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Trends in Global Gender Inequality (Forthcoming, *Social Forces*)

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Abstract

This study investigates trends in gender inequality for the world as a whole. Using data encompassing a large majority of the world's population, we examine world trends over recent decades for key indicators of gender inequality in education, mortality, political representation, and economic activity. We find that gender inequality is declining in virtually all major domains, that the decline is occurring across diverse religious and cultural traditions, and that population growth is slowing the decline because populations are growing faster in countries where there is the greatest gender inequality.

This study investigates whether, globally, women and men are converging or diverging with respect to key dimensions of welfare such as educational attainment, economic activity, length of life, and representation in national legislatures. Several studies find evidence of cross-country or global convergence – or at least the halting of divergence – on a number of welfare indicators, including education (Morrisson and Murtin 2007, Goesling and Baker 2008), income (Firebaugh 2003; Firebaugh and Goesling 2004; Sala-i-Martin 2006), fertility (Dorius 2008; Wilson 2001), and the Human Development Index (Crafts 2002), leading one development scholar to declare that “nearly everything that matters is converging” (Kenny 2005:1). The question is whether Kenny’s declaration applies to gender inequality as well.

Gender inequality differs from other types of inequality in significant ways, so we cannot tacitly assume that gender inequalities will trace the same path as other inequalities. Gender inequality exists when men (or women) enjoy a disproportionately large share of some valued good such as political power or long life. Men and women can differ in any number of domains, so gender inequality intersects other types of inequality (educational, economic, political, and so on). Women may be gaining on men in some domains and falling further behind in other domains. In a few domains, such as life expectancy, women have the advantage, so “declining gender inequality” in this instance refers to men gaining on women. These features of gender inequality imply that it is important to examine the domains of gender inequality separately.

Our objective in this paper is to describe recent trends in *global* gender inequality, as measured by convergence or divergence in the indicators (described subsequently) that the

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⁵Note that number of national legislators is not a constant fraction of population size, since small countries sometimes have more legislators than large countries do. The concept of global gender equality remains the same: We say there is global equality when the number of female legislators in the world equals the number of male legislators in the world. To calculate global gender inequality for national legislators, then, we do not weight by country’s population, but simply add up the number of women and men legislators. This strategy enables us to remain true to Concept 3 inequality, whose defining feature (as noted earlier) is it that refers to inequality over the world treated as a single piece.

United Nations uses to monitor progress toward the Millennium Development Goals (United Nation 2008). The article consists of six major sections. We begin by defining terms and showing that the unique nature of global gender inequality requires a more cautious approach to inference about global trends than for other types of global inequality (sections 1 and 2). In section 3 we present three hypotheses about change in gender inequality: That it is declining for the world as a whole; that the decline is being slowed by the pattern of the world's population growth; and that the decline is highly uneven across the world's regions because material and ideational differences remain high across those regions. We describe our data and measures in section 4 and our results in section 5. We conclude by discussing the implications of our findings.

What is Global Gender Inequality?

First consider what is meant by *gender inequality*. Assuming a population that consists of 50 percent women and 50 percent men – as is roughly the case for the world as a whole (Appendix B) – there is gender *equality* on some characteristic Y when females constitute half of those with Y . Gender *inequality* occurs, then, when women and men deviate from their 0.50 share. Because the shares must sum to 1.0 (if 40 percent of the world's workers are women, we know that 60 percent of workers must be men), it is a simple matter to gauge inequality by the absolute value of the observed difference between men's share and women's share, that is, gender inequality = $|s_F - s_M|$, where s_F (female share) is the number of women with Y divided by the total population with Y and s_M (male share) is the number of men with Y divided by the total population with Y .

It turns out that the absolute difference between s_F and s_M is exactly the Gini coefficient for gender inequality in the case where there is an equal population of men and women (Subramanian 2002:377). Of course, in the real world the population of men and women is only approximately the same, so to measure gender inequality we use a more precise formula for the Gini for two groups (Nielsen 1994:658, footnote 7):

$$\sum_g |s_g - p_g| \quad (1)$$

where s_g is the share of Y for the g^{th} group (here, women or men) and p_g is the population share of the g^{th} group.¹ We use equation 1 – a Gini measure – because we know that Ginis meet the key requirements for measures of inequality (e.g. Allison 1978). (Other measures that are sometimes used, such as female/male ratios, do not necessarily meet the axiomatic requirements for measures of inequality.) In addition, with equation 1 we can compare global gender inequality to other global inequalities, which very often are measured as Ginis.

Because data for estimating gender inequality are available at the national level, researchers must make a determination among three competing methods of aggregating these national bundles of gender data to the world level. Each way corresponds to one of Milanovic's (2005, Chapter 1) three concepts of inequality and each allows the researcher to describe

¹Note that the Gini is zero – signaling perfect equality across groups – when s_g (a group's share of Y) equals p_g (a group's share of population) for each group. The Gini reaches its maximum value when one group has all the Y (i.e., $s_g = 1$ for one group and zero for the other). The maximum for Gini is $1 \pm \delta$, where δ is the difference between the population shares for the two groups. The maximum is greater than 1.0 when Y is monopolized by the smaller group and less than 1.0 when Y is monopolized by the larger group. (Example: If $p_g = .49$ for men, and men possess all the Y , the Gini [equation 1] is $|1 - 0.49| + |0.0 - 0.51| = 1.02$. If women, the larger group, possess all the Y , the Gini is 0.98.) That presents no problem here since δ is virtually zero in our analyses. For all practical purposes, then, the gender Ginis that we report range from 0 to 1.

fundamentally different types of cross-national or world inequality. One way is to take the simple average of nations' gender inequality. For equation 1, this is:

$$\text{Gender inequality} = \sum_j \sum_g |s_{gj} - p_{gj}| / N \quad \text{for } j=1, 2, \dots, N \text{ countries} \quad (2)$$

Equation 2 is comparable to Milanovic's Concept 1 inequality, which he calls "unweighted international inequality." Concept 1 inequality would be used, for example, to address the question of whether gender inequality is rising or falling in the average country, where size of country is not taken into account (Klasen 2005). Similarly, Concept 1 inequality would be useful for ranking nations on one or more gendered outcomes (see, for example, Hausmann, Tyson, and Zahidi 2007, Tables 3–6; United Nations 2000).

