

# The Political Economy of Women's Support for Fundamentalist Islam

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## Abstract

Why do some women in Muslim countries adopt fundamentalist Islamic value systems that promote gender-based inequalities while others do not? This article considers the economic determinants of fundamentalist beliefs in the Muslim world, as women look either to marriage or employment to achieve financial security. Using cross-national public opinion data from eighteen countries with significant Muslim populations, we apply a latent class model to characterize respondents according to their views on gender norms, political Islam, and personal religiosity. Among women, lack of economic opportunity is a stronger predictor of fundamentalist belief systems than socioeconomic class. Cross-nationally, fundamentalism among women is most prevalent in poor countries and those with a large male-female wage gap. These findings have important implications for the promotion of women's rights, the rise of political Islam, and the development of democracy in the Muslim world.

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## Introduction

The resurgence of revivalist religious practices, or fundamentalism, in the late twentieth century has been described as a “historical counterattack” mounted by threatened religious traditions seeking to slow the spread of secularization and mitigate the perceived negative effects of modern life (Almond et al. 2003, 20). Fundamentalist belief systems typically call for a return to the “golden age” of some society or religion when, almost without exception, men enjoyed considerable social and economic power over women (Kaplan 1992). But fundamentalist movements are not simply backward looking; rather, they possess a political agenda that seeks to restore “lost social virtues” (Kuran 1993, 290) to contemporary society, with specific—and unequal—implications for the freedoms and advantages afforded to men and women.

Fundamentalist Islam has garnered particular outside interest in recent years in part because of the unusually restrictive demands that it places upon women. In addition to beliefs typical of fundamentalist ideologies that favor men over women in employment and education opportunities, fundamentalist Islam further uses these beliefs as the basis for practices such as veiling (use of *hijab*, *‘abayah*, or *niqab*), female genital mutilation, and sometimes even honor killings.<sup>1</sup> Nevertheless, many Muslim women support and identify with the fundamentalist Islamic social and political movements that promote these practices and beliefs, and often willingly participate in these practices themselves. This article addresses the question of why, in Muslim countries, women adopt fundamentalist value systems that limit their social, political, and economic opportunities and, in the extreme, can even result in their physical harm?<sup>2</sup>

Explaining why women in Muslim countries hold fundamentalist beliefs is necessarily a complex and multifaceted issue. Our analysis focuses upon the economic and social incentives women face when confronted with fundamentalist versus secular ideologies, but we recognize that these are by no means the only—nor even, perhaps, the primary—determining factors. Nonetheless, as we show empirically, economic pressures do have large and significant effects on women’s belief systems concerning religion, politics, and their own role and status in society. Women with limited economic opportunities—whether due to unemployment, minimal formal education, or poverty—are more likely to take on fundamentalist and traditionalist belief systems that enhance their value as potential marriage partners.

We operationalize fundamentalism as a composite belief system that spans two broad areas: preferences consistent with a traditionalist world view that systematically favors men over women; and personal piety and support for the confluence of politics and religion consistent with conservative Islamic values.<sup>3</sup> To ascertain the prevalence of such beliefs in

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<sup>1</sup>The Islamic basis for these practices is a source of debate in the Muslim world. For example, the performance of female genital mutilation is not supported by most interpretations of Islamic law but many women in the Nile Valley associate this act with adherence to Islam.

<sup>2</sup>It is less confusing why Muslim men might support social practices that advantage them vis-à-vis women, though this is also a research subject in need of further investigation.

<sup>3</sup>This definition of fundamentalism may not conform with some popular or journalistic uses of the term. We believe that our conceptualization is nonetheless valid and analytically useful. Debate over the status, role, and rights of women in Islam is perhaps the most important line of cleavage between those individuals who believe that the holy texts of Islam can be reinterpreted in the context of the present and those would be considered hard-line literalists; see also Winter (2001).

the Muslim world, we examine public opinion data from the latest wave of the World Values Survey, which included over 20,000 Muslim respondents in eighteen countries around the world.

