777
													(0.019)	(0.051)	(0.199)	(0.018)	(0.706)
Guinea	2005	DHS	2,243	0.02%	$615	87.0%	60.7%	1.36%	29.2	20.2	1.000	1.000	0.021	**0.486**	0.003	0.015	0.685
													(0.019)	(0.040)	(0.128)	(0.019)	(1.328)
Haiti	1971	PUMS-I: America	18,141	0.19%	$966	70.0%	58.6%	1.19%	29.3	21.2	1.000	0.000	**-0.045**	**0.449**	-0.023	0.002	-8.420
													(0.008)	(0.016)	(0.071)	(0.007)	(36.650)
Haiti	1982	PUMS-I: America	4,195	0.04%	$1,171	55.0%	53.9%	1.74%	29.0	21.2	1.000	0.000	**-0.090**	**0.422**	-0.088	0.003	0.429
													(0.017)	(0.028)	(0.139)	(0.014)	(6.100)
Haiti	1994	DHS	1,051	0.01%	$800	45.6%	60.3%	1.34%	29.3	21.4	1.000	1.000	-0.007	**0.295**	-0.317	0.029	-0.159
													(0.036)	(0.069)	(0.404)	(0.026)	(1.067)
Haiti	2000	DHS	2,002	0.02%	$746	55.2%	58.4%	0.43%	29.3	21.4	1.000	1.000	**-0.104**	**0.568**	**-0.539**	0.045	0.580
													(0.044)	(0.061)	(0.214)	(0.035)	(1.046)
Haiti	2003	PUMS-I: America	29,838	0.31%	$708	53.3%	55.1%	1.58%	29.3	20.7	1.000	0.000	**-0.045**	**0.444**	-0.064	**0.011**	0.459
													(0.006)	(0.010)	(0.052)	(0.005)	(0.556)
Haiti	2005	DHS	1,932	0.02%	$690	54.1%	53.9%	0.61%	29.3	21.0	1.000	1.000	-0.048	**0.498**	0.006	0.010	0.292
													(0.032)	(0.045)	(0.292)	(0.025)	(3.036)
Honduras	2005	DHS	5,219	0.05%	$2,113	39.4%	54.3%	0.43%	28.9	19.7	1.000	1.000	**-0.146**	**0.522**	-0.082	**0.034**	0.222
													(0.018)	(0.060)	(0.177)	(0.014)	(0.501)
India	1983	IPUMS-I: Asia	41,910	0.43%	$1,026	34.4%	61.6%	0.55%	28.8	19.9	1.000	0.000	**-0.020**	**0.375**	-0.080	**0.013**	-0.297
													(0.007)	(0.027)	(0.109)	(0.005)	(0.469)
India	1987	IPUMS-I: Asia	45,884	0.47%	$1,166	33.9%	60.6%	0.55%	28.8	19.9	1.000	0.000	-0.003	**0.432**	0.004	**0.025**	**-0.792**
													(0.006)	(0.018)	(0.137)	(0.005)	(0.281)
India	1992	DHS	33,928	0.35%	$1,377	32.7%	61.2%	0.36%	28.4	19.4	1.000	1.000	**-0.026**	**0.429**	-0.069	**0.011**	-0.178
													(0.007)	(0.021)	(0.112)	(0.006)	(0.549)
India	1993	IPUMS-I: Asia	39,508	0.41%	$1,430	39.5%	56.2%	0.43%	29.0	20.1	1.000	0.000	-0.003	**0.481**	-0.145	**0.027**	**-0.425**
													(0.007)	(0.020)	(0.095)	(0.006)	(0.244)
India	1998	DHS	34,272	0.35%	$1,755	37.3%	56.9%	0.32%	28.5	19.3	1.000	1.000	**-0.027**	**0.458**	-0.060	**0.025**	0.385
													(0.007)	(0.021)	(0.113)	(0.006)	(0.262)
India	1999	IPUMS-I: Asia	41,373	0.43%	$1,819	38.4%	54.6%	0.44%	29.2	20.2	1.000	0.000	**0.020**	**0.491**	-0.025	**0.037**	0.027
													(0.007)	(0.020)	(0.091)	(0.006)	(0.182)
India	2004	IPUMS-I: Asia	41,618	0.43%	$2,315	42.3%	49.0%	0.35%	29.3	20.3	1.000	0.000	-0.006	**0.545**	-0.093	**0.027**	0.103
													(0.008)	(0.021)	(0.096)	(0.007)	(0.270)
India	2005	DHS	32,970	0.34%	$2,457	37.8%	52.0%	0.45%	28.7	19.6	1.000	1.000	-0.006	**0.511**	0.012	**0.033**	-0.185
													(0.007)	(0.020)	(0.096)	(0.006)	(0.204)
Indonesia	1971	IPUMS-I: Asia	37,598	0.39%	$1,294	32.1%	67.4%	0.31%	28.9	19.8	1.000	0.000	**-0.057**	**0.319**	0.159	-0.006	1.362
													(0.012)	(0.024)	(0.193)	(0.009)	(2.917)
Indonesia	1976	IPUMS-I: Asia	16,776	0.17%	$1,635	46.3%	66.2%	0.60%	28.9	19.9	1.000	1.000	**-0.110**	**0.397**	**-0.276**	0.011	-1.580
													(0.012)	(0.030)	(0.166)	(0.008)	(1.410)
Indonesia	1980	IPUMS-I: Asia	436,461	4.50%	$1,833	32.9%	62.3%	0.69%	28.5	19.8	1.000	1.000	**-0.069**	**0.385**	**-0.088**	**0.010**	0.159
													(0.002)	(0.004)	(0.022)	(0.001)	(0.144)
Iraq	1997	IPUMS-I: Asia	106,406	1.10%	$1,062	7.4%	72.1%	2.24%	28.6	21.2	1.000	1.000	**-0.034**	**0.295**	**-0.047**	**0.010**	0.179
													(0.002)	(0.005)	(0.017)	(0.002)	(0.168)
Ivory Coast	1994	DHS	2,193	0.02%	$1,312	78.4%	60.7%	0.88%	28.6	20.2	1.000	1.000	-0.004	**0.438**	-0.233	-0.006	5.826
													(0.023)	(0.073)	(0.232)	(0.018)	(17.379)
Ivory Coast	1998	DHS	589	0.01%	$1,377	85.1%	54.3%	1.30%	29.1	20.7	1.000	1.000	-0.039	**0.284**	0.250	-0.047	1.376
													(0.035)	(0.121)	(0.212)	(0.039)	(1.318)
Ivory Coast	2011	DHS	2,500	0.03%	$1,195	73.8%	52.4%	1.46%	28.8	20.8	1.000	1.000	0.011	**0.523**	0.015	0.005	-2.805
													(0.027)	(0.048)	(0.149)	(0.021)	(11.767)
Kenya	1989	IPUMS-I: Africa	61,498	0.63%	$1,080	78.8%	70.4%	1.96%	28.0	19.4	1.000	0.000	**0.012**	**0.295**	**0.085**	0.000	12.790
													(0.004)	(0.007)	(0.038)	(0.003)	(200.978)
Kenya	1993	DHS	2,362	0.02%	$1,051	56.9%	69.8%	0.75%	28.5	19.6	1.000	1.000	0.007	**0.265**	0.355	0.017	-0.081
													(0.030)	(0.058)	(0.464)	(0.018)	(1.382)
Kenya	1998	DHS	2,229	0.02%	$1,029	60.7%	61.1%	0.95%	28.6	19.9	1.000	1.000	-0.044	**0.399**	0.283	**0.034**	-0.645
													(0.028)	(0.070)	(0.286)	(0.020)	(0.764)
Kenya	1999	IPUMS-I: Africa	79,020	0.81%	$1,026	79.9%	61.6%	1.45%	28.4	19.6	1.000	0.000	**-0.021**	**0.391**	**0.093**	**0.008**	-0.306
													(0.003)	(0.008)	(0.028)	(0.003)	(0.372)
Kenya	2003	DHS	2,158	0.02%	$1,032	65.7%	61.9%	1.26%	28.7	20.1	1.000	1.000	**-0.065**	**0.486**	-0.060	**0.036**	-1.103
													(0.026)	(0.048)	(0.201)	(0.020)	(0.841)
Kenya	2008	DHS	2,350	0.02%	$1,116	64.4%	60.7%	0.44%	28.6	19.9	1.000	1.000	**-0.085**	**0.484**	-0.124	0.005	-3.896
													(0.032)	(0.057)	(0.261)	(0.029)	(23.857)
Kenya	2009	IPUMS-I: Africa	224,868	2.32%	$1,121	78.8%	61.4%	1.46%	28.6	19.7	1.000	0.000	**-0.019**	**0.403**	0.009	**0.012**	-0.174
													(0.002)	(0.004)	(0.018)	(0.002)	(0.147)
Kenya	2014	DHS	4,289	0.04%	$1,141	70.0%	56.9%	1.18%	28.9	19.9	1.000	1.000	**-0.126**	**0.429**	-0.060	0.027	0.583
													(0.021)	(0.041)	(0.204)	(0.019)	(0.803)
Kyrgyz Republic	1999	IPUMS-I: Asia	29,660	0.31%	$2,107	78.7%	52.7%	0.89%	29.3	21.2	1.000	1.000	**0.019**	**0.455**	-0.050	**0.061**	-0.060
													(0.005)	(0.014)	(0.058)	(0.005)	(0.078)
Lesotho	2004	DHS	1,296	0.01%	$1,669	40.9%	46.2%	0.49%	28.9	20.1	1.000	1.000	**-0.152**	**0.663**	**-0.549**	-0.016	-0.327
													(0.036)	(0.073)	(0.111)	(0.028)	(1.996)
Liberia	2007	DHS	1,715	0.02%	$778	69.1%	49.5%	1.78%	28.8	20.8	1.000	1.000	0.004	**0.527**	0.106	-0.016	0.750
													(0.030)	(0.063)	(0.204)	(0.027)	(2.105)
Liberia	2008	IPUMS-I: Africa	14,661	0.15%	$802	57.8%	56.7%	2.38%	28.6	19.9	1.000	0.000	**0.023**	**0.430**	-0.091	0.006	2.394
													(0.009)	(0.012)	(0.063)	(0.007)	(3.077)
Madagascar	1992	DHS	1,575	0.02%	$722	80.5%	65.8%	0.60%	28.6	20.2	1.000	1.000	-0.024	**0.330**	**0.615**	**-0.036**	0.888
													(0.024)	(0.055)	(0.107)	(0.022)	(0.801)
Madagascar	1997	DHS	1,836	0.02%	$676	82.0%	61.4%	0.61%	28.5	20.5	1.000	1.000	**0.048**	**0.216**	-1.461	**0.053**	0.184
													(0.023)	(0.096)	(1.028)	(0.020)	(0.353)
Madagascar	2003	DHS	2,066	0.02%	$671	84.6%	59.2%	0.46%	28.7	20.5	1.000	1.000	0.039	**0.342**	0.014	-0.020	-0.664
													(0.027)	(0.092)	(0.279)	(0.026)	(1.411)
Madagascar	2008	DHS	4,664	0.05%	$702	92.0%	62.5%	0.80%	28.8	20.1	1.000	1.000	**0.028**	**0.450**	**0.193**	**0.057**	-0.134
													(0.012)	(0.047)	(0.019)	(0.015)	(0.173)
Malawi	1987	IPUMS-I: Africa	42,881	0.44%	$567	80.1%	58.0%	1.52%	28.3	20.3	1.000	0.000	**-0.035**	**0.394**	-0.043	**0.007**	0.715
													(0.004)	(0.010)	(0.041)	(0.004)	(0.713)
Malawi	1992	DHS	1,389	0.01%	$536	26.2%	61.1%	1.02%	28.5	19.8	1.000	1.000	**0.070**	**0.431**	0.037	**0.053**	0.063
													(0.031)	(0.062)	(0.282)	(0.025)	(0.500)
Malawi	1998	IPUMS-I: Africa	51,847	0.53%	$602	84.4%	56.4%	1.92%	28.1	19.9	1.000	0.000	**-0.008**	**0.407**	-0.007	0.003	0.088
													(0.004)	(0.008)	(0.028)	(0.004)	(1.020)
Malawi	2000	DHS	3,803	0.04%	$598	59.6%	58.2%	0.94%	28.0	19.9	1.000	1.000	**-0.057**	**0.483**	-0.015	**0.036**	-0.375
													(0.023)	(0.039)	(0.199)	(0.015)	(0.531)
Malawi	2004	DHS	3,989	0.04%	$587	59.0%	57.8%	1.28%	27.8	19.7	1.000	1.000	0.020	**0.307**	0.291	**-0.030**	0.871
													(0.024)	(0.063)	(0.305)	(0.015)	(0.753)
Malawi	2008	IPUMS-I: Africa	87,562	0.90%	$662	77.9%	60.1%	1.66%	28.1	19.7	1.000	1.000	**-0.006**	**0.383**	-0.041	**0.005**	0.644
													(0.003)	(0.007)	(0.029)	(0.003)	(0.719)
Malawi	2010	DHS	8,215	0.08%	$728	59.6%	62.8%	1.16%	28.2	19.6	1.000	1.000	-0.023	**0.393**	-0.140	**0.021**	-0.950
													(0.018)	(0.029)	(0.172)	(0.011)	(0.825)
Malaysia	1970	IPUMS-I: Asia	9,724	0.10%	$2,126	34.0%	73.2%	1.14%	28.9	20.4	1.000	0.000	**-0.059**	**0.242**	-0.281	**0.018**	0.378
													(0.012)	(0.019)	(0.179)	(0.008)	(0.571)
Mali	1987	IPUMS-I: Africa	40,230	0.41%	$713	51.3%	63.7%	1.48%	28.6	20.2	1.000	0.000	0.002	**0.349**	**-0.112**	0.004	1.016
													(0.006)	(0.010)	(0.059)	(0.004)	(1.455)
Mali	1995	DHS	3,161	0.03%	$796	55.3%	69.2%	0.88%	28.9	20.1	1.000	1.000	0.020	**0.411**	-0.125	-0.002	-0.749
													(0.024)	(0.035)	(0.241)	(0.014)	(11.245)
Mali	1998	IPUMS-I: Africa	49,792	0.51%	$841	39.6%	67.5%	2.44%	28.7	20.0	1.000	0.000	-0.003	**0.292**	-0.068	**0.007**	0.759
													(0.005)	(0.007)	(0.048)	(0.004)	(0.727)
Mali	2001	DHS	4,067	0.04%	$892	65.4%	66.4%	0.50%	28.8	20.1	1.000	1.000	-0.017	**0.363**	-0.367	-0.004	4.435
													(0.024)	(0.065)	(0.312)	(0.015)	(18.555)
Mali	2006	DHS	4,623	0.05%	$984	63.7%	67.0%	0.87%	28.3	19.7	1.000	1.000	-0.032	**0.336**	-0.265	0.007	-1.028
													(0.024)	(0.057)	(0.257)	(0.014)	(3.669)
Mali	2009	IPUMS-I: Africa	75,084	0.77%	$1,036	39.7%	69.3%	2.64%	28.5	19.9	1.000	1.000	0.003	**0.294**	**0.065**	**0.008**	-0.419
													(0.005)	(0.005)	(0.038)	(0.003)	(0.470)
Mali	2012	DHS	3,843	0.04%	$1,059	45.5%	72.1%	0.86%	28.8	19.8	1.000	1.000	**-0.065**	**0.331**	**-0.545**	**0.026**	-0.966
													(0.024)	(0.043)	(0.232)	(0.014)	(0.826)
Mongolia	2000	IPUMS-I: Asia	14,378	0.15%	$1,055	79.3%	40.9%	0.62%	29.8	21.4	1.000	1.000	**-0.015**	**0.544**	-0.063	**0.042**	0.122
													(0.007)	(0.024)	(0.083)	(0.007)	(0.162)
Morocco	1982	IPUMS-I: Africa	53,186	0.55%	$2,261	11.7%	71.5%	1.68%	28.5	20.2	1.000	0.000	**-0.067**	**0.324**	**-0.073**	0.005	-0.645
													(0.004)	(0.007)	(0.031)	(0.003)	(0.727)
Mozambique	1997	IPUMS-I: Africa	82,358	0.85%	$1,311	69.7%	56.6%	1.52%	28.3	19.9	1.000	0.000	**-0.012**	**0.413**	**-0.105**	0.003	1.183
													(0.004)	(0.007)	(0.033)	(0.003)	(1.517)
Mozambique	1997	DHS	2,320	0.02%	$1,311	64.5%	54.9%	0.72%	28.3	19.8	1.000	1.000	0.005	**0.383**	-0.228	-0.028	-0.063
													(0.042)	(0.081)	(0.355)	(0.036)	(1.293)
Mozambique	2003	DHS	3,453	0.04%	$1,849	78.9%	61.8%	1.19%	28.4	20.0	1.000	1.000	0.006	**0.410**	0.039	0.008	-0.489