Alternatively, we could calculate the population-weighted average of nations' gender inequality:

$$\text{Gender inequality} = \sum_j \sum_g n_j |s_{gj} - p_{gj}| \quad \text{for } j=1, 2, \dots, N \text{ countries} \quad (3)$$

where n_j is the proportion of the world's population residing in country j . Equation 3 is comparable to Milanovic's Concept 2 inequality, which he calls "weighted international inequality." In the case of gender, Concept 2 inequality would be used, for example, to determine the *level of national inequality where the average person lives* (Hausmann, Tyson, and Zahidi 2007, Figure 1).

Finally, instead of calculating s_g and p_g separately for each country, plugging the values into equation 3, and summing over countries (as in equation 3), we could add up the raw numbers in each country to calculate s_g and p_g for the world as a whole. We could, for example, use data on population size and gender-specific literacy rates for each country to calculate the number of literate men and women in the world, and calculate s_g = number of literate men (women) in the world/total literate for the world. In this case the Gini is simply equation 1 applied to the whole world:

$$\begin{aligned} \text{Global gender inequality} &= \sum_g |s_g - p_g| \\ &= |s_F - p_F| \times 2 \end{aligned} \quad (4)$$

where s_F is women's share of Y worldwide and p_F is women's share of the world population.

Equation 4 is comparable to Milanovic's Concept 3 inequality, which he calls "true world inequality." In the case of gender, this type of inequality conceptually bears on the question of whether the world's citizens are living *in a world* where men and women are converging. Concepts 2 and 3 are not the same. For the world as a whole (Concept 3) there are currently about as many women as men pursuing tertiary education (the global Gini is close to zero). That does not mean, however, that the average person lives in a country where gender inequality is zero (Concept 2 inequality), since enrollments favor men in some countries and women in other countries.

The defining feature of Concept 3 (global) inequality – Milanovic's (2005, p. 10) "true world inequality" – is that it refers to inequality over the world treated as a single piece. *Global gender inequality* refers then to gender inequality for the world as a whole, as if there were no national borders. In the case of global inequality, individuals are viewed as citizens

of the world, and their location in a particular nation is relevant only to the extent that the data used to calculate global inequality typically are collected at the national level. Concept 3 inequality is relevant, for example, to supra-national organizations such as the United Nations, who are interested in trends for the world as a whole, and not just trends in individual countries.

Table 1 illustrates Concept 3 inequality using adult literacy. Complete male and female literacy data are available for 134 countries in 1970, representing approximately 91 percent of the world's population. When we sum the numbers across the 134 countries we find that the approximately 2.1 billion total adults in those countries were nearly evenly split between women and men (50.4 percent women, 49.6 percent men). Among those who are literate, however, only 44.8 percent are women, indicating that women constitute a smaller share of the literate population than they do of the total population. On the basis of these data and equation 4, global gender inequality on literacy in 1970 as measured by the Gini is 0.112, the difference between 0.504 and 0.448, times 2.

It is Concept 3, or *global* gender inequality, that is our primary focus in this paper, where we describe recent trends in global gender inequality across a broad range of indicators including adult literacy, enrollments in primary, secondary, and tertiary education, total years of schooling completed, national parliamentarians, economically active workers, adult mortality, and life expectancy at birth. It is important to stress that viewing individuals as citizens of the world is the defining feature of global inequality, since that is what distinguishes Concept 3 inequality from Concepts 1 and 2. We want to know whether differences across important life domains are growing or declining when we compare the world's women to the world's men and thus we ask, "Is global society becoming more or less equal with regard to gender?" As we see in the next section, to answer this question we must proceed as in Table 1 rather than simply averaging trends across nations or regions.

Gender Inequalities: Unique Among Other Inequalities

Unlike most other types of inequality, gender inequality is not additively decomposable, that is, total gender inequality is not the sum of within-region and between-region gender inequalities. This is the case because regional gender inequalities can offset one another. The possibility of offsetting effects is of most concern to the present study because it draws attention to the danger of inferring global gender inequality trends from average country trends (whether unweighted or weighted).

To illustrate, if men's literacy rates are higher in some regions of the world and women's rates are higher in other regions, then global gender inequality could be zero despite the gender disparities within regions. Contrast this with income inequality, for example, where global income inequality exists if there is inequality in any part of the world (see formulas in Firebaugh 2003:127).

Global gender inequality nonetheless is sometimes inferred from the simple or weighted average gender inequality of countries. Neither method reliably portrays the level of global inequality. Consider population-weighted averages first. In some regions of the world, college enrollment is now higher for women than for men; in other regions enrollment continues to be higher for men. A population-weighted average of the several within-region inequalities in college enrollment overstates the global level of inequality in enrollment by failing to capture the offsetting effects of the regional inequalities.

Unweighted or "simple" country averages can be even more unreliable, since unweighted averages calculated from country scores give undue weight to small countries and deflate the contribution of highly populous countries to world trends. Thus individual women and men

of India, who comprise about 18 percent of the world's adult population, have much less weight than individual women and men of Luxembourg, who comprise less than one hundredth of one percent (.007) of the world's population. Table 2, where country averages are compared to global estimates with respect to adult survival rates for women (the probability that a 15-year-old woman will survive to age 60), illustrates the danger of using simple country averages to analyze global trends in gender inequality. On the basis of country averages, we conclude that this probability rose from 0.713 in 1960 to 0.792 in 2000, an increase of 11.1 percent. The use of global data (ignoring national boundaries) provides very different estimates of the probability that a 15-year old female citizen of the world will survive to age 60. In 1960 that probability was 0.656; forty years later it had increased by 27.6 percent, to 0.837. In this case, the global female survival rate improved faster than female survival in the average country because country averages overstated female survival in 1960 and understated the gains for women over the ensuing forty years.

Much of what we know about global gender convergence to date comes from the averaging of trends across countries. Because such studies tell us more about gender inequality for the average country than they do about gender inequality for the world as a whole, it is important to verify the received wisdom about global gender inequality by using Concept 3 inequality, as in Table 1 above.

Hence the first aim of our study is to use the Table 1 method to provide more reliable estimates of gender convergence/divergence worldwide. We want to know whether, and how fast, women are catching up with men in various domains.

