Maternal Mortality and Female Life Expectancy: The Importance of Gender Inequality

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Abstract

We argue that the high cross country inequality in female life expectancy advantage and maternal mortality rates are a reflection of differences in gender attitudes across countries. We use different measures of gender bias in society including the stated son preference of mothers, women's political rights, women's parliamentary representation and an exogenous measure of grammatical gender which a previous literature has shown to reflect gender attitudes in society and show how these different measures of gender prejudice are correlated with higher maternal mortality ratios and lower female advantage in life expectancy. We use a country fixed effects panel framework along with a recently developed time varying group fixed effects framework in which groups are determined endogenously. We find that moving from a low son preference country to a one standard deviation higher son preference country, knocks off around 1.13% of the relative female advantage in life expectancy over men and leads to 106.37 additional maternal deaths per 100k live births. It also knocks off 61% of a girl child's survival advantage over a boy child.

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1 Introduction

Preventable childbirth related causes kill around 800 women worldwide everyday. In 2013 alone, around 289,000 women died due to pregnancy or child birth related complications (WHO, 2014). Almost all these deaths (99%) are concentrated entirely in developing countries. While maternal deaths have fallen quite sharply in the last decade or so, they are still unacceptably high in many developing countries. The average maternal mortality ratio (henceforth MMR) for the 35 low income countries (Wold Bank classification) was 452 per 100,000 live births in 2010. These numbers roughly correspond to the maternal mortality numbers for developed countries in the 1930s. For instance, the MMR for England and Wales was 440, for Denmark it was 380 and for the US it was 673 in the year 1930 (Loudon, 1992). Even for India which is a lower middle income country which has experienced high rates of growth in the last two decades, the MMR was as high as 390 in the year 2000.

Reducing maternal mortality (improving maternal health) is a Millennium Development goal (MDG. 5). If we compare this MDG to the other equally important MDG of reducing child mortality (MDG. 4) we find a striking contrast. While infant mortality rates (IMR) have been falling steadily in the last few decades, there is widespread perception in the literature that progress with MMR has been slow (and non-existent in some countries) till about the 1990s.[2] In fact, international policy initiatives to reduce maternal mortality began as late as 1987 with the Safe Motherhood Initiative and international commitment towards maternal health was further strengthened by the 1994 International Conference on Population and Development in 1994 (Hogan et al., 2010). Since coming into policy focus in the 1990s, MMR has also been falling sharply.

MMR and IMR are both primarily driven by infectious diseases in poor countries. In this paper we argue that as MMR is a woman specific condition, public policy attention directed at MMR, and, accordingly, differences in life expectancy between women and men across countries are a reflection of differences in gender inequality across countries. Using data on health and socio-economic variables from myriad sources, and different measures of gender attitudes, we show that gender inequalities in health can be traced to differences in gender attitudes and women's empowerment in society, conditional upon GDP.

We focus on three specific measures of gender bias in society: First, using individual level micro data from the Demographic and Health Surveys (DHS), we construct both individual level

[2]See Hogan et al. (2010) and references therein.

and time varying country specific measures of stated son preference among mothers. Then we make use of a previously under-exploited dataset on women's political, economic and social rights (as well as actual women's parliamentary representation from the WDI), to measure women's status in society. We then exploit insights from some recent papers which argue that grammatical gender can reflect gender attitudes in society and are correlated with different gender outcomes across countries (Givati and Troiano, 2012; Gay et al., 2013), and use the gender intensity in language grammar as an exogenous measure of gender bias in society. We also use a composite gender inequality measure from the WDI, which is an aggregation across several dimensions of gender inequalities.

We use two primary measures of gender inequality in health outcomes viz. the life expectancy advantage of women relative to men and the maternal mortality ratio. We use life expectancy data from two alternative data sets, the World Bank WDI and US Census Bureau IDB database. We not only use MMR data from the WHO, but also exploit a novel panel data set on maternal mortality constructed by Bhalotra and Clarke (2014) using DHS data. We also use age and gender specific mortality data from the mortality tables of the UNDP. Finally, we also use data on cross country tuberculosis (TB) infection rates from the WDI as a placebo to compare with MMR rates.

We use cross country panel data identification relying on country and time fixed effects to purge relevant unobservables. We then extend the country fixed effects framework allowing for time varying patterns of unobserved heterogeneity that are common within groups of countries following Bonhomme and Manresa (2012).

We have several interesting findings. First, we show that while there is a systematic positive relation between female (and male) life expectancy with GDP (which is well documented in the literature), female life expectancy advantage has a much weaker relationship with GDP. This implies that there is more to female-male differences in life expectancy across countries than just income differences. Not surprisingly, we consistently find that different measures gender prejudice always significantly increase MMR and reduce the female life expectancy advantage.

Let us consider our stated son preference variable for instance. This variable measures the mother's desired sex ratio/composition of her children. A desired sex ratio of one implies gender neutral child preferences, while a desired sex ratio of greater than one implies son preference and the magnitude of the measure gives us the degree of son preference. As expected, South Asian countries like India have a very high degree of son preference. Pakistan (1.52) , Nepal (1.5) and India (1.39) occupy 3 out of the top 5 spots in terms of stated son preference. Not

surprisingly they also have very high rates of MMR and a lot fewer years of female advantage in life expectancy compared to other countries. A one SD increase in the stated son preference of the mothers, which is roughly the difference in the stated son preference variable between Zimbabwe/Congo and India, knocks off around 0.44% to around 1.13% of the relative female advantage in life expectancy over men and leads to 106.37 additional maternal deaths per 100k live births for a country with an average per-capita GDP. For countries below the average GDP, these effects are much higher. Moreover, in our overall sample, female infants have a 1.4% lower probability of dying than their male counterparts in case the mother had gender neutral child preferences. A one SD increase in the son preference of mothers knocks off 61% of the girl child's survival advantage over the boy child.

Apart from the stated son preference variable, we also find that our other measures of gender bias in society including, female political, economic and social rights, female representation in the parliament and the gender intensity of language grammar systematically increase maternal mortality rates and reduce the female advantage in life expectancy. On the other hand, these measures of gender prejudice have no effects on cross-country TB infection rates.[3] Since TB is a gender neutral infectious disease, it serves as our placebo.

We contribute to the literature that investigates the phenomenon of "missing women" which was first pointed out by Sen (1990) in his now classic article. Sen (2001) further highlighted that "[i]n some regions of the world inequality between women and men directly involves matters of life and death, and takes the brutal form of unusually high mortality rates for women ....". Recent estimates from the World Development Report, show that around 6 million women are missing in the world every year (Wong, 2012), of which 21 percent are in their reproductive years. In fact, "other than pre-birth and in early childhood, women are most likely too be missing relative to men in childbearing years" (Duflo, 2011).[4] Moreover, recent research suggests that unlike previously believed, the bulk of the excess female mortality is not confined at birth, infancy and early childhood, but occurs at older ages (Anderson and Ray, 2010, 2012). We extend this line of thought and show that there is excess female mortality in reproductive ages and that maternal mortality is systematically correlated with variation in gender inequality conditional upon income.

[3]Except for Women's parliamentary representation which significantly reduces TB infection rates as well. Following, a well established previous literature we argue that women in parliament have a positive impact on healthcare in general.

[4]23 percent are never born, 10 percent are missing in early childhood, 21 percent in the reproductive years and 38 percent above the age of 60 (Duflo, 2011)

Further, our finding that maternal mortality rates, and female life expectancy advantage are significantly related to different measures gender prejudice in society over and above income differences across societies, shows that income by itself is insufficient in explaining cross country differences in gender unequal health outcomes. This is in line with the recent findings of Jayachandran (2014) who argue that poor countries have cultural features that exacerbate gender prejudice. "Being poor is insufficient to explain parents' strong desire to have a son in China and India, for example" (Jayachandran, 2014).

There is a broad consensus in the literature that improving population health has implications for economic growth primarily via improvements in life expectancy and human capital accumulation.[5] Some recent papers have underscored the importance of female health on different economic outcomes including female literacy (human capital accumulation) and female labour force participation. Albanesi and Olivetti (2009) for instance demonstrate that medical advances in healthcare in the US that led to a huge decline in maternal mortality and increased the female-male differential in life expectancy at age 20 from 1.5 years in 1920 to 6 years in 1960, led to higher female labour force participation. Jayachandran and Lleras-Muney (2008) demonstrate that increases in female life expectancy resulting from decreases in maternal mortality, led to an increase in literacy rates (human capital accumulation) among girls relative to boys in Sri Lanka.[6] Lagerlöf (2003) highlights the importance of gender equality in general for long run economic growth. Again, Amiri and Gerdtham (2013) and Kirigia et al. (2006) show how MMR might affect growth and GDP. In line with this literature, we argue that closing the gender gap in health can be beneficial for the economy as a whole.[7]

The rest of the paper is organized as follows. In section 2, we start by documenting the trends in life expectancy and how maternal mortality rates and female life expectancy advantage are closely related to indices of gender inequality. In section 3, we estimate the contribution of maternal mortality to excess female mortality rates in the reproductive age, and hence to female life expectancy advantage. In section 4, we econometrically establish the relation of MMR and

[5](Weil, 2005; Ashraf et al., 2008; Bloom et al., 2004; Shastry and Weil, 2003; Lorentzen et al., 2008; Aghion et al., 2010). Acemoglu and Johnson (2006) however find that exogenous improvement is life expectancy have only modest implications for growth.

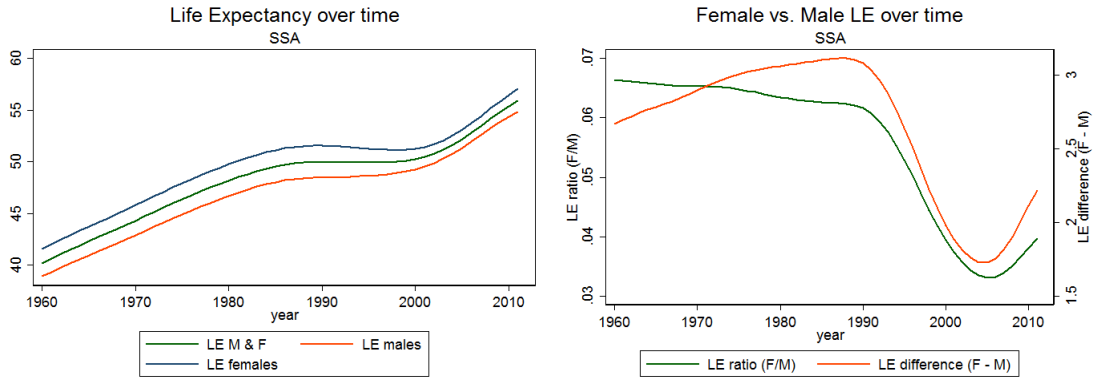
[6]They point out that since maternal mortality occurs early in life, an averted maternal death translates into a large life expectancy gain for women.

[7]Duflo (2011) on the other hand points out the bidirectional relationship between women's empowerment and development, but argues that a continuous policy commitment to equality for its own sake may be needed to bring about equality between men and women and development by itself need not ensure equality.

female life expectancy advantage to the stated son preference variable, women's political and other rights rights and measures of gender intensity of language grammar. In section 5 we extend the standard parametric specification to a recently developed time varying group fixed effects framework. In section 6 we conclude.

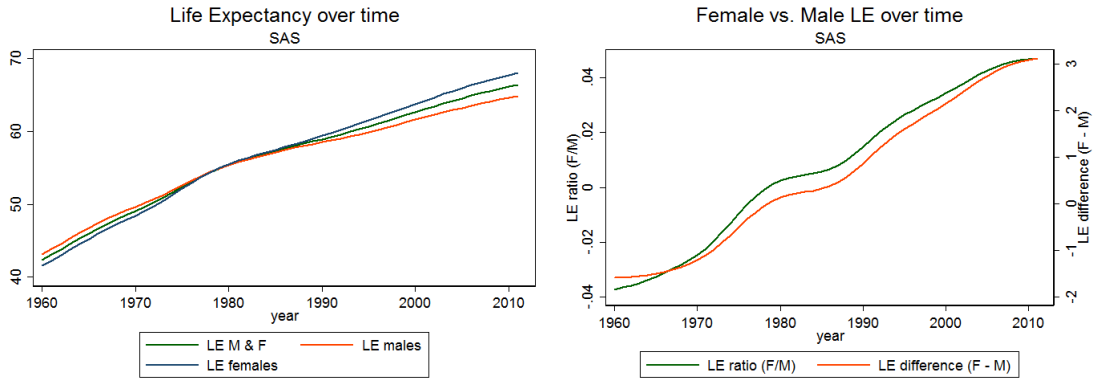
2 Trends in Life expectancy

The last five decades have witnessed large and sustained increases in the life expectancy rates at birth for both men and women throughout the world. Typically women have enjoyed a life expectancy advantage over men in almost all countries of the world. There are two interesting features that emerge from studying life expectancy advantage of women over men in the developing world. First, when the AIDS epidemic struck Africa in the 1990s, women lost more in terms of life expectancy than men and subsequently their life expectancy advantage suffered a blow. However, with the arrival of anti-retro viral treatment in the mid 2000s onwards, the female advantage in life expectancy started to go up yet again (See Figure 1). Second, in contrast to not only all other parts of the world but also to Sub-Saharan Africa, women actually started with a life expectancy disadvantage in South Asia (See Figure 2). This is not surprising given that South Asia is know to be more gender prejudiced than other regions of the world. Only since the 1980s, women finally started to enjoy a life expectancy advantage over men and this advantage keeps going up through the years.



(a) (b)

Figure 1: Female Life Expectancy is plotted against time. The Life Expectancy data comes from the World Bank WDI and spans over more than 190 countries and is available for the period of 1960 - 2011. Here we plot them for the **Sub-Saharan Africa** region (World Bank Region Classification is used).

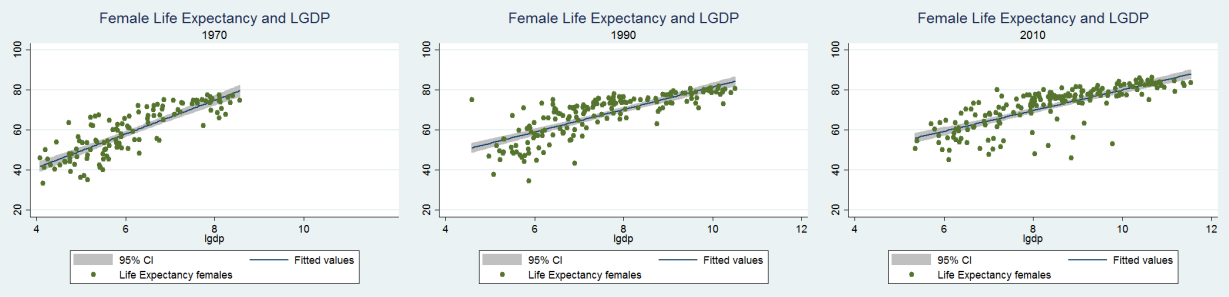


(a) (b)

Figure 2: Female Life Expectancy is plotted against time. The Life Expectancy data comes from the World Bank WDI and spans over more than 190 countries and is available for the period of 1960 - 2011. Here we plot them for the **South Asia** region (World Bank Region Classification is used).

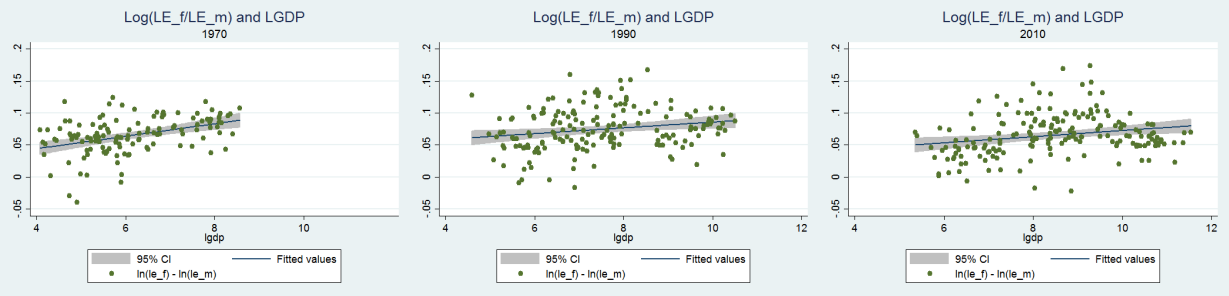
2.1 Is it just income?

When we plot female life expectancy against GDP in figure 3 we notice that female life expectancy has a positive relation with GDP regardless of the time period we consider between 1970 and 2010. In fact, a similar picture would arise if we plotted male life expectancy against GDP. This is not surprising and has been well documented in the literature. On the other hand, once we plot the female life expectancy advantage i.e. the log ratio of female to male life expectancy against GDP in figure 4, we see that relationship is not that strong. This implies that their is more to gender gaps in health outcomes than just income differences across countries. In figure 5 we plot MMR (Panel 1) and the female life expectancy advantage (Panel 2) against a composite gender equality measure from the WDI. We notice that MMR is negatively correlated with gender equality and female life expectancy advantage is positively correlated with gender equality.



(a) (b) (c)

Figure 3: Female Life Expectancy is plotted against log of GDP. The Life Expectancy (and the GDP) data comes from the World Bank WDI and spans over more than 190 countries and is available for the period of 1960 - 2011. Here we plot them for the years 1970, 1990 and 2010.



(a) (b) (c)

Figure 4: The log of the ratio of Female to Male Life Expectancy is plotted against log of GDP. The Life Expectancy data comes from the World Bank WDI and spans over more than 190 countries and is available for the period of 1960 - 2011. Here we plot them for the years 1970, 1990 and 2010.

(a) (b)

Figure 5: The average life expectancy advantage of women to men (Panel 1) and MMR (Panel 2) is the overall measure of gender equality. The life expectancy data comes from the WDI and exists for all countries for the period 1960-2012.The MMR variable is available from the WDI for 180 countries for 5 points of time 1990, 1995, 2000, 2005, and 2010. The gender equality ranking variables also comes from the WDI and takes discrete values of 1 to 6 (1= most unequal and 6= most equal) and exists for around 84 countries for the period of 2005-2012. We collapse the data across the different periods of time and generate one observation for each countries for which data for both the plotted variables exist.

3 The contribution of IMR and MMR to gender difference in Life Expectancy and Mortality.

In this section we study the contribution of maternal mortality and female to male infant mortality ratio to age specific mortality rates across genders and to female life expectancy advantage overall. In previous studies, MMR has been found to contribute to female life expectancy. For example, Jayachandran and Lleras-Muney (2008) show how a drop in MMR contributed to increased female LE in Sri Lanka. Again, Canudas-Romo et al. (2014) estimate the contribution of maternal mortality to Reproductive-Aged Life Expectancy (RALE) i.e. life expectancy calculated between ages 15 and 49.

We first consider the differences in age specific mortality rates across genders and also the relative contribution of IMR and MMR (if any) to these mortality rates using data from UN mortality tables. In order to do so we consider 3 distinct age classes viz. 0-14, 15-49 and 50+. The 15-49 age group is typically considered the reproductive age class for women and hence this is the class in which most maternal mortality should be concentrated. In order to compare differences between women and men, we construct the ratios of mortality rates of women to men in these three different age categories and use the log values of these ratios as our primary dependent variable.[8]

Since this data exists for almost the entire world sample, we are able to analyze differences across countries belonging to different income categories from the World Bank Income classification which divides the world into High, Middle and Low Income countries.[9] We thus regress the log ratio of female to male mortality rates (times 100,000) by different age categories on maternal mortality and infant mortality ratio for different countries in Table 1. We notice that MMR significantly reduces excess female mortality in the 15-49 category and increases it in the 50+ category for high income countries. However, since MMR is concentrated solely in poorer countries, we cannot read too much into these numbers for developed countries. For both the Middle and Low income categories we notce that MMR significantly increases the excess female mortality for the 15-49 age category which is the reproductive age for women.[10] In other words some of the excess female to male mortality in the reproductive age is explained by MMR.

[8] lnratio_FM1549 = ln(female_1549/male_1549); lnratio_FM014 = ln(female_014/male_014); lnratio_FM50 = ln(female_50/male_50)

[9] See the appendix for a list of countries belonging to each of these categories.

[10] In the appendix we provide specifications with only MMR or IMR without controlling for the the other. In Table C.8 we have the whole world sample.

Table 1: Gender differences in Mortality rates & MMR from WDI: WB Income categories.