													(0.021)	(0.048)	(0.185)	(0.018)	(2.518)
Mozambique	2007	IPUMS-I: Africa	121,872	1.26%	$2,284	71.7%	63.2%	1.72%	28.3	19.8	1.000	0.000	**0.041**	**0.348**	**-0.068**	0.004	0.149
													(0.003)	(0.005)	(0.029)	(0.002)	(0.725)
Nepal	1996	DHS	3,299	0.03%	$928	79.2%	62.4%	0.26%	28.3	19.8	1.000	1.000	0.017	**0.495**	-0.113	-0.006	2.601
													(0.019)	(0.064)	(0.353)	(0.015)	(6.605)
Nepal	2001	DHS	3,511	0.04%	$997	84.4%	60.4%	0.33%	28.5	19.9	1.000	1.000	0.013	**0.287**	-0.842	**0.030**	0.329
													(0.016)	(0.052)	(0.563)	(0.015)	(0.466)
Nepal	2006	DHS	3,251	0.03%	$1,079	72.4%	51.4%	0.44%	28.3	19.7	1.000	1.000	0.014	**0.242**	-1.252	0.010	0.519
													(0.022)	(0.107)	(1.468)	(0.018)	(2.088)
Nicaragua	1995	PUMS-I: America	27,148	0.28%	$1,332	34.9%	63.8%	1.97%	28.3	19.4	1.000	1.000	**-0.128**	**0.361**	-0.007	**0.020**	0.358
													(0.007)	(0.010)	(0.057)	(0.005)	(0.305)
Nicaragua	1998	DHS	3,733	0.04%	$1,445	39.4%	59.8%	0.61%	28.7	19.5	1.000	1.000	**-0.104**	**0.381**	0.061	0.015	0.519
													(0.020)	(0.040)	(0.271)	(0.016)	(1.404)
Nicaragua	2001	DHS	3,278	0.03%	$1,576	41.2%	56.9%	0.72%	28.9	19.4	1.000	1.000	**-0.177**	**0.412**	**0.529**	**0.050**	-0.228
													(0.022)	(0.040)	(0.246)	(0.018)	(0.396)
Nicaragua	2005	PUMS-I: America	29,130	0.30%	$1,644	33.9%	51.7%	1.54%	28.6	19.2	1.000	1.000	**-0.117**	**0.469**	0.039	**0.026**	-0.114
													(0.006)	(0.010)	(0.049)	(0.005)	(0.212)
Niger	1992	DHS	2,049	0.02%	$511	45.1%	64.8%	0.49%	28.2	19.6	1.000	1.000	**-0.060**	**0.574**	-0.200	0.012	2.434
													(0.030)	(0.066)	(0.296)	(0.020)	(4.475)
Niger	1998	DHS	2,304	0.02%	$455	54.6%	65.5%	0.61%	28.7	20.0	1.000	1.000	**-0.055**	**0.362**	-0.252	**-0.037**	-0.834
													(0.028)	(0.080)	(0.418)	(0.017)	(0.694)
Niger	2006	DHS	3,095	0.03%	$491	39.4%	67.8%	0.58%	28.4	19.9	1.000	1.000	**-0.051**	**0.330**	0.236	-0.020	-0.076
													(0.027)	(0.093)	(0.393)	(0.016)	(1.028)
Niger	2012	DHS	4,520	0.05%	$519	23.7%	74.6%	0.88%	28.6	20.0	1.000	1.000	**-0.071**	**0.193**	0.056	0.015	-2.204
													(0.019)	(0.050)	(0.427)	(0.012)	(1.976)
Nigeria	1990	DHS	2,644	0.03%	$1,057	70.8%	66.7%	0.69%	28.8	20.3	1.000	1.000	0.037	**0.460**	**0.497**	**0.048**	-0.324
													(0.028)	(0.063)	(0.130)	(0.022)	(0.495)
Nigeria	2003	DHS	1,813	0.02%	$1,350	66.3%	65.1%	0.84%	28.7	20.4	1.000	1.000	-0.005	**0.480**	**-0.821**	-0.005	-0.085
													(0.036)	(0.079)	(0.293)	(0.023)	(5.258)
Nigeria	2006	IPUMS-I: Africa	4,789	0.05%	$1,595	46.4%	59.5%	1.83%	29.1	20.2	1.000	0.000	**-0.044**	**0.458**	-0.136	0.017	-1.771
													(0.018)	(0.026)	(0.135)	(0.015)	(1.795)
Nigeria	2007	IPUMS-I: Africa	4,248	0.04%	$1,664	51.6%	63.1%	1.91%	29.3	20.4	1.000	0.000	**-0.057**	**0.441**	-0.151	0.010	-4.711
													(0.024)	(0.025)	(0.155)	(0.021)	(9.716)
Nigeria	2008	IPUMS-I: Africa	5,971	0.06%	$1,723	56.8%	65.6%	2.22%	29.1	20.2	1.000	0.000	-0.011	**0.417**	-0.163	0.013	-3.923
													(0.018)	(0.029)	(0.145)	(0.014)	(4.459)
Nigeria	2008	DHS	9,291	0.10%	$1,723	68.7%	65.0%	1.09%	28.9	20.7	1.000	1.000	**-0.028**	**0.345**	0.028	0.002	-1.073
													(0.013)	(0.026)	(0.136)	(0.009)	(5.887)
Nigeria	2009	IPUMS-I: Africa	3,151	0.03%	$1,790	47.0%	65.6%	1.44%	29.0	19.9	1.000	0.000	-0.024	**0.352**	-0.355	0.016	-0.253
													(0.025)	(0.042)	(0.254)	(0.020)	(1.416)
Nigeria	2010	IPUMS-I: Africa	4,028	0.04%	$1,876	59.0%	61.8%	1.67%	29.4	20.1	1.000	1.000	**-0.052**	**0.369**	0.079	-0.007	6.533
													(0.020)	(0.031)	(0.171)	(0.016)	(16.018)
Nigeria	2013	DHS	10,596	0.11%	$1,876	71.3%	67.7%	0.84%	28.9	20.5	1.000	1.000	0.004	**0.379**	-0.086	-0.002	5.079
													(0.013)	(0.030)	(0.150)	(0.009)	(18.584)
Norway	1801	NAPP	25,820	0.27%	$801	2.1%	56.2%	0.54%	30.4	23.7	0.000	0.000	**-0.019**	**0.443**	0.064	0.004	-0.497
													(0.002)	(0.022)	(0.042)	(0.005)	(0.804)
Norway	1865	NAPP	53,059	0.55%	$1,269	1.2%	60.2%	0.60%	30.5	23.7	0.000	0.000	**-0.011**	**0.396**	0.001	0.003	0.318
													(0.001)	(0.015)	(0.016)	(0.004)	(0.490)
Norway	1875	NAPP	17,956	0.18%	$1,520	3.4%	58.8%	0.68%	30.2	23.4	0.000	0.000	**-0.039**	**0.238**	**-0.157**	-0.002	2.372
													(0.014)	(0.083)	(0.074)	(0.021)	(23.956)
Norway	1900	NAPP	68,771	0.71%	$1,880	11.5%	62.8%	0.71%	30.2	23.4	0.000	0.000	**-0.041**	**0.361**	-0.012	0.004	1.405
													(0.003)	(0.011)	(0.040)	(0.003)	(1.265)
Norway	1910	NAPP	75,194	0.77%	$2,210	9.2%	64.8%	0.90%	30.2	23.0	0.000	1.000	**-0.037**	**0.347**	-0.009	**0.009**	0.257
													(0.003)	(0.010)	(0.032)	(0.003)	(0.257)
Pakistan	1973	IPUMS-I: Asia	76,747	0.79%	$957	5.1%	68.0%	1.25%	29.4	20.4	1.000	0.000	**-0.009**	**0.340**	-0.016	0.005	-0.278
													(0.002)	(0.008)	(0.022)	(0.003)	(0.446)
Pakistan	1990	DHS	2,757	0.03%	$1,601	16.5%	76.2%	1.08%	28.9	20.2	1.000	1.000	-0.041	**0.241**	**-0.401**	0.005	-3.680
													(0.025)	(0.047)	(0.191)	(0.018)	(14.931)
Pakistan	2006	DHS	3,698	0.04%	$2,266	25.0%	70.3%	0.74%	29.1	20.7	1.000	1.000	0.022	**0.277**	**-0.831**	0.020	0.116
													(0.021)	(0.041)	(0.183)	(0.015)	(0.844)
Pakistan	2012	DHS	5,043	0.05%	$2,494	27.2%	66.7%	0.78%	29.2	21.1	1.000	1.000	-0.021	**0.290**	0.163	**0.034**	0.649
													(0.023)	(0.061)	(0.389)	(0.015)	(0.629)
Panama	1960	PUMS-I: America	2,780	0.03%	$2,484	18.1%	71.3%	1.26%	28.3	20.0	1.000	0.000	**-0.149**	**0.315**	-0.063	0.005	2.901
													(0.020)	(0.033)	(0.202)	(0.016)	(9.949)
Paraguay	1962	PUMS-I: America	4,420	0.05%	$1,638	20.1%	71.7%	1.27%	28.8	20.6	1.000	0.000	**-0.133**	**0.313**	0.113	0.010	2.751
													(0.016)	(0.024)	(0.180)	(0.012)	(3.755)
Paraguay	1972	PUMS-I: America	11,299	0.12%	$1,990	16.0%	69.2%	0.90%	28.8	20.6	1.000	0.000	**-0.120**	**0.302**	-0.065	0.010	0.317
													(0.009)	(0.021)	(0.114)	(0.008)	(0.745)
Philippines	1990	IPUMS-I: Asia	347,726	3.58%	$2,120	30.3%	64.5%	1.31%	29.1	21.2	1.000	0.000	**-0.072**	**0.342**	**0.056**	**0.026**	-0.087
													(0.002)	(0.003)	(0.021)	(0.001)	(0.060)
Philippines	1993	DHS	3,732	0.04%	$2,162	37.5%	63.0%	0.51%	29.2	21.3	1.000	1.000	**-0.103**	**0.314**	-0.344	**0.028**	0.057
													(0.019)	(0.058)	(0.391)	(0.014)	(0.581)
Philippines	1998	DHS	3,290	0.03%	$2,290	41.5%	62.2%	0.82%	29.6	21.7	1.000	1.000	**-0.091**	**0.384**	-0.076	**0.028**	-0.707
													(0.022)	(0.056)	(0.289)	(0.017)	(0.762)
Philippines	2003	DHS	3,001	0.03%	$2,486	42.7%	55.8%	0.65%	29.6	21.6	1.000	1.000	**-0.068**	**0.475**	0.020	**0.030**	-0.540
													(0.022)	(0.061)	(0.239)	(0.016)	(0.662)
Rwanda	1991	IPUMS-I: Africa	42,005	0.43%	$800	97.3%	68.0%	1.72%	29.5	21.4	0.000	1.000	0.002	**0.276**	**-0.047**	0.002	-0.049
													(0.002)	(0.010)	(0.026)	(0.004)	(0.791)
Rwanda	1992	DHS	1,710	0.02%	$770	98.0%	64.1%	0.61%	29.6	21.8	1.000	1.000	-0.004	**0.285**	-0.045	0.011	0.275
													(0.007)	(0.084)	(0.119)	(0.019)	(0.688)
Rwanda	2000	DHS	2,294	0.02%	$743	87.6%	57.3%	0.32%	29.2	21.8	1.000	1.000	0.004	**0.407**	-0.589	-0.002	-5.563
													(0.018)	(0.077)	(0.370)	(0.018)	(57.765)
Rwanda	2002	IPUMS-I: Africa	41,817	0.43%	$794	92.6%	56.6%	1.43%	29.0	21.6	1.000	1.000	**-0.011**	**0.434**	**-0.083**	0.005	-1.176
													(0.003)	(0.010)	(0.029)	(0.004)	(1.174)
Rwanda	2005	DHS	2,668	0.03%	$884	71.9%	60.9%	0.69%	29.2	21.9	1.000	1.000	0.009	**0.331**	-0.013	-0.012	2.386
													(0.023)	(0.049)	(0.354)	(0.017)	(3.618)
Saotome	2008	DHS	813	0.01%	$1,484	57.1%	58.6%	2.42%	28.8	20.0	1.000	1.000	0.033	**0.432**	**0.473**	0.022	-2.658
													(0.052)	(0.078)	(0.235)	(0.038)	(4.827)
Senegal	1988	IPUMS-I: Africa	39,875	0.41%	$1,267	22.7%	67.8%	2.04%	28.1	19.7	1.000	0.000	**-0.020**	**0.295**	-0.017	0.005	0.136
													(0.005)	(0.008)	(0.050)	(0.004)	(0.782)
Senegal	1992	DHS	1,814	0.02%	$1,229	46.6%	68.1%	0.66%	28.8	19.8	1.000	1.000	-0.027	**0.275**	-0.208	-0.001	-7.040
													(0.029)	(0.084)	(0.516)	(0.019)	(104.188)
Senegal	1997	DHS	2,320	0.02%	$1,245	61.9%	63.4%	0.53%	28.8	20.2	1.000	1.000	**0.062**	**0.322**	-0.282	0.017	-0.460
													(0.030)	(0.069)	(0.571)	(0.019)	(1.430)
Senegal	2002	IPUMS-I: Africa	41,222	0.42%	$1,359	29.2%	65.2%	2.67%	28.9	19.9	1.000	0.000	-0.009	**0.352**	0.012	0.001	-1.602
													(0.005)	(0.007)	(0.039)	(0.004)	(15.525)
Senegal	2005	DHS	3,522	0.04%	$1,424	37.2%	61.4%	1.00%	28.9	20.6	1.000	1.000	**-0.041**	**0.436**	0.096	0.018	-1.792
													(0.024)	(0.039)	(0.214)	(0.017)	(2.036)
Senegal	2010	DHS	4,103	0.04%	$1,507	38.8%	63.5%	1.28%	28.8	20.6	1.000	1.000	-0.040	**0.400**	0.299	0.005	1.691
													(0.024)	(0.041)	(0.231)	(0.017)	(7.736)
Senegal	2014	DHS	2,320	0.02%	$1,507	47.2%	61.1%	1.27%	28.6	20.7	1.000	1.000	-0.048	**0.371**	-0.037	**-0.047**	-0.260
													(0.034)	(0.058)	(0.300)	(0.022)	(0.576)
Sierra Leone	2004	IPUMS-I: Africa	18,744	0.19%	$587	70.3%	58.5%	3.93%	29.2	20.3	1.000	0.000	-0.002	**0.436**	0.052	0.005	-1.015
													(0.007)	(0.008)	(0.039)	(0.007)	(1.862)
Sierra Leone	2008	DHS	1,973	0.02%	$686	80.8%	52.9%	1.17%	29.1	20.5	1.000	1.000	0.000	**0.517**	0.096	0.035	0.652
													(0.022)	(0.051)	(0.140)	(0.023)	(0.712)
Sweden	1880	NAPP	139,113	1.43%	$1,503	1.9%	56.8%	0.66%	30.4	23.8	0.000	0.000	**-0.026**	**0.407**	0.003	**0.009**	0.113
													(0.001)	(0.008)	(0.012)	(0.002)	(0.086)
Sweden	1890	NAPP	152,922	1.58%	$1,647	3.3%	59.6%	0.61%	30.4	23.6	0.000	0.000	**-0.039**	**0.399**	0.007	**0.010**	0.000
													(0.001)	(0.008)	(0.015)	(0.002)	(0.089)
Sweden	1900	NAPP	149,091	1.54%	$2,087	2.8%	59.3%	0.63%	30.3	23.5	0.000	0.000	**-0.028**	**0.413**	0.013	**0.012**	0.007
													(0.001)	(0.008)	(0.014)	(0.002)	(0.069)
Tajikistan	2012	DHS	2,389	0.02%	$1,661	24.5%	56.1%	0.61%	28.8	21.4	1.000	1.000	**-0.057**	**0.295**	0.629	0.027	0.513
													(0.025)	(0.083)	(0.596)	(0.018)	(0.813)
Tanzania	1988	IPUMS-I: Africa	112,710	1.16%	$540	88.7%	63.4%	2.46%	28.5	19.8	1.000	0.000	**0.006**	**0.355**	**0.036**	**-0.007**	-0.293
													(0.002)	(0.005)	(0.018)	(0.003)	(0.335)
Tanzania	1991	DHS	2,468	0.03%	$536	73.2%	61.9%	0.84%	28.2	20.0	1.000	1.000	-0.016	**0.458**	-0.437	0.030	1.053
													(0.027)	(0.052)	(0.292)	(0.020)	(1.050)
Tanzania	1996	DHS	2,249	0.02%	$525	57.8%	61.9%	0.76%	28.6	20.3	1.000	1.000	0.032	**0.397**	0.140	0.002	-5.818
													(0.026)	(0.065)	(0.308)	(0.019)	(55.551)
Tanzania	1999	DHS	1,069	0.01%	$546	78.2%	59.0%	1.80%	28.5	20.2	1.000	1.000	0.020	**0.499**	0.218	0.010	4.259
													(0.044)	(0.066)	(0.138)	(0.034)	(14.490)
Tanzania	2002	IPUMS-I: Africa	191,556	1.97%	$591	78.5%	60.8%	2.37%	28.6	20.0	1.000	0.000	**0.033**	**0.385**	-0.025	0.001	1.121
													(0.003)	(0.005)	(0.022)	(0.002)	(5.130)
Tanzania	2004	DHS	2,914	0.03%	$637	86.1%	59.8%	1.64%	28.6	20.3	1.000	1.000	**0.057**	**0.286**	0.033	0.006	-0.397
													(0.019)	(0.056)	(0.239)	(0.018)	(2.800)
Tanzania	2010	DHS	2,708	0.03%	$804	86.7%	61.0%	0.82%	28.7	20.3	1.000	1.000	**0.032**	**0.476**	0.043	0.016	-0.234
													(0.018)	(0.051)	(0.153)	(0.020)	(1.065)
Tanzania	2012	IPUMS-I: Africa	225,907	2.33%	$804	76.6%	61.0%	2.40%	28.8	20.0	1.000	0.000	**0.034**	**0.394**	**-0.050**	0.000	6.126
													(0.002)	(0.004)	(0.017)	(0.002)	(85.181)