Our strategy is first to establish the general global contours of gender inequality (so that we know what it is that we are trying to account for), then to turn to the country and regional patterns to assist in our understanding of the global trends. In accounting for the global trends, our hypotheses are (a) that gender convergence is slowed globally by regional variation in population growth and (b) that gender convergence is not a uniform process across the world's regions. We now explain the reasoning behind our hypotheses.²

Three Hypotheses About Global Gender Inequality

Hypothesis 1. Global gender inequality is declining across a wide variety of welfare measures

Reports such as the World Economic Forum's "The Global Gender Gap Report" (Hausmann, Tyson, and Zahidi 2007, tables 3–6) suggest that women's position relative to men's has improved in the average country. We hypothesize that the direction of the trends (though not necessarily their magnitudes) will be the same for global gender inequality as it is for gender inequality in the average country.

There are plausible theoretical grounds for this prediction. Both exogenous and endogenous change models point to declining global gender inequality. We refer to world polity/global culture theory as an *exogenous model* because it posits that institutional and cultural change at the nation-state level is driven by supra-national forces (e.g. Meyer et al 1997; Boli and Thomas 1997). Proponents stress the importance of a network of international actors (including non-governmental organizations [NGOs], international non-governmental organizations [INGOs] and, more recently, women's international nongovernmental organizations [WINGOs]) that share deep similarities in organizational structure, institutional goals and values, and means of achieving institutional missions. This

²Because our study is descriptive, we use the term *hypothesis* to indicate *a priori* expectations about what the world looks like. We do not mean to suggest that we are testing causal propositions.

transnational network of actors, including nation-state member organizations such as the United Nations, comprises the world polity, a critical vehicle for the spread of a world culture (Boli and Thomas 1997). Evidence of the world culture is found in the proliferation of world conferences such as the Fourth World Conference on Women (in Beijing, 1995), and in initiatives by nation-state member organizations—such as the United Nations' Millennium Development Goals (MDGs) and the Convention on the Elimination of All Forms of Discrimination Against Women (CEDAW)—where universal goals of the world society are espoused.

Beyond shared values, members of the world polity work to enact change within countries all over the world. The result is persistent exogenous pressure to conform to values and practices aligning with the world culture (Strang and Meyer 1993). According to proponents of the exogenous model, ideologies of progress and economic growth, social equality (including gender equality), and the political and human rights of the individual gradually diffuse across countries, regardless of cultural traditions, level of economic development, or political orientation. The result is that countries increasingly adopt broadly similar goals, policies, and practices. As Paxton et al (2006:902) put it in their study of women in politics, “this pressure is universal, having an impact on all countries and all political milestones for women.”

Within the exogenous model paradigm there is a growing body of work that focuses explicitly on gender, and it is this literature that makes the most direct case for hypothesis 1. Beyond the general norms of equality, progress, rationality, and modernization through economic development, we have, in recent years, witnessed the proliferation of “national machineries for the advancement of women” across the globe (True and Mintrom 2001:30). The growing cadre of national and international women's institutions shares the common goal of gender mainstreaming across all domains where emerging and longstanding gender inequalities exist. On at least one key measure of human welfare, representation in national parliaments, previous research indicates that world polity models exert considerable influence on improvement in women's status around the world (Paxton et al 2006; Ramirez et al 1997). This research suggests a global trifecta for women, with nations, transnational networks of non-state actors (NGOs, INGOs, and WINGOs), and nation-state member organizations (IGOs) contributing to change in gender policies that ultimately lead to more equal gender outcomes.³

Alternative theories lead to the same general conclusion, but place more emphasis on endogenous sources as engines of change for gender inequality. Chief among these endogenous sources is economic growth. Modernization theory (what Forsythe, Korzeniewicz and Durrant, 2000, refer to as the “Modernization-Neoclassical Approach”) has long argued that economic development will improve social conditions and lead to broad improvements in human welfare. At its peak, modernization theory led to the articulation of the Women in Development and the Gender and Development movements (see Koczberski 1998 for a review). Both movements emphasize the positive role of economic development in improving women's position around the world. As industrialization spreads, it brings with it many of the trappings of the civil society, including “universalistic mechanisms for allocating people to jobs” (Chang 2000:1660). This line of reasoning posits that economic growth and institutions common to industrial societies facilitate the decline in gender differences. The continued influence of modernization as a tool for social equality is evident in global economic institutions, such as the World Bank, that search for ‘business reasons

³A counterpoint to our assertion in Hypothesis 1 that global gender inequality is declining across a broad range of indicators is found in this same literature, where some research suggests that policies, in fact, have little effect on practices (Hathaway 2002; Hafner-Burton and Tsutsui 2007).

for gender equity.’ In this way the provision of resources for women’s education, family planning and microcredit are all justifiable, ultimately, as serving market-based economic growth and efficiency norms (Goetz 2001). Insofar as gender equality has been successfully linked to the development project (Berkovitch and Bradley 1999) it appears to have garnered greater international support.

Finally, the world is becoming more interconnected as the flow of information, communication, goods, services, and people continues to expand. The interconnectivity of the world’s people through economic development points to the leavening effect of technological change, particularly as new technologies are adopted and spread (for evidence of the global spread of technologies key to cultural diffusion see Kenny 2005, Tables 10 and 11). The breadth of the flow of people and technologies across different regions and countries exposes the world’s citizens to new ideas, institutions, and practices that directly or indirectly affect the status of women relative to men. Modernity in all its forms – institutional, ideational, and structural – penetrates ever farther into the less developed world. The increasing adoption of modern contraceptive methods in some of the world’s poorest regions is a case in point (Casterline 2001; Zlida et. al. 2003).

Hypothesis 2. The decline in global gender inequality is being slowed by country differences in population growth rates

Hypothesis 1 anticipates a general decline in global gender inequality across a broad range of welfare measures. Hypothesis 2 posits that the decline would have been even faster if populations had grown at the same rate for all countries. Instead, population has tended to grow the most rapidly in regions of the world where gender inequality is highest, and this has served to slow the rate of decline in gender inequality globally.

Table 3 presents preliminary evidence on the potential braking effect of the world’s uneven population growth. To construct Table 3 we grouped the world’s countries into quartiles on the basis of their level of gender inequality and then calculated percentage increase in population from 1970 to 2000 for each quartile. Table 3 compares the population increases for the lowest quartile (the quartile containing the countries with the lowest levels of gender inequality on literacy, on adult survival, and on economically active workers, respectively) with the quartile containing the 25 percent of countries with the highest levels of gender inequality on those indicators. As Table 3 shows, population growth is significantly higher in those countries where gender inequality is the greatest.