	(1) (0-14)	(2) (0-14)	(3) (15-49)	(4) (15-49)	(5) (50+)	(6) (50+)
Low Income						
MMR	-8.295	-8.023	16.15***	16.29***	-8.493	-8.688
	(5.683)	(5.764)	(5.669)	(5.764)	(5.892)	(5.832)
imr_ratio	3527.1	-1926.5	-177318.4	-180155.7	72241.1	76161.0
	(89270.8)	(87933.2)	(117117.3)	(120946.0)	(123115.8)	(123132.9)
lgdp	-4878.3**	-4315.9**	3631.3	3923.9	715.1	310.8
	(2126.8)	(1755.6)	(2888.9)	(2597.6)	(1636.4)	(1618.6)
birth		-352.1		-183.2		253.1
		(295.6)		(494.5)		(284.4)
Mean Dep var.	-5450.191	-5450.191	-969.611	-969.611	7784.401	7784.401
SD Dep Var.	5807.026	5807.026	16253.756	16253.756	9227.867	9227.867
N	60	60	60	60	60	60
r2	0.404	0.439	0.452	0.456	0.249	0.265
Middle Income						
MMR	-12.45**	-11.12*	16.50**	16.31*	-7.521	-10.06*
	(5.808)	(5.977)	(7.911)	(8.605)	(5.186)	(5.711)
imr_ratio	43138.4	48588.3	103621.0	102849.7	-70587.0	-80977.8
	(48809.8)	(49374.9)	(99969.7)	(104742.2)	(48474.0)	(49548.2)
lgdp	1065.0	1076.7	-5372.1**	-5373.8**	1336.0	1313.6
	(1993.0)	(1971.8)	(2201.0)	(2187.2)	(877.5)	(918.1)
birth		-166.7		23.60		317.9
		(189.9)		(419.3)		(213.7)
Mean Dep var.	-5661.230	-5661.230	-31212.472	-31212.472	9469.371	9469.371
SD Dep Var.	13783.965	13783.965	32447.657	32447.657	9884.27	9884.27
N	182	182	182	182	182	182
r2	0.0892	0.0946	0.204	0.204	0.115	0.147
High Income						
MMR	-6.982	-7.015	-39.01***	-36.12***	12.82***	12.95***
	(13.73)	(12.96)	(5.025)	(5.049)	(2.464)	(2.278)
imr_ratio	-63954.7	-64093.5	47784.6	59887.0	1500.6	2058.2
	(73026.5)	(76913.0)	(46145.9)	(44009.6)	(22733.8)	(22278.1)
lgdp	-1027.6	-1029.6	-12444.3***	-12265.8***	873.0	881.2
	(5837.3)	(5793.5)	(2520.5)	(2526.7)	(955.2)	(928.4)
birth		5.004		-436.2		-20.09
		(616.4)		(260.8)		(182.0)
Mean Dep var.	-17754.857	-17754.857	-70251.711	-70251.711	8311.689	8311.689
SD Dep Var.	24211.542	24211.542	24763.904	24763.904	5653.431	5653.431
N	99	99	99	99	99	99
r2	0.0251	0.0251	0.377	0.414	0.405	0.406

The dependent variable in is the log ratio of Female to Male mortality rates in the different age groups specified in the column headers. We have used a country fixed effects panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The IMR data also comes from the World Bank - WDI (based on WHO data) and is available for 3 time periods. The mean (SD) of the MMR & IMR variables is 30.68 (105.654) & 0.822 (0.038) for high income countries, 201.874 (242.429) & 0.817 (0.047) for middle income countries, 634.79 (334.577) & 0.847 (0.033) for low income countries. The birth variable is the Crude Birth rate (per 1,000 people) from the WDI.

As far as the marginal effects are concerned, for middle income countries, a one SD (242.429) increase in MMR explains 12.7% of the average excess in log ratio of female to male mortality. For low income countries, a one SD (334.577) increase in MMR explains 562.2% of the average excess in log ratio of female to male mortality. The female to male infant mortality ratio on the other hand has no significant effect on the mortality rates in the different age categories.

Next, again using a (country) Fixed Effects panel data framework with time dummies, in Table 2 we regress the log ratio of female to male life expectancy on maternal mortality and the female to male infant mortality ratio from the WDI data for different regions of the world. The odd numbered columns use the Life Expectancy data from the WDI while the even numbered columns use the LE data from the IDB. Both life expectancy and MMR are measured as five yearly averages. When we control for the log of GDP we consider the GDP in the beginning of the five yearly period in order to mitigate endogeneity concerns.

We split the sample of countries into High, Middle and Low Income categories following the World Bank income classification. In Table 2, we notice that maternal mortality significantly reduces female advantage in life expectancy, and particularly so for middle and Low income countries than for high income countries. The female to male infant mortality ratio on the other hand does little to the life expectancy advantage of women.[11]

As far as the marginal effects are concerned, a one SD (334.57) higher MMR implies about 15.7% (WDI sample) to around 46.3% (WDI) of the average log ratio of female (dis) advantage in life expectancy. Canudas-Romo et al. (2014) find that the elimination of maternal mortality led to an increase of half a year of female reproductive age life expectancy (RALE) from 1930 to 1960 for industrialized countries. However, according to their calculations the gains in RALE from elimination of maternal mortality can range from as low as 0.24 years in Namibia to 1.47 years in Chad.[12]

Let us now consider some of the countries and see how different levels of MMR lead to different rates of LE etc. If we consider countries like India which is a Lower middle income country, the average MMR is 390 and the difference between female and male LE is only of only 0.59 years. Again Nepal also had a very high rate of MMR of 420 with the female advantage

[11]In the appendix we present results for regressions with the whole world sample pooled together and also using MMR from the DHS data. Moreover, we also provide results for regressions of life expectancy advantage on the maternal mortality ratio and the female infant mortality rate separately. Our results remain qualitatively similar. See Tables C.2, C.3, C.4, C.5.

[12]Female reproductive age life expectancy (RALE) is the female life expectancy calculated from age 15 to 49 Canudas-Romo et al. (2014).

being only of 0.86 years. Again in Bangladesh, during this period the MMR is 466 and the women are actually at a disadvantage of 0.65 years. Again, if we consider a country like Brazil which has roughly the same income level (upper middle income country) as India, they have a relatively low MMR rate of 84 and a female advantage in LE of 6.11 years. Similarly Thailand has an MMR of 55.2 and 6.07 years of female advantage. According to the DHS data, Nepal has a huge MMR rate of 1080 and a female advantage of only 0.86. On the other hand South Africa has MMR of 127 and 5.32 years of female advantage.

Table 2: Female Life Expectancy advantage, MMR and IMR from WDI: WB Income categories.

	(1) indep1	(2) indep2	(3) indep3	(4) indep4	(5) indep5	(6) indep6
Low Income						
MMR	-2.075*	-5.908**	-2.702	-7.848**	-2.934*	-8.637**
	(1.075)	(2.526)	(1.674)	(3.169)	(1.535)	(3.412)
imr_ratio (F/M)	12583.9	-1299.9	5087.2	-15799.8	3835.9	-20045.8
	(18423.9)	(30424.5)	(21114.0)	(30994.3)	(22507.8)	(32866.1)
lgdp			-619.2	84.55	-661.3	-58.13
			(581.0)	(738.2)	(622.0)	(856.9)
birth					44.08	149.6
					(100.5)	(146.7)
Mean Dep var.	5040.947	6237.268	5040.947	6237.268	5040.947	6237.268
SD Dep Var.	3144.78	3430.684	3144.78	3430.684	3144.78	3430.684
N	105	105	92	92	92	92
r2	0.387	0.179	0.440	0.248	0.443	0.262
Middle Income						
MMR	-0.944	-2.700**	-0.852	-2.571**	-0.467	-2.880**
	(1.210)	(1.180)	(1.279)	(1.137)	(1.282)	(1.227)
imr_ratio (F/M)	-19010.1*	-11958.4	-17692.7	-10138.9	-15665.3	-11714.2
	(11084.9)	(9754.1)	(12081.1)	(9683.9)	(12448.5)	(9963.6)
lgdp			79.21	111.6	115.8	76.44
			(236.9)	(243.1)	(225.7)	(252.8)
birth					-56.62	42.32
					(46.37)	(41.62)
Mean Dep var.	7145.374	6937.346	7145.374	6937.346	7145.374	6937.346
SD Dep Var.	3429.33	3406.98	3429.33	3406.98	3429.33	3406.98
N	285	268	275	260	275	260
r2	0.0735	0.0677	0.0700	0.0732	0.0804	0.0780
High Income						
MMR	0.251	-1.616**	-0.399	-2.672*	0.281	-2.267*
	(0.655)	(0.745)	(1.472)	(1.392)	(1.313)	(1.279)
imr_ratio (F/M)	-14082.2	-9410.6	-14086.5*	-9591.9	-10576.8	-7396.9
	(8448.9)	(10637.2)	(8361.6)	(10449.3)	(8329.4)	(10714.6)
lgdp			-225.8	-372.4	-182.0	-352.7
			(414.7)	(329.4)	(381.6)	(310.9)
birth					-95.85***	-61.35*
					(26.90)	(34.61)
Mean Dep var.	7670.918	7943.352	7670.918	7943.352	7670.918	7943.352
SD Dep Var.	3373.603	3245.076	3373.603	3245.076	3373.603	3245.076
N	150	144	149	143	149	143
r2	0.604	0.405	0.600	0.413	0.644	0.437

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is log of the ratio of female to male life expectancy times 100k, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The IMR and MMR data both come from the WDI. The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The three panels respectively correspond High (50), Middle (90) and Low Income countries (30) (World Bank classification). The mean (SD) of the MMR & IMR variables is 30.68 (105.654) & 0.822 (0.038) for High Income countries, 201.874 (242.429) & 0.817 (0.047) for Middle Income countries, 634.79 (334.577) & 0.847 (0.033) for Low Income countries.

4 The Importance of Gender Inequality

4.1 Stated Son Preference and and Gender inequalities in Health

The Demographic and Health Surveys (DHS), funded by the the U.S. Agency for International Development (USAID), make available many variables on the life and health outcomes of individuals in many developing countries from across the world. The data is collected by interviewing a nationally representative sample of women of child bearing age (15-49) in these countries and the standardized components of the DHS can be used to compile micro data sets comparable across the different countries. In particular, the DHS surveys allow us to measure the degree of son preference among women of a child bearing age across many developing countries.

Exploiting the DHS data, in this section we first show how the stated son preference of mothers can explain part of the excess female infant mortality in developing countries. We then go on to show how countries with gender biased attitudes also significantly affects female life expectancy, the gender gap in life expectancy and high maternal mortality particularly in poorer countries.

In the DHS surveys, each surveyed woman is asked about the ideal number of children, the ideal number of boys, and the ideal number of girls she would like to have. Using the stated preference of the mothers we construct a variable that gives us the DSR or "Desired sex ratio - (boys/girls)" for each mother. The exact definition of the DSR variable is given in the equation 1. Given the way we construct our variable, DSR measures son preference or in other words, it measures the mother's bias against having a girl child, which in turn reflects negative attitudes towards women.

$$DSR \equiv \text{Desired Sex ratio} \equiv \frac{\text{ideal no. of boys}}{\text{ideal no. of girls}} \tag{1}$$

Since our DSR variable directly measures son preference of the mothers, our first variable of interest is infant mortality. In particular we are interested in verifying whether, female children of mothers who have a higher stated son preference also have a higher probability of dying as infants than their male counterparts.[13] Biologically speaking, female children actually have a lower probability of dying as infants. However, in many developing countries the opposite is often observed and hence the phenomenon of *"Missing women"*. Using the DHS data, we show that gender biased attitudes towards sons and against daughters are indeed correlated with

[13]Infant mortality is defined as a child dying before reaching the age of one.

excess female infant mortality in developing countries.

In Table 3 using child level regressions on a sample of more than 4.6 million child births from around 75 DHS countries, we regress the probability of infant death on the DSR or stated son preference variable and different controls. Infant death is a 0-1 dummy variable which takes the value 1 if the child dies before reaching the age of one. In columns 1 & 2 we notice how desired sex ratio of boys to girls has no significant effect on infant mortality. In columns 3 & 4 on the other hand we notice how interacting the desired sex ratio variable with the female child dummy completely changes the picture. There are two terms of interest in the columns 3 & 4, the desired sex ratio term by itself and the interaction between the DSR variable and the female dummy. We notice how the desired sex ratio variable significantly increases the probability of a girl child dying as an infant (and hence reduces the probability of a boy child dying as an infant).

Table 3: (Female) Infant mortality and Stated Son Preference

	(1) OLS	(2) Probit	(3) OLS	(4) Probit
female	-0.0116***	-0.0116***	-0.0272***	-.0279***
	(0.000914)	(0.00590)	(0.00159)	(0.00860)
desired_sex_ratio	0.000103	0.0002183	-0.00548***	-0.005605***
	(0.000977)	(0.00630)	(0.000931)	(0.00622)
desired_sex_ratio*female			0.0136***	.00139***
			(0.00119)	(0.00678)
N	4649052	4649046	4649052	4649046
pseudo R^2		0.041		0.041
r2	0.0220		0.0222	

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is infant mortality. In Panels 1 & 3 we run OLS regressions, while in panels 2 & 4 we run Probit regressions. All specifications include country and year of birth dummies, age at birth and the square of age at birth of the mother, and years of education of the mother. Standard errors in parentheses are clustered at the country level. Marginal effects have been reported for the Probit regressions. This data and hence the regressions are based on the DHS sample (developing countries) of 75 countries over the period of 1964 - 2012. The mean (sd) of infant deaths is 0.082 (0.274), about 48.8% of the sample is female, and the mean and sd of desired sex ratio is 1.162 (0.619) and that of the interaction term is 0.539 (0.681).

In terms of marginal effects (considering column 4), we notice that in general female infants have a 1.4% ($= -0.0279 + 0.0139$) lower probability of dying than their male counterparts in case the desired sex ratio was equal to 1 i.e. in case the mother had gender neutral child preferences. On the other hand a one SD (0.619) increase in the son preference of mothers reduces the probability of survival of the female infant relative to a male infant to only 0.54% ($= -0.0279 + 0.0139 * 1.619$). In other words it knocks of 61% ($= 0.54/1.4$) of the girl child's

survival advantage over the boy child. Moreover, this effect is highly significant.

As evident from Table 3, stated son preference which reflects gender bias in society is a significant correlate of excess female infant deaths in developing countries. In results not shown here we find that the DSR variable also leads to a bigger family size, in other words it also leads to higher fertility. Next, we show that such gender bias in society can also explain the variances in maternal mortality rates and the female life expectancy advantage across countries.

Our MMR and life expectancy data are all at the country level while the DSR variable is at the individual mother level. In order to arrive at country level values of DSR we average the DSR variable across all mothers in the country and birth cohort (weighted by weights provided in the DHS) to come up with country and birth cohort specific DSR which is in fact the country birth cohort level Son Preference ratio. Then in order to get the country year specific numbers on son preference in the country, we add either 20, 25 or 30 years to the mothers year of birth. We assume that most women are likely to become mothers between the ages of 20 and 30 years. Thus adding 20, 25, or 30 to the mother's year of birth we come up with a country and year specific son preference measure based on the individual level stated preferences of the mothers who become mothers in those particular years. There is a fair degree of variance across countries. The summary statistics for the aggregate DSR variables is provided in Table 4

Table 4: Summary statistics for DSR

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
dsr_20	1.13	0.134	0.433	3	2618
dsr_25	1.133	0.134	0.433	3	2372
dsr_30	1.135	0.136	0.433	3	2093

Let us consider some examples from the country averages which we constructed aggregating the individual level data. We consider dsr_25 for these examples, which corresponds to the case in which we have added 25, to the mother's year of birth to construct our country and year specific son preference measure.

- Low Son Preference countries: Uganda (1); Malawi (1.03); CAF, Zambia, Congo (1.04)
- Medium Son Preference countries: Zimbabwe (1.07), Brazil (1.11)
- High Son Preference countries: India (1.39), Nepal (1.5), Pakistan (1.52)

As expected, South Asian countries like India have a very high degree of son preference. Pakistan, Nepal and India occupy 3 out of the top 5 spots in terms of stated son preference. Not

surprisingly they also have very high rates of MMR and a lot fewer years of female advantage in life expectancy compared to other countries. On the other hand, countries like South Africa, Mexico and Sri Lanka are also developing countries in the middle income group, but have lower rates of both stated son preference and MMR as well as a higher female life expectancy advantage. Again if we look at a country like CAF which has one of the lower levels of son preference in our data-set the female advantage in LE is as high as 4.06.

First, in Table 5 below we present the results from a cross country panel of how the DSR variable reduces the female advantage in life expectancy over men. In terms of marginal effects (considering say columns 5 and 6), a one SD (0.134) increase in the desired sex ratio, which is roughly the difference in the DSR between Zimbabwe/Congo and India, knocks of around 0.44% (= 0.134*0.033; WDI sample) to around 1.13% (= 0.134*0.084; IDB sample) of the relative female advantage in life expectancy over men.[14]

Table 5: Female Life Expectancy advantage & Desired Sex Ratio (boys/girls) DHS: dsr_25

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
DSR	-0.0340***	-0.0702**	-0.0266	-0.283*	-0.0291***	-0.0677**	-0.0208	-0.278*
	(0.0102)	(0.0299)	(0.0618)	(0.149)	(0.00926)	(0.0280)	(0.0582)	(0.152)
lgdp	0.0122***	0.00242	0.0137	-0.0368	0.0111***	0.00231	0.0128	-0.0365
	(0.00393)	(0.00626)	(0.0119)	(0.0244)	(0.00418)	(0.00638)	(0.0112)	(0.0252)
DSR_gdp			-0.00133	0.0348			-0.00149	0.0345
			(0.0102)	(0.0215)			(0.00959)	(0.0221)
fertility					-0.00663**	-0.00224	-0.00664**	-0.00166
					(0.00325)	(0.00548)	(0.00325)	(0.00539)
N	2120	1875	2120	1875	2120	1823	2120	1823
r2	0.220	0.0896	0.220	0.104	0.256	0.0908	0.256	0.103

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is the log of the ratio of female to male life expectancy. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI (odd columns) and the IDB database (even columns. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. Since the answers are available only for the survey years, to arrive at the yearly data either 20, 25 or 30 is added to the mother age. For this table the desired sex ratio for a particular year was obtained by adding 25 to the mothers year of birth. This data and hence the regressions are based on the DHS sample (developing countries) of 63 countries over the period of 1969 - 2012. The mean (SD) of dsr_25 is 1.133 (0.134).

Next, in Table 6 we present the results from a cross country panel of how the DSR variable affects Maternal Mortality rates across countries. All specifications control for country and year fixed effects. In the panels 1, 2 and 3 we repsectively show the results using the variables DSR 20, 25 and 30. The dependent variable is always MMR defined as deaths per 100,000 live births from the WDI and is available at a frequency of 5 years from the years 1990

[14]In appendix Tables C.15 and C.17 we show similar results for DSR 20 and 30.

Table 6: Desired Sex Ratio and MMR -

	(1)	(2)	(3)
DSR 20	605.2***	623.0***	1660.9**
	(224.2)	(205.2)	(760.6)
lgdp	-144.0***	24.61	211.8
	(25.58)	(39.10)	(145.0)
DSR_gdp			-168.1
			(120.0)
N	296	296	296
r2		0.442	0.447
DSR 25	520.0**	809.1***	1763.0**
	(204.0)	(239.9)	(752.0)
lgdp	-144.9***	27.71	206.0
	(24.04)	(36.35)	(152.6)
DSR_gdp			-158.7
			(126.2)
N	306	306	306
r2		0.439	0.443
DSR 30	315.7	532.8*	1522.5*
	(194.5)	(272.5)	(892.9)
lgdp	-149.4***	20.07	208.7
	(22.95)	(37.52)	(167.2)
DSR_gdp			-167.2
			(138.0)
N	311	311	311
r2		0.409	0.413
Country FE	No	Yes	Yes
Yes FE	No	Yes	Yes

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the WDI. Country fixed effects panel regressions with year dummies have been run in Columns 2 and 3. Standard errors in parentheses are clustered at the country level. The data on DSR (desired sex ratio -boys/girls) also comes from the DHS. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. For this table the desired sex ratio for a particular year was obtained by adding 20, 25 and 30 respectively in panles 1, 2 and 3, to the mothers year of birth. The mean (SD) of MMR from WDI is 440.195 (340.161) (check) and the mean (SD) of dsr_25 is 1.127 (0.127)

onwards. From Table 6 it is clear that the stated son preference variable significantly increases maternal mortality rates, but there is no real evidence of variance by GDP.

In terms of marginal effects (considering column 4), we notice that a one SD (0.127) increase in the Desired Sex ratio leads to 106.37 additional maternal deaths per 100k live births for the country with the average per capita log GDP ($= (8018.2 + (-1167.2 * 6.152)) * 0.127$ where 6.152 is the mean log GDP). Again, if we look at Panel 2, a one SD (0.127) increase in

the Desired Sex ratio leads to 9.74 additional maternal deaths per 100k women exposed for the country with the average per capita log GDP which is 6.152 ($= (391 + (-51.09 * 6.152)) * 0.127$ where 6.152 is the mean log GDP). And finally, in Panel 3, considering data from the WDI countries, we notice that a one SD (0.12) increase in the Desired Sex ratio leads to 38.2 additional maternal deaths per 100k live births for the country with the average per capita log GDP ($= (752.5 + (-66.37 * 6.537)) * 0.12$ where 6.537 is the mean log GDP). For countries below the average GDP, these effects are much higher.