Togo	1998	DHS	2,461	0.03%	$661	87.1%	62.3%	2.04%	29.3	20.9	1.000	1.000	0.020	**0.435**	-0.064	-0.005	-2.786
													(0.018)	(0.044)	(0.143)	(0.018)	(11.040)
USA	1860	IPUMS-USA	14,364	0.15%	$2,219	5.0%	63.7%	0.66%	28.9	21.1	0.000	0.000	**-0.011**	**0.321**	0.128	**0.023**	0.101
													(0.004)	(0.023)	(0.092)	(0.007)	(0.162)
USA	1870	IPUMS-USA	18,167	0.19%	$2,497	5.2%	61.5%	0.81%	29.1	21.0	0.000	0.000	**-0.023**	**0.360**	**0.114**	0.008	-0.441
													(0.004)	(0.020)	(0.066)	(0.006)	(0.539)
Uganda	1991	IPUMS-I: Africa	84,404	0.87%	$584	72.7%	66.1%	1.81%	28.0	19.7	1.000	0.000	0.005	**0.328**	-0.024	-0.001	0.430
													(0.004)	(0.007)	(0.040)	(0.003)	(4.401)
Uganda	1995	DHS	2,144	0.02%	$654	65.0%	67.4%	0.75%	28.1	19.9	1.000	1.000	0.044	**0.329**	-0.218	-0.020	1.404
													(0.030)	(0.062)	(0.390)	(0.019)	(1.692)
Uganda	2000	DHS	2,236	0.02%	$780	79.8%	69.3%	0.55%	27.8	19.7	1.000	1.000	0.012	**0.389**	-0.079	-0.009	-1.633
													(0.026)	(0.055)	(0.319)	(0.018)	(4.208)
Uganda	2002	IPUMS-I: Africa	136,380	1.40%	$835	58.2%	69.8%	2.55%	28.0	19.5	1.000	1.000	**-0.017**	**0.277**	0.023	0.000	-11.084
													(0.003)	(0.004)	(0.030)	(0.002)	(147.754)
Uganda	2006	DHS	2,685	0.03%	$989	88.9%	68.5%	0.97%	28.3	19.9	1.000	1.000	0.025	**0.301**	-0.117	**0.041**	-0.051
													(0.017)	(0.059)	(0.264)	(0.016)	(0.317)
Uganda	2011	DHS	2,593	0.03%	$1,158	75.8%	66.1%	1.13%	28.2	20.0	1.000	1.000	-0.037	**0.348**	-0.127	0.010	2.776
													(0.025)	(0.048)	(0.266)	(0.018)	(5.307)
Vietnam	1989	IPUMS-I: Asia	166,529	1.72%	$1,009	87.9%	55.4%	1.06%	29.4	21.8	1.000	1.000	**-0.008**	**0.407**	**-0.068**	**0.029**	-0.105
													(0.002)	(0.008)	(0.027)	(0.003)	(0.067)
Vietnam	1997	DHS	1,910	0.02%	$1,560	92.0%	43.1%	0.57%	30.1	21.6	1.000	1.000	0.005	**0.624**	-0.125	**0.087**	-0.069
													(0.015)	(0.078)	(0.208)	(0.022)	(0.153)
Vietnam	1999	IPUMS-I: Asia	133,016	1.37%	$1,739	85.3%	37.6%	0.61%	30.0	21.4	1.000	1.000	0.003	**0.619**	**-0.080**	**0.068**	-0.029
													(0.003)	(0.010)	(0.029)	(0.003)	(0.036)
Vietnam	2002	DHS	1,634	0.02%	$2,039	93.1%	28.5%	0.22%	30.3	21.2	1.000	1.000	**-0.032**	**0.611**	**0.070**	**0.129**	-0.164
													(0.015)	(0.086)	(0.024)	(0.023)	(0.106)
Yemen	1991	DHS	1,505	0.02%	$2,380	12.1%	78.6%	0.87%	28.7	20.1	1.000	1.000	-0.031	**0.200**	-0.275	0.005	1.355
													(0.024)	(0.057)	(0.302)	(0.019)	(6.358)
Zambia	1990	IPUMS-I: Africa	33,408	0.34%	$772	27.8%	69.4%	2.25%	28.3	19.1	1.000	0.000	**-0.043**	**0.298**	0.007	-0.004	-0.432
													(0.006)	(0.009)	(0.056)	(0.004)	(1.189)
Zambia	1992	DHS	1,963	0.02%	$730	59.1%	65.7%	0.70%	28.2	19.5	1.000	1.000	**-0.088**	**0.292**	-0.239	0.004	4.527
													(0.029)	(0.068)	(0.418)	(0.018)	(20.179)
Zambia	1996	DHS	2,302	0.02%	$635	53.2%	62.9%	0.78%	28.1	19.7	1.000	1.000	**-0.093**	**0.532**	-0.052	-0.015	0.323
													(0.026)	(0.046)	(0.227)	(0.018)	(1.553)
Zambia	2000	IPUMS-I: Africa	49,762	0.51%	$613	48.8%	64.2%	2.85%	28.1	19.4	1.000	0.000	**-0.028**	**0.346**	-0.014	**0.008**	0.519
													(0.005)	(0.006)	(0.039)	(0.004)	(0.623)
Zambia	2001	DHS	2,288	0.02%	$616	60.8%	62.1%	0.58%	28.1	19.6	1.000	1.000	**-0.053**	**0.453**	-0.004	0.000	26.575
													(0.027)	(0.066)	(0.312)	(0.018)	(1277.218)
Zambia	2007	DHS	2,267	0.02%	$716	52.6%	64.5%	1.41%	28.3	19.9	1.000	1.000	**-0.047**	**0.398**	0.061	0.000	11.750
													(0.028)	(0.051)	(0.249)	(0.018)	(769.580)
Zambia	2010	IPUMS-I: Africa	78,308	0.81%	$795	52.8%	66.8%	1.78%	28.3	19.4	1.000	0.000	**0.017**	**0.321**	0.068	-0.002	1.337
													(0.004)	(0.006)	(0.042)	(0.003)	(2.727)
Zambia	2013	DHS	5,091	0.05%	$795	57.0%	65.0%	0.99%	28.6	19.8	1.000	1.000	**0.042**	**0.430**	-0.010	-0.004	2.695
													(0.021)	(0.045)	(0.185)	(0.013)	(9.598)
Zimbabwe	1994	DHS	1,467	0.02%	$1,341	59.8%	59.1%	1.13%	28.9	20.1	1.000	1.000	**-0.058**	**0.418**	-0.548	0.036	0.902
													(0.034)	(0.074)	(0.387)	(0.022)	(0.968)
Zimbabwe	1999	DHS	1,240	0.01%	$1,311	57.1%	47.5%	0.31%	28.7	20.2	1.000	1.000	-0.011	**0.562**	0.260	0.025	1.708
													(0.038)	(0.141)	(0.355)	(0.025)	(2.130)
Zimbabwe	2005	DHS	2,135	0.02%	$872	37.4%	44.6%	1.00%	28.8	20.2	1.000	1.000	**-0.119**	**0.627**	0.027	-0.004	-9.176
													(0.027)	(0.063)	(0.185)	(0.022)	(49.492)
Zimbabwe	2010	DHS	2,246	0.02%	$750	38.1%	40.6%	1.00%	28.9	20.3	1.000	1.000	**-0.119**	**0.604**	-0.262	0.008	-1.456
													(0.026)	(0.060)	(0.165)	(0.019)	(4.130)

Country	Year (#Samples)	Source	N	Percent of Pooled	Mean GDP/C	In Labor Force	3 or More Children	2nd Child is Multiple Birth	Mother's Age at Survey	Mother's Age at First Birth	Education?	Month/Quarter of Birth?	OLS	FS, Twin IV	2S, Twin IV	FS, Same-Sex	2S, Same-Sex
								$2,500-5,000 GDP/Capita Bin									
Pooled	**105**		**10,175,454**		**$3,659**	**28.6%**	**54.0%**	**0.96%**	**29.6**	**21.1**			**-0.049**	**0.450**	-0.007	**0.025**	-0.013
													(0.008)	(0.035)	(0.012)	(0.006)	(0.013)
Albania	2008	DHS	1,223	0.01%	$4,916	27.4%	34.5%	0.39%	30.7	21.5	X	X	**-0.182**	**0.695**	0.269	**0.146**	-0.018
													(0.034)	(0.065)	(0.261)	(0.029)	(0.209)
Armenia	2000	DHS	1,500	0.01%	$4,912	30.0%	32.8%	0.44%	29.3	20.6	X	X	-0.006	**0.740**	-0.126	**0.084**	-0.469
													(0.028)	(0.040)	(0.197)	(0.023)	(0.317)
Bolivia	1976	PUMS-I: America	25,165	0.25%	$2,571	17.5%	61.9%	0.58%	28.8	20.8	X		**-0.076**	**0.370**	-0.049	**0.014**	-0.008
													(0.006)	(0.021)	(0.082)	(0.005)	(0.337)
Bolivia	1998	DHS	2,850	0.03%	$2,510	52.8%	58.1%	0.42%	29.1	20.5	X	X	**-0.153**	**0.383**	0.109	**0.037**	-0.197
													(0.024)	(0.063)	(0.408)	(0.019)	(0.562)
Bolivia	2001	PUMS-I: America	38,755	0.38%	$2,566	41.9%	56.1%	0.87%	29.1	20.4	X		**-0.097**	**0.451**	-0.022	**0.013**	0.050
													(0.006)	(0.012)	(0.059)	(0.005)	(0.392)
Bolivia	2003	DHS	4,441	0.04%	$2,611	60.3%	56.5%	0.28%	29.1	20.3	X	X	**-0.066**	**0.358**	0.254	0.020	-0.123
													(0.020)	(0.046)	(0.282)	(0.017)	(0.895)
Bolivia	2008	DHS	3,943	0.04%	$2,920	64.8%	52.3%	0.48%	29.2	20.3	X	X	**-0.056**	**0.392**	-0.082	**0.058**	0.061
													(0.021)	(0.044)	(0.353)	(0.017)	(0.320)
Botswana	1991	IPUMS-I: Africa	5,484	0.05%	$3,258	47.8%	60.4%	3.37%	29.0	19.7	X		**-0.107**	**0.433**	0.106	**-0.020**	0.336
													(0.015)	(0.017)	(0.087)	(0.012)	(0.724)
Botswana	2001	IPUMS-I: Africa	6,152	0.06%	$4,157	53.3%	49.4%	3.66%	29.0	19.9	X		**-0.138**	**0.507**	0.000	0.001	-7.320
													(0.014)	(0.015)	(0.067)	(0.012)	(139.580)
Brazil	1970	PUMS-I: America	255,612	2.51%	$3,124	11.4%	68.5%	1.93%	28.8	20.7	X		**-0.059**	**0.305**	**-0.061**	**0.021**	-0.067
													(0.002)	(0.003)	(0.014)	(0.002)	(0.062)
Brazil	1980	PUMS-I: America	312,368	3.07%	$4,777	21.5%	59.0%	1.96%	28.9	21.0	X		**-0.080**	**0.372**	**-0.063**	**0.025**	-0.008
													(0.002)	(0.003)	(0.014)	(0.002)	(0.060)
Canada	1911	NAPP	13,428	0.13%	$4,079	3.2%	62.1%	0.72%	29.5	22.2		X	**-0.006**	**0.361**	**-0.063**	0.008	0.111
													(0.004)	(0.022)	(0.029)	(0.007)	(0.381)
Colombia	1973	PUMS-I: America	97,406	0.96%	$3,442	14.3%	70.0%	1.47%	28.7	20.1	X		**-0.095**	**0.300**	0.050	**0.017**	0.109
													(0.003)	(0.006)	(0.032)	(0.003)	(0.133)
Colombia	1985	PUMS-I: America	144,601	1.42%	$4,366	33.5%	53.7%	1.93%	28.8	20.4	X		**-0.084**	**0.420**	-0.010	**0.035**	-0.030
													(0.003)	(0.004)	(0.022)	(0.002)	(0.072)
Colombia	1990	DHS	1,922	0.02%	$4,817	35.7%	50.1%	0.88%	29.1	20.6	X	X	**-0.106**	**0.497**	0.502	0.037	-0.188
													(0.030)	(0.066)	(0.338)	(0.028)	(0.745)
Costa Rica	1973	PUMS-I: America	9,714	0.10%	$4,202	12.9%	69.3%	0.80%	28.6	20.2	X		**-0.103**	**0.323**	0.025	-0.004	1.337
													(0.009)	(0.025)	(0.118)	(0.008)	(3.429)
Costa Rica	1984	PUMS-I: America	15,379	0.15%	$4,413	18.4%	53.6%	1.22%	28.7	20.3	X		**-0.086**	**0.484**	0.070	**0.043**	0.026
													(0.007)	(0.017)	(0.062)	(0.007)	(0.144)
Cuba	2002	PUMS-I: America	36,099	0.35%	$2,583	35.5%	17.0%	1.00%	30.7	20.5	X		**-0.096**	**0.829**	0.006	**0.033**	-0.002
													(0.006)	(0.005)	(0.030)	(0.004)	(0.149)
Dominican Repu	2002	PUMS-I: America	42,518	0.42%	$3,803	66.6%	53.0%	2.70%	29.2	20.3	X	X	**-0.038**	**0.445**	-0.031	**0.031**	**-0.271**
													(0.005)	(0.006)	(0.032)	(0.004)	(0.152)
Dominican Repu	1991	DHS	1,762	0.02%	$2,602	40.7%	58.8%	1.21%	28.9	20.7	X	X	-0.035	**0.493**	**-0.519**	**0.051**	-0.517
													(0.037)	(0.064)	(0.221)	(0.029)	(0.686)
Dominican Repu	1996	DHS	2,107	0.02%	$3,120	37.9%	55.6%	0.93%	28.9	20.7	X	X	**-0.078**	**0.453**	-0.057	**0.082**	-0.175
													(0.027)	(0.072)	(0.327)	(0.023)	(0.300)
Dominican Repu	1999	DHS	314	0.00%	$3,522	46.3%	50.1%	1.15%	29.3	21.0	X	X	-0.060	**0.522**	-0.338	-0.046	-0.995
													(0.075)	(0.171)	(0.526)	(0.056)	(1.851)
Dominican Repu	2002	DHS	5,718	0.06%	$3,803	38.5%	51.9%	0.76%	29.1	20.3	X	X	**-0.104**	**0.498**	0.172	0.027	-0.472
													(0.019)	(0.032)	(0.180)	(0.017)	(0.684)
Dominican Repu	2007	DHS	5,876	0.06%	$4,649	42.1%	52.2%	0.90%	29.3	20.0	X	X	**-0.062**	**0.469**	-0.120	0.024	0.205
													(0.021)	(0.031)	(0.217)	(0.018)	(0.822)
Ecuador	1974	PUMS-I: America	32,604	0.32%	$3,234	11.2%	68.5%	0.82%	28.6	20.4	X		**-0.070**	**0.296**	-0.003	**0.011**	0.368
													(0.005)	(0.018)	(0.073)	(0.005)	(0.424)
Ecuador	1982	PUMS-I: America	44,110	0.43%	$4,025	15.8%	63.1%	0.97%	28.6	20.4	X		**-0.101**	**0.388**	0.071	**0.015**	0.219
													(0.004)	(0.011)	(0.049)	(0.004)	(0.248)
Ecuador	1990	PUMS-I: America	52,893	0.52%	$3,941	25.7%	57.0%	0.91%	29.0	20.4	X		**-0.102**	**0.425**	-0.019	**0.027**	0.113
													(0.004)	(0.011)	(0.046)	(0.004)	(0.145)
Ecuador	2001	PUMS-I: America	56,918	0.56%	$4,081	31.3%	48.8%	1.15%	29.1	20.2	X		**-0.088**	**0.540**	-0.051	**0.026**	-0.073
													(0.004)	(0.008)	(0.032)	(0.004)	(0.151)
Egypt	1992	DHS	3,869	0.04%	$2,563	21.4%	69.3%	0.99%	29.1	20.5	X	X	-0.027	**0.278**	-0.034	**0.028**	-0.498
													(0.019)	(0.046)	(0.263)	(0.014)	(0.561)
Egypt	1995	DHS	5,599	0.06%	$2,726	18.5%	65.3%	0.77%	29.2	20.6	X	X	**-0.048**	**0.369**	**0.397**	**0.038**	-0.322
													(0.016)	(0.049)	(0.209)	(0.013)	(0.340)
Egypt	1996	IPUMS-I: Africa	372,603	3.66%	$2,819	14.6%	63.5%	1.41%	29.6	20.7	X	X	**-0.063**	**0.361**	-0.019	**0.040**	0.007
													(0.002)	(0.004)	(0.013)	(0.001)	(0.028)
Egypt	2000	DHS	5,707	0.06%	$3,193	14.9%	60.8%	1.04%	29.3	20.9	X	X	**-0.025**	**0.428**	0.154	**0.032**	0.336
													(0.013)	(0.039)	(0.132)	(0.011)	(0.341)
Egypt	2003	DHS	3,256	0.03%	$3,409	19.0%	56.0%	0.67%	29.1	20.9	X	X	-0.032	**0.491**	-0.191	**0.061**	-0.249
													(0.020)	(0.049)	(0.169)	(0.016)	(0.267)
Egypt	2005	DHS	6,910	0.07%	$3,599	18.0%	55.0%	1.30%	29.0	21.1	X	X	0.001	**0.543**	-0.043	**0.081**	0.126
													(0.013)	(0.034)	(0.083)	(0.011)	(0.133)
Egypt	2006	IPUMS-I: Africa	439,867	4.32%	$3,714	13.6%	52.5%	1.46%	29.3	20.8	X		**-0.022**	**0.474**	0.006	**0.048**	0.025
													(0.001)	(0.003)	(0.009)	(0.001)	(0.021)
Egypt	2008	DHS	5,814	0.06%	$3,992	12.6%	52.7%	1.21%	29.1	21.1	X	X	**-0.022**	**0.472**	0.020	**0.043**	0.037
													(0.012)	(0.037)	(0.093)	(0.012)	(0.218)
Egypt	2014	DHS	8,447	0.08%	$4,267	13.2%	52.3%	1.22%	29.2	21.4	X	X	-0.011	**0.444**	0.064	**0.041**	-0.166
													(0.011)	(0.029)	(0.104)	(0.010)	(0.217)
El Salvador	2007	PUMS-I: America	29,636	0.29%	$2,897	41.5%	46.0%	1.94%	29.4	19.8	X	X	**-0.111**	**0.515**	**-0.068**	**0.023**	0.156
													(0.006)	(0.009)	(0.040)	(0.005)	(0.254)
Gabon	2000	DHS	1,348	0.01%	$4,174	43.8%	56.8%	1.60%	28.5	19.7	X	X	-0.017	**0.463**	0.014	-0.009	-6.899
													(0.035)	(0.049)	(0.259)	(0.028)	(20.983)
Great Britain	1851	NAPP	11,693	0.11%	$2,561	30.3%	64.9%	0.51%	30.4	22.5			**-0.066**	**0.391**	-0.114	**0.015**	0.228
													(0.011)	(0.027)	(0.151)	(0.008)	(0.616)
Great Britain	1881	NAPP	972,869	9.56%	$3,530	28.0%	68.8%	0.47%	30.1	22.2			**-0.068**	**0.325**	0.006	**0.005**	0.053
													(0.001)	(0.003)	(0.021)	(0.001)	(0.180)
Great Britain	1911	NAPP	938,191	9.22%	$4,699	8.9%	58.2%	0.71%	30.8	22.8			**-0.044**	**0.432**	**-0.026**	**0.012**	0.007
													(0.001)	(0.003)	(0.008)	(0.001)	(0.048)
Guatemala	1995	DHS	3,639	0.04%	$3,559	28.5%	67.6%	0.62%	28.6	19.8	X	X	**-0.174**	**0.213**	-0.187	0.000	-80.537
													(0.027)	(0.065)	(0.735)	(0.018)	(31589.125)
Guatemala	1998	DHS	1,787	0.02%	$3,760	31.6%	66.7%	0.58%	28.6	20.0	X	X	**-0.122**	**0.421**	0.397	**0.072**	-0.291
													(0.043)	(0.042)	(0.650)	(0.032)	(0.472)
India	2009	IPUMS-I: Asia	29,556	0.29%	$3,159	27.5%	42.5%	0.39%	29.6	20.5	X		**-0.034**	**0.613**	0.007	**0.045**	-0.187
													(0.011)	(0.030)	(0.114)	(0.011)	(0.231)
Indonesia	1990	IPUMS-I: Asia	57,518	0.57%	$2,543	42.1%	52.8%	0.63%	29.3	20.1	X	X	**-0.075**	**0.464**	**-0.109**	**0.025**	0.121
													(0.005)	(0.012)	(0.056)	(0.004)	(0.173)
Indonesia	1991	DHS	8,118	0.08%	$2,690	40.5%	52.3%	0.47%	29.3	19.9	X	X	**-0.058**	**0.511**	-0.274	0.001	5.638
													(0.017)	(0.051)	(0.167)	(0.014)	(56.949)
Indonesia	1995	IPUMS-I: Asia	41,916	0.41%	$3,256	42.7%	45.2%	0.50%	29.9	20.3	X	X	**-0.064**	**0.538**	-0.058	**0.028**	-0.078
													(0.007)	(0.016)	(0.073)	(0.005)	(0.208)
Indonesia	2002	DHS	8,192	0.08%	$3,429	43.8%	35.2%	0.34%	30.0	20.6	X	X	**-0.051**	**0.688**	-0.080	0.001	-2.830
													(0.020)	(0.035)	(0.169)	(0.017)	(96.533)
Indonesia	2007	DHS	8,920	0.09%	$4,161	50.6%	32.1%	0.51%	30.3	20.9	X	X	**-0.052**	**0.705**	0.132	**0.046**	-0.460
													(0.018)	(0.024)	(0.143)	(0.015)	(0.386)
Indonesia	2010	IPUMS-I: Asia	1,055,321	10.37%	$4,722	55.5%	29.8%	0.73%	30.5	21.0	X	X	**-0.032**	**0.705**	**-0.037**	**0.030**	**-0.072**
													(0.001)	(0.002)	(0.008)	(0.001)	(0.032)
Indonesia	2012	DHS	8,276	0.08%	$4,722	51.9%	26.4%	0.49%	30.6	21.2	X	X	**-0.049**	**0.728**	0.112	**0.028**	0.250
													(0.018)	(0.022)	(0.145)	(0.013)	(0.594)
Jamaica	1982	PUMS-I: America	9,385	0.09%	$3,167	51.7%	57.5%	2.16%	28.3	19.5	X		**-0.157**	**0.439**	-0.013	0.006	-0.713
													(0.011)	(0.015)	(0.081)	(0.009)	(2.037)
Jamaica	1991	PUMS-I: America	11,693	0.11%	$3,731	44.3%	51.2%	2.30%	28.9	19.7	X	X	**-0.150**	**0.504**	0.002	0.001	-1.729
													(0.010)	(0.013)	(0.060)	(0.008)	(25.555)
Jamaica	2001	PUMS-I: America	9,267	0.09%	$3,700	52.8%	48.4%	2.06%	29.4	19.8	X	X	**-0.125**	**0.513**	0.015	0.011	0.581
													(0.011)	(0.016)	(0.072)	(0.010)	(1.143)
Jordan	1990	DHS	2,767	0.03%	$4,080	10.3%	80.6%	0.55%	28.6	20.4	X	X	0.006	**0.231**	**-0.405**	**0.045**	-0.246
													(0.020)	(0.060)	(0.194)	(0.013)	(0.266)
Jordan	1997	DHS	2,490	0.02%	$4,039	10.8%	72.2%	1.05%	29.0	21.5	X	X	-0.023	**0.261**	**0.642**	-0.014	0.851
													(0.018)	(0.052)	(0.346)	(0.016)	(1.309)
Jordan	2002	DHS	2,559	0.03%	$4,504	7.8%	73.6%	0.98%	29.5	21.5	X	X	-0.016	**0.333**	0.362	**0.042**	0.303
													(0.018)	(0.046)	(0.419)	(0.017)	(0.320)
Jordan	2004	IPUMS-I: Asia	28,275	0.28%	$4,799	16.5%	69.8%	1.38%	29.5	21.6	X	X	**-0.062**	**0.324**	0.001	**0.019**	0.007
													(0.006)	(0.014)	(0.059)	(0.004)	(0.230)
Kyrgyz Republic	2012	DHS	2,070	0.02%	$2,947	21.7%	49.9%	0.74%	29.3	21.6	X	X	**-0.209**	**0.480**	-0.092	0.001	-9.926
													(0.027)	(0.059)	(0.272)	(0.022)	(141.397)
Kyrgyz Republic	2009	IPUMS-I: Asia	30,670	0.30%	$2,976	66.3%	49.6%	0.91%	29.4	21.1	X	X	**-0.029**	**0.519**	-0.032	**0.052**	-0.088
													(0.006)	(0.015)	(0.055)	(0.005)	(0.102)
Malaysia	1980	IPUMS-I: Asia	10,040	0.10%	$3,619	32.3%	63.8%	1.25%	29.0	21.0	X		**-0.058**	**0.381**	-0.007	**0.025**	-0.434