Researchers across the social sciences have described mass support for fundamentalism as a vast sociopolitical movement, particularly among first-generation urban residents (Kaplan 1992, 9). While narrative discussions of this subject are widespread in the women's studies and anthropology literature on comparative fundamentalism, political scientists have only paid scant attention to the topic. Yet understanding the determinants of fundamentalism is highly relevant to understanding world politics, as increasing support for fundamentalism in cultural practice has the potential to translate into increasing support for religiously-oriented or authoritarian regimes and institutions (Fish 2002, Esposito 1999, Natchwey and Tessler 1999). Understanding the *economic* determinants of fundamentalism in particular is important because economic opportunity—unlike other more idiosyncratic factors that may influence belief systems—can actually be shaped and regulated through government policy.

## Fundamentalism and Gender Norms

Fundamentalism refers to any “sociopolitical movement that requires of its members a strict adherence to specified ‘fundamentals’ or doctrines; and that claims for its motivation in doing so a divine, or otherwise transcendently grounded, mandate” (Saha and Carr 2001, 3). Anthropologists, sociologists, political scientists, and religious scholars have asserted that fundamentalism and support for fundamentalist practices have enjoyed a resurgence in the late twentieth century and that the motivation for the revival of neotraditionalism in diverse cultures appears to be rooted in similar social, economic, and political processes (Brink and Mencher 1997).

Islamic fundamentalist practices and beliefs vary from place to place but have at their core a type of social conservatism that holds that Muslims must return to some authentically ‘Islamic’ tradition. The standard historical explanation for the rise of fundamentalism is that in the wake of rapid modernization, secularization, and urbanization, the traditional rural population became increasingly disconnected from their more religious past. ‘Fundamentalists’ blamed economic hardships and setbacks on secular and liberal elements of society (Marty and Appleby 1995, 1). With respect to gender norms, newly urbanized populations found it difficult to accept the changing role played by women that accompanied modernization, particularly as women began to work in non-traditional areas.<sup>4</sup> Fundamentalists reacted negatively to women’s social and economic liberation, particularly the changing nature of male/female relations in urban settings (Kaplan 1992, 8).<sup>5</sup> The resulting phenomenon is what is generally described (to varying degrees) as Islamism, fundamentalism, Wahabism,

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<sup>4</sup>Feminist scholarship suggests that during periods of rapid social change, gender assumes a paramount position in social discourses since women in developing societies are seen as the main transmitters of social values. Efforts are often made to reimpose traditional behaviors as a remedy for destabilization (Moghadam 1993, 136).

<sup>5</sup>Mernissi (1987, ix) adds that fundamentalism can be seen as a “political statement about men undergoing bewildering, compelling changes affecting their economic and sexual identity—changes so profound and numerous that they trigger deep-seated, irrational fears.”

or puritanism, where traditional Islam (or what is perceived to be traditionally Islamic) becomes elevated to a “sacrosanct status” (Esposito 1982).

Khaled Abou Fadl (2001, 7) argues that one of the most traumatic aspects of Islamic puritanism has been its effect on women, as Muslim men seek to increase their feeling of empowerment in a modernizing world. He writes, “puritan movements appropriated women’s dignity into a symbol of honor for men” and that the easiest and most effective ways to prove one’s traditionalist legitimacy is to call for laws that are restrictive to women.<sup>6</sup> Fundamentalists have increasingly focused their attention on issues of morality, particularly as they pertain to the reputation and chastity of women (an issue closely related to a man’s status or honor). Hawley (1994) has argued that fundamentalists tend to be intimidated by female autonomy and feel that exercising power over women remained one of the few areas in which men could exert control and authority.

Support for the religious and cultural practices associated with controlling women, however, comes from both sexes. Why do women accede to these belief systems?