As evident from the above tables the degree of son preference in society which reflects the gender attitudes in society is highly correlated with gender inequalities in health outcomes including Maternal mortality. Maternal Mortality is specifically a women specific health outcome and thus, we expect negative gender attitudes to adversely affect maternal mortality. However, in case our results are valid, we would expect to see no effects of the desired sex ratio variable on a gender neutral illness like TB. If our hypothesis is correct, then the stated son preference should have no effect on TB infection rates. In Table 7, which we could refer to as our placebo regressions, we see exactly that. We notice that the desired son preference variable has no effects on the TB infection rates.

Table 7: TB and Desired Sex ratio: DSR

	(1)	(2)	(3)
DSR 20	-38.95	269.8	-501.7
	(132.0)	(218.8)	(746.1)
lgdp	-26.48	-49.42	-188.5
	(23.19)	(31.65)	(144.7)
DSR_gdp			125.0
			(133.0)
N	296	296	296
r2		0.0783	0.0826
DSR 25	-180.5	-44.04	-1089.3
	(231.4)	(453.6)	(964.2)
lgdp	-30.87	-47.74	-243.0
	(21.97)	(30.80)	(155.0)
DSR_gdp			173.9
			(148.5)
N	306	306	306
r2		0.0669	0.0736
DSR 30	-347.1	-377.0	-1248.4
	(284.8)	(504.1)	(1142.1)
lgdp	-33.23	-40.21	-206.3
	(20.45)	(30.31)	(233.7)
DSR_gdp			147.2
			(210.2)
N	311	311	311
r2		0.0727	0.0770

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables TB is the Incidence of tuberculosis (per 100,000 people). country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on TB comes from the World Bank WDI and is available for the years 1990- 2012 yearly for almost all countries in the world. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. Since the answers are available only for the survey years, to arrive at the yearly data either 20, 25 or 30 is added to the mother age. This data and hence the regressions are based on the DHS sample (developing countries) of 63 countries over the period of 1969 - 2012. The mean (SD) of dsr_25 is 1.133 (0.134). The mean (sd) of TB is 140.2844 (187.908).

4.2 Women's Rights and and Gender inequalities in Health

In the previous section we have established that gender biased social attitudes, in particular the stated son preference of the mother, can explain part of the cross country variance in gender inequalities in health outcomes. In this section we study the effects of Women's empowerment or rights on such inequalities. This is also an attempt to understand whether female empowerment can reduce cross country differences in gender inequalities in health outcomes. We exploit a previously under-exploited cross country rights data from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set, which provides data on three different variables measuring Political, Economic and Social Rights of women, for the period of 1981 to 2011 for around 127 (in 1981) to 192 (in 2011) countries.

The Women's Political Rights variable, takes into account women's right to vote, the right to run for political office, the right to hold elected and appointed government positions, the right to join political parties, and the right to petition government officials.

Women's economic rights variable takes into account: Equal pay for equal work; Free choice of profession or employment without the need to obtain a husband or male relative's consent; The right to gainful employment without the need to obtain a husband or male relative's consent; Equality in hiring and promotion practices; Job security (maternity leave, unemployment benefits, no arbitrary firing or layoffs, etc...); Non-discrimination by employers; The right to be free from sexual harassment in the workplace; The right to work at night; The right to work in occupations classified as dangerous; The right to work in the military and the police force.

And finally, women's social rights include a number of internationally recognized rights including the rights to equal inheritance; to enter into marriage on a basis of equality with men; to travel abroad; to obtain a passport; to confer citizenship to children or a husband; to initiate a divorce; to own, acquire, manage, and retain property brought into marriage; to participate in social, cultural, and community activities; to an education; to choose a residence/domicile; Freedom from female genital mutilation of children and of adults without their consent; and the freedom from forced sterilization.[15]

All three of these variables take 4 discrete values of 0, 1, 2, and 3, with higher values indicating more rights for women. In addition we construct 2 other composite rights variables, the first one being the the first principal component of women's political, economic and social

[15]This variable is available only till the year 2005.

rights and the second one only incorporates women's political and economic rights.[16]

First, in Table 8, we regress the log ratio of female to male life expectancy on the different rights measures. As in the previous sections, we use country fixed effects panel data regressions with year dummies. The standard errors are always clustered at the country level. As far as the log ratio of female to male life expectancy is concerned, women's economic and social rights are more significant correlates than women's political rights.[17]

In Table 9, we regress maternal moratality rates defined as per 100k births from the WDI on the different rights variables. Here we see that women's political and economic rights are significant determinants of maternal mortality rates.

As evident from the various tables, women's rights significantly improve female life expectancy and the female life expectancy advantage and reduces the maternal mortality ratio. Particularly, the women political rights has a significant and robust impact on both female life expectancy and maternal mortality, but a more modest impact on the log ratio of female to male life expectancy. In the appendix we also show how the rights variables, particularly the women political rights variable significantly reduces female/male infant mortality ratio. MMR, IMR_ratio (F/M), CMR_ratio (F/M) etc.

In Table 10 we regress TB infection rates, which is our placebo, on Women's Political Rights. We notice that women's political rights have no effects on our placebo TB infection rates across countries.

[16]The reader is directed to the appendix for a more detailed description of how each of the variables are constructed. As can be seen in Table C.19, data on women's political and economic rights exists for the entire period of 1981- 2011, whereas data on women's social rights was discontinued after the year 2007. Tables C.20 and C.21 give the summary statistics and correlation matrix of the different rights variables.

[17]In Table **??** we regress female life expectancy on the 2 composite rights measures based on the same Cingranelli, Richards, and Clay (Cingranelli et al.) data. In Panel 1 of Table **??** we include all three of the rights measures (Political, Economic and Social) in the same specification and in Panel 2 we include only Political, Economic rights which gives us more observations since data on these rights are available for a longer period of time.

Table 8: Log Life Expectancy Ratio and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political Rights	-59.98	-28.56	880.4	921.2	777.7
	(160.1)	(170.6)	(549.6)	(619.7)	(545.1)
lgdp	607.7*	635.0*	882.5*	910.9*	991.8*
	(342.2)	(347.0)	(448.3)	(468.9)	(528.2)
democ		2.116		-6.386	121.1
		(35.13)		(35.16)	(170.6)
right_gdp			-126.8	-128.6	-110.4
			(76.85)	(86.17)	(76.40)
democ_gdp					-18.55
					(24.45)
N	4588	4207	4588	4207	4207
r2	0.178	0.184	0.182	0.188	0.189
Economic Rights	33.49	51.61	958.7**	1020.9**	920.9*
	(97.44)	(103.3)	(452.8)	(475.4)	(466.4)
lgdp	609.9*	636.9*	755.6**	791.8**	906.7**
	(343.3)	(347.1)	(354.7)	(361.3)	(449.1)
democ		-0.405		-3.515	135.8
		(34.38)		(34.23)	(184.1)
right_gdp			-117.3**	-123.6**	-109.5**
			(51.94)	(54.55)	(53.86)
democ_gdp					-20.40
					(26.03)
N	4549	4168	4549	4168	4168
r2	0.177	0.184	0.181	0.188	0.189
Social Rights	63.42	112.6	1133.5**	1204.2**	1075.6**
	(126.3)	(131.1)	(513.7)	(541.0)	(450.5)
lgdp	903.4*	951.7**	1097.7**	1151.5**	1321.8*
	(460.8)	(479.0)	(512.8)	(534.1)	(730.8)
democ		1.193		-4.390	197.3
		(35.08)		(34.63)	(298.4)
right_gdp			-141.5**	-145.5**	-127.9**
			(61.80)	(65.55)	(53.60)
democ_gdp					-30.17
					(43.90)
N	3251	3045	3251	3045	3045
r2	0.160	0.172	0.166	0.177	0.179

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is the log of the ratio of female to male life expectancy times 100,000. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table 9: Maternal Mortality (per birth) from WDI and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political Rights	-2.798	-4.387	-256.8***	-252.4***	-208.2***
	(13.97)	(14.48)	(63.27)	(64.81)	(62.28)
lgdp	16.10	21.84	-50.26**	-42.50*	-74.36***
	(21.33)	(19.85)	(23.92)	(22.49)	(26.07)
democ		-7.367**		-5.637*	-64.39***
		(3.292)		(3.181)	(13.63)
right_gdp			34.03***	33.51***	28.44***
			(7.392)	(7.650)	(7.236)
democ_gdp					8.764***
					(1.962)
N	767	708	767	708	708
r2	0.249	0.263	0.301	0.313	0.361
Economic Rights	13.05	11.05	-138.5***	-134.7***	-102.1**
	(10.05)	(10.70)	(48.80)	(51.54)	(47.55)
lgdp	16.57	23.45	-0.301	6.765	-33.80
	(23.21)	(20.99)	(25.04)	(23.17)	(27.67)
democ		-7.218**		-6.394**	-66.68***
		(3.253)		(3.171)	(13.76)
right_gdp			19.01***	18.27***	13.25***
			(5.358)	(5.602)	(5.069)
democ_gdp					8.985***
					(1.971)
N	764	705	764	705	705
r2	0.251	0.265	0.275	0.287	0.338
Social Rights	-0.589	1.969	-88.89	-76.77	-63.93
	(14.52)	(14.94)	(87.62)	(87.85)	(79.90)
lgdp	5.461	4.090	-4.270	-4.376	-65.18**
	(19.02)	(18.42)	(22.13)	(21.69)	(28.10)
democ		-4.261		-4.055	-71.43***
		(2.843)		(2.779)	(14.92)
right_gdp			11.41	10.22	8.701
			(9.745)	(9.758)	(8.857)
democ_gdp					10.44***
					(2.226)
N	414	399	414	399	399
r2	0.171	0.191	0.181	0.200	0.265

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 women exposed) from WDI. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table 10: TB and Women's Rights

	(1)	(2)	(3)	(4)	(5)
	indep1	indep2	indep3	indep4	indep5
Political Rights	2.085	-0.561	-191.0	-183.7	-183.2
	(17.74)	(17.61)	(148.2)	(145.1)	(142.5)
lgdp	-46.03	-48.50	-106.4*	-106.0*	-106.1*
	(31.29)	(32.64)	(56.75)	(54.54)	(57.01)
democ		3.991		4.773	4.333
		(4.639)		(4.672)	(21.72)
right_gdp			29.50	28.14	28.07
			(22.51)	(21.47)	(20.98)
democ_gdp					0.0680
					(3.331)
N	1582	1509	1582	1509	1509
r2	0.0487	0.0531	0.0620	0.0633	0.0633
Economic Rights	2.505	-0.121	53.80	60.28	63.80
	(17.22)	(18.61)	(97.59)	(106.1)	(105.2)
lgdp	-47.92	-50.11	-40.25	-40.99	-45.11
	(31.98)	(33.20)	(33.56)	(35.51)	(40.62)
democ		4.393		4.452	-3.184
		(4.589)		(4.568)	(22.03)
right_gdp			-7.553	-8.862	-9.444
			(15.59)	(16.91)	(16.81)
democ_gdp					1.185
					(3.328)
N	1575	1502	1575	1502	1502
r2	0.0492	0.0549	0.0503	0.0563	0.0568
Social Rights	14.10	15.56	-214.5	-223.0	-228.7
	(33.67)	(35.30)	(137.9)	(149.1)	(150.3)
lgdp	-55.41***	-64.92***	-88.84***	-99.41***	-83.82**
	(19.89)	(22.28)	(30.79)	(34.72)	(33.86)
democ		1.332		0.914	25.78*
		(3.129)		(3.230)	(13.01)
right_gdp			34.51	35.76	36.85
			(25.05)	(26.71)	(26.89)
democ_gdp					-3.965*
					(2.108)
N	1038	991	1038	991	991
r2	0.0679	0.0726	0.0870	0.0915	0.0953

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.3 Women's Political Representation and Gender inequalities in Health

In this section we directly look at effect of women's political representation on gender differences in health outcomes. The exact variable representing women's political representation gives us the "Proportion of seats held by women in national parliaments (%)" and is based on data from the World Bank WDI, which is available for around 160 to 188 countries from around the world for the period of 1997 - 2013.

Table 11: Female LE advantage and Women's Political Representation

	(1)	(2)	(3)	(4)	(5)
Log (Female LE/ Male LE) * 100000					
womparl	5.253	9.931	85.72***	83.67***	71.88***
	(10.06)	(10.47)	(23.53)	(23.67)	(23.25)
lgdp	136.2	209.3	260.3	316.1*	377.2**
	(194.3)	(174.5)	(197.9)	(176.6)	(189.2)
democ		41.95		34.86	208.2
		(37.70)		(36.53)	(139.8)
womparl*lgdp			-10.47***	-9.718***	-8.285**
			(3.195)	(3.493)	(3.546)
democ*lgdp					-24.72
					(20.11)
N	2465	2136	2465	2136	2136
r2	0.0818	0.113	0.0948	0.125	0.129

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is log of the ratio of female to male life expectancy times 100,000 respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 150 to 179 countries from around the world for the period of 1997 to 2011. The mean and SD of female LE are 70.30 and 10.80 respectively, the mean and SD of the log ratio of female/ male LE (times 100,000) are 6782.36 and 3550.81, whereas the mean and SD of women's representation in parliament is around 14.73 and 10.14.

In Table 11 we regress the log ratio of female to male life expectancy on women's political representation from the WDI. We use country fixed effects panel data regressions with year dummies. The standard errors are always clustered at the country level. In Table 12 we regress Maternal mortality ratio from the WDI on women's political representation. We notice that women's political representation significantly improves female life expectancy, and the female life expectancy advantage and reduces maternal deaths. This is in line with the robust effect of women's political rights on both female life expectancy and maternal mortality found in the previous section.[18]

In Table 13 we regress TB infection rates, which is our placebo, on Women's parliamentary representation. We notice that unlike women's political rights, women's parliamentary

[18]In the appendix we also show how women's political representation significantly reduces female/male infant and child mortality ratio.

Table 12: MMR from WDI and Women's Political Representation

	(1)	(2)	(3)	(4)	(5)
womparl	-2.329**	-2.587*	-20.17***	-22.40***	-20.25***
	(1.142)	(1.412)	(3.536)	(3.506)	(3.633)
lgdp	-31.23*	-22.75	-55.01***	-47.36**	-58.77***
	(16.36)	(18.90)	(17.50)	(20.04)	(21.20)
democ		-6.312		-2.859	-35.48**
		(4.758)		(4.285)	(16.14)
right_gdp			2.314***	2.570***	2.329***
			(0.409)	(0.416)	(0.429)
democ_gdp					4.738**
					(1.964)
N	484	425	484	425	425
r2	0.301	0.317	0.408	0.450	0.474

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the WDI. Country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 38 to 44 developing countries from the DHS sample for the period of 1997 to 2011. The mean and SD of the dependent variable are 34.53 and 46.07, whereas the mean and SD of women's representation in parliament is around 14.13 and 9.81.

representation significantly reduces TB infection rates. This is in line with previous literature which finds women's political representation to positively affect health outcomes (See Bhalotra and Clots-Figueras (2014) for example).

Table 13: TB and women's Parliamentary representation

	(1)	(2)	(3)	(4)	(5)
	indep1	indep2	indep3	indep4	indep5
right	-0.624	-0.866	-18.09**	-20.50**	-19.51**
	(1.635)	(1.643)	(7.729)	(8.008)	(8.504)
birth	-1.866	-1.392	-3.533	-3.687	-2.907
	(3.741)	(3.446)	(3.645)	(3.526)	(3.227)
lgdp	-39.76	-45.03	-70.50	-78.41*	-83.19
	(41.06)	(42.17)	(43.99)	(44.83)	(50.71)
democ		4.603		5.809	-5.142
		(6.341)		(6.296)	(29.06)
right_gdp			2.605**	2.927**	2.789**
			(1.135)	(1.187)	(1.257)
democ_gdp					1.646
					(4.124)
N	1059	1001	1059	1001	1001
r2	0.0650	0.0791	0.101	0.125	0.126

Standard errors in parentheses

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

4.4 Gender Intensity in Language and Gender inequalities in Health

So far we have used different measures of women's status in society, including the stated desired sex ratio of mothers from the DHS, women's political, economic and social rights from the Cingranelli, Richards, and Clay (Cingranelli et al.) database and the political representation of women from the WDI. While all these measures that we have used so far are good reflections of gender attitudes in society, they are quite likely to be endogenous. Thus, in this section we try to use some arguably exogenous measures of negative gender attitudes in society, to try and establish whether such negative gender attitudes have a causal effect on the observed gender differences in health outcomes across countries.

Some recent papers have argued that grammatical gender can influence and reflect gender attitudes in society and are correlated with different gender outcomes including maternity leave policy differences across countries (Givati and Troiano, 2012), female labour force and political participation (Gay et al., 2013). In this section, we exploit the findings of these papers and use the gender intensity in language grammar as a measure of gender bias in society. Language grammar was established centuries in the past and is one of the features of language that is stable over long periods of time. Moreover, grammatical gender is something that an individual is born with and thus arguably a more exogenous measure of gender bias in society. For gender salience of languages we use the data and classification of Gay et al. (2013) and Givati and Troiano (2012). In both these papers the focus is on female/male distinctions in grammar.[19]

Givati and Troiano (2012) use the number of cases of gender differentiated pronouns for 33 languages (mostly but not entirely European) as a measure of gender neutrality of the language. According to their classification, the 33 languages can be divided into 4 distinct groups, with each group having either 0 (6 languages), 1 (10 languages), 2 (14 languages), or 4 (3 languages) gender differentiated pronouns. Languages with a higher number of gender differentiated pronouns are supposed to be less gender neutral.

Gay et al. (2013) provide an alternative classification. They also focus on female/male distinctions in grammar but do not restrict themselves to personal pronouns. They use the gender related grammatical variables coming from the World Atlas of Linguistic structures and have four binary variables related to gender neutrality of languages viz. Sex-Based Intensity Index, Number Gender Intensity Index, Gender Assignment Intensity Index, Gender Pronouns

[19]Chen (2013) shows how the future tense in different language can have an effect on an individuals saving behaviour.

Intensity Index. Their final Gender Intensity index (GII) is a sum of all these four indices (or some combination of a subset of these indices). Since, all these four indices do not exist for all countries we sometimes choose a subset of these indices in order to maximize the number of observations. Suppose we choose to use three of these indices to construct our final Gender neutrality index, then $GII \in 0, 1, 2, 3$ and all languages can be divided into 4 distinct classes of gender neutrality. For our final analysis we choose to use all eight of the following measures, the first seven of which come from Gay et al. (2013) and the final one comes from Givati and Troiano (2012).

1. Sex-Based Intensity Index (sbii)
2. Number Gender Intensity Index (ngii)
3. Gender Assignment Intensity Index (gaii)
4. Gender Pronouns Intensity Index (gpii)
5. gii0 = ngii + sbii + gaii + gpii
6. gii1 = ngii + sbii + gaii
7. gii2 = ngii + sbii + gpii
8. gtroiano = number of cases of gender differentiated pronouns.

In the rest of our analysis we will refer to the different language grammar gender neutrality variables as GII measures. Since the different GII measures at the country level are based on the majority language in each country, following Gay et al. (2013) whenever we run regressions using these measures we will always control for the percentage of the population that speak the particular language (the variable is called percentage). The Tables 14 and 15 respectively give the summary statistics and correlation statistics of our different GII measures.

Table 14: Summary statistics

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
ngii	0.445	0.499	0	1	128
sbii	0.680	0.468	0	1	128
gaii	0.677	0.47	0	1	93
gpii	0.339	0.475	0	1	124
gii0	2.453	1.671	0	4	86
gii1	1.935	1.249	0	3	93
gii2	1.513	1.236	0	3	117

Table 15: Cross-correlation table

Variables	NGII	SBII	GAII	GPII	gii0	gii1	gii2
SBII	0.548	1.000					
GAII	0.698	0.595	1.000				
GPII	0.793	0.480	0.646	1.000			
gii0	0.934	0.813	0.848	0.889	1.000		
gii1	0.906	0.855	0.871	0.789	0.983	1.000	
gii2	0.910	0.773	0.732	0.888	0.982	0.949	1.000

Since our measures of gender intensity of languages are time invariant, unlike the previous sections, we are unable to use a country fixed effects framework. However, following the previous literature, we control for an extended set of controls in order to alleviate endogeneity concerns. Our primary specification is given by:

$$Y_{it} = \alpha + \text{GII}_i + \text{Percentage}_i + X_{it} + X_i + \epsilon \tag{2}$$

where GII is our measure of gender intensity and $Percentage_i$ is the percentage of the population speaking the majority language (for which the GII has been calculated). Our control variables include decade dummies, continent dummies, log of GDP , the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical. We always use cluster robust standard errors clustered at the country level.