													(0.011)	(0.023)	(0.109)	(0.008)	(0.392)
Mexico	1970	PUMS-I: America	26,355	0.26%	$4,331	10.0%	76.5%	1.16%	28.4	19.9	X		**-0.061**	**0.252**	**0.204**	**0.015**	0.089
													(0.005)	(0.011)	(0.082)	(0.005)	(0.244)
Moldova	2005	DHS	1,026	0.01%	$3,311	50.5%	18.2%	1.12%	30.1	20.6	X	X	**-0.131**	**0.799**	-0.232	**0.069**	0.041
													(0.043)	(0.027)	(0.172)	(0.025)	(0.468)
Morocco	1992	DHS	1,943	0.02%	$2,590	18.9%	68.8%	0.57%	29.7	21.1	X	X	**-0.050**	**0.230**	-0.031	**0.031**	0.470
													(0.024)	(0.083)	(0.491)	(0.018)	(0.645)
Morocco	1994	IPUMS-I: Africa	60,890	0.60%	$2,626	11.4%	66.0%	1.43%	29.5	20.8	X	X	**-0.057**	**0.331**	0.034	**0.021**	0.129
													(0.004)	(0.009)	(0.034)	(0.003)	(0.123)
Morocco	2003	DHS	2,718	0.03%	$3,167	11.8%	53.2%	0.58%	29.6	21.0	X	X	**-0.037**	**0.542**	0.187	**0.046**	-0.176
													(0.017)	(0.067)	(0.199)	(0.017)	(0.284)
Morocco	2004	IPUMS-I: Africa	60,390	0.59%	$3,286	10.4%	53.0%	1.23%	29.6	21.0	X	X	**-0.015**	**0.486**	-0.010	**0.034**	0.034
													(0.003)	(0.010)	(0.023)	(0.003)	(0.074)
Mozambique	2011	DHS	3,843	0.04%	$2,613	41.6%	63.0%	1.18%	28.5	19.9	X	X	**-0.044**	**0.426**	-0.160	-0.008	-0.053
													(0.023)	(0.034)	(0.163)	(0.016)	(2.293)
Namibia	1992	DHS	988	0.01%	$3,335	35.6%	54.2%	0.93%	29.0	21.1	X	X	**-0.085**	**0.427**	**-0.675**	0.026	-0.795
													(0.036)	(0.067)	(0.269)	(0.029)	(1.421)
Namibia	2000	DHS	1,108	0.01%	$3,652	38.5%	44.2%	1.85%	29.6	21.3	X	X	**-0.210**	**0.511**	-0.043	0.011	-3.780
													(0.041)	(0.058)	(0.302)	(0.034)	(11.569)
Namibia	2006	DHS	1,413	0.01%	$4,277	49.0%	38.3%	1.26%	29.3	21.2	X	X	**-0.135**	**0.503**	-0.133	**0.047**	-0.677
													(0.036)	(0.055)	(0.258)	(0.027)	(0.737)
Nicaragua	1971	PUMS-I: America	10,485	0.10%	$2,906	17.2%	74.5%	0.77%	28.3	19.5	X		**-0.112**	**0.284**	-0.052	**0.025**	-0.169
													(0.010)	(0.023)	(0.145)	(0.008)	(0.292)
Panama	1970	PUMS-I: America	8,373	0.08%	$3,828	23.6%	72.1%	1.28%	28.4	20.0	X		**-0.152**	**0.298**	0.204	0.008	0.279
													(0.012)	(0.019)	(0.149)	(0.009)	(1.302)
Panama	1980	PUMS-I: America	10,736	0.11%	$4,850	30.4%	62.7%	1.45%	28.9	20.1	X		**-0.145**	**0.398**	0.026	0.012	-0.279
													(0.011)	(0.019)	(0.094)	(0.008)	(0.757)
Panama	1990	PUMS-I: America	12,549	0.12%	$4,818	29.9%	55.3%	1.44%	29.0	20.2	X		**-0.153**	**0.465**	0.034	**0.046**	0.152
													(0.009)	(0.016)	(0.074)	(0.008)	(0.180)
Paraguay	1982	PUMS-I: America	15,623	0.15%	$3,193	15.3%	63.2%	0.97%	28.5	20.6	X		**-0.112**	**0.394**	0.100	**0.020**	0.209
													(0.007)	(0.018)	(0.080)	(0.007)	(0.310)
Paraguay	1990	DHS	1,519	0.01%	$3,226	34.2%	60.1%	1.02%	29.1	20.8	X	X	**-0.162**	**0.422**	0.145	0.029	-0.682
													(0.030)	(0.074)	(0.305)	(0.023)	(0.959)
Paraguay	1992	PUMS-I: America	22,777	0.22%	$3,274	19.4%	61.6%	0.97%	29.0	20.6	X		**-0.127**	**0.398**	-0.010	**0.031**	0.181
													(0.006)	(0.015)	(0.065)	(0.006)	(0.177)
Paraguay	2002	PUMS-I: America	24,926	0.24%	$2,997	36.8%	56.3%	1.03%	29.3	20.3	X		**-0.141**	**0.447**	0.050	**0.025**	-0.089
													(0.007)	(0.014)	(0.068)	(0.006)	(0.242)
Peru	1991	DHS	3,929	0.04%	$3,196	52.8%	56.9%	0.59%	29.1	20.6	X	X	**-0.043**	**0.439**	**-0.525**	0.001	-31.330
													(0.020)	(0.053)	(0.269)	(0.015)	(603.874)
Peru	1993	PUMS-I: America	113,466	1.12%	$3,220	24.4%	55.1%	0.92%	29.2	20.6	X		**-0.092**	**0.449**	0.014	**0.023**	0.037
													(0.003)	(0.007)	(0.030)	(0.003)	(0.111)
Peru	1996	DHS	7,325	0.07%	$3,531	51.3%	55.4%	0.40%	29.3	20.5	X	X	**-0.094**	**0.500**	-0.055	**0.031**	-0.384
													(0.017)	(0.039)	(0.216)	(0.013)	(0.482)
Peru	2000	DHS	6,371	0.06%	$3,766	57.2%	49.4%	0.48%	29.6	20.6	X	X	**-0.053**	**0.503**	0.014	0.010	-0.283
													(0.018)	(0.042)	(0.186)	(0.014)	(1.652)
Peru	2007	PUMS-I: America	115,601	1.14%	$4,923	34.0%	41.4%	0.94%	29.6	20.4	X		**-0.095**	**0.591**	-0.024	**0.026**	0.068
													(0.003)	(0.006)	(0.024)	(0.003)	(0.107)
Peru	2007	DHS	7,867	0.08%	$4,923	67.1%	44.3%	0.64%	29.9	20.4	X	X	-0.006	**0.607**	0.099	**0.026**	0.311
													(0.016)	(0.044)	(0.139)	(0.014)	(0.611)
Philippines	2008	DHS	2,717	0.03%	$2,863	42.3%	54.0%	0.67%	29.5	21.4	X	X	**-0.096**	**0.456**	-0.156	0.011	1.836
													(0.023)	(0.053)	(0.222)	(0.018)	(3.809)
Philippines	2013	DHS	3,014	0.03%	$3,024	42.1%	48.7%	0.54%	29.6	21.3	X	X	**-0.113**	**0.501**	0.262	**0.036**	0.064
													(0.020)	(0.065)	(0.243)	(0.017)	(0.520)
Romania	1992	IPUMS-I: Europe	100,657	0.99%	$3,191	74.0%	34.4%	0.89%	29.8	20.8	X	X	**-0.192**	**0.655**	**-0.066**	**0.034**	-0.075
													(0.003)	(0.006)	(0.023)	(0.003)	(0.079)
Romania	2002	IPUMS-I: Europe	71,737	0.71%	$3,456	54.3%	22.5%	0.87%	30.2	20.7	X	X	**-0.168**	**0.786**	**-0.081**	**0.035**	0.083
													(0.004)	(0.005)	(0.025)	(0.003)	(0.107)
Romania	2011	IPUMS-I: Europe	46,774	0.46%	$4,653	57.1%	23.0%	1.33%	30.5	21.4	X	X	**-0.126**	**0.784**	-0.039	**0.038**	**0.230**
													(0.005)	(0.005)	(0.024)	(0.004)	(0.119)
South Africa	1996	IPUMS-I: Africa	133,590	1.31%	$3,700	68.2%	47.4%	2.34%	29.7	20.3	X		**-0.095**	**0.515**	-0.015	**0.022**	-0.093
													(0.003)	(0.004)	(0.016)	(0.002)	(0.117)
South Africa	2001	IPUMS-I: Africa	136,950	1.35%	$4,005	72.3%	43.2%	2.44%	29.8	20.3	X		**-0.093**	**0.559**	0.005	**0.019**	**0.221**
													(0.003)	(0.004)	(0.014)	(0.002)	(0.133)
South Africa	2007	IPUMS-I: Africa	33,071	0.33%	$4,783	82.3%	39.6%	2.47%	29.7	20.4	X		**-0.063**	**0.613**	-0.034	**0.016**	0.096
													(0.005)	(0.007)	(0.024)	(0.005)	(0.275)
South Africa	1998	DHS	2,067	0.02%	$3,812	32.7%	40.0%	0.85%	29.8	20.5	X	X	**-0.134**	**0.576**	-0.145	0.012	1.310
													(0.027)	(0.043)	(0.232)	(0.022)	(3.417)
Sudan	2008	IPUMS-I: Africa	289,810	2.85%	$3,021	24.7%	72.0%	1.47%	28.9	20.1	X		**-0.009**	**0.288**	0.011	**0.018**	0.095
													(0.003)	(0.005)	(0.035)	(0.002)	(0.138)
Swaziland	2006	DHS	851	0.01%	$2,967	42.8%	50.2%	0.68%	28.8	20.1	X	X	**-0.086**	**0.509**	-0.030	-0.011	1.808
													(0.040)	(0.099)	(0.435)	(0.031)	(6.471)
Turkey	1985	IPUMS-I: Asia	150,756	1.48%	$4,578	39.2%	57.4%	1.39%	29.0	20.1	X		**0.103**	**0.462**	**0.293**	**0.051**	-0.045
													(0.003)	(0.005)	(0.024)	(0.002)	(0.050)
USA	1880	US Full Count	2,391,227	23.50%	$3,032	6.2%	64.1%	0.66%	29.0	20.9			**-0.023**	**0.343**	**0.039**	**0.009**	0.042
													(0.000)	(0.002)	(0.006)	(0.001)	(0.035)
USA	1900	IPUMS-USA	166,412	1.64%	$4,161	6.1%	61.3%	0.89%	29.2	21.2		X	**-0.024**	**0.374**	-0.007	**0.011**	-0.026
													(0.001)	(0.006)	(0.016)	(0.002)	(0.104)
Ukraine	2007	DHS	755	0.01%	$4,487	72.0%	12.8%	0.57%	30.8	20.7	X	X	**-0.152**	**0.867**	-0.016	**0.048**	-0.423
													(0.054)	(0.020)	(0.219)	(0.026)	(0.704)
Uruguay	1963	PUMS-I: America	9,974	0.10%	$4,909	17.4%	44.4%	1.02%	29.6	21.8	X		**-0.062**	**0.583**	0.055	**0.039**	0.152
													(0.008)	(0.017)	(0.067)	(0.009)	(0.200)
Uzbekistan	1996	DHS	1,275	0.01%	$3,223	46.2%	55.9%	0.78%	28.9	21.2	X	X	**-0.147**	**0.391**	0.059	**0.082**	0.295
													(0.036)	(0.053)	(0.504)	(0.025)	(0.388)
Vietnam	2009	IPUMS-I: Asia	745,767	7.33%	$3,063	87.2%	20.7%	0.61%	30.2	21.4	X	X	**-0.013**	**0.792**	**-0.065**	**0.084**	**-0.041**
													(0.001)	(0.002)	(0.010)	(0.001)	(0.012)
Yemen	2013	DHS	6,699	0.07%	$3,165	9.4%	69.9%	0.63%	28.6	19.8		X	**-0.018**	**0.207**	0.021	**0.024**	-0.590
													(0.010)	(0.058)	(0.265)	(0.012)	(0.447)