## **Economic Circumstances and Support for Fundamentalism**

We contend that, among Muslim women, financial insecurity is a key determinant of the propensity to adopt fundamentalist beliefs and preferences. To the extent that opportunities for economic security via employment in the job market are limited, women may look to the alternative of a favorable marriage in what is known as the “marriage market”. For women, fundamentalist views that perpetuate patriarchy and are associated with conservatism, religiosity, and piety, are traits valued in the marriage market and society, writ large. Economic pressure can, in this manner, create incentives that actually encourage women to support preferences that disadvantage her in the market for education and employment so that she may seek material security through marriage.

Muslim women have a choice of whether or not to adopt and identify with fundamentalist belief systems—that is, their orientation towards or away from fundamentalism is not predetermined or externally imposed. Helen Hardacre—a contributor to the American Academy of Arts and Sciences’ five-volume ‘Fundamentalism Project’—writes that women “freely and knowingly decide to relinquish power and autonomy in favor of men” (1993). Mahmood (2005) similarly emphasizes that Muslim women are active agents in the rise of fundamentalist values rather than victims of “false consciousness,” and Brink and Mencher (1997) note that women often choose fundamentalism to seek advantage or benefit. Adherence to fundamentalist values is not an immutable or inborn trait. This is true even if we believe that women do not choose these beliefs explicitly strategically, but rather take them on through a process of imitating other women around them who seem economically successful.

### **Alternate explanations for fundamentalism among women**

A wide variety of explanations have been proposed for why some Muslim women adopt fundamentalist belief systems (or various components of such belief systems), while others do

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<sup>6</sup>Conservatives often cite Surat al-Nisa of the Koran which says “Men shall take full care of women with the counties which God has bestowed more abundantly on the former than on the latter” as a justification for their attitudes and actions toward women.

not. Hardacre (1993) has identified a number of possible economic and cultural reasons, including (1) fear of dislocation, often associated with anti-colonialist sentiment, (2) inability to earn sufficient wages independent of a male breadwinner, (3) lack of education and exposure to outside contacts, (4) concern over male reprisal for non-conformity and disobedience, (5) fear of divine disapproval, and (6) difficulty making choices about things that they were raised to believe would be inevitable. Other treatments of this subject have tended to emphasize the cultural and political aspects of the rise of fundamentalism (Mernissi 1987, Piscatori 1994).

Recent efforts by political scientists have focused more broadly upon the institutional and economic bases for gender differences in support for patriarchal political norms and conservative political policies. Iverson and Rosenbluth (2005) contend that the acceptance of patriarchal norms is tied to patterns in the sexual division of labor, with societies based on labor-intensive agriculture (or other modes of production that emphasize male “brawn”) tending to advantage men over women. This is consistent with the findings of Edlund and Pande (2002) and Edlund, Haider, and Pande (2005) who demonstrate that the economic insecurity associated with higher divorce rates leads women in advanced democracies to support left-leaning politicians.

The theory and evidence that we present here reinforce interest in the economic determinants of the beliefs and ideological orientation of women in the Muslim world. But it should be kept in mind that for the most part, these alternate explanations are complimentary rather than competing. Evidence in support of an economic motivation for some—or even many—women to hold fundamentalist beliefs does not necessarily preclude other women from holding fundamentalist beliefs for completely non-economic reasons.

### **Does poverty cause fundamentalism?**

It has long been held that poverty breeds fundamentalist beliefs and that poor Muslims have been the demographic group most affected by this phenomenon. Relative deprivation and hopelessness are cited as sources of frustration for many Muslims, particularly young men. Shimon Peres, in his vision of “the new Middle East,” argued that fundamentalism is a protest against poverty.<sup>7</sup> Others have made the case that poverty provides fertile ground for fundamentalist belief systems (Kepel 1985; Zuhur 1992). The causal mechanism is thought to be that poor economic circumstances “may create attitudes and grievances among particular groups in the population, inclining them favorably to fundamentalist arguments, themes, and practices” (Almond et al. 2003, 130).