In Tables 16, and 17 we respectively regress the log ratio of female to male life expectancy and the MMR from the WDI on the different measures of gender intensity of language. In Table 16 we notice that the gender intensity of language significantly reduces the female life expectancy advantage and this effect is robust to a wide set of controls. Similarly, in Table 17 we find that most of our gender intensity of language measures significantly increase the number of maternal deaths.[20]

Like in the two previous sections we use TB infection rates as a placebo. In Tables 18, we regress TB infection rates on from the WDI on the different measures of gender intensity of language. We notice that if anything, the gender intensity of language reduces TB infection rates, while in Table 17 we had seen that GII significantly increases the MMR.

The results in this section are in line with the findings of the previous literature which finds gender salience in language grammar has a negative impact on different measures of gender

[20]In the appendix we also show how gender intensity of language significantly increases female/male infant and child mortality ratio.

Table 16: Log of LE ratio (Female/Male) from WDI & Gender Intensity of Language

	(1) ngii	(2) sbii	(3) gaii	(4) gpii	(5) gtroiano	(6) gii0	(7) gii1	(8) gii2
GII	-1990.5***	-2473.1***	-2271.9***	-1849.9***	-751.1***	-1029.3***	-969.5***	-276.9
	(543.0)	(651.0)	(656.9)	(548.0)	(166.5)	(221.5)	(222.2)	(221.8)
N	6356	6356	4640	6304	4380	4640	5940	4220
r2	0.235	0.246	0.264	0.211	0.307	0.299	0.256	0.269
GII	-2111.7***	-3156.1***	-2012.8**	-2188.1***	-916.1***	-1170.0***	-1317.5***	-558.7*
	(565.7)	(753.5)	(790.0)	(631.7)	(255.6)	(314.3)	(268.5)	(300.3)
N	4865	4865	3733	4743	3575	3733	4564	3428
r2	0.378	0.403	0.384	0.371	0.408	0.414	0.397	0.367

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1 & 2 are the log of the ratio of female to male life expectancy times 100,000 (from the World Bank WDI database). Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013) and Givati and Troiano (2012). Apart from the GII variable in Panel 1 we control for the percentage of the population speaking the majority language (for which the GII has been calculated), decade dummies and continent dummies. In Panel 2 we control for the log of GDP, the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical in addition to the controls from Panel 1.

inequality in society (Gay et al., 2013; Givati and Troiano, 2012). However, ours is the first paper to underscore how the gender saliance in language grammar is correlated with the gender inequalities in health outcomes. These findings further strengthen our claim that differences in gender attitudes in society can explain the differences in gender inequality in health outcomes across countries over and above differences in levels of development.

Table 17: Maternal Mortality ratio from WDI & Gender Intensity of Language

	(1) ngii	(2) sbii	(3) gaii	(4) gpii	(5) gtroiano	(6) gii0	(7) gii1	(8) gii2
GII	3.054	-25.85	40.22	-44.24	-3.998	5.564	-15.04	5.499
	(37.92)	(47.26)	(40.01)	(43.32)	(12.34)	(17.99)	(16.65)	(9.502)
N	610	610	445	600	420	445	570	405
r2	0.468	0.470	0.504	0.508	0.543	0.501	0.490	0.355
GII	46.32**	63.42*	101.8***	57.16*	30.90***	38.74***	25.35**	3.041
	(20.61)	(32.44)	(28.09)	(32.46)	(10.32)	(11.71)	(12.71)	(8.732)
N	571	571	413	559	396	413	539	381
r2	0.703	0.704	0.767	0.704	0.750	0.763	0.690	0.612

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1 & 2 are the maternal mortality ratio (from the WDI database) . Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013) and Givati and Troiano (2012). Apart from the GII variable in Panel 1 we control for the percentage of the population speaking the majority language (for which the GII has been calculated), decade dummies and continent dummies. In Panel 2 we control for the log of GDP, the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical in addition to the controls from Panel 1.

Table 18: TB infection rates from WDI & Gender Intensity of Language

	(1) ngii	(2) sbii	(3) gaii	(4) gpii	(5) gtroiano	(6) gii0	(7) gii1	(8) gii2
GII	-68.10***	-97.37***	-51.22*	-133.0***	-29.90***	-33.30***	-43.65***	-0.998
	(21.09)	(26.74)	(28.26)	(31.65)	(8.724)	(11.25)	(9.755)	(4.509)
N	2851	2851	2093	2828	1978	2093	2667	1886
r2	0.337	0.369	0.297	0.325	0.375	0.345	0.403	0.190
GII	-35.42*	-38.72	19.50	-70.78**	-2.428	0.655	-23.35**	-0.365
	(18.03)	(26.19)	(29.07)	(28.90)	(7.586)	(9.328)	(10.35)	(4.403)
N	2619	2619	1893	2561	1812	1893	2469	1742
r2	0.554	0.553	0.576	0.521	0.573	0.574	0.559	0.546

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1 & 2 are the TB infection rates (from the WDI database) . Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013) and Givati and Troiano (2012). Apart from the GII variable in Panel 1 we control for the percentage of the population speaking the majority language (for which the GII has been calculated), decade dummies and continent dummies. In Panel 2 we control for the log of GDP , the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical in addition to the controls from Panel 1.

5 Time varying Group Fixed Effects Framework

In this section we use the "time varying group fixed effects framework" (GFE) recently developed by Bonhomme and Manresa (2012). This framework allows us to control for grouped patterns of unobserved heterogeneity. It is a flexible framework which allows us to use both a group fixed effects model as an alternative to, or as a complementary approach to the country fixed effects framework. This framework leaves group membership unrestricted and allows the determination of group membership endogenously from within the data.

Bonhomme and Manresa (2012) propose " ... a framework that allows for time patterns of unobserved heterogeneity that are common within groups of individuals. Both the group-specific time patterns and individual group membership are left unrestricted, and are estimated from the data. In particular, our time-varying specification shares with FE the fact that it leaves the relationship between observables and unobservables unrestricted, thus allowing for general forms of covariates endogeneity. The main assumption is that the number of distinct individual time patterns of unobserved heterogeneity is relatively small."

We use codes provided by Bonhomme and Manresa (2012) to determine group membership. We take a flexible approach and try specifications including different numbers of groups varying from 2 to 6. We sometimes use the GFE model as an alternative to the Country FE framework, and sometimes in addition to the country FE framework. When using the country FE framework we estimate the model using grouped fixed effects in deviations to country specific means as proposed by the authors.

In appendix section B, we subject all the regressions specifications from our paper using this new time varying group-fixed effects framework and show how our results are robust to this new methodology. In the next iteration of the paper, we plan to further use this method to identify common trends in our different variables of interest among groups of countries.

6 Conclusion

Preventable maternal mortality is still very high in many developing countries, even after falling by almost 50% since 1990 to the present day. Moreover, while IMR has been falling steadily in the last few decades, MMR rates started to fall only in the 1990s after initial stagnation. In this paper we show that MMR is a woman specific condition and differences in MMR and female life expectancy advantage across countries are a reflection of differences in gender attitudes across countries.

We find that regardless of the measures of gender bias or woman's status in society we use including the stated son preference of mothers, women's political rights or the gender intensity of language grammar, we consistently find that that cross country differences in gender inequalities in health outcomes are a reflection of differences in gender bias across societies and go beyond differences in income. The main policy implication is that specific interventions to reduce maternal mortality and improve female health outcomes might be required even in high growth poor countries with high gender prejudice.

References

Acemoglu, D. and S. Johnson (2006). Disease and development: the effect of life expectancy on economic growth. Technical report, National Bureau of Economic Research.

Aghion, P., P. Howitt, and F. Murtin (2010). The relationship between health and growth: when lucas meets nelson-phelps. Technical report, National Bureau of Economic Research.

Albanesi, S. and C. Olivetti (2009). Gender roles and medical progress. Technical report, National Bureau of Economic Research.

Amiri, A. and U.-G. Gerdtham (2013). Impact of maternal and child health on economic growth: New evidence-based granger causality and dea analysis.

Anderson, S. and D. Ray (2010). Missing women: age and disease. *The Review of Economic Studies 77*(4), 1262–1300.

Anderson, S. and D. Ray (2012). The age distribution of missing women in india. *Economic and Political Weekly 47*(47-48), 87–95.

Ashraf, Q. H., A. Lester, and D. N. Weil (2008). When does improving health raise gdp? Technical report, National Bureau of Economic Research.

Bhalotra, S. and D. Clarke (2014). Trends in maternal mortality and gender bias. *Work in Progress*.

Bhalotra, S. and I. Clots-Figueras (2014). Health and the political agency of women. *American Economic Journal: Economic Policy 6*(2), 164–197.

Bloom, D. E., D. Canning, and J. Sevilla (2004). The effect of health on economic growth: a production function approach. *World development 32*(1), 1–13.

Bonhomme, S. and E. Manresa (2012). Grouped patterns of heterogeneity in panel data. Technical report, Citeseer.

Canudas-Romo, V., L. Liu, L. Zimmerman, S. Ahmed, and A. Tsui (2014). Potential gains in reproductive-aged life expectancy by eliminating maternal mortality: A demographic bonus of achieving mdg 5. *PloS one 9*(2), e86694.

Chen, M. K. (2013). The effect of language on economic behavior: Evidence from savings rates, health behaviors, and retirement assets. *The American Economic Review 103*(2), 690–731.

Cingranelli, D. L., D. L. Richards, and K. C. Clay. The ciri human rights dataset. *http://www.humanrightsdata.org Version 2013.12.05*.

Duflo, E. (2011). Womens empowerment and economic development. Technical report, National Bureau of Economic Research.

Gay, V., E. Santacreu-Vasut, and A. Shoham (2013). The grammatical origins of gender roles. *Mimeo*.

Givati, Y. and U. Troiano (2012). Law, economics, and culture: Theory of mandated benefits and evidence from maternity leave policies. *Journal of Law and Economics 55*(2), 339–364.

Hogan, M. C., K. J. Foreman, M. Naghavi, S. Y. Ahn, M. Wang, S. M. Makela, A. D. Lopez, R. Lozano, and C. J. Murray (2010). Maternal mortality for 181 countries, 1980–2008: a systematic analysis of progress towards millennium development goal 5. *The Lancet 375*(9726), 1609–1623.

Jayachandran, S. (2014). The roots of gender inequality in developing countries. Technical report, National Bureau of Economic Research.

Jayachandran, S. and A. Lleras-Muney (2008). Life expectancy and human capital investments: Evidence from maternal mortality declines. Technical report, National Bureau of Economic Research.

Kirigia, J. M., D. Oluwole, G. M. Mwabu, D. Gatwiri, and L. H. Kainyu (2006). Effects of maternal mortality on gross domestic product (gdp) in the who african region. *African journal of health sciences 12*(3), 55–64.

Lagerlöf, N.-P. (2003). Gender equality and long-run growth. *Journal of Economic Growth 8*(4), 403–426.

Lorentzen, P., J. McMillan, and R. Wacziarg (2008). Death and development. *Journal of Economic Growth 13*(2), 81–124.

Loudon, I. (1992). Death in childbirth: an international study of maternal care and maternal mortality 1800-1950.

Sen, A. (1990). More than 100 million women are missing. *The New York Review of Books*.

Sen, A. (2001). The many faces of gender inequality. *New republic*, 35–39.

Shastry, G. K. and D. N. Weil (2003). How much of cross-country income variation is explained by health? *Journal of the European Economic Association 1*(2-3), 387–396.

Weil, D. N. (2005). Accounting for the effect of health on economic growth. Technical report, National Bureau of Economic Research.

WHO (2014). Maternal mortality, fact sheet n348, updated may 2014, accessed - july 2014.

Wong, Y. N. (2012). World development report 2012: Gender equality and development. In *Forum for Development Studies*, Volume 39, pp. 435–444. Taylor & Francis.

A Data appendix

A.1 Life Expectancy

The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database.

The definition life expectancy from the WDI is as follows: "Life Expectations Life expectancy at birth used here is the average number of years a newborn is expected to live if mortality patterns at the time of its birth remain constant in the future. It reflects the overall mortality level of a population, and summarizes the mortality pattern that prevails across all age groups in a given year. It is calculated in a period life table which reflects a snapshot of a mortality pattern of a population at a given time. It therefore does not reflect actual mortality patterns that a person actually goes through during his/her life, which can be calculated in a cohort life table.

High mortality in young age groups significantly lowers the life expectancy at birth. But if a person survives his/her childhood of high mortality, he/she may live much longer. For example, in a population with a life expectancy at birth of 50, there may be few people dying at age 50. The life expectancy at birth may be low due to the high childhood mortality so that once a person survives his/her childhood, he/she may live much longer than 50 years."[21] (World Development Indicators)

The World Bank WDI data is based on the following sources:(1) United Nations Population Division. World Population Prospects, (2) United Nations Statistical Division. Population and Vital Statistics Report (various years), (3) Census reports and other statistical publications from national statistical offices, (4) Eurostat: Demographic Statistics, (5) Secretariat of the Pacific Community: Statistics and Demography Programme, and (6) U.S. Census Bureau: International Database.

[21]Complete vital registration systems are not common in developing countries. Therefore estimates of life expectancy must be derived from sample surveys or by applying indirect estimation techniques to registration, census, or survey data. Survey data are subject to recall error, and surveys estimating infant/child deaths require large samples because households in which a birth has occurred during a given year cannot ordinarily be preselected for sampling. Indirect estimates rely on model life tables that may be inappropriate for the population concerned. Because life expectancy at birth is estimated using infant/child mortality data and model life tables for many developing countries, similar reliability issues arise for this indicator. Extrapolations based on outdated surveys may not be reliable for monitoring changes in health status or for comparative analytical work. Annual data series from the United Nations are interpolated based on five-year estimates and thus may not reflect actual events.

A.2 MMR

The data on MMR also comes from two different sources. First, we use a novel panel dataset on MMR calculated from the linked sibling files in the DHS (recently constructed by Bhalotra et al.). Second we use the WDI data on MMR that is available for a wider set of countries but only for 5 time periods. The MMR data from the WDI is defined as the Maternal mortality ratio (modeled estimate, per 100,000 live births). In other words the MMR from the WDI is defined as:

$$\text{MMR} = \frac{\text{Number of Maternal Deaths}}{\text{Number of Live Births}} \times 100,000 \tag{3}$$

MMR from WDI: "Maternal mortality ratios are generally of unknown reliability, as are many other cause-specific mortality indicators. Household surveys such as Demographic and Health Surveys attempt to measure maternal mortality by asking respondents about survivorship of sisters. The main disadvantage of this method is that the estimates of maternal mortality that it produces pertain to 12 years or so before the survey, making them unsuitable for monitoring recent changes or observing the impact of interventions. In addition, measurement of maternal mortality is subject to many types of errors. Even in high-income countries with reliable vital registration systems, misclassification of maternal deaths has been found to lead to serious underestimation.

The modeled estimates are based on an exercise by the Maternal Mortality Estimation Inter-Agency Group (MMEIG) which consists of World Health Organization (WHO), United Nations Children's Fund (UNICEF), United Nations Population Fund (UNFPA), and World Bank, and include country-level time series data. For countries without complete registration data but with other types of data and for countries with no data, maternal mortality is estimated with a multilevel regression model using available national maternal mortality data and socioeconomic information, including fertility, birth attendants, and GDP.

Maternal mortality ratio (modeled estimate, per 100,000 live births) Maternal mortality ratio is the number of women who die from pregnancy-related causes while pregnant or within 42 days of pregnancy termination per 100,000 live births. The data are estimated with a regression model using information on the proportion of maternal deaths among non-AIDS deaths in women ages 15-49, fertility, birth attendants, and GDP.

Trends in Maternal Mortality: 1990-2010. Estimates Developed by WHO, UNICEF, UNFPA and the World Bank. The methodology differs from that used for previous estimates,

so data should not be compared historically. Maternal mortality ratios are generally of unknown reliability, as are many other cause-specific mortality indicators. The ratios cannot be assumed to provide an exact estimate of maternal mortality.

Estimates of maternal mortality are presented along with upper and lower limits of intervals (see footnote) designed to depict the uncertainty of estimates. The intervals are the product of a detailed probabilistic evaluation of the uncertainty attributable to the various components of the estimation process. For estimates derived from the multilevel regression model, the components of uncertainty were divided into two groups: those reflected within the regression model (internal sources), and those due to assumptions or calculations that occur outside the model (external sources). Estimates of the total uncertainty reflect a combination of these various sources.

To be completed ...

A.3 Women's Political Rights

"Women's political rights include:

- The right to vote
- The right to run for political office
- The right to hold elected and appointed government positions
- The right to join political parties
- The right to petition government officials

The coding scheme: In measuring womens political rights we are primarily interested in two things: one, the extensiveness of laws pertaining to womens political rights; and two, government practices towards women or how effectively the government enforces the laws. Regarding the political equality of women:

(0) None of womens political rights are guaranteed by law. There are laws that completely restrict the participation of women in the political process.

(1) Political equality is guaranteed by law. However, there are significant limitations in practice. Women hold less than five percent of seats in the national legislature and in other high-ranking government positions.

(2) Political equality is guaranteed by law. Women hold more than five percent but less than thirty percent of seats in the national legislature and/or in other highranking government positions.

(3) Political equality is guaranteed by law and in practice. Women hold more than thirty percent of seats in the national legislature and/or in other high-ranking government positions." Cingranelli, Richards, and Clay (Cingranelli et al.)

A.4 Women's Economic Rights

Women's economic rights include:

- Equal pay for equal work
- Free choice of profession or employment without the need to obtain a husband or male relative's consent
- The right to gainful employment without the need to obtain a husband or male relative's consent
- Equality in hiring and promotion practices
- Job security (maternity leave, unemployment benefits, no arbitrary firing or layoffs, etc...)
- Non-discrimination by employers
- The right to be free from sexual harassment in the workplace
- The right to work at night
- The right to work in occupations classified as dangerous
- The right to work in the military and the police force

In measuring women's economic rights we are primarily interested in two things: one, the extensiveness of laws pertaining to womens economic rights; and two, government practices towards women or how effectively the government enforces the laws. Regarding the economic equality of women:

(0) There are no economic rights for women under law and systematic discrimination based on sex may be built into the law. The government tolerates a high level of discrimination against women.

(1) There are some economic rights for women under law. However, in practice, the government DOES NOT enforce the laws effectively or enforcement of laws is weak. The government tolerates a moderate level of discrimination against women.

(2) There are some economic rights for women under law. In practice, the government DOES enforce these laws effectively. However, the government still tolerates a low level of discrimination against women.

(3) All or nearly all of women's economic rights are guaranteed by law. In practice, the government fully and vigorously enforces these laws. The government tolerates none or almost no discrimination against women.

A.5 Women's Social Rights

Women's social rights include a number of internationally recognized rights. These rights include:

- The right to equal inheritance
- The right to enter into marriage on a basis of equality with men
- The right to travel abroad
- The right to obtain a passport
- The right to confer citizenship to children or a husband
- The right to initiate a divorce
- The right to own, acquire, manage, and retain property brought into marriage
- The right to participate in social, cultural, and community activities
- The right to an education
- The freedom to choose a residence/domicile
- Freedom from female genital mutilation of children and of adults without their consent
- Freedom from forced sterilization

A score of 0 indicates that there were no social rights for women in law and that systematic discrimination based on sex may have been built into law. A score of 1 indicates that women had some social rights under law, but these rights were not effectively enforced. A score of 2

indicates that women had some social rights under law, and the government effectively enforced these rights in practice while still allowing a low level of discrimination against women in social matters. Finally, a score of 3 indicates that all or nearly all of womens social rights were guaranteed by law and the government fully and vigorously enforced these laws in practice. [This Variable was retired as of 2005]

B Group Fixed Effects Framework

Table B.1: Desired Sex Ratio (boys/girls) DHS; Group & Country FE

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
Female Life Expectancy						
dsr_25	-7.827***	-3.487*	-2.192	-1.485	-1.041	-1.038
	(2.856)	(1.841)	(1.535)	(1.387)	(0.649)	(0.668)
lgdp	2.695**	0.903	0.763	1.685***	1.069***	1.473***
	(1.097)	(0.660)	(0.525)	(0.447)	(0.360)	(0.328)
Mean (Dep Var.)	59.04	59.09	59.04	59.09	59.04	59.09
SD (Dep Var.)	10.33	10.90	10.33	10.90	10.33	10.90
N	2115	2115	2115	2115	2115	2115
r2	0.484	0.705	0.791	0.859	0.902	0.926
Log(Female LE/ Male LE)						
dsr_25	-0.0330***	-0.0150***	-0.0125**	0.00199	-0.0133***	-0.00617
	(0.0100)	(0.00547)	(0.00521)	(0.00537)	(0.00365)	(0.00394)
lgdp	0.0123***	0.00748***	0.00278	-0.00272	0.00101	0.00172
	(0.00393)	(0.00268)	(0.00228)	(0.00294)	(0.00195)	(0.00160)
Mean (Dep Var.)	0.06	0.06	0.06	0.06	0.06	0.06
SD (Dep Var.)	0.039	0.039	0.039	0.039	0.039	0.039
N	2115	2115	2115	2115	2115	2115
r2	0.220	0.570	0.650	0.656	0.733	0.761

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in Panels 1 & 2 are Female Life Expectancy and the log of the ratio of female to male life expectancy, respectively. country fixed effects panel regressions with year dummies have been run along with time varying Group Fixed Effects from Bonhomme and Manresa (2012). Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. Since the answers are available only for the survey years, to arrive at the yearly data either 20, 25 or 30 is added to the mother age. For this table the desired sex ratio for a particular year was obtained by adding 25 to the mothers year of birth. This data and hence the regressions are based on the DHS sample (developing countries) of 63 countries over the period of 1969 - 2012. The mean (SD) of dsr_25 is 1.133 (0.134).