Country	Year (#Samples)	Source	N	Percent of Pooled	Mean GDP/C	In Labor Force	3 or More Children	2nd Child is Multiple Birth	Mother's Age at Survey	Mother's Age at First Birth	Education?	Month/Quarter of Birth?	OLS	FS, Twin IV	2S, Twin IV	FS, Same-Sex	2S, Same-Sex
								$5,000-7,500 GDP/Capita Bin									
Pooled	**55**		**17,151,888**		**$5,680**	**15.9%**	**53.2%**	**0.95%**	**29.3**	**21.0**			**-0.048**	**0.481**	0.004	**0.019**	0.006
													(0.009)	(0.016)	(0.009)	(0.003)	(0.013)
Argentina	1970	PUMS-I: America	19,209	0.11%	$7,206	16.4%	45.7%	1.46%	29.6	21.7	X		**-0.047**	**0.538**	-0.013	**0.040**	-0.161
													(0.006)	(0.011)	(0.041)	(0.007)	(0.133)
Argentina	1991	PUMS-I: America	205,654	1.20%	$7,173	40.4%	51.8%	1.17%	29.6	21.1	X		**-0.102**	**0.482**	-0.006	**0.031**	**-0.189**
													(0.003)	(0.005)	(0.024)	(0.002)	(0.079)
Armenia	2001	IPUMS-I: Asia	17,771	0.10%	$5,412	71.5%	32.5%	0.81%	29.6	20.7	X	X	**-0.031**	**0.678**	-0.036	**0.112**	**-0.122**
													(0.008)	(0.016)	(0.054)	(0.006)	(0.060)
Azerbaijan	2006	DHS	1,658	0.01%	$5,773	12.8%	30.6%	0.55%	29.4	21.3	X	X	-0.022	**0.589**	0.181	**0.179**	**0.204**
													(0.023)	(0.067)	(0.264)	(0.026)	(0.119)
Belarus	1999	IPUMS-I: Europe	30,957	0.18%	$6,097	83.3%	13.1%	0.67%	30.7	21.2	X		**-0.092**	**0.866**	-0.011	**0.029**	-0.096
													(0.007)	(0.005)	(0.028)	(0.004)	(0.142)
Brazil	1991	PUMS-I: America	475,199	2.77%	$5,007	33.1%	48.9%	1.20%	29.3	20.7	X		**-0.103**	**0.492**	**-0.052**	**0.036**	-0.037
													(0.002)	(0.003)	(0.014)	(0.001)	(0.042)
Brazil	1991	DHS	1,356	0.01%	$5,007	44.5%	61.1%	0.60%	29.0	20.4	X	X	0.000	**0.258**	**-1.492**	**0.048**	-0.077
													(0.041)	(0.060)	(0.830)	(0.029)	(0.729)
Brazil	1996	DHS	2,687	0.02%	$5,241	46.5%	42.4%	0.77%	29.6	20.6	X	X	**-0.058**	**0.598**	0.214	0.009	1.814
													(0.023)	(0.056)	(0.205)	(0.020)	(4.612)
Brazil	2000	PUMS-I: America	498,571	2.91%	$5,400	51.2%	41.5%	1.25%	29.4	20.4	X		**-0.104**	**0.573**	**-0.052**	**0.030**	-0.037
													(0.002)	(0.002)	(0.012)	(0.001)	(0.050)
Brazil	2010	PUMS-I: America	392,152	2.29%	$6,879	58.9%	36.4%	1.44%	29.7	19.9	X		**-0.105**	**0.630**	**-0.032**	**0.028**	-0.015
													(0.002)	(0.003)	(0.012)	(0.002)	(0.065)
Chile	1970	PUMS-I: America	41,509	0.24%	$5,241	12.4%	64.1%	1.04%	28.9	20.9	X		**-0.098**	**0.400**	0.049	**0.029**	0.070
													(0.004)	(0.010)	(0.043)	(0.004)	(0.112)
Chile	1982	PUMS-I: America	55,984	0.33%	$5,263	18.2%	45.9%	1.19%	29.2	20.7	X		**-0.088**	**0.540**	-0.014	**0.026**	-0.009
													(0.004)	(0.009)	(0.027)	(0.004)	(0.122)
Chile	1992	PUMS-I: America	69,678	0.41%	$7,416	20.3%	37.8%	1.29%	29.7	21.1	X		**-0.079**	**0.628**	**-0.062**	**0.033**	0.018
													(0.003)	(0.006)	(0.020)	(0.003)	(0.092)
Colombia	1993	PUMS-I: America	168,635	0.98%	$5,144	28.5%	48.5%	1.53%	29.3	20.4	X		**-0.126**	**0.537**	0.022	**0.031**	0.045
													(0.002)	(0.004)	(0.017)	(0.002)	(0.072)
Colombia	1995	DHS	2,399	0.01%	$5,359	45.3%	45.4%	0.60%	29.1	20.5	X	X	**-0.101**	**0.585**	**0.420**	0.032	0.221
													(0.022)	(0.044)	(0.196)	(0.020)	(0.676)
Colombia	2000	DHS	2,317	0.01%	$5,473	46.8%	41.7%	0.89%	29.3	20.6	X	X	**-0.105**	**0.608**	-0.201	0.013	0.936
													(0.023)	(0.051)	(0.185)	(0.021)	(2.281)
Colombia	2005	PUMS-I: America	185,928	1.08%	$6,116	33.7%	42.6%	1.43%	29.4	20.1	X	X	**-0.134**	**0.572**	-0.016	**0.035**	-0.013
													(0.005)	(0.007)	(0.033)	(0.004)	(0.120)
Colombia	2005	DHS	7,234	0.04%	$6,116	49.8%	41.4%	0.74%	29.4	20.2	X	X	**-0.097**	**0.586**	0.010	**0.028**	-0.728
													(0.017)	(0.026)	(0.143)	(0.014)	(0.635)
Colombia	2010	DHS	9,053	0.05%	$7,063	51.8%	35.6%	0.73%	29.4	19.9	X	X	**-0.102**	**0.644**	-0.080	**0.025**	-0.407
													(0.015)	(0.023)	(0.114)	(0.012)	(0.563)
Costa Rica	2000	PUMS-I: America	20,566	0.12%	$6,046	24.6%	47.3%	1.19%	29.6	20.2	X		**-0.109**	**0.516**	0.074	**0.034**	-0.091
													(0.007)	(0.014)	(0.056)	(0.006)	(0.175)
Dominican Repu	2010	PUMS-I: America	39,222	0.23%	$5,379	43.7%	46.1%	1.63%	29.5	20.1	X	X	**-0.087**	**0.514**	-0.026	**0.034**	-0.044
													(0.005)	(0.008)	(0.038)	(0.005)	(0.144)
Dominican Repu	2013	DHS	1,818	0.01%	$5,379	50.7%	45.5%	1.29%	29.3	19.9	X	X	**-0.076**	**0.529**	-0.161	**0.064**	-0.404
													(0.034)	(0.040)	(0.239)	(0.028)	(0.503)
Ecuador	2010	PUMS-I: America	70,502	0.41%	$5,050	44.7%	43.7%	0.93%	29.2	20.0	X	X	**-0.109**	**0.558**	-0.057	**0.039**	-0.048
													(0.004)	(0.008)	(0.035)	(0.003)	(0.095)
Greece	1971	IPUMS-I: Europe	35,148	0.20%	$6,610	22.3%	23.7%	1.31%	30.3	23.2	X		**0.015**	**0.771**	0.019	**0.065**	**-0.124**
													(0.006)	(0.006)	(0.026)	(0.004)	(0.069)
Hungary	1990	IPUMS-I: Europe	22,785	0.13%	$6,271	64.7%	19.3%	0.96%	30.4	21.2	X		**-0.303**	**0.812**	**-0.098**	**0.046**	**-0.333**
													(0.008)	(0.007)	(0.037)	(0.005)	(0.122)
Hungary	2001	IPUMS-I: Europe	16,781	0.10%	$7,090	46.5%	25.9%	1.08%	30.4	21.4	X		**-0.446**	**0.738**	**-0.109**	**0.032**	-0.343
													(0.007)	(0.010)	(0.044)	(0.006)	(0.211)
Iran	2006	IPUMS-I: Asia	59,264	0.35%	$5,694	9.1%	35.1%	0.91%	30.2	20.3	X	X	**-0.030**	**0.663**	0.026	**0.041**	**0.142**
													(0.003)	(0.010)	(0.024)	(0.004)	(0.068)
Iran	2011	IPUMS-I: Asia	60,204	0.35%	$6,456	7.0%	24.9%	1.02%	30.4	21.1	X	X	**-0.027**	**0.745**	**-0.025**	**0.032**	-0.033
													(0.002)	(0.006)	(0.012)	(0.003)	(0.064)
Ireland	1971	IPUMS-I: Europe	8,860	0.05%	$6,426	3.6%	59.2%	1.66%	29.1	23.3	X		**-0.015**	**0.366**	-0.028	**0.016**	0.473
													(0.005)	(0.022)	(0.037)	(0.009)	(0.380)
Jordan	2007	DHS	4,244	0.02%	$5,290	10.8%	68.9%	1.49%	29.6	21.8	X	X	**-0.078**	**0.432**	-0.052	**0.064**	0.436
													(0.026)	(0.048)	(0.141)	(0.019)	(0.282)
Jordan	2009	DHS	3,774	0.02%	$5,585	11.9%	65.1%	1.81%	29.5	22.0	X	X	-0.023	**0.341**	0.117	0.033	0.701
													(0.023)	(0.046)	(0.170)	(0.021)	(0.663)
Jordan	2012	DHS	4,169	0.02%	$5,647	12.8%	66.6%	1.60%	29.7	22.1	X	X	**-0.091**	**0.277**	-0.153	-0.016	-0.725
													(0.025)	(0.046)	(0.163)	(0.020)	(1.175)
Kazakhstan	1995	DHS	771	0.00%	$5,157	48.7%	35.2%	1.00%	30.0	21.7	X	X	**-0.251**	**0.591**	-0.206	0.022	-0.209
													(0.040)	(0.043)	(0.272)	(0.038)	(1.655)
Kazakhstan	1999	DHS	885	0.01%	$5,456	34.5%	36.2%	0.39%	30.0	21.5	X	X	**-0.199**	**0.544**	0.177	**0.104**	0.309
													(0.038)	(0.058)	(0.508)	(0.035)	(0.370)
Malaysia	1991	IPUMS-I: Asia	19,157	0.11%	$5,502	30.4%	62.0%	1.43%	29.8	21.8	X	X	**-0.101**	**0.365**	**-0.132**	**0.020**	**-0.655**
													(0.008)	(0.015)	(0.072)	(0.006)	(0.368)
Mexico	1990	PUMS-I: America	453,455	2.64%	$6,067	15.9%	60.5%	1.05%	29.0	20.1	X		**-0.113**	**0.402**	0.013	**0.029**	-0.059
													(0.001)	(0.004)	(0.013)	(0.001)	(0.038)
Mexico	1995	PUMS-I: America	20,788	0.12%	$6,381	34.9%	54.2%	0.67%	29.1	20.2	X		**-0.112**	**0.534**	0.011	**0.037**	0.002
													(0.012)	(0.028)	(0.098)	(0.010)	(0.284)
Mexico	2000	PUMS-I: America	602,523	3.51%	$6,993	28.5%	49.9%	0.95%	29.2	20.3	X		**-0.102**	**0.503**	**0.041**	**0.032**	**-0.083**
													(0.002)	(0.004)	(0.016)	(0.002)	(0.048)
Panama	2000	PUMS-I: America	14,174	0.08%	$5,597	36.1%	50.4%	1.39%	29.3	20.3	X		**-0.155**	**0.493**	0.010	**0.026**	0.463
													(0.009)	(0.016)	(0.070)	(0.008)	(0.353)
Panama	2010	PUMS-I: America	14,272	0.08%	$6,675	38.4%	47.0%	1.05%	29.4	20.0	X		**-0.172**	**0.530**	-0.081	**0.026**	-0.397
													(0.009)	(0.017)	(0.075)	(0.008)	(0.309)
Peru	2009	DHS	4,832	0.03%	$5,505	61.0%	41.8%	0.51%	29.8	20.3	X	X	-0.032	**0.629**	**-0.344**	0.001	23.032
													(0.021)	(0.034)	(0.177)	(0.017)	(435.103)
Peru	2010	DHS	4,564	0.03%	$5,774	60.3%	42.8%	0.96%	29.9	20.2	X	X	**-0.041**	**0.577**	-0.226	**0.050**	0.063
													(0.021)	(0.034)	(0.214)	(0.018)	(0.380)
Peru	2011	DHS	4,448	0.03%	$5,774	62.3%	40.0%	0.52%	29.9	20.4	X	X	-0.020	**0.532**	0.261	**0.054**	0.267
													(0.021)	(0.047)	(0.208)	(0.018)	(0.368)
Peru	2012	DHS	4,588	0.03%	$5,774	56.4%	39.5%	0.43%	29.9	20.3	X	X	**-0.068**	**0.544**	-0.157	**0.035**	-0.206
													(0.021)	(0.058)	(0.231)	(0.017)	(0.547)
South Africa	2011	IPUMS-I: Africa	139,743	0.81%	$5,080	74.3%	36.1%	2.30%	29.5	20.7	X	X	**-0.066**	**0.637**	**-0.058**	**0.013**	0.099
													(0.003)	(0.003)	(0.013)	(0.002)	(0.176)
Turkey	1990	IPUMS-I: Asia	163,770	0.95%	$5,333	38.5%	51.1%	1.17%	29.4	20.2	X		**0.107**	**0.503**	**0.200**	**0.066**	0.036
													(0.003)	(0.005)	(0.023)	(0.002)	(0.036)
Turkey	1993	DHS	2,349	0.01%	$5,648	33.0%	47.3%	0.55%	29.4	20.3	X	X	**-0.077**	**0.433**	0.140	**0.109**	-0.172
													(0.022)	(0.055)	(0.324)	(0.019)	(0.182)
Turkey	1998	DHS	2,093	0.01%	$6,215	29.3%	42.3%	1.02%	29.2	20.6	X	X	**-0.051**	**0.554**	0.045	**0.084**	-0.118
													(0.025)	(0.050)	(0.200)	(0.022)	(0.263)
Turkey	2000	IPUMS-I: Asia	180,069	1.05%	$6,358	38.2%	42.6%	1.36%	29.6	20.7	X		**0.073**	**0.601**	**0.150**	**0.070**	-0.013
													(0.002)	(0.004)	(0.017)	(0.002)	(0.033)
Turkey	2003	DHS	2,579	0.02%	$6,841	22.4%	43.1%	0.72%	29.5	20.5	X	X	**-0.049**	**0.674**	0.052	**0.094**	0.073
													(0.021)	(0.051)	(0.164)	(0.020)	(0.203)
USA	1910	US Full Count	3,632,151	21.18%	$5,022	11.8%	56.9%	0.67%	29.1	21.2			**-0.013**	**0.428**	**0.054**	**0.011**	**0.062**
													(0.000)	(0.001)	(0.005)	(0.000)	(0.032)
USA	1920	US Full Count	4,500,300	26.24%	$5,595	7.7%	56.6%	1.03%	29.3	21.2			**-0.033**	**0.442**	-0.004	**0.013**	0.019
													(0.000)	(0.001)	(0.003)	(0.000)	(0.020)
USA	1930	US Full Count	4,826,615	28.14%	$5,948	8.6%	53.4%	0.85%	29.5	21.0			**-0.047**	**0.478**	-0.002	**0.018**	**0.038**
													(0.000)	(0.001)	(0.003)	(0.000)	(0.015)
Uruguay	1975	PUMS-I: America	10,546	0.06%	$5,368	24.2%	43.2%	1.09%	29.6	21.7	X		**-0.082**	**0.572**	**-0.150**	**0.050**	0.246
													(0.009)	(0.017)	(0.060)	(0.009)	(0.176)
Uruguay	1985	PUMS-I: America	11,929	0.07%	$5,926	36.1%	42.4%	1.05%	29.6	21.3	X		**-0.119**	**0.583**	-0.025	**0.041**	-0.278
													(0.009)	(0.017)	(0.073)	(0.008)	(0.215)