The positive association between population growth and gender inequality seen in Table 3 is not surprising since poorer regions of the world tend to have both more traditional attitudes about gender roles (Ingelhart and Norris 2003) *and* rapid population growth. Nonetheless we doubt that economic underdevelopment accounts for *all* the association between greater gender inequality and faster population growth; part of the relationship between gender inequality and population growth most likely is causal (Riley 1997), since a number of studies show that independent of income fertility tends to be higher where women have less input in decisions about family size (Dodoo 2002; Mason and Smith 2000).

To appreciate the potential importance of uneven population growth for the global trend in gender inequality, note that from 1960 to 2005 sub-Saharan African and MENA (Middle East and North Africa) nations saw their share of the world’s people rise from about 14 percent to about 22 percent. Indeed, at the dawn of the twenty-first century, 95 percent of all births are occurring in less developed countries (United Nations 1999a). These facts suggest that global gender inequality is growing unless the decline in gender inequality within nations is rapid enough to offset the inequality-boosting effect of faster population growth in the more unequal nations (which we believe is the case, as indicated by hypothesis 1).

Hypothesis 3: The decline in global gender inequality is also being retarded by slow and halting change in gender inequality in some non-Western cultural traditions

We anticipate that notable relative gains for women in some cultural regions of the world are being offset in part by negligible relative gains for women – perhaps even losses for women – in other regions of the world. In other words, the overall downward trend in gender inequality may be masking sharp differences in rates of change across the world's regions and cultural traditions. Hypothesis 3 does not contradict hypothesis 1 – we still anticipate that women's advances are outstripping men's advances across a variety of domains – but it does qualify hypothesis 1 by positing that women's relative gains are not advancing in lockstep across the world's regions.

In our discussion of hypothesis 1 we speculated on the positive correlation between gender equality and the rise and spread of a world culture. But some standing cultural traditions may be more resistant than others to change with respect to women's rights, so we cannot assume that women's gains are universal. According to Ingelhart and Norris (2003:9, *italics in original*), “cultural change is a *necessary* condition for gender equality: women first need to change themselves before they can hope to change society.” On the basis of their analysis of survey data representing over seventy societies spanning 1981 to 2001, Ingelhart and Norris provide evidence of a ‘rising tide’ of support for gender equality (Ingelhart and Norris 2003), but a tide that is rising unevenly. So much so, in fact, that the unevenness appears to be leading to a growing gap between Western views about equality and gender, and traditional values espoused in poorer societies. Lopez-Claros and Zahida (2005:11) draw similar conclusions to those of Ingelhart and Norris when they state that “there is little doubt that traditional, deeply conservative attitudes regarding the role of women have made their integration into the world of public decision making extremely difficult.”

To summarize: Our first hypothesis is that exogenous pressure from transnational networks and/or endogenous economic growth and modernization has resulted in declining global gender inequality in many domains. Hypothesis 2 asserts that the decline in global gender inequality is being slowed by uneven population growth across the world's nations and regions. Finally, hypothesis 3 warns that the overall decline in global gender inequality might be masking an uneven process in which inequality is declining in some regions of the world while remaining stubbornly constant or perhaps even increasing in other regions.

Measuring Global Gender Inequality

By relying on aggregate data for (virtually) the entire world, this study is among the first to investigate the global trend in gender inequality. Unfortunately we cannot do this for all measures of interest (there is, for example, no reliable data on “men's income” and “women's income” for the world, nor is there reliable longitudinal data on caloric consumption by sex). We do, however, have sex-specific data for key welfare indicators in the areas of education, representation in national assemblies, economic activity, and health (for prior studies using similar indicators, see Ashford 2001, 2005; Bradley and Khor 1993; Mason 1986; United Nations 1995; United Nations 2000).

Because we are interested in change in *global* inequality, we must employ indicators that, first, cover most of the world's population and, second, are available for multiple points in time. In addition, because we are interested in *gender* inequality, we focus explicitly on domains where men and women can be compared (thus we focus on education, for example, as opposed to fertility or maternal mortality).

We begin with the four indicators the United Nations (2004:135) uses to monitor progress toward the Millennium Development Goal of promoting gender equality and empowering women:⁴

1. Ratio of literate women to men, ages 15–24.
2. Ratio of girls to boys in primary, secondary, and tertiary education.
3. Proportion of seats held by women in national parliaments.⁶
4. Proportion of wage earners in the non-agricultural sector who are women.

We follow the U.N. indicators exactly, with one exception: Instead of restricting the age range to 15–24 for literacy, we use a more comprehensive measure based on literacy rates for those age 15 and older. Doing so allows us to assess change in gender inequality in literacy for women versus men in general, not just for young women versus young men.⁶

We supplement the U.N. indicators by (i) adding a measure of total years of schooling completed and (ii) adding two measures based on gender disparities in mortality. As Edwards and Tuljapurkar (2005:665) observe, “Inequality in life span is arguably the most fundamental inequality that exists among human populations.” We use differences in female and male life expectancy at birth as one of our indicators of gender inequality in mortality and gender disparities in survival rates from age 15 to age 60 – the probability of a 15-year-old surviving to age 60 on the basis of current age- and sex-specific survival rates – as our second indicator. (Regrettably there are no reliable world data on *healthy* life span, so we rely on data for actual life span, in line with prior studies of global health inequality [e.g. Goesling and Firebaugh 2004].)

Appendix A describes our data and sources in more detail, and Appendix B details the world population coverage by indicator and year. Data are drawn from a number of sources, including the World Development Indicators Database (World Bank 2004), the United Nations Women’s Indicators and Statistics Database version 4.0 (United Nations 1999b), the United Nations Common Database (United Nations 2005a), and the Barro and Lee education attainment data set (Barro and Lee 2000). All results are based on a listwise complete set of countries, though the set of countries varies across indicators. We use different sets of countries for each indicator in order to maximize the number of available cases, but this reliance on different samples creates no serious problems of comparability across indicators because our data cover more than 90 percent of the world’s population for six of the nine indicators, and more than 80 percent for all the indicators. Missing data is not our principal concern here; the greater concern is measurement error for the data we do have. In that regard our study is no different from other global studies of gender inequality, including the studies the United Nations uses to evaluate progress on its Millennium Development Goals.