B.1 GII in the GFE framework

C Other Tables

Table B.2: Desired Sex Ratio (boys/girls) and MMR DHS; Group & Country FE

	(1)	(2)	(3)	(4)	(5)	(6)
	group0	group2	group3	group4	group5	group6
dsr_20	99.69**	94.94**	85.04**	92.98**	60.80*	42.66
	(43.82)	(39.13)	(36.92)	(41.94)	(33.00)	(33.26)
lgdp	-4.525	-5.576	-6.188	1.894	0.893	-0.869
	(6.837)	(7.309)	(5.351)	(6.425)	(5.614)	(4.416)
N	1445	1445	1445	1445	1445	1445
r2	0.0607	0.233	0.375	0.462	0.525	0.567
dsr_25	111.4**	88.22**	85.47**	76.87*	44.70*	84.27***
	(44.96)	(40.98)	(40.19)	(42.69)	(25.09)	(29.07)
lgdp	-9.235	-9.819	-8.280	-2.555	-5.441	-3.090
	(7.063)	(7.481)	(6.639)	(7.209)	(5.318)	(4.993)
N	1343	1343	1343	1343	1343	1343
r2	0.0788	0.296	0.426	0.493	0.560	0.616
dsr_30	71.57	37.18	46.25	9.613	-5.050	9.056
	(51.83)	(50.99)	(50.90)	(25.20)	(23.48)	(21.47)
lgdp	-4.655	-4.858	-2.059	2.192	-4.037	-7.184
	(8.884)	(8.532)	(8.196)	(5.947)	(6.547)	(5.659)
N	1167	1167	1167	1167	1167	1167
r2	0.0960	0.325	0.457	0.544	0.597	0.654

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 women exposed) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions along with time varying Group Fixed Effects framework has been run. Standard errors in parentheses are clustered at the country level. The data on DSR (desired sex ratio -boys/girls) also comes from the DHS. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. For this table the desired sex ratio for a particular year was obtained by adding 20, 25 or 30 (Panels 1, 2 or 3 respectively) to the mothers year of birth. This data and hence the regressions are based on the DHS sample (developing countries) of 45 countries for which MMR data is available over the period of 1970 - 2012. The mean (SD) of MMR_w_DHS100 is 66.798 (57.841).

Table B.3: Wopol and LE; Group & Country FE

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
Female Life Expectancy						
wopol	2.887*	3.980***	1.450*	0.720	0.914**	0.941***
	(1.483)	(1.048)	(0.856)	(0.451)	(0.399)	(0.340)
wopol_lgdp	-0.358*	-0.470***	-0.137	-0.0614	-0.0958*	-0.0878*
	(0.183)	(0.123)	(0.0983)	(0.0576)	(0.0525)	(0.0484)
lgdp	1.350**	1.086***	0.953***	0.868***	0.593***	0.920***
	(0.603)	(0.354)	(0.270)	(0.225)	(0.196)	(0.166)
N	4588	4588	4588	4588	4588	4588
r2	0.407	0.668	0.782	0.844	0.885	0.908
Log(Female LE/ Male LE)						
wopol	88.04	.	-22.71	30.34	47.18*	54.52**
	(54.96)	.	(31.17)	(28.16)	(24.15)	(24.31)
wopol_lgdp	-12.68	.	1.780	-5.837	-7.044**	-7.970***
	(7.685)	.	(4.201)	(3.544)	(2.879)	(2.925)
lgdp	88.25*	.	8.499	16.92	11.63	17.56
	(44.83)	.	(16.61)	(13.16)	(12.60)	(11.58)
N	4588	.	4588	4588	4588	4588
r2	0.182	.	0.650	0.717	0.749	0.785

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in Panels 1 & 2 are Female Life Expectancy and the log of the ratio of female to male life expectancy multiplied by 100,000, respectively. country fixed effects panel regressions with time varying group fixed effects regressions (following Bonhomme and Manresa (2012)) have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. These regressions are thus based on data from these points of time for about 180 countries (developing and developed). The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table B.4: Wopol and MMR; Group & Country FE

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
wopol	-256.8***	.	.	.	55.37*	11.08
	(63.27)	.	.	.	(29.56)	(29.46)
wopol_lgdp	34.03***	.	.	.	-6.169*	-1.971
	(7.392)	.	.	.	(3.342)	(3.347)
lgdp	-50.26**	.	.	.	-4.573	-26.54***
	(23.92)	.	.	.	(11.12)	(9.510)
N	767	.	.	.	767	767
r2	0.301	.	.	.	0.854	0.890

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from WDI. country fixed effects panel regressions with time varying group fixed effects regressions (following Bonhomme and Manresa (2012)) have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table B.5: Womparl and LE; Group & Country FE

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
Female Life Expectancy						
womparl	0.344***	0.128	0.143*	0.0704	0.213***	0.165***
	(0.106)	(0.0885)	(0.0775)	(0.0908)	(0.0476)	(0.0521)
womparl_lgdp	-0.0402***	-0.0124	-0.0168**	-0.00734	-0.0218***	-0.0221***
	(0.0109)	(0.00886)	(0.00767)	(0.00917)	(0.00490)	(0.00526)
lgdp	0.556**	-0.231	0.00289	0.691***	-0.152	0.289**
	(0.258)	(0.192)	(0.225)	(0.196)	(0.156)	(0.123)
N	2465	2465	2465	2465	2465	2465
r2	0.570	0.711	0.803	0.824	0.843	0.872
Log(Female LE/ Male LE)						
womparl	8.572***	1.059	1.515	-1.455	3.360**	2.744
	(2.353)	(1.588)	(1.580)	(1.679)	(1.527)	(1.760)
womparl_lgdp	-1.047***	-0.264	-0.296	0.250	-0.322	-0.173
	(0.319)	(0.226)	(0.223)	(0.240)	(0.207)	(0.228)
lgdp	26.03	33.37**	30.35**	12.27	10.36	16.89*
	(19.79)	(14.56)	(14.45)	(10.44)	(11.67)	(9.728)
N	2465	2465	2465	2465	2465	2465
r2	0.0948	0.349	0.492	0.593	0.658	0.702

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.6: Womparl and MMR; Group & Country FE

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
womparl	-20.17***	.	.	-0.808	-0.481	-1.002
	(3.536)	.	.	(1.095)	(0.803)	(0.799)
womparl_lgdp	2.314***	.	.	0.0606	0.0230	0.115
	(0.409)	.	.	(0.122)	(0.101)	(0.102)
lgdp	-55.01***	.	.	-11.37***	-13.63***	-13.00***
	(17.50)	.	.	(3.912)	(3.557)	(3.555)
N	484	.	.	484	484	484
r2	0.408	.	.	0.929	0.940	0.952

Standard errors in parentheses
* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

Table B.7: GII and time varying GFE framework

	(1) group0	(2) group2	(3) group3	(4) group4	(5) group5	(6) group6
le_female						
gii0	-0.439	0.143	-0.327	-0.125	-0.399**	0.126
	(0.360)	(0.252)	(0.209)	(0.179)	(0.191)	(0.180)
percentage	0.114***	0.112***	0.0955***	0.0913***	-0.0510**	0.0224
	(0.0274)	(0.0199)	(0.0136)	(0.0120)	(0.0200)	(0.0140)
lgdp	4.758***	2.869***	1.744***	2.149***	1.634***	2.033***
	(0.396)	(0.346)	(0.269)	(0.270)	(0.277)	(0.230)
N	3725	3725	3725	3725	3725	3725
r2	0.726	0.850	0.903	0.912	0.920	0.935
ln_LE_ratio						
gii0	-56.80***	-29.72**	-31.29***	-27.19***	-15.85*	-19.09**
	(16.48)	(11.28)	(9.495)	(9.254)	(9.130)	(7.263)
percentage	4.670***	3.439***	2.050***	1.600**	0.701	2.970***
	(1.491)	(0.944)	(0.765)	(0.745)	(0.635)	(0.545)
lgdp	30.13	42.94***	14.54	9.792	10.99	19.55**
	(21.24)	(14.97)	(10.58)	(9.827)	(9.196)	(9.450)
N	3725	3725	3725	3725	3725	3725
r2	0.175	0.498	0.631	0.710	0.771	0.788
MMR						
gii0	16.54	.	21.94*	.	10.64	21.20*
	(11.25)	.	(11.63)	.	(10.10)	(11.42)
percentage	-3.499***	.	-3.287***	.	-2.196***	-2.538***
	(0.933)	.	(0.909)	.	(0.775)	(0.905)
lgdp	-95.54***	.	-121.5***	.	-83.66***	-120.8***
	(12.05)	.	(21.91)	.	(12.01)	(22.03)
N	411	.	411	.	411	411
r2	0.536	.	0.558	.	0.676	0.675

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1, 2 & 3 are le_female, ln_LE_ratio (*100,000) and maternal mortality ratio (from the WDI database) respectively. Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013). We control for time varying group fixed effects following Bonhomme and Manresa (2012).

Table C.1: Life Expectancy by decade and region

Region	decade	LE Male	LE Female	LE (F - M)
World	1960	53.7481	57.4589	3.710785
World	1970	59.4446	63.4192	3.974562
World	1980	62.2737	66.6568	4.383033
World	1990	64.3076	68.7142	4.406686
World	2000	66.8484	71.0582	4.209783
Middle East & North Africa (all income levels)	1960	48.8723	50.4199	1.547623
Middle East & North Africa (all income levels)	1970	54.6846	56.978	2.293405
Middle East & North Africa (all income levels)	1980	58.9167	64.5732	5.656537
Middle East & North Africa (all income levels)	1990	66.2945	69.5498	3.255312
Middle East & North Africa (all income levels)	2000	68.9153	72.472	3.556709
OECD members	1960	65.4151	71.4261	6.011083
OECD members	1970	67.6281	74.1939	6.56582
OECD members	1980	70.1225	76.9595	6.837035
OECD members	1990	72.5199	79.0504	6.530491
OECD members	2000	75.3114	81.0886	5.777154
South Asia	1960	46.2999	44.8177	-1.48221
South Asia	1970	52.2994	51.7196	-0.579765
South Asia	1980	56.9288	57.2863	0.3575199
South Asia	1990	59.7967	61.3009	1.504152
South Asia	2000	63.0256	65.6846	2.659069
Sub-Saharan Africa (all income levels)	1960	40.7349	43.5057	2.770884
Sub-Saharan Africa (all income levels)	1970	44.6767	47.6637	2.987085
Sub-Saharan Africa (all income levels)	1980	47.7784	50.8705	3.092166
Sub-Saharan Africa (all income levels)	1990	48.6621	51.3173	2.65522
Sub-Saharan Africa (all income levels)	2000	51.2612	53.0988	1.837569
Latin America & Caribbean (all income levels)	1960	56.1503	60.2377	4.087476
Latin America & Caribbean (all income levels)	1970	59.8519	64.7885	4.936647
Latin America & Caribbean (all income levels)	1980	63.269	69.48	6.210935
Latin America & Caribbean (all income levels)	1990	66.6794	73.1856	6.50623
Latin America & Caribbean (all income levels)	2000	69.6879	76.0673	6.379373
High income	1960	66.064	72.5002	6.436127
High income	1970	67.9009	75.0255	7.124637
High income	1980	70.0511	77.2724	7.221369
High income	1990	71.6693	78.8137	7.144483
High income	2000	74.0566	80.5404	6.483738
Middle income	1960	50.0512	52.2621	2.210822
Middle income	1970	58.0974	60.8193	2.721917
Middle income	1980	61.3373	64.8435	3.50621
Middle income	1990	63.8108	67.5757	3.764846
Middle income	2000	66.5391	70.3576	3.818524
Low income	1960	42.8778	44.9947	2.11688
Low income	1970	46.182	48.4645	2.282499
Low income	1980	50.7575	53.0638	2.306221
Low income	1990	53.1788	55.4021	2.223319
Low income	2000	56.7958	58.8922	2.096442
Least developed countries: UN classification	1960	41.8294	43.5694	1.739977
Least developed countries: UN classification	1970	44.9399	46.8438	1.903901
Least developed countries: UN classification	1980	49.463	51.4468	1.983829
Least developed countries: UN classification	1990	52.4964	54.4204	1.923992
Least developed countries: UN classification	2000	56.6317	58.6034	1.971654

C.1 MMR and LE

Table C.2: Female Life Expectancy advantage, MMR and IMR from WDI

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
MMR	-1.274**	-2.396**	-1.298*	-2.486*	-0.619	-2.326*
	(0.627)	(1.135)	(0.702)	(1.287)	(0.712)	(1.391)
lgdp			75.17	96.81	97.41	102.1
			(161.9)	(224.3)	(153.7)	(224.1)
birth					-109.6***	-26.41
					(24.68)	(30.97)
Mean (Dep Var.)	6883.765	7064.826	6883.765	7064.826	6883.765	7064.826
SD (Dep Var.)	3517.657	3365.175	3517.657	3365.175	3517.657	3365.175
N	905	867	869	833	869	833
r2	0.153	0.0921	0.164	0.101	0.204	0.102
imr_ratio (F/M)	-15739.3***	-13639.5***	-15937.1***	-14663.7***	-11050.6**	-13290.2**
	(4496.7)	(4961.3)	(4848.5)	(5298.8)	(5303.7)	(6065.6)
lgdp			306.2*	355.2	259.9	370.2
			(178.9)	(252.3)	(172.6)	(255.2)
birth					-84.45***	-24.82
					(28.67)	(29.96)
Mean (Dep Var.)	6922.746	7099.296	6922.746	7099.296	6922.746	7099.296
SD (Dep Var.)	3464.866	3368.7	3464.866	3368.7	3464.866	3368.7
N	561	547	534	523	529	510
r2	0.171	0.0746	0.186	0.0869	0.213	0.0908
MMR	-0.356	-2.744***	-0.273	-2.807**	0.120	-2.783**
	(0.733)	(0.971)	(0.846)	(1.115)	(0.795)	(1.157)
imr_ratio (F/M)	-15385.5***	-6577.0	-15611.5***	-7458.0	-11511.8**	-7184.8
	(5066.8)	(4865.5)	(5624.3)	(5422.2)	(5806.9)	(5726.6)
lgdp			300.9*	336.1	282.8	335.1
			(181.3)	(258.8)	(173.2)	(259.0)
birth					-89.94***	-6.027
					(29.17)	(31.29)
Mean (Dep Var.)	6883.765	7064.826	6883.765	7064.826	6883.765	7064.826
SD (Dep Var.)	3517.657	3365.175	3517.657	3365.175	3517.657	3365.175
N	540	517	516	495	516	495
r2	0.176	0.104	0.194	0.122	0.221	0.122

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is log of the ratio of female to male life expectancy times 100k, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The IMR and MMR data both come from the WDI. The mean (sd) of MMR is 238.498 (314.601) and that of female infant mortality is 36.2 (32.566) and that of IMR ratio (F/M) is 0.823 (0.042).

Table C.3: Female Life Expectancy advantage, MMR and IMR from WDI MMR High Income

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
MMR	-0.351	-2.066***	-0.645	-2.916**	0.374	-2.310**
	(0.354)	(0.324)	(1.296)	(1.126)	(1.194)	(1.098)
lgdp			-87.86	-253.5	-6.499	-209.3
			(366.2)	(302.0)	(334.0)	(284.4)
birth					-115.8***	-72.06**
					(23.29)	(31.01)
N	255	243	254	242	254	242
r2	0.532	0.363	0.530	0.368	0.587	0.400
imr_ratio (F/M)	-14380.9*	-10753.9	-14844.0*	-11268.2	-10873.9	-8771.8
	(8001.5)	(10519.9)	(8273.3)	(10838.2)	(8082.9)	(11053.1)
lgdp			-132.6	-33.14	-229.4	-49.60
			(247.9)	(280.2)	(221.0)	(249.8)
birth					-91.46***	-64.83*
					(26.82)	(33.08)
N	157	155	155	152	152	147
r2	0.590	0.363	0.584	0.357	0.641	0.406
MMR	0.251	-1.616**	-0.399	-2.672*	0.281	-2.267*
	(0.655)	(0.745)	(1.472)	(1.392)	(1.313)	(1.279)
imr_ratio (F/M)	-14082.2	-9410.6	-14086.5*	-9591.9	-10576.8	-7396.9
	(8448.9)	(10637.2)	(8361.6)	(10449.3)	(8329.4)	(10714.6)
lgdp			-225.8	-372.4	-182.0	-352.7
			(414.7)	(329.4)	(381.6)	(310.9)
birth					-95.85***	-61.35*
					(26.90)	(34.61)
N	150	144	149	143	149	143
r2	0.604	0.405	0.600	0.413	0.644	0.437

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is log of the ratio of female to male life expectancy times 100k, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The IMR and MMR data both come from the WDI. The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. This sample corresponds to around 50 High Income countries. (World Bank classification of High, Middle and Low Income countries have been used.

Table C.4: Female Life Expectancy advantage, MMR and IMR from WDI Middle Income

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
MMR	-1.913	-3.525**	-1.979	-3.880***	-1.457	-4.232***
	(1.236)	(1.424)	(1.306)	(1.428)	(1.396)	(1.599)
lgdp			-168.7	-194.8	-113.8	-233.9
			(202.1)	(262.8)	(198.5)	(273.1)
birth					-66.69	41.22
					(42.85)	(42.08)
N	475	449	460	436	460	436
r2	0.0510	0.0699	0.0538	0.0878	0.0673	0.0917
imr_ratio (F/M)	-19984.2*	-16728.1	-18641.7	-15185.4	-15953.3	-15407.4
	(10759.9)	(10585.0)	(11397.7)	(10059.1)	(12133.1)	(10908.0)
lgdp			82.98	168.5	94.56	187.6
			(239.1)	(228.6)	(228.2)	(244.7)
birth					-56.00	11.17
					(43.57)	(36.92)
N	296	286	286	278	284	270
r2	0.0669	0.0467	0.0609	0.0435	0.0721	0.0459
MMR	-0.944	-2.700**	-0.852	-2.571**	-0.467	-2.880**
	(1.210)	(1.180)	(1.279)	(1.137)	(1.282)	(1.227)
imr_ratio (F/M)	-19010.1*	-11958.4	-17692.7	-10138.9	-15665.3	-11714.2
	(11084.9)	(9754.1)	(12081.1)	(9683.9)	(12448.5)	(9963.6)
lgdp			79.21	111.6	115.8	76.44
			(236.9)	(243.1)	(225.7)	(252.8)
birth					-56.62	42.32
					(46.37)	(41.62)
N	285	268	275	260	275	260
r2	0.0735	0.0677	0.0700	0.0732	0.0804	0.0780

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is log of the ratio of female to male life expectancy times 100k, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The IMR and MMR data both come from the WDI. The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. This sample corresponds to around 90 Middle Income countries. (World Bank classification of High, Middle and Low Income countries have been used.

Table C.5: Female Life Expectancy advantage, MMR and IMR from WDI Low income

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
MMR	-1.984**	-3.502	-2.611**	-4.316	-2.762**	-4.678
	(0.867)	(2.836)	(1.200)	(3.398)	(1.169)	(3.642)
lgdp			-628.7	-307.8	-657.3	-376.2
			(453.0)	(850.1)	(469.9)	(876.8)
birth					28.07	66.97
					(83.10)	(121.9)
N	175	175	155	155	155	155
r2	0.386	0.132	0.435	0.160	0.436	0.163
imr_ratio (F/M)	831.5	-35488.8	-8928.6	-56510.2	-9046.0	-57961.2
	(18117.8)	(40072.8)	(20243.7)	(40425.9)	(22727.6)	(43606.4)
lgdp			-541.0	311.9	-542.6	291.0
			(632.0)	(933.2)	(664.4)	(993.2)
birth					2.104	26.02
					(109.1)	(144.1)
N	108	106	93	93	93	93
r2	0.366	0.0843	0.406	0.129	0.406	0.130
MMR	-2.075*	-5.908**	-2.702	-7.848**	-2.934*	-8.637**
	(1.075)	(2.526)	(1.674)	(3.169)	(1.535)	(3.412)
imr_ratio (F/M)	12583.9	-1299.9	5087.2	-15799.8	3835.9	-20045.8
	(18423.9)	(30424.5)	(21114.0)	(30994.3)	(22507.8)	(32866.1)
lgdp			-619.2	84.55	-661.3	-58.13
			(581.0)	(738.2)	(622.0)	(856.9)
birth					44.08	149.6
					(100.5)	(146.7)
N	105	105	92	92	92	92
r2	0.387	0.179	0.440	0.248	0.443	0.262

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is log of the ratio of female to male life expectancy times 100k, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The IMR and MMR data both come from the WDI. The mean (sd) of MMR is 238.498 (314.601) and that of female infant mortality is 36.2 (32.566) and that of IMR ratio (F/M) is 0.823 (0.042). The MMR data comes from the World Bank -WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. This sample corresponds to around 30 Low Income countries. (World Bank classification of High, Middle and Low Income countries have been used.