$7,500-10,000 GDP/Capita Bin																	
Country	*Year (#Samples)*	*Source*	*N*	*Percent of Pooled*	*Mean GDP/C*	*In Labor Force*	*3 or More Children*	*2nd Child is Multiple Birth*	*Mother's Age at Survey*	*Mother's Age at First Birth*	*Education?*	*Month/Quarter of Birth?*	*OLS*	*FS, Twin IV*	*2S, Twin IV*	*FS, Same-Sex*	*2S, Same-Sex*
Pooled	**22**		**6,890,699**		**$7,975**	**18.3%**	**46.0%**	**0.99%**	**29.5**	**20.9**			**-0.079**	**0.544**	**-0.025**	**0.025**	**0.043**
													(0.011)	(0.010)	(0.006)	(0.003)	(0.021)
Argentina	1980	IPUMS-I: Americas	135,408	1.97%	$7,826	20.4%	47.7%	1.38%	29.3	21.8	X		**-0.079**	**0.530**	**-0.050**	**0.043**	0.103
													(0.003)	(0.006)	(0.021)	(0.003)	(0.068)
Argentina	2001	IPUMS-I: Americas	150,620	2.19%	$8,049	49.1%	50.0%	1.22%	29.4	20.6	X		**-0.116**	**0.509**	**-0.055**	**0.023**	-0.133
													(0.003)	(0.005)	(0.023)	(0.002)	(0.110)
Armenia	2005	DHS	1,315	0.02%	$8,617	21.5%	25.5%	0.89%	29.4	20.6	X	X	**-0.061**	**0.851**	**-0.204**	**0.117**	0.120
													(0.035)	(0.072)	(0.058)	(0.028)	(0.245)
Costa Rica	2011	IPUMS-I: Americas	17,905	0.26%	$7,997	34.9%	34.1%	0.99%	29.6	19.9	X		**-0.096**	**0.656**	0.009	**0.033**	0.056
													(0.008)	(0.014)	(0.055)	(0.007)	(0.212)
France	1962	IPUMS-I: Europe	92,331	1.34%	$8,073	20.3%	49.3%	2.68%	30.1	22.2	X		**-0.124**	**0.519**	**-0.103**	**0.026**	**-0.173**
													(0.003)	(0.004)	(0.014)	(0.003)	(0.100)
Greece	1981	IPUMS-I: Europe	45,467	0.66%	$8,897	21.3%	24.0%	1.19%	29.7	22.0	X	X	**-0.024**	**0.761**	-0.011	**0.063**	-0.046
													(0.005)	(0.005)	(0.023)	(0.004)	(0.060)
Hungary	2011	IPUMS-I: Europe	9,789	0.14%	$8,353	47.6%	28.7%	1.09%	31.5	23.1	X		**-0.397**	**0.699**	**-0.189**	**0.022**	-0.171
													(0.010)	(0.017)	(0.059)	(0.008)	(0.414)
Ireland	1981	IPUMS-I: Europe	13,484	0.20%	$8,641	8.9%	53.2%	1.28%	29.4	22.8	X		**-0.070**	**0.456**	0.031	**0.040**	0.126
													(0.006)	(0.017)	(0.051)	(0.008)	(0.128)
Ireland	1986	IPUMS-I: Europe	12,809	0.19%	$9,597	16.7%	50.6%	1.12%	29.6	22.7			**-0.100**	**0.481**	-0.039	**0.058**	-0.105
													(0.007)	(0.020)	(0.062)	(0.008)	(0.112)
Malaysia	2000	IPUMS-I: Asia	20,415	0.30%	$7,759	34.1%	57.9%	1.66%	30.2	22.4	X		**-0.080**	**0.462**	**0.208**	**0.028**	**-0.680**
													(0.008)	(0.014)	(0.056)	(0.006)	(0.264)
Mexico	2010	IPUMS-I: Americas	644,670	9.36%	$7,716	33.7%	43.4%	0.94%	29.5	20.3	X		**-0.111**	**0.582**	-0.004	**0.030**	0.082
													(0.003)	(0.006)	(0.020)	(0.002)	(0.089)
Mexico	2015	IPUMS-I: Americas	584,788	8.49%	$7,716	32.8%	40.7%	1.01%	29.5	20.2	X		**-0.109**	**0.596**	-0.019	**0.033**	-0.030
													(0.003)	(0.005)	(0.018)	(0.002)	(0.069)
Poland	2002	IPUMS-I: Europe	115,456	1.68%	$7,683	76.9%	27.2%	1.00%	30.6	21.8	X	X	**-0.110**	**0.729**	**-0.057**	**0.028**	-0.067
													(0.003)	(0.004)	(0.018)	(0.003)	(0.086)
Portugal	1981	IPUMS-I: Europe	19,031	0.28%	$7,979	46.3%	29.0%	1.02%	29.9	22.1	X		**-0.141**	**0.703**	-0.045	**0.043**	0.252
													(0.008)	(0.011)	(0.051)	(0.006)	(0.174)
Puerto Rico	1980	IPUMS-PR	8,246	0.12%	$7,918	35.1%	51.7%	1.84%	29.3	21.0	X	X	**-0.167**	**0.464**	-0.062	**0.048**	-0.191
													(0.011)	(0.018)	(0.082)	(0.010)	(0.216)
USA	1940	US Full Count	4,602,622	66.79%	$7,942	10.6%	47.1%	0.86%	29.5	20.9	X		**-0.064**	**0.539**	**-0.016**	**0.021**	**0.072**
													(0.000)	(0.001)	(0.003)	(0.000)	(0.014)
USA	1950	IPUMS-USA	103,494	1.50%	$9,643	14.0%	43.1%	1.02%	29.3	21.7	X		**-0.079**	**0.588**	**-0.042**	**0.024**	0.117
													(0.002)	(0.006)	(0.015)	(0.003)	(0.093)
Uruguay	1996	IPUMS-I: Americas	11,642	0.17%	$8,086	54.8%	39.9%	1.22%	29.9	21.3	X		**-0.116**	**0.584**	-0.019	**0.029**	-0.195
													(0.010)	(0.017)	(0.071)	(0.008)	(0.311)
Uruguay	2006	IPUMS-I: Americas	9,121	0.13%	$9,084	62.8%	41.0%	1.24%	30.0	20.6	X		**-0.148**	**0.563**	-0.076	**0.027**	-0.306
													(0.013)	(0.028)	(0.100)	(0.011)	(0.459)
Venezuela	1981	IPUMS-I: Americas	80,451	1.17%	$9,827	26.1%	60.9%	2.36%	28.6	20.4	X		**-0.134**	**0.380**	-0.012	**0.029**	0.062
													(0.004)	(0.005)	(0.026)	(0.003)	(0.106)
Venezuela	1990	IPUMS-I: Americas	98,117	1.42%	$8,785	32.1%	56.0%	2.35%	29.1	20.3	X		**-0.152**	**0.427**	**-0.075**	**0.030**	-0.157
													(0.004)	(0.005)	(0.026)	(0.003)	(0.113)
Venezuela	2001	IPUMS-I: Americas	113,518	1.65%	$8,138	33.5%	49.5%	1.45%	29.3	20.1	X		**-0.132**	**0.518**	**-0.043**	**0.035**	0.064
													(0.003)	(0.005)	(0.022)	(0.003)	(0.081)

$10,000-15,000 GDP/Capita Bin																	
Country	*Year (#Samples)*	*Source*	*N*	*Percent of Pooled*	*Mean GDP/C*	*In Labor Force*	*3 or More Children*	*2nd Child is Multiple Birth*	*Mother's Age at Survey*	*Mother's Age at First Birth*	*Education?*	*Month/Quarter of Birth?*	*OLS*	*FS, Twin IV*	*2S, Twin IV*	*FS, Same-Sex*	*2S, Same-Sex*
Pooled	**20**		**1,084,881**		**$11,514**	**31.4%**	**44.5%**	**1.41%**	**29.7**	**21.5**			**-0.126**	**0.525**	**-0.063**	**0.035**	**-0.067**
													(0.015)	(0.048)	(0.017)	(0.002)	(0.021)
Armenia	2010	DHS	1,178	0.11%	$10,215	22.5%	19.9%	0.73%	29.6	21.2	X	X	-0.062	**0.804**	0.076	**0.128**	-0.235
													(0.038)	(0.040)	(0.210)	(0.025)	(0.230)
Armenia	2011	IPUMS-I: Asia	15,059	1.39%	$10,215	47.4%	22.7%	0.93%	29.7	21.4	X	X	-0.013	**0.787**	**-0.112**	**0.107**	-0.088
													(0.010)	(0.013)	(0.052)	(0.006)	(0.076)
Austria	1971	IPUMS-I: Europe	30,982	2.86%	$10,195	34.3%	40.9%	1.04%	29.4	21.6	X		**-0.076**	**0.593**	-0.056	**0.026**	-0.060
													(0.006)	(0.010)	(0.044)	(0.005)	(0.210)
Austria	1981	IPUMS-I: Europe	27,991	2.58%	$13,779	43.6%	29.9%	1.00%	29.8	21.2	X		**-0.102**	**0.697**	**-0.144**	**0.042**	**-0.253**
													(0.007)	(0.008)	(0.041)	(0.005)	(0.140)
Belarus	2009	IPUMS-I: Europe	22,000	2.03%	$12,992	78.7%	14.6%	0.88%	30.6	21.3	X		**-0.138**	**0.854**	-0.036	**0.021**	-0.074
													(0.008)	(0.005)	(0.034)	(0.005)	(0.257)
Chile	2002	PUMS-I: America	56,760	5.23%	$10,777	31.4%	31.1%	0.94%	30.4	20.8	X		**-0.081**	**0.688**	-0.044	**0.026**	-0.187
													(0.004)	(0.007)	(0.028)	(0.004)	(0.149)
France	1968	IPUMS-I: Europe	95,250	8.78%	$10,432	24.5%	46.6%	1.05%	30.0	22.3	X		**-0.153**	**0.539**	**-0.084**	**0.033**	-0.104
													(0.003)	(0.006)	(0.024)	(0.003)	(0.082)
France	1975	IPUMS-I: Europe	103,331	9.52%	$13,254	36.9%	38.9%	1.13%	29.4	21.8	X		**-0.249**	**0.607**	**-0.172**	**0.026**	0.088
													(0.003)	(0.006)	(0.021)	(0.003)	(0.120)
Greece	1991	IPUMS-I: Europe	40,657	3.75%	$10,062	37.0%	21.8%	1.22%	30.3	21.5	X	X	**-0.080**	**0.781**	**-0.054**	**0.059**	-0.035
													(0.006)	(0.005)	(0.027)	(0.004)	(0.081)
Greece	2001	IPUMS-I: Europe	28,882	2.66%	$12,660	51.6%	20.4%	1.13%	31.1	22.5	X		**-0.070**	**0.801**	**-0.086**	**0.042**	0.038
													(0.007)	(0.006)	(0.034)	(0.005)	(0.139)
Ireland	1991	IPUMS-I: Europe	10,937	1.01%	$11,843	31.3%	45.7%	1.24%	30.0	22.7	X		**-0.145**	**0.550**	-0.096	**0.060**	**-0.279**
													(0.010)	(0.021)	(0.068)	(0.008)	(0.146)
Portugal	1991	IPUMS-I: Europe	15,987	1.47%	$10,872	63.3%	22.8%	1.15%	30.7	21.5	X		**-0.184**	**0.771**	-0.046	**0.021**	0.120
													(0.010)	(0.009)	(0.047)	(0.006)	(0.375)
Portugal	2001	IPUMS-I: Europe	11,704	1.08%	$13,831	74.5%	16.8%	1.13%	31.2	22.2	X		**-0.144**	**0.866**	-0.061	**0.026**	**-0.559**
													(0.012)	(0.010)	(0.045)	(0.007)	(0.330)
Portugal	2011	IPUMS-I: Europe	8,445	0.78%	$14,279	80.7%	17.2%	1.35%	31.6	22.8	X		**-0.164**	**0.851**	-0.017	**0.025**	-0.225
													(0.013)	(0.011)	(0.042)	(0.008)	(0.331)
Puerto Rico	1990	IPUMS-PR	8,442	0.78%	$10,477	41.7%	47.0%	1.42%	29.7	20.9	X		**-0.148**	**0.509**	-0.096	**0.055**	0.011
													(0.012)	(0.018)	(0.089)	(0.011)	(0.204)
Puerto Rico	2000	IPUMS-PR	7,809	0.72%	$13,881	43.1%	40.7%	1.41%	29.7	21.0	X		**-0.106**	**0.561**	**-0.194**	**0.042**	-0.458
													(0.013)	(0.020)	(0.084)	(0.011)	(0.283)
Spain	1991	IPUMS-I: Europe	59,957	5.53%	$12,030	40.0%	23.2%	1.07%	31.1	22.4	X		**-0.112**	**0.768**	**-0.095**	**0.045**	-0.051
													(0.005)	(0.006)	(0.024)	(0.003)	(0.088)
USA	1960	IPUMS-USA	470,378	43.36%	$11,380	22.8%	55.1%	1.70%	29.3	21.4	X	X	**-0.117**	**0.452**	**-0.033**	**0.035**	**-0.084**
													(0.001)	(0.002)	(0.010)	(0.001)	(0.034)
Uruguay	2011	PUMS-I: America	10,012	0.92%	$11,526	65.7%	36.5%	0.88%	30.1	20.5	X	X	**-0.142**	**0.628**	-0.015	**0.026**	-0.478
													(0.011)	(0.020)	(0.080)	(0.009)	(0.380)
Venezuela	1971	PUMS-I: America	59,120	5.45%	$10,429	16.0%	70.5%	2.28%	28.4	20.1	X		**-0.083**	**0.289**	-0.043	**0.017**	**0.416**
													(0.004)	(0.006)	(0.034)	(0.003)	(0.207)

$15,000-20,000 GDP/Capita Bin																
Country	*Year (#Samples)*	*Source*	*N*	*Percent of Pooled*	*Mean GDP/C*	*In Labor Force*	*3 or More Children*	*2nd Child is Multiple Birth*	*Mother's Age at Survey*	*Mother's Age at First Birth*	*Education?*	*Month/Quarter of Birth?*	*OLS*	*FS, Twin IV*	*2S, Twin IV*	*FS, Same-Sex*	*2S, Same-Sex*
Pooled	**13**		**1,013,737**		**$17,560**	**50.6%**	**35.6%**	**1.25%**	**30.1**	**21.7**			**-0.210**	**0.643**	**-0.087**	**0.047**	**-0.150**
													(0.030)	(0.030)	(0.021)	(0.004)	(0.019)
Austria	1991	IPUMS-I: Europe	28,036	2.77%	$16,956	51.4%	24.7%	0.93%	30.2	21.8	X		**-0.117**	**0.763**	**-0.136**	**0.036**	-0.232
													(0.007)	(0.008)	(0.040)	(0.005)	(0.167)
France	1982	IPUMS-I: Europe	117,660	11.61%	$15,076	52.2%	33.5%	1.08%	30.3	22.0	X		**-0.339**	**0.663**	**-0.212**	**0.041**	**-0.243**
													(0.003)	(0.005)	(0.020)	(0.003)	(0.068)
France	1990	IPUMS-I: Europe	91,261	9.00%	$17,309	64.1%	34.1%	1.04%	30.7	22.4	X		**-0.358**	**0.656**	**-0.207**	**0.042**	**-0.160**
													(0.003)	(0.006)	(0.025)	(0.003)	(0.072)
France	1999	IPUMS-I: Europe	86,473	8.53%	$19,690	68.1%	29.6%	1.24%	31.3	23.5	X		**-0.279**	**0.706**	**-0.061**	**0.039**	**-0.203**
													(0.004)	(0.006)	(0.020)	(0.003)	(0.076)
Great Britain	1991	IPUMS-I: Europe	20,003	1.97%	$16,403	46.2%	32.1%	1.11%	30.3	22.5			**-0.221**	**0.705**	**-0.160**	**0.079**	**-0.232**
													(0.008)	(0.012)	(0.045)	(0.006)	(0.086)
Ireland	1996	IPUMS-I: Europe	9,165	0.90%	$15,683	43.1%	39.8%	1.16%	30.2	22.9	X		**-0.172**	**0.634**	-0.066	**0.064**	-0.217
													(0.011)	(0.019)	(0.076)	(0.009)	(0.156)
Puerto Rico	2010	IPUMS-PR	4,397	0.43%	$15,074	57.1%	36.0%	1.39%	30.0	20.8	X	X	**-0.159**	**0.635**	-0.150	**0.064**	-0.070
													(0.018)	(0.029)	(0.106)	(0.014)	(0.243)
Spain	2001	IPUMS-I: Europe	34,927	3.45%	$15,874	51.2%	16.2%	2.31%	31.9	23.7	X	X	**-0.066**	**0.882**	-0.025	**0.034**	-0.072
													(0.007)	(0.003)	(0.020)	(0.004)	(0.156)
Switzerland	1970	IPUMS-I: Europe	11,998	1.18%	$16,668	21.8%	35.6%	0.81%	30.2	23.2	X		**-0.083**	**0.655**	-0.075	**0.019**	-0.230
													(0.008)	(0.016)	(0.058)	(0.008)	(0.403)
Switzerland	1980	IPUMS-I: Europe	11,241	1.11%	$18,315	28.4%	23.1%	0.70%	30.8	23.1	X		**-0.079**	**0.789**	**-0.167**	**0.042**	**-0.339**
													(0.010)	(0.011)	(0.048)	(0.008)	(0.202)
USA	1970	IPUMS-USA	93,241	9.20%	$15,334	33.4%	52.5%	1.41%	29.3	20.8	X	X	**-0.139**	**0.463**	0.014	**0.034**	-0.105
													(0.003)	(0.006)	(0.028)	(0.003)	(0.088)
USA	1980	IPUMS-USA	505,274	49.85%	$18,487	49.3%	36.5%	1.27%	29.8	21.1	X	X	**-0.177**	**0.621**	**-0.076**	**0.053**	**-0.127**
													(0.001)	(0.002)	(0.010)	(0.001)	(0.026)
USA	1980	IPUMS-USA	505,274	47.97%	$18,487	49.3%	36.5%	1.27%	29.8	21.1	X	X	**-0.177**	**0.621**	**-0.076**	**0.053**	**-0.127**
													(0.001)	(0.002)	(0.010)	(0.001)	(0.026)