⁴Some prior studies of gender inequality rely on summary measures of gender inequality such as the gender empowerment index (GEM) or the gender-related development index (GDI) (Apodaca 1998; Dijkstra 2002; Ogwang and Abdou 2003; United Nations 2003), but the GEM and GDI have been criticized on theoretical and technical grounds (Bardhan and Klasen 1999; Bardhan and Klasen 2000; Charms and Wieringa 2003). In addition, gender inequality is multidimensional (Bradley and Khor 1993; Mason 1986), and these dimensions do not always move in tandem, nor do the dimensions necessarily respond to the same causes. Because composite indexes might mask divergent trends among its component dimensions, it is important to begin with separate indicators. Finally, summary indexes such as the GEM place greater demands on the data. Because complete, or nearly complete, data for all indicators comprising an index are often available only for richer countries, the use of such indexes may severely reduce and bias the population coverage.

⁶While not reported here, we also measured gender inequality in literacy among 15–24 year olds, in line with the U.N. indicator. As one would expect, the decline in gender inequality is more rapid among those in the 15–24 age range than it is among those in the 15+ age range we report in this paper. We report the more conservative 15+ estimates primarily because this age range encompasses a larger share of the world’s literate people.

The data cover the years 1960 to 2005 (the interval is shorter for some variables) and are measured in either five or ten year intervals. The trends in gender inequality are generally monotonic (see Figures 1 and 2), so to save space our tables present results only for the first and last year for each indicator.

Recent Trends in Global Gender Inequality

Results for Hypothesis 1: Is Global Gender Inequality Declining?

Figures 1 and 2 present trends in global gender inequality over the last several decades for each of our nine welfare indicators (first and last year point estimates are provided in Table 4). The results in the figures highlight three features of global gender inequality. First, global gender inequality has declined for all nine welfare indicators (average change per decade in the Gini index ranges from -0.001 for life expectancy to -0.049 for tertiary school enrollment). That is the big story here, as we elaborate subsequently.

Second, gender convergence is occurring much faster in some domains than in others. The biggest success story for women involves tertiary education where, by the year 2000, women had eliminated the gap in postsecondary educational enrollments. While it may seem counterintuitive that inequality in higher education has declined faster than inequality in primary and secondary enrollments, consider that contrary to primary and secondary schools, the distribution of institutes of higher education is markedly uneven, with most colleges and universities residing in advanced industrial or post-industrial societies. It is these societies that have experienced some of the biggest gains in gender equality in higher education.

Third, the *level* of global gender inequality varies dramatically across domains. Women are the least disadvantaged with respect to longevity (indeed, they hold a slight *advantage* over men in that domain, as is also the case with adult survival rates and more recently, in higher education) and are the most disadvantaged with respect to representation in national legislatures. Women's disadvantage in political representation is extreme (Gini = .79 in 1980 and .69 in 2005). To put inequality of this size in perspective, the Gini measure of inequality in pretax U.S. household income was .39 in 1998 (Jones and Weinberg 2000, Table 1). For other nations the Gini coefficient for income inequality ranges from about .25 for Denmark and Sweden to .63 for Botswana and .71 for Namibia (United Nations 2005b, Table 15). Worldwide, then, women's and men's participation in national legislatures is as unequally distributed as is income in the world's most unequal countries.

Women are also disadvantaged with respect to economic activity. We estimate that the Gini for gender inequality on labor force participation declined from about .27 in 1960 to about .18 in 2000. As a point of comparison, the Gini coefficient for global income inequality over the same 40 year period was about .63 in 1960 and .64 in 2000 (see Figure 2; estimates based on Milanovic 2005, Table 11.1). It is important to stress, though, that economic activity captures only part of the difference in women's and men's status with regard to work, since economically active women generally receive lower wages and often endure poorer working conditions than men do. Thus the Ginis reported here serve as a lower limit on the actual level of global gender inequality in the economic domain.

In short, with respect to political power and economic activity, the disparities between women and men worldwide remain sizeable. That's the bad news. The good news is that, for all nine of our welfare indicators, global gender inequality is declining and the decline is rapid in many instances. In general, school enrollments exhibited the most rapid declines in gender inequality. Over the last two decades of the twentieth century gender inequality was eliminated for tertiary school enrollments and was reduced by one-half for primary

enrollments and by nearly two-thirds for secondary school enrollments. Gender inequality in literacy was halved in the last three decades of the last century and gender inequality in average years of schooling completed narrowed by nearly 30 percent. Finally, gender inequality is low and declining negligibly in the case of our two longevity indicators, adult survival rates and life expectancy at birth.⁷

Results for Hypothesis 2: How Much Is the Decline in Global Gender Inequality Being Slowed by Uneven Population Growth?

From the evidence in Table 3, we can infer that uneven population growth across the world's regions is serving to retard the decline in global gender inequality since populations are growing faster in regions of greater inequality. It makes sense to ask, then, how much more gender inequality would have declined worldwide if the population shares of nations had remained constant. This question suggests a statistical exercise in which we assume, counterfactually, that population growth had been constant across all countries in recent decades. To be more specific, we project the level of global gender inequality in the last year, holding country population share constant at first-year levels while allowing gender inequality within countries to change at the observed rates. The key assumption here is that the observed change in *Y* (gender inequalities within nations) would have been the same had nations' populations in fact all grown at the same rate.⁸

Table 4 reports the results of the projections. The overarching conclusion is that (as expected) faster population growth in high-inequality regions did indeed retard the decline in global gender inequality. This result is seen by comparing the estimates in the last two columns of Table 4. The next-to-last column reports the observed level of gender inequality, and the last column reports the projected level under the assumption of uniform population growth for all countries. The results are striking: In every instance where women are disadvantaged, the projected Ginis indicate that female disadvantage would have declined even faster if populations had grown uniformly across nations. In short, our results strongly confirm hypothesis 2: The decline in global gender inequality *was* slowed substantially by unevenness in nations' rates of population growth.

Results for Hypothesis 3: Is the Decline in Global Gender Inequality Being Retarded by Slow and Halting Change in Some Non-Western Cultural Traditions?

A number of empirical approaches have been used to capture macro-level variation in gender outcomes by cultural or religious traditions (see, for example, Forsythe, Korzeniewicz, and Durrant 2000; Kenworthy and Melami 1999; Paxton et al 2006). We use a coding scheme that classifies each country according to majority religion. Admittedly, religion is a crude indicator of cultural tradition, and religious differences coincide with other historical, political, and economic differences, but there are few alternatives in a global study, and Inglehart and Baker (2000) find broad coincidence between religious and cultural "zones" worldwide. We deviate slightly from more conventional religious coding schemes in that we reduce the number of categories to just five (Buddhist, Chinese Universist, Christian, Hindu, and Muslim) because these religious groupings capture a measurable share

⁷The question of why men have narrowed the gap on survival rates and life expectancy is beyond the scope of our study. Perhaps worldwide rates of smoking and smoking-related illness and death are rising faster for women than men (see Preston and Wang 2006). Perhaps also HIV/AIDS has disproportionately affected women.