Table C.6: Female Life Expectancy (ratio) & MMR (per birth) (DHS countries) & MMR

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
IMR_ratio_DHS_5	184.3	299.3	76.40	293.9	68.73	97.28
	(234.6)	(369.3)	(214.2)	(418.3)	(210.3)	(390.1)
lgdp			1000.3**	201.9	990.0**	99.39
			(404.9)	(623.7)	(419.6)	(631.6)
birth_DHS_5					-666.7	-8676.5***
					(2886.8)	(3176.6)
N	562	412	494	386	494	386
r2	0.0977	0.0504	0.183	0.0477	0.183	0.0820
MMR_b_DHS100_5	1.143	2.515*	-0.311	-1.530	-0.378	-2.279**
	(0.986)	(1.248)	(0.478)	(1.091)	(0.492)	(1.111)
lgdp			552.8	-315.7	509.0	-571.2
			(487.1)	(864.1)	(483.8)	(835.2)
birth_DHS_5					-2309.0	-13539.0***
					(4191.1)	(4609.3)
N	354	283	324	264	324	264
r2	0.349	0.231	0.365	0.125	0.368	0.188
IMR_ratio_DHS_5	382.7	-421.4	843.3	995.7	854.9	1104.0
	(740.5)	(1306.5)	(603.5)	(1243.8)	(588.2)	(1200.2)
MMR_b_DHS100_5	1.117	2.532*	-0.346	-1.646	-0.415	-2.413**
	(1.012)	(1.261)	(0.481)	(1.130)	(0.494)	(1.143)
lgdp			592.6	-287.4	548.4	-541.4
			(477.8)	(857.8)	(474.0)	(831.6)
birth_DHS_5					-2356.9	-13625.6***
					(4138.5)	(4598.3)
N	353	283	324	264	324	264
r2	0.350	0.231	0.370	0.128	0.373	0.192

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is log of the ratio of female to male life expectancy multiplied by 100,000, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The MMR data comes from the DHS and has been constructed by Bhalotra using the linked sister files of the DHS. This data and hence the regressions are based on the DHS sample (developing countries) of 45 countries over the period of 1970 - 2012. The mean (SD) of MMR_b_DHS100 is 497.042 (683.481).

Table C.7: Female Life Expectancy (ratio) & female IMR from IDB & MMR from WDI

	(1)	(2)	(3)	(4)	(5)	(6)
	indep1	indep2	indep3	indep4	indep5	indep6
IMR_ratio_DHS_5	184.3	299.3	76.40	293.9	68.73	97.28
	(234.6)	(369.3)	(214.2)	(418.3)	(210.3)	(390.1)
lgdp			1000.3**	201.9	990.0**	99.39
			(404.9)	(623.7)	(419.6)	(631.6)
birth_DHS_5					-666.7	-8676.5***
					(2886.8)	(3176.6)
N	562	412	494	386	494	386
r2	0.0977	0.0504	0.183	0.0477	0.183	0.0820
MMR_w_DHS100_5	-0.196	-8.099	-6.202	-18.39**	-6.108	-14.86*
	(6.966)	(11.90)	(5.452)	(7.906)	(5.502)	(8.537)
lgdp			568.4	-347.2	564.4	-472.0
			(481.4)	(844.4)	(473.0)	(860.5)
birth_DHS_5					-241.2	-7124.2
					(4084.7)	(4709.3)
N	354	283	324	264	324	264
r2	0.277	0.102	0.374	0.162	0.374	0.178
IMR_ratio_DHS_5	779.8	629.5	820.1	1071.5	818.9	907.0
	(518.9)	(1129.5)	(607.1)	(1167.0)	(601.1)	(1137.7)
MMR_w_DHS100_5	-0.557	-8.463	-6.381	-19.05**	-6.313	-15.52*
	(6.955)	(12.18)	(5.443)	(8.187)	(5.488)	(8.874)
lgdp			609.4	-317.4	606.5	-442.8
			(475.4)	(836.1)	(466.7)	(856.6)
birth_DHS_5					-171.6	-6897.4
					(4047.2)	(4685.1)
N	353	283	324	264	324	264
r2	0.283	0.103	0.379	0.166	0.379	0.181

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is log of the ratio of female to male life expectancy multiplied by 100,000, respectively. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI and the IDB database. The MMR data comes from the DHS and has been constructed by Bhalotra using the linked sister files of the DHS. This data and hence the regressions are based on the DHS sample (developing countries) of 45 countries over the period of 1970 - 2012. The mean (SD) of MMR_w_DHS100 is 64.364 (47.602).

C.2 Mortality and MMR

Table C.8: Gender differences in Mortality rates & MMR vs. IMR

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
MMR from WDI	-7.484**	-6.713*	5.393	5.092	-3.355	-3.851
	(3.562)	(3.522)	(6.416)	(6.526)	(4.078)	(4.260)
imr_ratio	7955.5	15998.8	76357.8*	73214.4*	-25949.4	-31128.3
	(31928.9)	(32257.9)	(39051.3)	(42042.4)	(18026.6)	(20595.4)
lgdp	645.4	604.0	-5306.8***	-5290.6***	1214.6	1241.3
	(1372.6)	(1366.0)	(1529.8)	(1557.4)	(784.1)	(798.7)
birth		-187.7		73.36		120.9
		(207.7)		(273.1)		(140.4)
Mean Dep var.	-8998.074	-8998.074	-36203.879	-36203.879	8816.532	8816.532
SD Dep Var.	17274.564	17274.564	36795.092	36795.092	8775.063	8775.063
N	341	341	341	341	341	341
r2	0.0439	0.0502	0.132	0.132	0.0760	0.0826
MMR_w_DHS100_5	-13.68*	-17.29**	27.13*	22.96	-23.72	-17.41
	(7.706)	(6.994)	(14.69)	(14.24)	(18.77)	(19.03)
IMR_ratio_DHS_5	3389.1***	3522.0***	-5750.8**	-5597.5**	1357.7	1126.1
	(1135.8)	(1089.8)	(2694.1)	(2551.9)	(3391.8)	(3209.9)
lgdp	-1146.2	-964.3	-5405.1**	-5195.4**	1769.9	1452.8
	(1093.0)	(1014.2)	(2330.8)	(2134.8)	(1742.3)	(1737.1)
birth_DHS_5		9342.7		10771.5		-16284.8
		(9621.9)		(21882.0)		(12305.8)
Mean Dep var.	-5002.568	-5002.568	-2927.487	-2927.487	8870.792	8870.792
SD Dep Var.	6491.493	6491.493	11627.603	11627.603	7642.726	7642.726
N	310	310	310	310	310	310
r2	0.420	0.430	0.172	0.176	0.0828	0.103
MMR_b_DHS100_5	-0.355	-0.206	1.374	1.926	-1.869	-2.580
	(0.682)	(0.678)	(1.413)	(1.407)	(1.446)	(1.578)
IMR_ratio_DHS_5	3514.2***	3531.0***	-6253.2**	-6191.5**	2050.5	1970.8
	(1169.1)	(1194.1)	(2598.5)	(2464.7)	(3247.1)	(2907.0)
lgdp	-1141.5	-1026.8	-5377.2**	-4954.5**	1708.4	1163.2
	(1120.9)	(1081.2)	(2332.3)	(2088.1)	(1752.0)	(1692.5)
birth_DHS_5		5275.0		19446.1		-25082.0**
		(10135.9)		(21591.7)		(12162.9)
Mean Dep var.	-5002.568	-5002.568	-2927.487	-2927.487	8870.792	8870.792
SD Dep Var.	6491.493	6491.493	11627.603	11627.603	7642.726	7642.726
N	310	310	310	310	310	310
r2	0.408	0.412	0.162	0.175	0.0776	0.127

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The MMR data in Panels 2 and 3 come from a newly constructed database by Bhalotra et al. using the DHS sibling files. This data is based on the DHS sample (developing countries) of 45 countries and is available for the period of 1970 - 2012. We have used 5 yearly averages in this table. The mean (SD) of the different MMR variables is MMR (WDI) - 238.498 (314.601) ; MMR_w_DHS100_5 - 64.182 (47.657); MMR_b_DHS100_5 - 493.888 (563.898). The mean (SD) of imr ratio from the WDI is 0.824 (0.043) and that from the DHS is 0.889 (0.151). The birth variable in Panel 1 is the Crude Birth rate (per 1,000 people) from the WDI, while in Panels 2 and 3 it is Births per woman in given year (5 yearly average) from the DHS.

Table C.9: Gender differences in Mortality rates & MMR

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
MMR from WDI	-3.762	-2.907	8.125	6.076	-2.853	-2.612
	(2.692)	(2.929)	(5.299)	(5.076)	(3.115)	(3.265)
lgdp	1652.9*	1685.5*	-2443.5*	-2521.7*	-45.43	-36.23
	(864.2)	(862.1)	(1322.8)	(1320.0)	(737.7)	(737.1)
birth		-160.2		383.7		-45.17
		(169.9)		(239.6)		(115.5)
Mean Dep var.	-0.089	-0.089	-0.366	-0.366	0.086	0.086
SD Dep Var.	0.176	0.176	0.366	0.366	0.085	0.085
N	691	691	691	691	691	691
r2	0.0257	0.0289	0.0471	0.0633	0.0362	0.0369
MMR_w_DHS100_5	-13.64*	-17.07**	27.06*	22.60	-23.70	-17.34
	(7.927)	(7.245)	(14.40)	(14.39)	(18.52)	(18.69)
lgdp	-1320.6	-1154.4	-5109.2**	-4893.4**	1700.0	1392.1
	(1120.4)	(1047.8)	(2374.8)	(2190.5)	(1807.8)	(1793.1)
birth_DHS_5		8873.0		11518.1		-16435.0
		(9849.4)		(22261.7)		(12426.4)
Mean Dep var.	-0.05	-0.05	-0.029	-0.029	0.089	0.089
SD Dep Var.	0.065	0.065	0.116	0.116	0.076	0.076
N	310	310	310	310	310	310
r2	0.408	0.417	0.162	0.166	0.0815	0.102
MMR_b_DHS100_5	-0.193	-0.0458	1.086	1.646	-1.774	-2.491
	(0.712)	(0.729)	(1.492)	(1.465)	(1.394)	(1.521)
lgdp	-1310.2	-1198.5	-5076.9**	-4653.4**	1609.9	1067.4
	(1158.8)	(1126.4)	(2395.0)	(2160.2)	(1806.6)	(1744.3)
birth_DHS_5		5174.4		19622.6		-25138.2**
		(10407.5)		(21765.8)		(12352.1)
Mean Dep var.	-0.05	-0.05	-0.029	-0.029	0.089	0.089
SD Dep Var.	0.065	0.065	0.116	0.116	0.076	0.076
N	310	310	310	310	310	310
r2	0.395	0.399	0.150	0.163	0.0746	0.124

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data in Panel 1 comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The MMR data in Panels 2 and 3 come from a newly constructed database by Bhalotra et al. using the DHS sibling files. This data is based on the DHS sample (developing countries) of 45 countries and is available for the period of 1970 - 2012. We have used 5 yearly averages in this table. The mean (SD) of the different MMR variables is MMR (WDI) - 238.455 (315.794) ; MMR_w_DHS100_5 - 64.182 (47.657); MMR_b_DHS100_5 - 493.888 (563.898). The birth variable in Panel 1 is the Crude Birth rate (per 1,000 people) from the WDI, while in Panels 2 and 3 it is Births per woman in given year (5 yearly average) from the DHS.

Table C.10: Gender differences in Mortality rates & MMR vs. IMR from WDI

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
imr_ratio	-5273.6	6107.7	87365.8**	81499.9*	-31721.0*	-36458.6*
	(31802.9)	(32001.1)	(38235.7)	(41927.9)	(18843.8)	(22004.1)
lgdp	632.1	563.0	-5447.6***	-5412.0***	1312.5*	1341.3*
	(1338.2)	(1331.0)	(1515.6)	(1549.7)	(760.7)	(770.5)
birth		-225.0		116.0		93.65
		(205.5)		(265.2)		(134.1)
N	347	347	347	347	347	347
r2	0.0325	0.0417	0.127	0.129	0.0671	0.0712
MMR	-7.484**	-6.713*	5.393	5.092	-3.355	-3.851
	(3.562)	(3.522)	(6.416)	(6.526)	(4.078)	(4.260)
imr_ratio	7955.5	15998.8	76357.8*	73214.4*	-25949.4	-31128.3
	(31928.9)	(32257.9)	(39051.3)	(42042.4)	(18026.6)	(20595.4)
lgdp	645.4	604.0	-5306.8***	-5290.6***	1214.6	1241.3
	(1372.6)	(1366.0)	(1529.8)	(1557.4)	(784.1)	(798.7)
birth		-187.7		73.36		120.9
		(207.7)		(273.1)		(140.4)
N	341	341	341	341	341	341
r2	0.0439	0.0502	0.132	0.132	0.0760	0.0826

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The mean (SD) of the different MMR variables is MMR (WDI) - 238.455 (315.794). The birth variable is the Crude Birth rate (per 1,000 people) from the WDI.

Table C.11: Gender differences in Mortality rates & IMR from DHS

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
IMR_ratio_DHS_5	-266.9	-152.5	-2380.5	-2136.6	892.2	718.4
	(664.6)	(686.6)	(1773.1)	(1657.0)	(708.0)	(635.2)
lgdp	342.7	509.6	-7047.1***	-6691.5***	2680.0*	2426.6*
	(1116.3)	(1094.0)	(2083.2)	(2175.1)	(1353.2)	(1421.7)
birth_DHS_5		9352.4		19931.2		-14200.2
		(7676.3)		(15376.1)		(8808.1)
N	473	473	473	473	473	473
r2	0.166	0.177	0.168	0.179	0.0602	0.0797
MMR_w_DHS100_5	-13.68*	-17.29**	27.13*	22.96	-23.72	-17.41
	(7.706)	(6.994)	(14.69)	(14.24)	(18.77)	(19.03)
IMR_ratio_DHS_5	3389.1***	3522.0***	-5750.8**	-5597.5**	1357.7	1126.1
	(1135.8)	(1089.8)	(2694.1)	(2551.9)	(3391.8)	(3209.9)
lgdp	-1146.2	-964.3	-5405.1**	-5195.4**	1769.9	1452.8
	(1093.0)	(1014.2)	(2330.8)	(2134.8)	(1742.3)	(1737.1)
birth_DHS_5		9342.7		10771.5		-16284.8
		(9621.9)		(21882.0)		(12305.8)
N	310	310	310	310	310	310
r2	0.420	0.430	0.172	0.176	0.0828	0.103
MMR_b_DHS100_5	-0.355	-0.206	1.374	1.926	-1.869	-2.580
	(0.682)	(0.678)	(1.413)	(1.407)	(1.446)	(1.578)
IMR_ratio_DHS_5	3514.2***	3531.0***	-6253.2**	-6191.5**	2050.5	1970.8
	(1169.1)	(1194.1)	(2598.5)	(2464.7)	(3247.1)	(2907.0)
lgdp	-1141.5	-1026.8	-5377.2**	-4954.5**	1708.4	1163.2
	(1120.9)	(1081.2)	(2332.3)	(2088.1)	(1752.0)	(1692.5)
birth_DHS_5		5275.0		19446.1		-25082.0**
		(10135.9)		(21591.7)		(12162.9)
N	310	310	310	310	310	310
r2	0.408	0.412	0.162	0.175	0.0776	0.127

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The MMR data in Panels 2 and 3 come from a newly constructed database by Bhalotra et al. using the DHS sibling files. This data is based on the DHS sample (developing countries) of 45 countries and is available for the period of 1970 - 2012. We have used 5 yearly averages in this table. The mean (SD) of the different MMR variables is MMR (WDI) - 238.455 (315.794) ; MMR_w_DHS100_5 - 64.182 (47.657); MMR_b_DHS100_5 - 493.888 (563.898). The birth variable in Panel 1 is the Crude Birth rate (per 1,000 people) from the WDI, while in Panels 2 and 3 it is Births per woman in given year (5 yearly average) from the DHS.

Table C.12: Gender differences in Mortality rates & MMR (per 100k birth) from WDI: High Income

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
MMR	-4.212	-2.650	-34.36***	-35.51***	14.58***	16.11***
	(11.10)	(11.59)	(6.303)	(7.432)	(5.053)	(5.953)
lgdp	367.6	506.4	-7701.8***	-7804.2***	645.4	781.5
	(3195.7)	(3208.6)	(1964.4)	(2049.4)	(1422.9)	(1454.5)
birth		-187.6		138.5		-183.9
		(462.2)		(265.8)		(240.2)
N	203	203	203	203	203	203
r2	0.0300	0.0324	0.136	0.139	0.181	0.198
imr_ratio	-61017.1	-58940.9	44975.1	58737.2	1329.3	70.10
	(72476.7)	(74310.0)	(42416.9)	(38573.0)	(20380.5)	(19941.7)
lgdp	102.7	47.42	-5820.2	-6186.7	-1285.6	-1252.0
	(3869.7)	(4035.8)	(4588.7)	(4301.1)	(1418.8)	(1412.8)
birth		-83.10		-550.8**		50.40
		(584.1)		(248.9)		(170.8)
N	101	101	101	101	101	101
r2	0.0208	0.0215	0.153	0.218	0.248	0.252
MMR	-6.982	-7.015	-39.01***	-36.12***	12.82***	12.95***
	(13.73)	(12.96)	(5.025)	(5.049)	(2.464)	(2.278)
imr_ratio	-63954.7	-64093.5	47784.6	59887.0	1500.6	2058.2
	(73026.5)	(76913.0)	(46145.9)	(44009.6)	(22733.8)	(22278.1)
lgdp	-1027.6	-1029.6	-12444.3***	-12265.8***	873.0	881.2
	(5837.3)	(5793.5)	(2520.5)	(2526.7)	(955.2)	(928.4)
birth		5.004		-436.2		-20.09
		(616.4)		(260.8)		(182.0)
N	99	99	99	99	99	99
r2	0.0251	0.0251	0.377	0.414	0.405	0.406

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The mean (SD) of the different MMR variables is MMR (WDI) -. The birth variable is the Crude Birth rate (per 1,000 people) from the WDI.

Table C.13: Gender differences in Mortality rates & MMR (per 100k birth) from WDI: Middle Income

	(1) (0-14)	(2) (0-14)	(3) (15-49)	(4) (15-49)	(5) (50+)	(6) (50+)
MMR	-9.220*	-7.641	18.54**	15.71*	-9.097*	-10.32*
	(4.792)	(5.304)	(8.859)	(8.734)	(4.954)	(5.471)
lgdp	2213.5*	2276.4*	-2111.2	-2223.9	194.8	146.3
	(1199.7)	(1213.8)	(1629.6)	(1637.8)	(651.6)	(648.1)
birth		-193.7		347.3		149.5
		(199.3)		(360.7)		(171.9)
N	365	365	365	365	365	365
r2	0.0633	0.0682	0.105	0.115	0.0589	0.0658
imr_ratio	11663.2	25926.6	140782.5	129707.6	-84107.5	-93676.0
	(53196.9)	(52564.4)	(102511.2)	(110333.1)	(52501.0)	(56694.0)
lgdp	1016.2	983.3	-5714.5**	-5689.0**	1498.0*	1520.1*
	(1966.9)	(1929.9)	(2213.8)	(2217.4)	(869.8)	(906.3)
birth		-291.1		226.1		195.3
		(199.5)		(393.5)		(193.4)
N	186	186	186	186	186	186
r2	0.0451	0.0622	0.164	0.170	0.0820	0.0957
MMR	-12.45**	-11.12*	16.50**	16.31*	-7.521	-10.06*
	(5.808)	(5.977)	(7.911)	(8.605)	(5.186)	(5.711)
imr_ratio	43138.4	48588.3	103621.0	102849.7	-70587.0	-80977.8
	(48809.8)	(49374.9)	(99969.7)	(104742.2)	(48474.0)	(49548.2)
lgdp	1065.0	1076.7	-5372.1**	-5373.8**	1336.0	1313.6
	(1993.0)	(1971.8)	(2201.0)	(2187.2)	(877.5)	(918.1)
birth		-166.7		23.60		317.9
		(189.9)		(419.3)		(213.7)
N	182	182	182	182	182	182
r2	0.0892	0.0946	0.204	0.204	0.115	0.147

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The mean (SD) of the different MMR variables is MMR (WDI) - . The birth variable is the Crude Birth rate (per 1,000 people) from the WDI.