$20,000-25,000 GDP/Capita Bin

Country	*Year (#Samples)*	*Source*	*N*	*Percent of Pooled*	*Mean GDP/C*	*In Labor Force*	*3 or More Children*	*2nd Child is Multiple Birth*	*Mother's Age at Survey*	*Mother's Age at First Birth*	*Education?*	*Month/Quarter of Birth?*	*OLS*	*FS, Twins*	*2S, Twins*	*FS, Same-Sex*	*2S, Same-Sex*
Pooled	**12**		**2,397,575**		**$24,425**	**67.8%**	**33.2%**	**1.45%**	**30.7**	**22.8**			**-0.191**	**0.668**	**-0.086**	**0.044**	**-0.140**
													(0.024)	(0.016)	(0.008)	(0.003)	(0.015)
Austria	2001	IPUMS-I: Europe	24,022	1.00%	$20,997	72.7%	23.6%	1.00%	31.1	22.8	X		**-0.127**	**0.782**	**-0.153**	**0.041**	-0.200
													(0.007)	(0.008)	(0.041)	(0.005)	(0.140)
Canada	2011	PUMS-I: America:	19,894	0.83%	$24,941	69.1%	29.2%	2.13%	31.1	23.9	X		**-0.152**	**0.686**	**-0.169**	**0.045**	-0.124
													(0.009)	(0.008)	(0.039)	(0.007)	(0.157)
France	2006	IPUMS-I: Europe	510,203	21.28%	$21,540	73.3%	28.8%	1.43%	31.3	24.0	X		**-0.263**	**0.707**	**-0.100**	**0.037**	**-0.210**
													(0.002)	(0.002)	(0.008)	(0.001)	(0.034)
France	2011	IPUMS-I: Europe	485,266	20.24%	$21,477	76.2%	29.3%	1.46%	31.2	24.1	X		**-0.248**	**0.702**	**-0.105**	**0.038**	**-0.156**
													(0.002)	(0.003)	(0.008)	(0.001)	(0.032)
Ireland	2002	IPUMS-I: Europe	7,664	0.32%	$22,315	45.8%	35.4%	1.55%	30.2	23.0	X		**-0.180**	**0.663**	**-0.159**	**0.037**	-0.097
													(0.013)	(0.018)	(0.067)	(0.010)	(0.300)
Ireland	2006	IPUMS-I: Europe	8,025	0.33%	$24,076	55.6%	32.8%	1.37%	30.0	22.9	X		**-0.182**	**0.681**	0.035	**0.047**	-0.128
													(0.013)	(0.018)	(0.070)	(0.010)	(0.231)
Ireland	2011	IPUMS-I: Europe	10,654	0.44%	$22,013	62.0%	34.0%	1.40%	31.3	23.7	X		**-0.176**	**0.680**	**-0.188**	**0.048**	0.172
													(0.011)	(0.013)	(0.059)	(0.009)	(0.200)
Switzerland	1990	IPUMS-I: Europe	10,612	0.44%	$20,699	38.7%	26.7%	1.05%	31.0	23.8	X		**-0.116**	**0.751**	-0.022	**0.043**	-0.274
													(0.011)	(0.012)	(0.058)	(0.008)	(0.213)
Switzerland	2000	IPUMS-I: Europe	8,685	0.36%	$22,122	61.0%	26.1%	1.01%	31.7	24.6	X		**-0.152**	**0.762**	**-0.165**	**0.043**	0.143
													(0.012)	(0.016)	(0.069)	(0.009)	(0.244)
USA	1990	IPUMS-USA	505,189	21.07%	$22,901	60.6%	35.7%	1.28%	30.2	21.7	X		**-0.166**	**0.647**	**-0.084**	**0.051**	**-0.134**
													(0.002)	(0.002)	(0.011)	(0.001)	(0.030)
USA	2000	IPUMS-USA	438,854	18.30%	$28,100	62.8%	36.5%	1.58%	30.3	21.9	X		**-0.136**	**0.638**	**-0.073**	**0.049**	**-0.102**
													(0.002)	(0.002)	(0.010)	(0.002)	(0.033)
USA	2010	IPUMS-USA	368,507	15.37%	$30,491	66.2%	38.1%	1.57%	30.4	21.9	X	X	**-0.141**	**0.622**	**-0.049**	**0.048**	**-0.125**
													(0.002)	(0.003)	(0.012)	(0.002)	(0.040)