This claim is oft-repeated, yet significant counter-examples stand out. Citizens of cash-starved Bangladesh enjoy a reputation for their secular outlook while oil-rich Saudis are much more likely to be considered fundamentalist in their outlook toward religion. Economic booms do not inoculate against rising fundamentalism nor do busts ensure the opposite. And although standards of living have continued to rise across the Muslim world during the 20th century, support for fundamentalism has also increased.

In addition, research into fundamentalist self-identification at the individual level has shown it to cut across socioeconomic lines. Mahmood (2005, 2) writes that during her

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<sup>7</sup>Interview with *Middle East Quarterly*, March 1995, 2(1).

fieldwork studying the Islamist movement in Egypt, “women from a variety of socioeconomic backgrounds” supported Islamism, in contrast to the conventional wisdom that Islamist support came only from among the poor. Moghadam (1993) also stresses that fundamentalist preferences are not a function of class among women. Egyptian sociologist Saad Eddin Ibrahim (1980) has shown that Islamic extremists tend to be well-educated, upwardly-mobile young men, not the stereotypical slum dweller. Members of the Muslim Brotherhood across the Islamic world are very often doctors, lawyers, and engineers. It is not clear, however, if individual extremists or fundamentalist group leaders that are subject to academic study are representative of the broader distribution of individuals with these beliefs.<sup>8</sup> Most current knowledge about support for fundamentalism also deals specifically with the preferences and beliefs of Muslim men, while Muslim women may face a very different set of constraints and incentives when choosing among belief systems.

### **Economic opportunity and financial security**

Considering the potential flaws in a poverty-based economic explanation for fundamentalism, we propose a second mechanism through which financial insecurity may lead women to embrace fundamentalist beliefs.

The basic avenues to material security for women in the Muslim world are gainful employment, marriage to a gainfully employed spouse, or some combination of the two.<sup>9</sup> When economic opportunities are available and market conditions favorable, women seek employment opportunities outside of the home (Hoodfar 1997, 20). Under less favorable economic circumstances, however, marriage can serve as an economic substitute for paid employment in the workforce.

For women, identifying with fundamentalist belief systems has value in the marriage market. Marriage in Muslim-majority countries, particularly among the non-elite, is viewed as a contract between two parties and is likely to be the single most important economic arrangement that a woman enters into in her entire life (Hoodfar 1997). Selection of marriage partners is therefore a critical concern. One observer of Egyptian family life writes that potential partners need to have the right set of qualifications; and women particularly must reflect well upon the public reputation of the families involved since Muslim males are preoccupied with “family name and reputation” (Rugh 1985, 108-9). Among the most highly valued traits in a potential bride are piety and traditionalism. Moral conservatism and modest, religious behavior are considered important qualities at all levels of society—from female inhabitants of Cairo’s cemetery-slums known as the City of the Dead (Watson 1992), to middle- and upper-class Egyptian women.<sup>10</sup> Indeed, young men in Cairo’s urban quarters see the search for a “moral” marriage partner as a more daunting challenge than

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<sup>8</sup>For example, Ethan Bueno de Mesquita (2005) makes the compelling case that there exists a wide distribution of individuals in extremist groups, yet those selected for study may be the individuals of highest “quality” with regard to education and ability.

<sup>9</sup>In the wealthiest of the Gulf oil states, it is possible to live off of state largess and family wealth though the vast majority of women are married, employed, or both.

<sup>10</sup>This observation is based on conversations with dozens of Egyptian women during nine-months of field research conducted in 2005 by Author; see also Zuhur (2003) and Singerman (1995).

finding an apartment in the city's highly competitive market for affordable real estate (Ismail 2006, 110), suggesting that there is a premium of sorts for a pious bride.