Table C.14: Gender differences in Mortality rates & MMR (per 100k birth) from WDI: Low Income

	(1)	(2)	(3)	(4)	(5)	(6)
	(0-14)	(0-14)	(15-49)	(15-49)	(50+)	(50+)
MMR	-4.119	-3.198	16.63***	16.89***	-3.430	-3.217
	(5.006)	(5.359)	(5.020)	(4.752)	(4.341)	(4.375)
lgdp	-1890.2	-1461.4	1994.2	2113.6	19.64	118.5
	(1425.0)	(1226.6)	(1945.7)	(1933.4)	(1056.0)	(999.6)
birth		-270.4		-75.29		-62.34
		(336.3)		(344.0)		(265.0)
N	123	123	123	123	123	123
r2	0.161	0.181	0.356	0.356	0.114	0.115
imr_ratio	-9442.8	-14750.7	-152071.0	-154119.9	58961.6	62273.3
	(101207.3)	(100786.6)	(124592.3)	(125273.3)	(127931.5)	(127096.0)
lgdp	-4146.3*	-3578.0*	2206.3	2425.7	1464.6	1110.0
	(2135.1)	(1801.5)	(3211.2)	(3150.7)	(1693.2)	(1739.2)
birth		-371.7		-143.5		231.9
		(295.1)		(532.3)		(295.2)
N	60	60	60	60	60	60
r2	0.342	0.381	0.351	0.353	0.189	0.203
MMR	-8.295	-8.023	16.15***	16.29***	-8.493	-8.688
	(5.683)	(5.764)	(5.669)	(5.764)	(5.892)	(5.832)
imr_ratio	3527.1	-1926.5	-177318.4	-180155.7	72241.1	76161.0
	(89270.8)	(87933.2)	(117117.3)	(120946.0)	(123115.8)	(123132.9)
lgdp	-4878.3**	-4315.9**	3631.3	3923.9	715.1	310.8
	(2126.8)	(1755.6)	(2888.9)	(2597.6)	(1636.4)	(1618.6)
birth		-352.1		-183.2		253.1
		(295.6)		(494.5)		(284.4)
N	60	60	60	60	60	60
r2	0.404	0.439	0.452	0.456	0.249	0.265

The dependent variable in columns 1 & 2 is the log ratio of Female to Male mortality rates in the 0-14 age group, in columns 3 & 4 is the log ratio of Female to Male mortality rates in the 15-49 age group and in columns 5 & 6 it is the log ratio of Female to Male mortality rates in the 50+ age group. We have used a Country Fixed Effects Panel framework with year dummies. Standard errors in parentheses are clustered at the country level. The data on Mortality rates come from the United Nations, Department of Economic and Social Affairs, Population Division (2013). The MMR data comes from the World Bank - WDI (based on WHO data) available for 5 time periods -1990, 1995, 2000, 2005, 2010. The mean (SD) of the different MMR variables is MMR (WDI) -. The birth variable is the Crude Birth rate (per 1,000 people) from the WDI.

C.3 Desired Sex Ratio

Table C.15: Life Expectancy & Desired Sex Ratio (boys/girls) DHS: dsr_20

	(1) indep1	(2) indep2	(3) indep3	(4) indep4	(5) indep5	(6) indep6	(7) indep7	(8) indep8
DSR	-0.0392***	-0.0629**	-0.0115	-0.272*	-0.0331***	-0.0640*	-0.0156	-0.338**
	(0.0115)	(0.0298)	(0.0628)	(0.139)	(0.0109)	(0.0329)	(0.0562)	(0.153)
lgdp	0.0116***	0.000317	0.0173	-0.0360*	0.00943**	-0.000126	0.0131	-0.0506**
	(0.00427)	(0.00635)	(0.0125)	(0.0211)	(0.00443)	(0.00646)	(0.0109)	(0.0251)
DSR_gdp			-0.00522	0.0325*			-0.00331	0.0455**
			(0.0108)	(0.0189)			(0.00935)	(0.0221)
fertility					-0.00676**	-0.000959	-0.00673**	-0.000395
					(0.00304)	(0.00568)	(0.00301)	(0.00564)
N	2296	1853	2296	1853	2296	1811	2296	1811
r2	0.209	0.0857	0.210	0.103	0.250	0.0813	0.250	0.103

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is the log of the ratio of female to male life expectancy. Country Fixed Effects Panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI (odd columns) and the IDB database (even columns. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. Since the answers are available only for the survey years, to arrive at the yearly data either 20, 25 or 30 is added to the mother age. For this table the desired sex ratio for a particular year was obtained by adding 20 to the mothers year of birth. This data and hence the regressions are based on the DHS sample (developing countries) of 63 countries over the period of 1969 - 2012. The mean (SD) of dsr_20 is 1.113 (0.134).

Table C.16: Summary statistics for Table C.15

Variable	Mean	Std. Dev.	Min.	Max.	N
le_female	57.951	10.34	22.7	80.304	2575
le_f_idb	58.594	10.78	10.2	81.600	1933
ln_LE_ratio	0.062	0.039	-0.048	0.321	2575
ln_LE_ratio_IDB	0.062	0.039	-0.068	0.44	1933
dsr_20	1.13	0.134	0.433	3	2618

Table C.17: Life Expectancy & Desired Sex Ratio (boys/girls) DHS: dsr_30

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	indep1	indep2	indep3	indep4	indep5	indep6	indep7	indep8
DSR	-0.0234***	-0.0567**	-0.0629	-0.306**	-0.0197**	-0.0519**	-0.0479	-0.295**
	(0.00871)	(0.0252)	(0.0640)	(0.128)	(0.00787)	(0.0221)	(0.0609)	(0.129)
lgdp	0.0107***	0.00361	0.00315	-0.0420*	0.0107***	0.00390	0.00529	-0.0404*
	(0.00367)	(0.00641)	(0.0119)	(0.0218)	(0.00387)	(0.00656)	(0.0114)	(0.0223)
DSR_gdp			0.00670	0.0405**			0.00479	0.0394**
			(0.0103)	(0.0187)			(0.00989)	(0.0191)
fertility					-0.00612*	-0.00211	-0.00606*	-0.00130
					(0.00329)	(0.00602)	(0.00328)	(0.00575)
N	1911	1821	1911	1821	1911	1763	1911	1763
r2	0.224	0.0880	0.225	0.109	0.249	0.0879	0.249	0.107

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables is the log of the ratio of female to male life expectancy. Country Fixed Effects Panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level.The data on Life Expectancy comes from two distinct sources - The World Bank WDI (odd columns) and the IDB database (even columns. The desired sex ratio data comes from the DHS and has been constructed using the questions on ideal number of boys and girls asked to the mothers. Since the answers are available only for the survey years, to arrive at the yearly data either 20, 25 or 30 is added to the mother age. For this table the desired sex ratio for a particular year was obtained by adding 30 to the mothers year of birth. This data and hence the regressions are based on the DHS sample (developing countries) of 63 countries over the period of 1969 - 2012. The mean (SD) of dsr_30 is 1.135 (0.136).

Table C.18: Summary statistics for Table C.17

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
le_female	59.948	10.235	28.369	80.304	2034
le_f_idb	59.743	10.854	10.2	81.600	1880
ln_LE_ratio	0.062	0.037	-0.036	0.192	2034
ln_LE_ratio_IDB	0.061	0.036	-0.068	0.239	1880
dsr_30	1.135	0.136	0.433	3	2093

C.4 Women's Rights

Table C.19: Rights data - No. of countries by year

year	Political	Economic	Social	Composite1	Composite2
1981	127	119	118	118	119
1982	129	118	117	116	118
1983	130	124	124	122	124
1984	131	130	129	127	129
1985	131	131	128	128	131
1986	132	130	131	129	130
1987	132	128	129	127	128
1988	133	131	130	130	131
1989	133	128	129	126	128
1990	130	130	128	127	129
1991	127	127	125	117	123
1992	144	142	137	132	140
1993	149	150	149	148	149
1994	150	148	144	142	148
1995	149	147	147	144	147
1996	153	151	151	149	151
1997	152	150	151	149	150
1998	150	147	149	146	147
1999	152	151	150	149	151
2000	152	151	150	149	151
2001	188	187	186	185	187
2002	156	156	154	154	156
2003	185	185	168	167	184
2004	186	186	171	171	186
2005	188	188	0	0	188
2006	190	190	0	0	190
2007	190	190	0	0	190
2008	188	190	0	0	188
2009	190	191	0	0	190
2010	191	191	0	0	191
2011	192	192	0	0	192

Table C.20: Summary statistics

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
Political	1.786	0.647	0	3	4830
Economic	1.323	0.697	0	3	4779
Social	1.235	0.84	0	3	3395
Composite1	0	1.436	-3.435	3.882	3352
Composite2	0	1.16	-3.286	3.022	4766

Table C.21: Correlation of different Rights measures

Variables	Political	Economic	Social	Composite1	Composite2
Political	1.000				
Economic Rights	0.347	1.000			
Social Rights	0.449	0.723	1.000		
Composite1	0.707	0.874	0.894	1.000	
Composite2	0.821	0.821	0.693	0.939	1.000

Table C.22: Log Life Expectancy Ratio and Women's Rights

	(1)	(2)	(3)	(4)	(5)
	indep1	indep2	indep3	indep4	indep5
Political, Economic, Social					
right	22.53	61.47	1020.1**	1087.7**	1004.1**
	(108.2)	(110.6)	(459.9)	(497.4)	(410.2)
lgdp	907.3*	961.9**	979.7**	1035.9**	1175.8*
	(468.4)	(485.7)	(487.2)	(505.3)	(704.3)
democ		-0.469		-13.31	137.9
		(34.79)		(34.68)	(278.6)
right_gdp			-135.8**	-140.7**	-129.1**
			(62.70)	(68.45)	(56.92)
democ_gdp					-22.55
					(41.17)
_cons	1105.2	634.6	628.2	198.6	-711.9
	(3321.2)	(3507.4)	(3440.2)	(3613.8)	(4894.0)
N	3211	3009	3211	3009	3009
r2	0.157	0.168	0.168	0.180	0.181
Political & Economic					
right	-7.644	13.75	732.0**	788.1**	712.3**
	(95.06)	(100.7)	(328.9)	(363.0)	(336.2)
lgdp	609.6*	638.7*	646.2*	676.1*	768.0*
	(344.0)	(347.9)	(349.1)	(353.7)	(442.6)
democ		-0.123		-10.55	89.97
		(34.33)		(34.29)	(174.0)
right_gdp			-96.51**	-101.8**	-91.77**
			(40.56)	(45.12)	(41.46)
democ_gdp					-14.62
					(24.76)
N	4536	4157	4536	4157	4157
r2	0.176	0.182	0.182	0.189	0.190

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is the log of the ratio of female to male life expectancy times 100,000. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.23: Log Life Expectancy Ratio and Women's Rights

	(1)	(2)	(3)	(4)	(5)
	indep1	indep2	indep3	indep4	indep5
wopol	-129.5	-112.2	1077.7	1203.1	1100.7
	(192.6)	(195.2)	(900.6)	(963.1)	(840.8)
wosoc	49.97	84.19	726.8*	796.3*	734.7*
	(110.4)	(114.9)	(436.4)	(454.7)	(418.5)
wecon	79.27	119.4	863.3	854.2	826.9
	(103.7)	(106.0)	(528.9)	(547.6)	(539.3)
lgdp	891.8*	946.0*	1527.7**	1612.1**	1690.8*
	(462.6)	(480.8)	(759.6)	(799.3)	(911.3)
democ		2.095		-12.31	119.0
		(34.61)		(34.41)	(268.9)
wopol_gdp			-171.0	-186.5	-171.9
			(137.6)	(147.2)	(130.3)
wosoc_gdp			-89.81*	-95.80*	-87.17*
			(49.14)	(51.75)	(47.48)
wecon_gdp			-106.2*	-100.3	-96.71
			(62.97)	(65.04)	(63.90)
democ_gdp					-19.57
					(39.73)
N	3211	3009	3211	3009	3009
r2	0.158	0.170	0.171	0.184	0.185
wopol	-63.47	-33.27	776.8	823.6	715.5
	(156.0)	(166.3)	(539.0)	(597.8)	(531.7)
wecon	36.65	52.98	852.2**	913.5**	853.2*
	(93.28)	(98.56)	(427.3)	(444.6)	(449.1)
lgdp	600.8*	630.9*	975.4**	1019.1**	1080.4**
	(340.8)	(345.4)	(450.0)	(471.3)	(523.6)
democ		0.612		-9.828	98.55
		(34.39)		(33.90)	(173.3)
wopol_gdp			-115.2	-118.2	-104.5
			(75.20)	(83.18)	(74.69)
wecon_gdp			-102.0**	-108.8**	-100.1*
			(49.41)	(51.32)	(52.49)
democ_gdp					-15.74
					(24.72)
N	4536	4157	4536	4157	4157
r2	0.176	0.183	0.183	0.190	0.191

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is the log of the ratio of female to male life expectancy times 100,000. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.24: Maternal Mortality (per birth) from DHS and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political					
right	-18.84	-27.94	-518.5*	-540.2*	-534.3*
	(33.64)	(31.10)	(300.0)	(306.7)	(311.3)
lgdp	27.35	30.77	-129.5	-127.1	-128.5
	(73.58)	(66.70)	(115.2)	(107.9)	(110.3)
democ		2.086		3.451	-1.018
		(7.251)		(7.407)	(35.86)
right_gdp			85.48*	87.72*	86.77*
			(49.06)	(50.00)	(50.53)
democ_gdp					0.729
					(5.628)
N	200	188	200	188	188
r2	0.0963	0.0967	0.113	0.115	0.115
Economic					
right	6.588	13.38	259.9	171.1	157.1
	(32.45)	(30.71)	(253.4)	(251.9)	(241.1)
lgdp	29.40	35.71	66.06	59.59	42.21
	(74.30)	(67.62)	(83.54)	(81.24)	(85.25)
democ		1.897		2.063	-19.21
		(7.135)		(7.113)	(37.05)
right_gdp			-41.30	-25.99	-23.28
			(41.23)	(41.75)	(39.81)
democ_gdp					3.482
					(5.667)
N	199	187	199	187	187
r2	0.0950	0.0935	0.103	0.0963	0.0980
Social					
right	22.13	29.17	49.43	-22.56	-25.68
	(20.87)	(21.00)	(143.3)	(149.9)	(153.0)
lgdp	-7.532	-17.32	-4.289	-23.18	-0.753
	(63.54)	(68.72)	(61.63)	(68.55)	(73.32)
democ		-0.684		-0.799	39.78
		(5.732)		(5.678)	(42.95)
right_gdp			-4.352	8.356	8.835
			(21.63)	(22.92)	(23.35)
democ_gdp					-6.798
					(6.965)
N	155	149	155	149	149
r2	0.104	0.0917	0.104	0.0922	0.0978

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.25: Maternal Mortality from DHS (per birth) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political, Economic, Social					
right	20.78	28.32*	-1.010	-104.8	-102.1
	(14.77)	(15.72)	(97.69)	(95.39)	(93.47)
lgdp	-0.453	-8.130	1.592	7.471	29.15
	(63.41)	(68.19)	(66.18)	(69.04)	(75.90)
democ		-1.242		-1.223	39.84
		(5.731)		(5.667)	(47.28)
right_gdp			3.506	21.94	21.22
			(15.48)	(15.16)	(14.94)
democ_gdp					-6.878
					(7.695)
N	151	145	151	145	145
r2	0.112	0.102	0.112	0.108	0.113
Political & Economic					
right	-6.661	-8.700	-47.27	-139.1	-136.9
	(19.63)	(19.08)	(150.4)	(149.3)	(153.5)
lgdp	31.01	36.76	33.30	44.61	32.28
	(74.06)	(67.14)	(74.01)	(65.97)	(75.51)
democ		1.799		2.062	-15.88
		(7.261)		(7.309)	(40.24)
right_gdp			6.758	21.86	21.77
			(24.12)	(23.93)	(24.37)
democ_gdp					2.937
					(6.234)
N	198	186	198	186	186
r2	0.0969	0.0955	0.0973	0.0988	0.1000

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.26: Maternal Mortality from DHS (per woman) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political, Economic, Social					
right	-1.918	-1.484	-33.02	-47.54*	-47.42*
	(3.977)	(4.502)	(23.77)	(24.90)	(24.82)
lgdp	5.379	2.500	8.298	7.898	8.937
	(13.00)	(13.30)	(13.85)	(14.38)	(16.03)
democ		-0.148		-0.142	1.825
		(1.106)		(1.108)	(9.567)
right_gdp			5.004	7.593*	7.558**
			(3.477)	(3.768)	(3.733)
democ_gdp					-0.330
					(1.540)
N	151	145	151	145	145
r2	0.0365	0.0525	0.0472	0.0726	0.0730
Political & Economic					
right	-5.080	-5.324	-36.37	-40.79	-40.57
	(4.376)	(4.272)	(27.56)	(25.92)	(26.36)
lgdp	5.553	10.71	7.318	12.85	11.58
	(12.51)	(11.64)	(12.70)	(11.73)	(14.46)
democ		0.788		0.859	-0.978
		(1.245)		(1.258)	(6.897)
right_gdp			5.207	5.948	5.938
			(4.074)	(3.856)	(3.901)
democ_gdp					0.301
					(1.063)
N	198	186	198	186	186
r2	0.204	0.229	0.209	0.235	0.235

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 women) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.27: Maternal Mortality from WDI (per woman) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political, Economic, Social					
right	1.106	1.120	-90.48*	-94.44*	-89.16*
	(8.573)	(9.188)	(52.86)	(54.93)	(52.54)
lgdp	6.353	5.307	5.125	4.382	-58.13**
	(19.99)	(19.50)	(20.83)	(20.51)	(27.33)
democ		-4.201		-3.585	-71.59***
		(2.843)		(2.849)	(15.69)
right_gdp			12.35*	12.98**	12.33*
			(6.283)	(6.541)	(6.254)
democ_gdp					10.53***
					(2.350)
N	409	394	409	394	394
r2	0.167	0.188	0.192	0.215	0.280
Political & Economic					
right	5.499	3.491	-156.7***	-153.6***	-123.9***
	(7.924)	(8.406)	(34.00)	(34.92)	(32.90)
lgdp	17.44	23.92	21.90	28.37	-11.87
	(23.48)	(21.31)	(23.02)	(20.88)	(25.27)
democ		-7.176**		-5.120*	-58.17***
		(3.277)		(3.092)	(12.79)
right_gdp			20.90***	20.37***	16.38***
			(3.850)	(3.943)	(3.694)
democ_gdp					7.878***
					(1.831)
N	763	704	763	704	704
r2	0.247	0.261	0.311	0.322	0.361

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from WDI constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.28: Maternal Mortality from DHS (births) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
wopol	9.502	-2.774	-269.9	-360.9	-380.1
	(29.88)	(28.87)	(314.5)	(319.7)	(320.2)
wosoc	19.19	17.86	100.2	30.60	54.46
	(26.01)	(27.76)	(177.5)	(197.8)	(202.6)
wecon	19.38	48.97	6.171	-77.15	-93.11
	(30.68)	(32.45)	(175.7)	(195.1)	(199.0)
lgdp	-1.608	-10.34	-80.31	-136.2	-116.8
	(65.17)	(70.31)	(116.8)	(117.7)	(118.7)
democ		-1.516		-0.976	44.03
		(5.580)		(5.602)	(45.71)
wopol_gdp			47.28	60.67	63.89
			(52.60)	(52.93)	(53.05)
wosoc_gdp			-13.24	-2.449	-6.617
			(27.29)	(30.89)	(31.58)
wecon_gdp			2.441	21.34	23.53
			(27.18)	(29.03)	(29.44)
democ_gdp					-7.523
					(7.502)
N	151	145	151	145	145
r2	0.112	0.108	0.119	0.121	0.127
wopol	-19.06	-28.06	-517.2*	-542.0*	-535.4*
	(33.70)	(31.38)	(291.4)	(301.5)	(309.7)
wecon	6.240	13.03	252.8	143.4	140.3
	(32.33)	(30.53)	(254.0)	(248.2)	(243.2)
lgdp	27.34	31.12	-93.87	-108.4	-110.6
	(74.11)	(67.04)	(116.2)	(109.8)	(111.4)
democ		2.053		3.578	-1.682
		(7.153)		(7.336)	(35.31)
wopol_gdp			85.72*	88.29*	87.23*
			(47.68)	(49.18)	(50.26)
wecon_gdp			-40.03	-20.83	-20.24
			(41.81)	(41.27)	(40.31)
democ_gdp					0.858
					(5.433)
N	198	186	198	186	186
r2	0.0986	0.100	0.123	0.121	0.121