Figure A1 - Comparison of Twinning Rates in DHS

Corr: .87

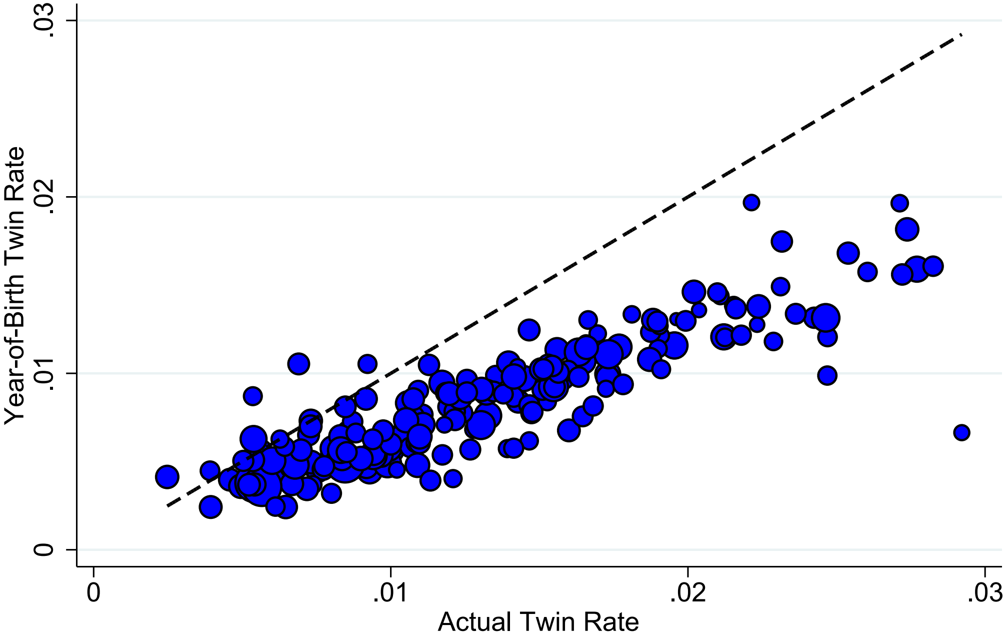


Figure A2 - Comparison of DHS Work Measures with IPUMS LFP

Observation = Country-Year

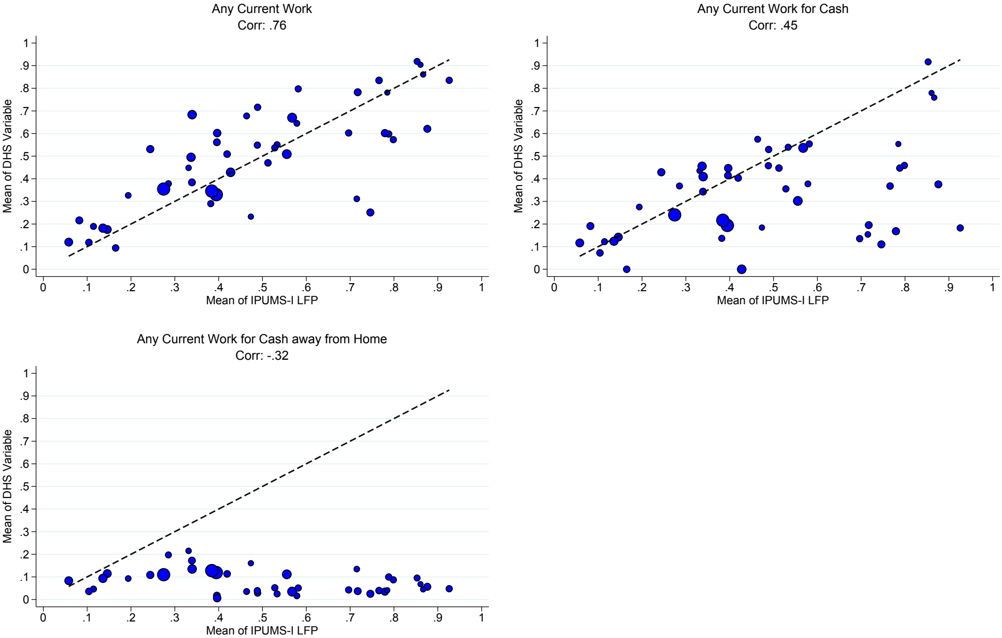


Figure A3 - OLS, by Country and Real GDP/Capita

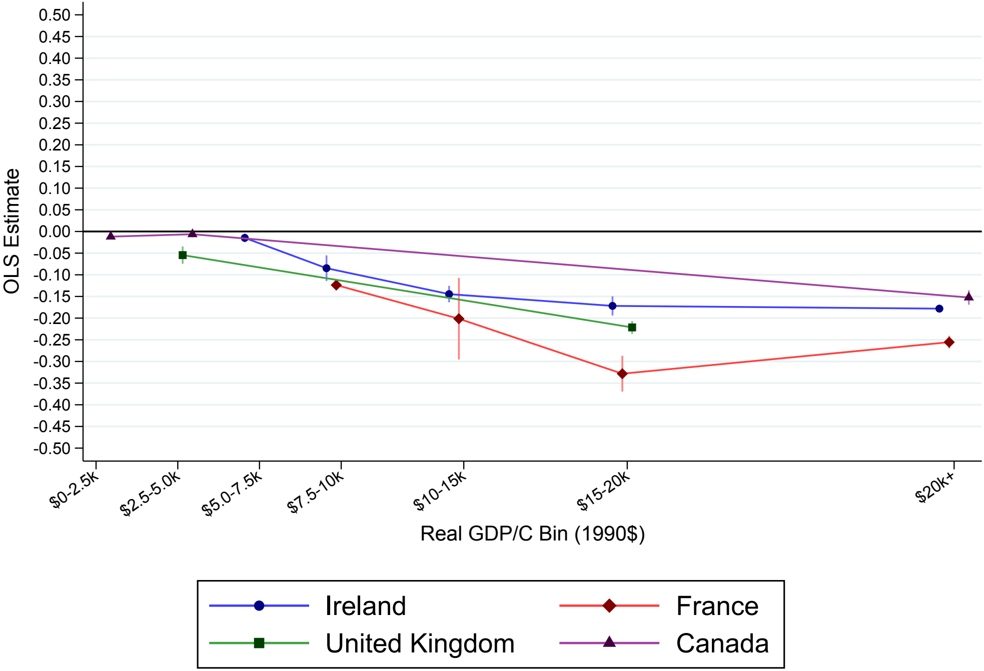


Figure A4 - By Data Source, Twin IV

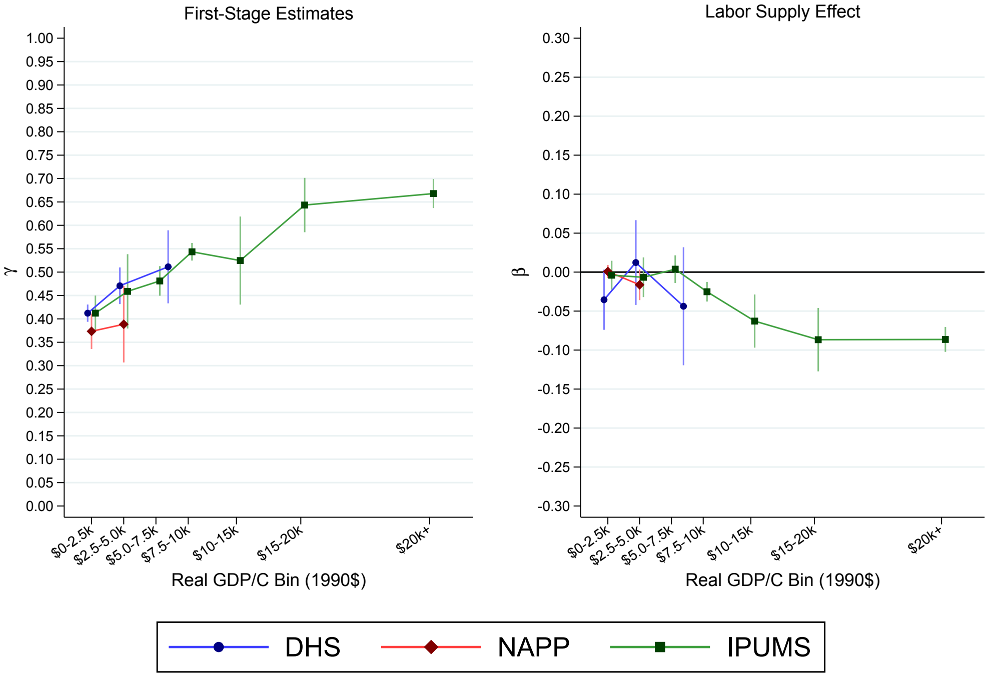


Figure A5 - By Region, Twin IV

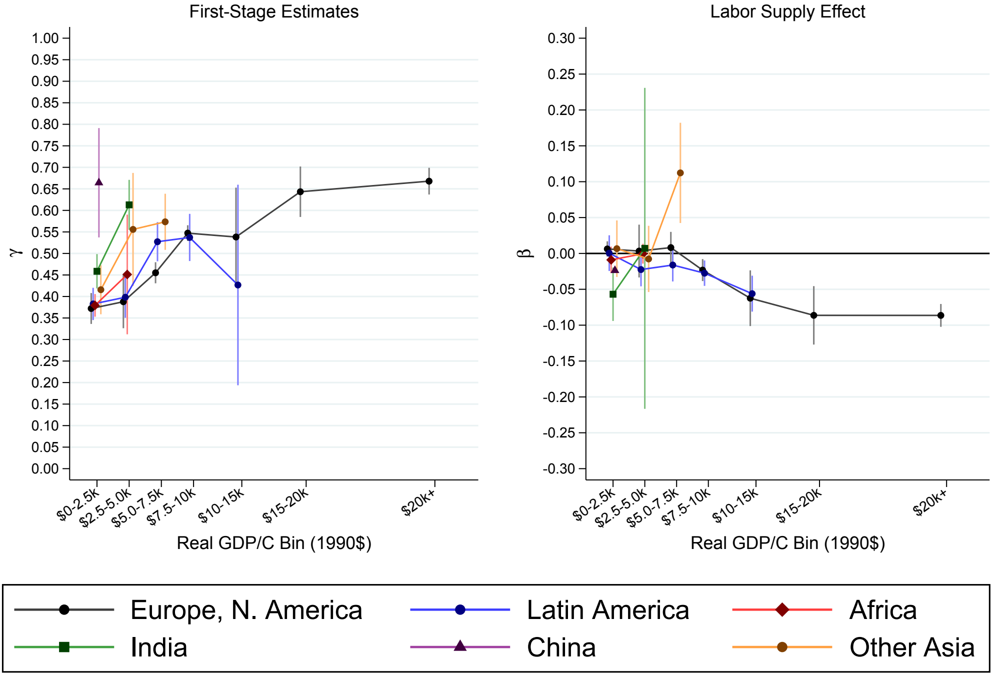


Figure A6 - Twin IV, by Country and Real GDP/Capita

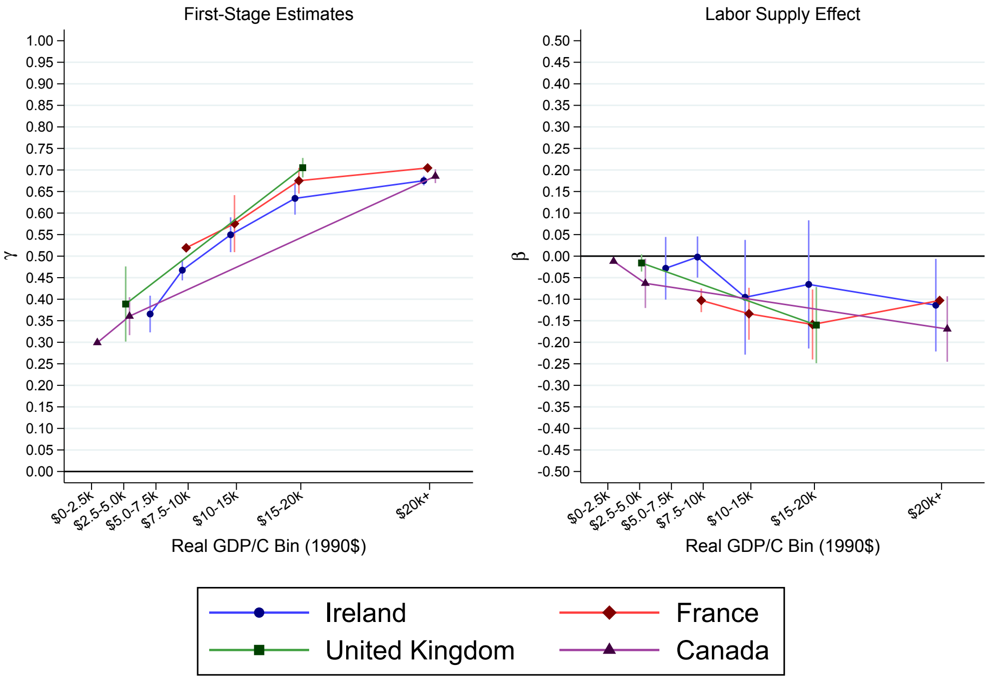


Figure A7 - Same Gender IV, U.S. by Time

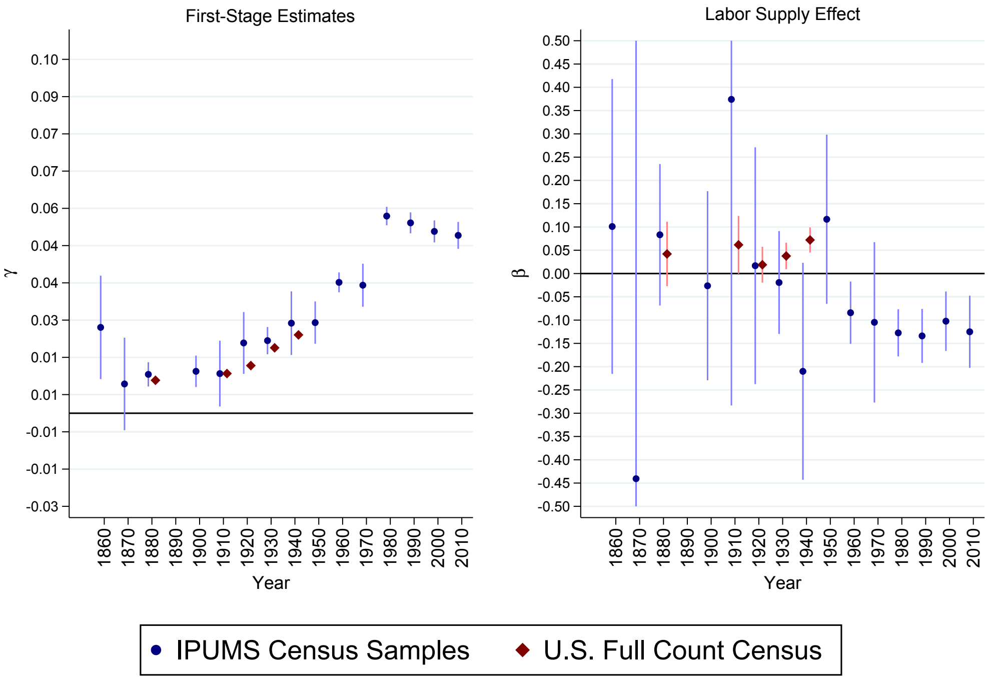


Figure A8 - By Spacing of Births, Twin IV

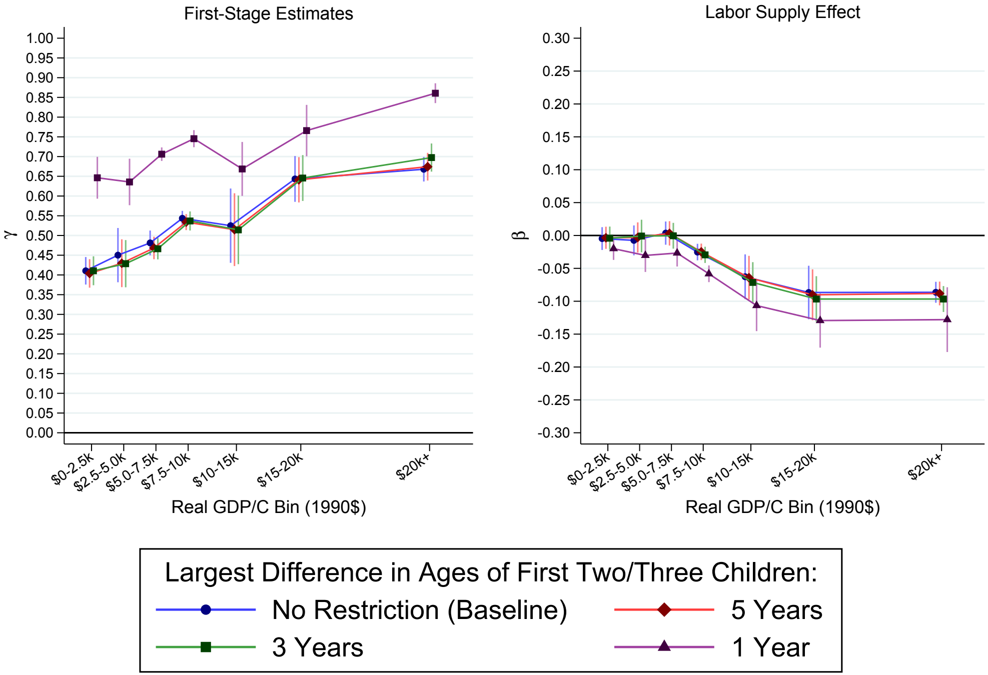


Figure A9 - Robustness to Education, Twin IV

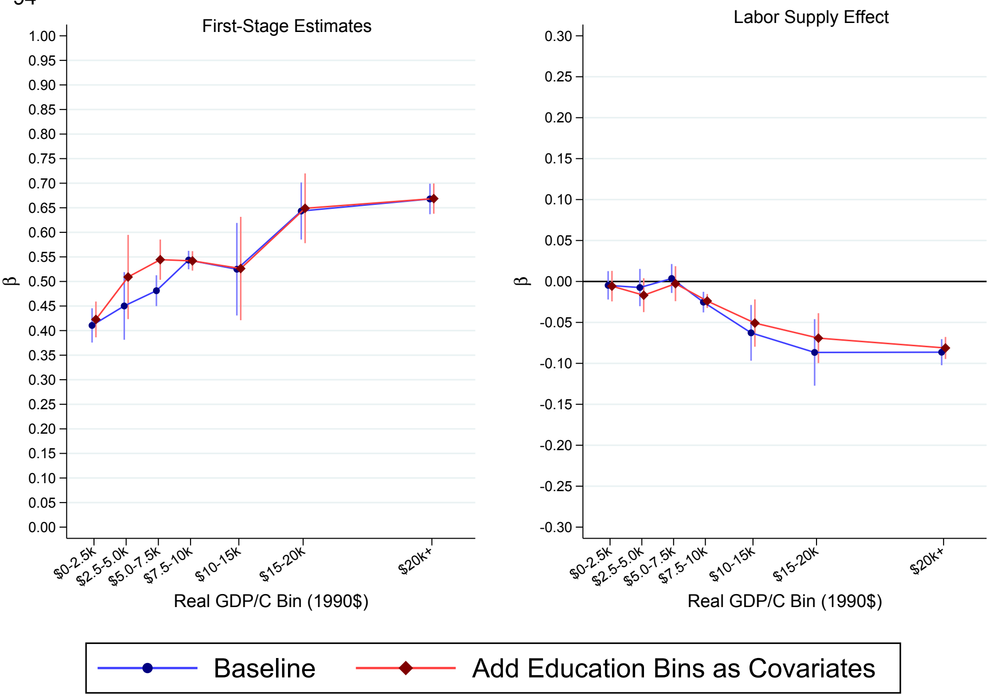


Figure A10 - Alternative Measures of Labor Force Participation by State

U.S. 1940 Full Census

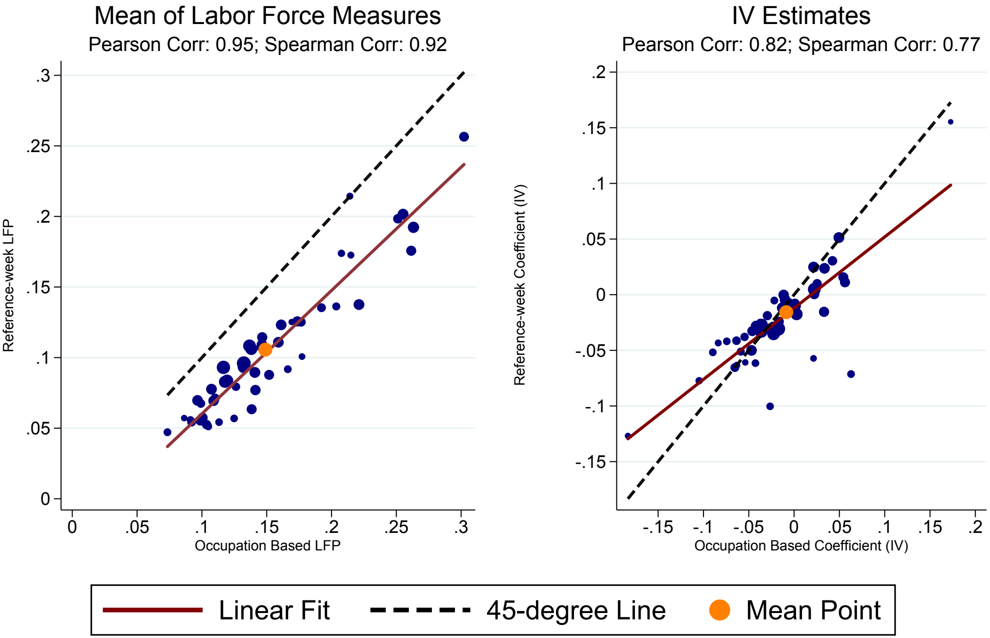


Figure A11- Robustness to Specification, Twin IV

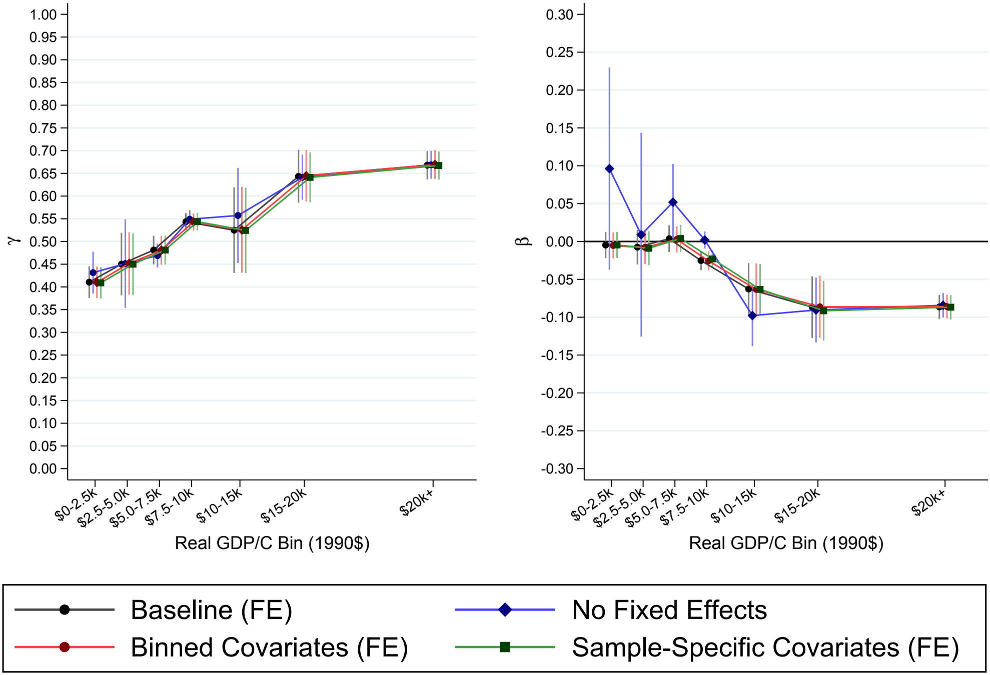


Figure A12 - By Age of Mother, Twin IV

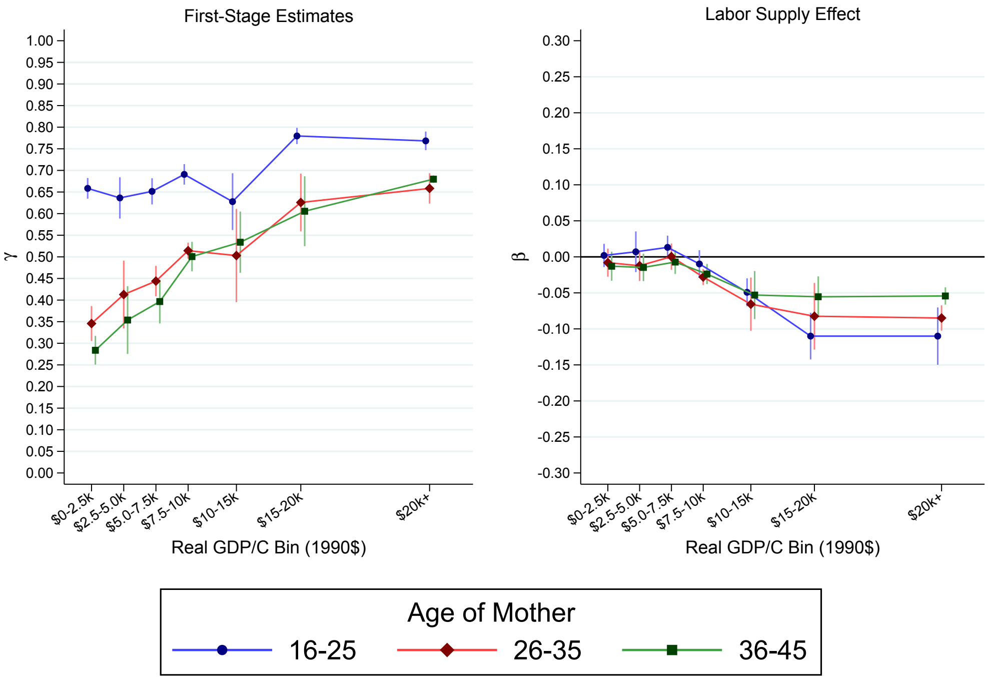


Figure A13 - By Age of Mother at First Birth, Twin IV

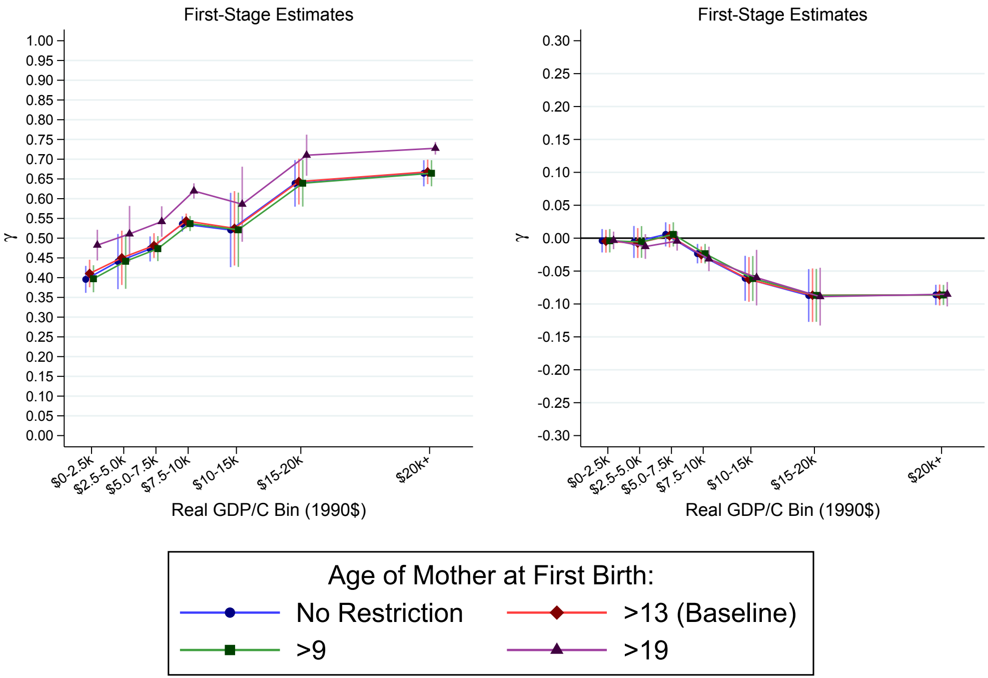


Figure A14 - By Mother's Education, Twin IV

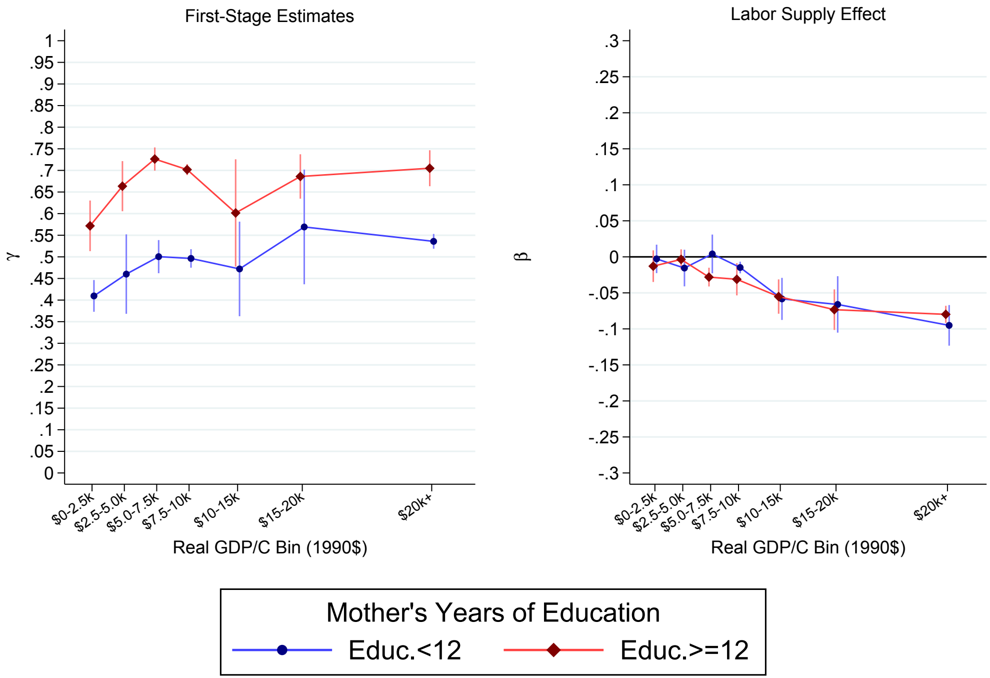


Figure A15 - By Marital Status, Twin IV

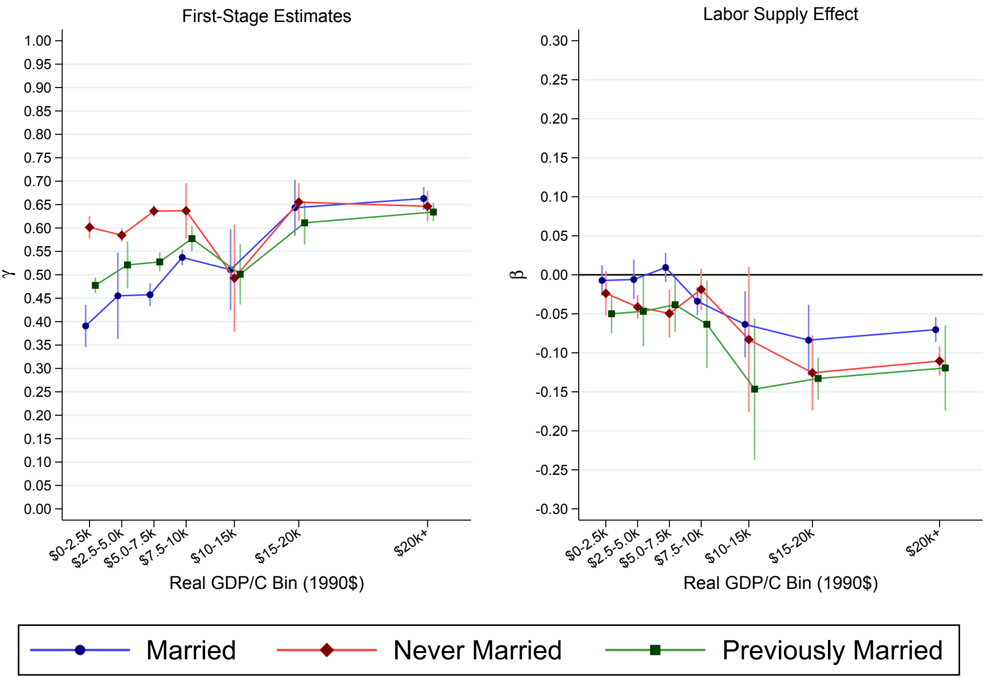


Figure A16 - Reweight Covariates to U.S. 1980 Compliers, Twin IV