⁸Simulations of this sort constitute only first order effects because they ignore the interaction of change in population with change in gender inequality (White and Preston 1996). It is possible that if populations had not grown at a faster rate in the countries with high gender inequality, the rate of change in gender inequality would have been different. Thus, the results might overstate or understate the growth effect. The exercise nonetheless is useful because it does indicate the first order effects, where the growth simulation can be seen as an extreme (Heuveline 1999) or upper bound for change in global gender inequality.

of the world's population in each category.⁹ Appendix Table C provides details on our coding scheme as well as a list of countries assigned to each religious tradition.

In anticipating that culturally-entrenched barriers to equality in some regions of the world would slow the spread of gender inequality, we had supposed that resistance to change would be concentrated in non-Western cultures, with predominantly Muslim cultures being particularly slow to change (for suggestive evidence, see e.g. Forsythe, Korzeniewicz, and Durrant 2000; Kenworthy and Melami 1999; Paxton et al 2006). Indeed, we would not have been surprised to find backlash effects resulting in the further disadvantaging of women in some cultural traditions. Because we reasoned that religious/cultural traditions that resist (or facilitate) women's relative progress in one domain would tend to resist (facilitate) women's progress in other domains, we anticipated a pattern of change that might be highly uneven across cultural traditions, yet looked similar across all our indicators.

Our findings fly in the face of those expectations. As Figure 3 shows, women's relative progress was highly uneven across cultural traditions (as expected), yet there is no single pattern to the unevenness. In line with the results of Ingelhart and Norris (2003), then, we find "uneven tides" in the relative progress of women from region to region; but the unevenness itself is uneven, varying across the educational, economic, and political domains. In recent decades women's relative advances in school enrollment and in adult literacy have been fastest under Hindu and Muslim traditions and slowest in majority Christian countries. Ceiling effects no doubt explain why the decline in educational inequality was slower for majority Christian regions (i.e., primarily the West); women in the West continue to gain faster than men in the educational area (tertiary schooling) where enrollment rates have not yet approached the ceiling. Women's representation in national legislatures is increasing fastest in majority Christian regions and the most slowly in Chinese universist regions. With respect to labor force participation, women are catching up with men in four of the five traditions, with the greatest gains in Christian and Muslim regions and the slowest in Buddhist and Hindu regions.

Looking at Figure 3 as a whole, we conclude that women's relative progress generally has been slowest in Buddhist, not Muslim, societies. While the relatively slower rates of progress toward gender parity in economic activity in Asian countries may seem perplexing, cross-national research on female labor force participation suggests a possible explanation. In the early stages of industrialization, female labor force participation declines, but then begins to rise in the later stages of industrialization (Pampel and Tanaka, 1986). During the study period, 1970–2000, much of Asia was industrializing (declining female participation rates), the West was transitioning to post-industrialism (rising female rates), and the economies of the poorest countries were predominantly pre-industrial. This covariance of stage of economic development with female labor force participation rates is in line with our findings in Figure 3.

The most significant message in Figure 3, though, is that declining gender inequality is a pervasive phenomenon: For all our welfare indicators where women are disadvantaged, *all* religious traditions exhibit declining gender inequality in some domains; and there are no major regions of the world where gender inequality is rising rapidly. Among Christian, Hindu, Buddhist, and Muslim religious traditions, the female share among national legislators increased by more than 1.5 percent per year. Among college students, female shares increased by more than 2 percent per year for four of the five major religious

⁹For example only a single country, Israel, has a majority Jewish population. "Chinese Universist" is a term used by Barrett, Kurian, and Johnson (2001) to refer to the amalgam of Taoist, Confucian, and Buddhist religious traditions adhered to by many Chinese and East Asians.

traditions. And in the Muslim world the growth rate in the female share of economically active workers was greater than in any other region.

Discussion

This paper documents a decline in global gender inequality across nine key welfare indicators. Though uneven, the decline is noteworthy on several fronts. Gender inequality has been one of the most enduring forms of inequality across all societies over the course of human history, and the gender divide has been, as Epstein (2007) suggests, one of the deepest and most resistant forms of inequality existing in the world. Yet the world may be changing. Just over 100 years ago, women the world over were denied even the basic right of citizenship, the right to vote (Paxton et al 2006; Ramirez et al 1997), whereas today women have achieved near universal suffrage. Even in the domain where female disadvantage is the most extreme, in national legislatures, inequality has been eroding in recent years. With respect to enrollment in higher education, female disadvantage at the global level has been eliminated, and if the observed rates continue with respect to adult literacy and secondary school enrollments, the global gender gap will completely close in those domains as well in the next two decades. In historical perspective, then, we are witnessing a series of remarkable events—global “firsts.” Blau, Brinton, and Grusky (2006) have dubbed the pervasive decline in gender inequalities in the United States “one of the most important egalitarian movements of our time,” and we would extend that conclusion to the world as a whole, at least for the key welfare indicators we measure here.

In *Destined For Equality*, Jackson (1998:19) claims that “a pattern of declining gender inequality has appeared in all nations with modern economies and political structures. The timing, rate, and form of specific changes have varied considerably, but the fundamental pattern has been similar. This consistency suggests that the essential causes of gender inequality decline must be conditions or processes intrinsic to the development of modern institutions.” Though we did not report the results, we tested for a correlation between economic growth and change in gender inequality across countries (weighted by population size) and found only weak and inconsistent correlations. This finding is consistent with Chang’s (2000:1661) assertion that “insofar as such changes are worldwide in nature and diffuse across nations of varied levels of development, the case can surely be made that this cultural egalitarianism is not always structural-functional in origin.” The results of our analysis, particularly our finding of pervasive gender decline regardless of cultural traditions and economic growth, suggest that the diffusion of gender equality is not solely a function of socioeconomic change. The pervasiveness of the global egalitarian trends, combined with weak correlations of these trends to economic growth and religious traditions, lead us to conclude that exogenous change and cultural diffusion models may offer the most promising explanation for the global patterns we have found here. Exogenous change models might also account for some of the ‘lumpiness’ in gender inequality across nations, regions, and religious traditions, where it has been noted that the diffusion of the world polity has itself been rather uneven (Beckfield 2003).