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.29: Maternal Mortality from DHS (per woman) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
wopol	-2.405	-5.291	-86.35*	-102.3**	-103.8**
	(6.244)	(5.868)	(50.76)	(48.44)	(49.29)
wosoc	-0.480	-1.350	19.77	8.501	10.32
	(6.863)	(7.082)	(45.35)	(48.13)	(47.93)
wecon	-2.269	2.085	-57.09*	-65.10*	-66.32*
	(6.808)	(7.055)	(29.99)	(34.60)	(34.53)
lgdp	5.140	2.073	-26.82	-36.33**	-34.86**
	(13.28)	(13.63)	(17.45)	(15.05)	(15.08)
democ		-0.192		-0.0183	3.406
		(1.060)		(1.087)	(9.195)
wopol_gdp			14.17	16.41*	16.66*
			(8.473)	(8.171)	(8.319)
wosoc_gdp			-3.522	-1.814	-2.131
			(6.647)	(7.162)	(7.122)
wecon_gdp			9.006**	11.27**	11.43**
			(4.463)	(5.164)	(5.161)
democ_gdp					-0.572
					(1.491)
N	151	145	151	145	145
r2	0.0368	0.0581	0.0618	0.0928	0.0938
wopol	-5.736	-7.536	-74.52	-87.13	-86.62
	(6.344)	(5.755)	(53.38)	(52.73)	(54.36)
wecon	-4.926	-3.355	-16.87	-11.04	-11.28
	(5.752)	(5.306)	(28.07)	(25.20)	(24.45)
lgdp	5.489	10.18	-17.85	-15.60	-15.78
	(12.64)	(11.66)	(21.14)	(18.35)	(19.10)
democ		0.812		1.020	0.614
		(1.234)		(1.276)	(6.886)
wopol_gdp			11.74	13.61	13.53
			(8.461)	(8.389)	(8.631)
wecon_gdp			1.971	1.363	1.409
			(4.158)	(3.853)	(3.714)
democ_gdp					0.0662
					(1.054)
N	198	186	198	186	186
r2	0.204	0.230	0.213	0.241	0.241

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 woman) from the DHS constructed by Bhalotra et al. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.30: Maternal Mortality from WDI (per birth) and Women's Rights

	(1)	(2)	(3)	(4)	(5)
wopol	22.93**	18.81*	-61.01	-83.63	-85.15
	(10.41)	(10.54)	(54.80)	(57.87)	(56.48)
wosoc	3.431	5.878	-70.08	-62.64	-50.23
	(13.54)	(13.88)	(80.55)	(80.87)	(72.25)
wecon	-14.10	-14.22	-108.1*	-109.8*	-106.1*
	(11.52)	(11.98)	(59.35)	(61.40)	(58.95)
lgdp	10.11	7.838	-39.20	-46.68	-106.4***
	(19.11)	(18.20)	(29.53)	(29.38)	(35.51)
democ		-4.014		-3.338	-69.44***
		(2.734)		(2.738)	(14.56)
wopol_gdp			11.96*	14.68*	14.47*
			(7.014)	(7.556)	(7.396)
wosoc_gdp			9.408	8.935	7.456
			(8.985)	(9.054)	(8.103)
wecon_gdp			12.81*	12.99*	12.74*
			(6.909)	(7.167)	(6.942)
democ_gdp					10.23***
					(2.178)
N	409	394	409	394	394
r2	0.185	0.201	0.214	0.233	0.295
wopol	-4.711	-6.552	-230.9***	-229.1***	-196.3***
	(13.96)	(14.44)	(60.92)	(62.32)	(60.37)
wecon	12.95	10.95	-112.4**	-109.7**	-85.28*
	(9.991)	(10.62)	(48.74)	(51.61)	(47.63)
lgdp	15.80	22.22	-57.39**	-49.38**	-78.07***
	(22.97)	(20.68)	(26.25)	(24.36)	(28.24)
democ		-7.217**		-4.976	-59.29***
		(3.293)		(3.107)	(13.39)
wopol_gdp			30.76***	30.56***	26.89***
			(6.976)	(7.208)	(6.947)
wecon_gdp			15.18***	14.62***	10.77**
			(5.337)	(5.604)	(5.067)
democ_gdp					8.076***
					(1.936)
N	763	704	763	704	704
r2	0.249	0.263	0.316	0.327	0.367

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 birth) from the WDI. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.31: Infant Mortality ratio (Females/Males) from DHS and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political					
right	0.00611	0.00567	-0.228**	-0.255**	-0.259**
	(0.0166)	(0.0177)	(0.0875)	(0.0969)	(0.104)
lgdp	0.0436	0.0422	-0.0291	-0.0394	-0.0381
	(0.0394)	(0.0418)	(0.0429)	(0.0474)	(0.0486)
democ		0.000424		0.00110	0.00453
		(0.00306)		(0.00301)	(0.0353)
right_gdp			0.0375***	0.0417***	0.0423**
			(0.0140)	(0.0154)	(0.0167)
democ_gdp					-0.000554
					(0.00586)
N	1593	1515	1593	1515	1515
r2	0.0277	0.0302	0.0308	0.0337	0.0337
Economic					
right	0.0111	0.00791	-0.301*	-0.268	-0.268
	(0.0178)	(0.0184)	(0.160)	(0.166)	(0.167)
lgdp	0.0443	0.0428	-0.00474	-0.00138	-0.00742
	(0.0407)	(0.0430)	(0.0322)	(0.0340)	(0.0341)
democ		0.000987		0.00116	-0.00681
		(0.00288)		(0.00282)	(0.0350)
right_gdp			0.0486*	0.0430	0.0430
			(0.0256)	(0.0266)	(0.0267)
democ_gdp					0.00129
					(0.00578)
N	1576	1497	1576	1497	1497
r2	0.0283	0.0306	0.0332	0.0342	0.0343
Social					
right	-0.00243	-0.00562	-0.0838	-0.0940	-0.0916
	(0.0128)	(0.0144)	(0.121)	(0.133)	(0.134)
lgdp	0.0336	0.0343	0.0222	0.0217	0.00570
	(0.0365)	(0.0396)	(0.0329)	(0.0355)	(0.0443)
democ		0.000799		0.000928	-0.0250
		(0.00300)		(0.00294)	(0.0294)
right_gdp			0.0128	0.0140	0.0137
			(0.0188)	(0.0210)	(0.0210)
democ_gdp					0.00424
					(0.00497)
N	1344	1283	1344	1283	1283
r2	0.0309	0.0347	0.0314	0.0352	0.0360

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is IMR (Female/Male) from the DHS data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.32: Infant Mortality ratio (Females/Males) from DHS and Women's Rights

	(1)	(2)	(3)	(4)	(5)
Political, Economic, Social					
right	0.00514	0.00335	-0.125*	-0.120	-0.112
	(0.00928)	(0.00979)	(0.0735)	(0.0757)	(0.0824)
lgdp	0.0336	0.0342	0.0415	0.0405	0.0267
	(0.0361)	(0.0389)	(0.0375)	(0.0399)	(0.0530)
democ		0.000433		0.000967	-0.0205
		(0.00316)		(0.00303)	(0.0320)
right_gdp			0.0204*	0.0193*	0.0182
			(0.0109)	(0.0113)	(0.0122)
democ_gdp					0.00350
					(0.00538)
N	1314	1256	1314	1256	1256
r2	0.0314	0.0353	0.0349	0.0383	0.0388
Political & Economic					
right	0.00732	0.00554	-0.212**	-0.210**	-0.212**
	(0.0123)	(0.0130)	(0.0804)	(0.0833)	(0.0900)
lgdp	0.0462	0.0447	0.0506	0.0478	0.0510
	(0.0409)	(0.0433)	(0.0406)	(0.0427)	(0.0506)
democ		0.000531		0.00133	0.00546
		(0.00305)		(0.00287)	(0.0366)
right_gdp			0.0343***	0.0338**	0.0341**
			(0.0127)	(0.0132)	(0.0142)
democ_gdp					-0.000667
					(0.00605)
N	1566	1489	1566	1489	1489
r2	0.0284	0.0308	0.0350	0.0367	0.0368

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is IMR (Female/Male) from the DHS data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.33: Infant Mortality ratio (Females/Males) from DHS and Women's Rights

	(1)	(2)	(3)	(4)	(5)
wopol	0.0154	0.0149	-0.282***	-0.279**	-0.268**
	(0.0165)	(0.0173)	(0.101)	(0.108)	(0.114)
wosoc	-0.00368	-0.00715	-0.0582	-0.0751	-0.0787
	(0.0140)	(0.0156)	(0.108)	(0.121)	(0.119)
wecon	0.00386	0.00362	0.00828	0.0360	0.0419
	(0.0171)	(0.0173)	(0.158)	(0.164)	(0.169)
lgdp	0.0358	0.0368	-0.0592	-0.0549	-0.0607
	(0.0365)	(0.0395)	(0.0388)	(0.0429)	(0.0453)
democ		0.000366		0.000895	-0.0145
		(0.00319)		(0.00302)	(0.0321)
wopol_gdp			0.0477***	0.0471**	0.0453**
			(0.0170)	(0.0179)	(0.0189)
wosoc_gdp			0.00871	0.0108	0.0115
			(0.0175)	(0.0197)	(0.0193)
wecon_gdp			-0.00149	-0.00576	-0.00664
			(0.0246)	(0.0254)	(0.0262)
democ_gdp					0.00252
					(0.00542)
N	1314	1256	1314	1256	1256
r2	0.0320	0.0360	0.0392	0.0425	0.0427
wopol	0.00544	0.00539	-0.183*	-0.215**	-0.219**
	(0.0158)	(0.0169)	(0.0930)	(0.104)	(0.107)
wecon	0.0101	0.00630	-0.270	-0.230	-0.229
	(0.0175)	(0.0180)	(0.164)	(0.171)	(0.169)
lgdp	0.0458	0.0446	-0.0561	-0.0617	-0.0602
	(0.0409)	(0.0434)	(0.0396)	(0.0434)	(0.0427)
democ		0.000543		0.00127	0.00479
		(0.00301)		(0.00292)	(0.0359)
wopol_gdp			0.0298*	0.0350**	0.0356**
			(0.0152)	(0.0168)	(0.0175)
wecon_gdp			0.0434	0.0365	0.0364
			(0.0264)	(0.0274)	(0.0271)
democ_gdp					-0.000568
					(0.00593)
N	1566	1489	1566	1489	1489
r2	0.0285	0.0308	0.0352	0.0368	0.0368

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is IMR (Female/Male) from the DHS data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. The rights data comes from the Cingranelli, Richards, and Clay (Cingranelli et al.) data set.

Table C.34: Summary statistics

Variable	**Mean**	**Std. Dev.**	**Min.**	**Max.**	**N**
IMR Ratio DHS	0.887	0.271	0	4.811	1603
Political	1.728	0.552	0	3	1593
Economic	1.044	0.506	0	3	1603
Social	0.892	0.58	0	3	1349
Composite1	-0.505	0.993	-3.435	2.4	1340
Composite2	-0.346	0.838	-3.286	2.008	1593

C.5 Women's Political Representation

Table C.35: MMR from DHS and Women's Political Representation

	(1)	(2)	(3)	(4)	(5)
MMR per 100,000 live births					
right	-0.150	-0.239	-62.08**	-60.95**	-70.12*
	(4.867)	(4.835)	(25.01)	(23.87)	(36.25)
lgdp	78.83	52.06	-94.37	-116.8	-102.2
	(100.5)	(109.1)	(121.5)	(123.5)	(122.5)
democ		-21.50		-14.72	28.74
		(17.23)		(14.91)	(76.21)
right_gdp			10.05**	9.804**	11.16*
			(4.152)	(4.028)	(5.963)
democ_gdp					-7.035
					(11.45)
N	80	71	80	71	71
r2	0.0932	0.133	0.231	0.267	0.276
MMR per 100,000 women exposed					
right	-1.052	-0.906	-11.82***	-12.21***	-12.59***
	(0.750)	(0.784)	(2.911)	(2.857)	(4.248)
lgdp	7.772	4.751	-22.35	-26.69	-26.07
	(16.04)	(17.07)	(17.37)	(16.76)	(17.27)
democ		-2.069		-0.806	1.020
		(1.979)		(1.175)	(9.764)
right_gdp			1.748***	1.825***	1.882**
			(0.516)	(0.519)	(0.724)
democ_gdp					-0.296
					(1.576)
N	80	71	80	71	71
r2	0.485	0.510	0.596	0.635	0.636
MMR (per births) from WDI					
right	-2.329**	-2.587*	-20.17***	-22.40***	-20.25***
	(1.142)	(1.412)	(3.536)	(3.506)	(3.633)
lgdp	-31.23*	-22.75	-55.01***	-47.36**	-58.77***
	(16.36)	(18.90)	(17.50)	(20.04)	(21.20)
democ		-6.312		-2.859	-35.48**
		(4.758)		(4.285)	(16.14)
right_gdp			2.314***	2.570***	2.329***
			(0.409)	(0.416)	(0.429)
democ_gdp					4.738**
					(1.964)
N	484	425	484	425	425
r2	0.301	0.317	0.408	0.450	0.474

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is MMR (deaths per 100,000 births) from the DHS in Panel 1, MMR (deaths per 100,000 women) from the DHS in Panel 2 constructed by Bhalotra et al and MMR (deaths per 100,000 births) from the WDI in Panel 3. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 38 to 44 developing countries from the DHS sample for the period of 1997 to 2011. The mean and SD of the dependent variable are 34.53 and 46.07, whereas the mean and SD of women's representation in parliament is around 14.13 and 9.81.

Table C.36: Dependent Variable: imr_ratio_DHS; Indep: womparl

	(1) indep1	(2) indep2	(3) indep3	(4) indep4	(5) indep5
womparl	-0.00143	-0.00280	-0.0196	-0.0248	-0.0392
	(0.00315)	(0.00298)	(0.0340)	(0.0366)	(0.0407)
lgdp	0.0726	0.0619	0.0328	0.0142	0.116
	(0.144)	(0.151)	(0.151)	(0.162)	(0.163)
democ		-0.00303		-0.00129	0.169
		(0.0117)		(0.0122)	(0.113)
womparl*lgdp			0.00290	0.00351	0.00553
			(0.00546)	(0.00589)	(0.00646)
democ*lgdp					-0.0272
					(0.0188)
_cons	0.452	0.553	0.704	0.849	0.233
	(0.948)	(0.990)	(0.986)	(1.051)	(1.044)
N	635	584	635	584	584
r2	0.0270	0.0279	0.0282	0.0296	0.0409

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is IMR (Female/Male) from the DHS data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 50 developing countries from the DHS sample for the period of 1997 to 2011 (We have very few countries in the later years eg. 15 in 2011 an 6 in 2012). The mean and SD of the dependent variable are 0.89 and 0.35, whereas the mean and SD of women's representation in parliament is around 12.64 and 9.26.

Table C.37: Dependent Variable: imr_ratio; Indep: womparl

	(1) indep1	(2) indep2	(3) indep3	(4) indep4	(5) indep5
womparl	-0.000358**	-0.000411**	-0.00309***	-0.00323***	-0.00281***
	(0.000158)	(0.000203)	(0.000606)	(0.000660)	(0.000655)
lgdp	-0.00207	-0.00238	-0.00513	-0.00514	-0.00712**
	(0.00317)	(0.00378)	(0.00331)	(0.00390)	(0.00359)
democ		-0.000912		-0.000339	-0.00740**
		(0.000820)		(0.000773)	(0.00284)
womparl*lgdp			0.000347***	0.000365***	0.000318***
			(0.0000771)	(0.0000864)	(0.0000858)
democ*lgdp					0.00103***
					(0.000355)
_cons	0.843***	0.850***	0.866***	0.867***	0.874***
	(0.0240)	(0.0287)	(0.0249)	(0.0289)	(0.0276)
N	503	417	503	417	417
r2	0.0511	0.0563	0.151	0.159	0.198

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is IMR (Female/Male) from the WDI data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 156 to 187 countries from around the world for three points of time 2000, 2010 and 2012 (years for which IMR is available from WDI). The mean and SD of the dependent variable are 0.82 and 0.04, whereas the mean and SD of women's representation in parliament is around 16.35 and 11.05.

Table C.38: Dependent Variable: cmr_ratio; Indep: womparl

	(1) indep1	(2) indep2	(3) indep3	(4) indep4	(5) indep5
womparl	-0.000377*	-0.000421	-0.00419***	-0.00466***	-0.00431***
	(0.000206)	(0.000262)	(0.000669)	(0.000704)	(0.000733)
lgdp	-0.00264	-0.00166	-0.00692**	-0.00582	-0.00750**
	(0.00341)	(0.00410)	(0.00350)	(0.00407)	(0.00376)
democ		-0.000465		0.000397	-0.00560
		(0.000983)		(0.000941)	(0.00342)
womparl*lgdp			0.000485***	0.000550***	0.000510***
			(0.0000800)	(0.0000879)	(0.0000903)
democ*lgdp					0.000879**
					(0.000423)
N	503	417	503	417	417
r2	0.173	0.179	0.306	0.342	0.362

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variable is CMR (Female/Male) from the WDI data. country fixed effects panel regressions with year dummies have been run. Standard errors in parentheses are clustered at the country level. Both the Life expectancy data and the women's political representation data comes from the WDI. These regressions are based on a sample of around 156 to 187 countries from around the world for three points of time 2000, 2010 and 2012 (years for which CMR is available from WDI). The mean and SD of the dependent variable are 0.83 and 0.05, whereas the mean and SD of women's representation in parliament is around 16.35 and 11.05.

C.6 Gender Intensity of Language

Table C.39: Infant Mortality ratio (Female/Male) from WDI & Gender Intensity of Language

	(1) ngii	(2) sbii	(3) gaii	(4) gpii	(5) gtroiano	(6) gii0	(7) gii1	(8) gii2
GII	0.0235*	0.0301*	0.0345**	0.0218*	-0.00309	0.0115*	0.0151*	0.0123*
	(0.0128)	(0.0177)	(0.0157)	(0.0121)	(0.00392)	(0.00598)	(0.00774)	(0.00675)
N	444	444	318	434	292	304	318	418
r2	0.185	0.191	0.274	0.179	0.424	0.258	0.277	0.196
GII	0.0235*	0.0301*	0.0345**	0.0218*	-0.00309	0.0115*	0.0151*	0.0123*
	(0.0128)	(0.0177)	(0.0157)	(0.0121)	(0.00392)	(0.00598)	(0.00774)	(0.00675)
N	444	444	318	434	292	304	318	418
r2	0.185	0.191	0.274	0.179	0.424	0.258	0.277	0.196

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1 & 2 are the female to male Infant mortality ratio (from the WDI database) . Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013) and Givati and Troiano (2012). Apart from the GII variable in Panel 1 we control for the percentage of the population speaking the majority language (for which the GII has been calculated), decade dummies and continent dummies. In Panel 2 we control for the log of GDP and its square term, the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical in addition to the controls from Panel 1.

Table C.40: Child Mortality ratio (Female/Male) from WDI & Gender Intensity of Language

	(1) ngii	(2) sbii	(3) gaii	(4) gpii	(5) gtroiano	(6) gii0	(7) gii1	(8) gii2
GII	0.0293**	0.0394**	0.0427**	0.0241*	-0.00405	0.0137**	0.0192**	0.0148**
	(0.0142)	(0.0196)	(0.0181)	(0.0122)	(0.00405)	(0.00679)	(0.00889)	(0.00722)
N	444	444	318	434	292	304	318	418
r2	0.349	0.359	0.425	0.354	0.504	0.407	0.433	0.357
GII	0.0293**	0.0394**	0.0427**	0.0241*	-0.00405	0.0137**	0.0192**	0.0148**
	(0.0142)	(0.0196)	(0.0181)	(0.0122)	(0.00405)	(0.00679)	(0.00889)	(0.00722)
N	444	444	318	434	292	304	318	418
r2	0.349	0.359	0.425	0.354	0.504	0.407	0.433	0.357

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

The dependent variables in both Panels 1 & 2 are the female to male child mortality ratio (from the WDI database) . Standard errors in parentheses are clustered at the country level. The GII data come from Gay et al. (2013) and Givati and Troiano (2012). Apart from the GII variable in Panel 1 we control for the percentage of the population speaking the majority language (for which the GII has been calculated), decade dummies and continent dummies. In Panel 2 we control for the log of GDP and its square term, the log of population, dummies for the World Bank Income groups classification, the percentage of population that is Protestant, Catholic and Muslim, and the proportion of the country that is tropical or subtropical in addition to the controls from Panel 1.