Of course, “the patterns we have found here” are not all the patterns that exist, and it is important to note that trends we found do not necessarily apply either to gender policies (Curtin and Devere 2006) or to other important domains, such as the household division of labor, where significant gender inequalities persist (e.g. Charles and Grusky, 2004). One nonetheless should not downplay the significance of the gains for women across the range of domains we examined. On the basis of current trends one can be cautiously optimistic about the future of gender equality at the global level. Optimism about the future of global gender equality must be cautious for two reasons. First is the obvious point that there is no guarantee that current trends will continue. Second, gender equality can be seen as a two-

step process that can be summarized colloquially as “first get in the club, then attain equality within the club.” Most of the indicators we examine here focus on attaining membership in the “club” – enrolling in school, joining the economically active population, becoming a member of the national legislature. Gender parity on these indicators is only part of the story since, to cite one example, men and women are entering highly sex segregated labor markets, at least in industrialized countries (Charles and Grusky 2004). The same is true for the educational domain, where Jacobs (1996) reminds us that educational inequalities are multifaceted, occurring not just in access but also in the quality of education and in the rewards to educational attainment (see also Bradley 2000). So even if women achieve parity with men in terms of enrollment rates, there is still the issue of gender parity among those enrolled. That issue alone provides ample motivation for further research on trends in global gender inequality.

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Figure 1. Change in Global Gender Inequality: Five Education Indicators

NOTE: First and last year point estimates are reported in Columns 1 and 2 of Table 4.

Figure 2. Change in Global Gender Inequality: Four Other Welfare Indicators vs Global Income Inequality

NOTE: All indicators are listwise complete except national legislators. Income is for both sexes combined and comes from Milanovic (2005; Table 11.1).

Figure 3. Annualized Rate of Change in Female Share by Majority Religious Tradition

NOTES: Countries were coded to a majority religion using the simple majority religion, where majority represents the religion with the largest number of within-country adherents. We use the five category religious coding scheme in order to capture a meaningfully large share of the world's population in each category, but admit that the high level of aggregation we employ here masks considerable variation within each category. "China Universalist" is the term used by Barrett, Kurian, and Johnson (2001) and refers to the amalgam of Taoist, Confucian, and Buddhist religious traditions adhered to by many Chinese and East Asians. A negative sign indicates that female share *declined* during the study period.

SOURCES: See Appendix A for gender inequality data. Religion data are drawn from the Association of Religion Data Archives (2005) estimates of religious adherents.

Table 1

Literate Adults in 1970 for 134 Countries (91% of world's population)

	Estimated Population (millions)	Women's Share of Total
Total number of adults, age 15+	2,103	
Total number of adult women, age 15+	1,059	0.504
Total number of literate adults	1,374	
Total number of literate adult women	615	0.448

NOTES: Literacy is defined as the percentage of females and males ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life. See Appendix A for data sources. The women's population share reported above (0.504) varies slightly from the share reported in Appendix A (0.507) because the latter is based on more than 134 countries.

Table 2

Change in Women's Status in the *Average* Country vs Change for the *World's* Women: Survival Probabilities for Women, 1960 versus 2000

	Probability of survival from age15 to age 60		
	1960	2000	Percentage Change
Country Average	0.713	0.792	11.1%
Global	0.656	0.837	27.6%

NOTE: Change in women's status as measured by change in the female adult survival probability, that is, the probability that a 15-year-old female will survive to age 60. See Appendix A for data sources.

Table 3

1970–2000 Population Increase (%) for Countries Grouped by Gender Inequality Quartile in 2000

	Gender Inequality	
	Lowest Quartile	Highest Quartile
Literate Adults	43.2	200.1
Surviving Adults	77.0	166.7
Economically Active Adults	81.7	191.6

NOTES: Gender inequality was estimated using male and female share among all literate, surviving, and working adults, respectively. Statistics reported here weight countries equally. See Appendix A for data sources.

Table 4

Observed Global Gender Inequality and Projected Inequality Under the Counterfactual Condition of Constant Population Shares.

Indicator	Observed		Population Shares Held Constant
	First Year Gini	Last Year Gini	Last Year Gini
Literate Adults (1970–2000)	.112	.056	.044
Primary School Enrollments (1980–2000)	.082	.039	.030
Secondary School Enrollments (1980–2000)	.118	.041	.030
Tertiary School Enrollments (1980–2000)	.085	.012	.029
Years of Schooling Completed (1975–2000)	.175	.125	.103
National Legislators (1980–2005)	.789	.687	Na
Economically Active Workers (1960–2000)	.271	.175	.164
Surviving Adults (1960–2000)	.061	.042	.045
Expected Years of Life (1960–2000)	.033	.028	.031

NOTES: The simulation is a projection forward in time, that is, population shares (column 3) are held constant at initial levels (1960, 1970, 1975, or 1980, depending on the indicator). Our conclusions would be the same if we projected backward in time. Italicized values indicate female advantage.

Appendix A

Description of Variables

Indicator (source)	Definition	Population Weight
Literate Adults (WDI)	Percentage of females and males ages 15 and above who can, with understanding, read and write a short, simple statement on their everyday life.	Age 15+
Those Enrolled in Primary, Secondary, and Post Secondary School (WDI)	Ratio of total female and male gross enrollment, regardless of age, to the population of the age group that officially corresponds to the level of education shown. Primary education provides children with basic reading, writing, and mathematics skills along with an elementary understanding of such subjects as history, geography, natural science, social science, art, and music. Secondary education completes the provision of basic education that began at the primary level, and aims at laying the foundations for lifelong learning and human development, by offering more subject- or skill-oriented instruction using more specialized teachers. Tertiary education, whether or not to an advanced research qualification, normally requires, as a minimum condition of admission, the successful completion of education at the secondary level.	Primary: Age 5–12.5; Secondary: Age 12.5–17.5; Post-Secondary: Age 17.5–25
Average Years of Total School Completed (Barro and Lee)	Average number of years of total schooling in the female and male populations over age 25.	Age 25+
National Legislators (UNCED & WISTAT)	Percentage of elected or appointed seats occupied by women and men in unicameral assembly or lower house of parliament.	Age 20+
Economically Active Workers (UNCED)	The economically active population comprises all persons, by sex, who furnish the supply of labor for the production of goods and services during a specified time-reference period. According to the 1993 version of the System of National Accounts, production includes all individual or collective goods or services that are supplied to units other than their producers, or intended to be so supplied, including the production of goods or services used up in the process of producing such goods or services; the production of all goods that are retained by their producers for their own final use; the production of housing services by owner-occupiers and of domestic and personal services produced by employing paid domestic staff.	Age 15–65
Surviving Adults (WDI)	The probability of a 15-year-old surviving to the age of 60 if subject to current age-specific survival rates between ages 15 and 60. Derived from deaths per 1000 among adult male and female population.	Age 15–60
Life Expectancy at Birth (WDI)	The number of years a newborn female or male infant would live if prevailing patterns of mortality at the time of its birth were to stay the same throughout its life.	Total Population

SOURCES: World Development Indicators Database (WDI), United Nations Women's Indicators and Statistics Database version 4.0 (WISTAT), United Nations Common Database (UNCED) and (Barro and Lee 2000).

Appendix B

Percentage of World Population by Year and Indicator With Listwise Deletion

Indicator (number of countries)	1960	1965	1970	1975	1980	1985	1990	1995	2000	2005
Literate Adults (134)			91	91	91	91	91	91	91	
Primary School Enrollment (139)					95		95	95	94	
Secondary School Enrollment (139)					94		94	94	94	
Tertiary School Enrollment (103)					81		82	81	80	
Years of Schooling (101)				84	84	84	84	85	85	
National Legislators (133)					86					88
Economically Active Workers (173)	99		99		99		99		99	
Surviving Adults (148)	95		94		94		94		94	
Life Expectancy at Birth (171)	94		94		94	94	95	95	95	
Total Population:										
Proportion Female	.503	.502	.502	.501	.501	.501	.500	.501	.501	.501
Proportion Male	.497	.498	.498	.499	.499	.499	.500	.499	.499	.499
Adult Population (15+):										
Proportion Female	.509	.508	.507	.506	.505	.505	.505	.505	.506	.506
Proportion Male	.491	.492	.493	.494	.495	.495	.495	.495	.494	.494

SOURCES: All population statistics drawn from *United Nations Common Database (2007)*.

NOTES: Adult literacy data were not available for Western Europe, European offshoots, and Japan Following the United Nations (2008), we set missing literacy data for developed countries at 99.0% literacy for both males and females in these countries. We used enrollment estimates for 2005 and 1995 to impute the linear mean where data were missing in 2000. Therefore, if enrollment was 10% in 1995 and 20% in 2005, the imputed enrollment for 2000 was 15%. We followed the same procedure to fill missing data in 1980, where the average of observations for the years before and after 1980 was used to interpolate the linear mean. Analysis on reduced samples and time periods confirmed that monotonic enrollment data trends were robust to different samples and different study years. Because population coverage was lower for school enrollments, data were linearly interpolated in 1980 and 2000. In all cases, we conducted all analysis on a reduced, listwise complete set of countries and the results were similar to those we present here. We use the larger sample and present first and last year results because the trends were linear for all enrollment data.

Appendix C

Country Coding of Majority Religious Tradition

COUNTRIES BY RELIGIOUS TRADITION (population shares in parentheses). **Buddhist (.056):** Bhutan, Cambodia, Japan, Myanmar, Sri Lanka, Thailand, Vietnam. **Chinese Universist (.208):** China, Singapore. **Christian (.366):** Angola, Argentina, Armenia, Aruba, Australia, Austria, Bahamas, Barbados, Belarus, Belgium, Belize, Bolivia, Botswana, Brazil, Bulgaria, Burundi, Cameroon, Canada, Cape Verde, Central African Republic, Channel Islands, Chile, Colombia, Congo, Congo (Dem Rep), Costa Rica, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominican Republic, Ecuador, El Salvador, Equatorial Guinea, Estonia, Ethiopia, Fiji, Finland, France, French Guiana, French Polynesia, Gabon, Georgia, Germany, Ghana, Greece, Grenada, Guadeloupe, Guam, Guatemala, Guyana, Haiti, Honduras, Hungary, Iceland, Ireland, Israel, Italy, Jamaica, Kenya, Korea (Rep), Latvia, Lesotho, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malta, Martinique, Mexico, Micronesia, Moldova, Namibia, Netherlands, Netherlands Antilles, New Caledonia, New Zealand, Nicaragua, Nigeria, Norway, Panama, Papua New Guinea, Paraguay, Peru, Philippines, Poland, Portugal, Puerto Rico, Reunion, Romania, Russian Federation, Rwanda, Saint Lucia, Saint Vincent & Grenadines, Samoa, Sao Tome & Principe, Slovakia, Slovenia, Solomon Islands, South Africa, Spain, Suriname, Swaziland, Sweden, Switzerland, Tanzania, Timor-Leste, Togo, Tonga, Trinidad & Tobago, Uganda, Ukraine, United Kingdom, United States, Uruguay, Vanuatu, Venezuela, US Virgin Islands, Zambia, Zimbabwe. **Hindu (.175):** India, Mauritius, Nepal. **Muslim (.18):** Afghanistan, Albania, Algeria, Azerbaijan, Bahrain, Bangladesh, Bosnia & Herzegovina, Brunei, Burkina Faso, Chad, Comoros, Djibouti, Egypt, Eritrea, Gambia, Guinea, Indonesia, Iran, Iraq, Jordan, Kazakhstan, Kuwait, Kyrgyzstan, Lebanon, Libya, Malaysia, Maldives, Mali, Mauritania, Morocco, Niger, Oman, Pakistan, Palestine, Qatar, Saudi Arabia, Senegal, Sierra Leone, Somalia, Sudan, Syria, Tajikistan, Tunisia, Turkey, Turkmenistan, United Arab Emirates, Uzbekistan, Western Sahara, Yemen.

NOTES: The Association of Religion Data Archives provides estimates on the number of within country adherents for the following religions: Bahai, Buddhist, Chinese Universist, Christian, Confucianist, Ethno-religionist, Hindu, Jain, Jew, Muslim, Shintoist, Sikh, Spiritist, Taoist, Zoroastrian. From these religions, countries were coded to a “majority religion”, where majority represents the religion with the largest absolute number of within-country adherents. This yielded 7 majority religion codes, which we further reduced to five by coding Israel, which is a Jewish majority, to Christian due to the similarity in Ethno-religious and economic traditions. Finally, a small number of ethno-religionist majority countries were removed from the analysis because they comprised such a small share of the world’s people.