The contemporary Muslim view is that family is the fundamental unit of society and the mother has a key role in the socialization of children, particularly in raising committed Muslims and transmitting cultural values (Moghadam 1993, 100). A woman's status, therefore, is mainly determined by her ability to be a good wife and mother (Rashad et al. 2005). Anthropologists report that fundamentalist women, in general, are dedicated to the "maintenance and valorization of patriarchal social structures" and believe that the moral formation of children against the influence of secular society is a mother's most important task (Almond et al. 2003, 11-12). Adherence to conservative values, therefore, tends to increase a woman's marriageability.<sup>11</sup>

At the same time, the ability of women to obtain certain well-paying positions is also contingent upon their preferences—except in precisely the opposite manner. External signals of piety that might help women in the marriage market may actually hurt them in the market for many desirable jobs. Barsoum (2002) writes that higher education is not a sufficient condition to get a good job in Egypt; employers also serve as gatekeepers weeding out those individuals who do not fit the progressive attitudes for sought-after multinational company positions.<sup>12</sup> For example, veiled women in Egypt have been subject to job discrimination in prestigious fields such as televised media, advertising, hospitality, and other segments of the tourism market (El Sirgany 2006) and foreign companies often have an unwritten policy of not hiring veiled women (Hatem 1992).

Women in many Muslim-majority countries therefore face a double bind. On the one hand, those that provide secular signals to actors in the employment market are disadvantaged in the market for marriage. But those that provide conservative signals to potential spouses in the marriage market may be disadvantaging themselves in the market for high-paying jobs.<sup>13</sup> Women—particularly those without good job prospects—suffer from high levels of anxiety as a result of economic uncertainty and may view marriage as the only source of financial security (Bourqia 1995). This has led some to claim that women's conservatism and adherence to puritanical Islam has a material basis. Hoodfar (1997, 135) comments that, "Women's adherence to traditional ideology serves their interests, given their possibilities and justifies financial dependence on their husbands."

It has been noted that, just as women in higher socioeconomic classes may hold fundamentalist beliefs, some of the strongest support for the Islamist movement is among extremely well-educated women, such as doctors and university educators, who may see the opportunity for prestigious employment opportunities by providing high-level services to other women in

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<sup>11</sup>Male preferences on this issue are highlighted in the following statement made to an anthropologist: "The fact is that men who have reservations about (female) circumcision would marry circumcised women, but those who see circumcision as necessary for women would not marry uncircumcised women" (quoted in Hoodfar 1997, 261; Hoodfar's usage of the term "female circumcision" is a euphemism for the practice more commonly known as female genital mutilation.). Similarly, conservative preferences are seen as a necessary trait for many marriages and an acceptable trait for the rest. In her study of Cairo's popular (i.e. non-elite) neighborhoods, Ismail (2006, 111) finds that both educated and uneducated men share conservative views regarding gender relations.

<sup>12</sup>While many conservative women are able to seek employment in the state sector, these jobs are generally much less desirable and lucrative than private sector employment.

<sup>13</sup>See Patel (2005) for a thorough discussion of signaling piety.

single-sex environments (Moghadam 1993, 148) or for serving in a leadership capacity for the mass Islamist movement. This is also consistent with the observation that the highest levels of society of some Arab countries have seen an increasing polarization of beliefs between hardcore secularists and extreme traditionalists (El Sayed 2007). Thus it is possible that even though the *overall* trend is for the prevalence of fundamentalist beliefs to decrease with education, this trend will reverse slightly for women at the very highest levels of education. We in fact find evidence of this effect in our analysis, below. An alternate possibility is that employed and highly-educated women who are interested in marriage adopt conservative beliefs to offset the secular signal sent by those sources of self-sufficiency. But if this were true, then we would find no effect of employment or education on belief system, which is not what our empirical results indicate.

## Identifying Belief System Patterns

To determine precisely how economic factors influence the degree to which Muslim women adopt fundamentalist belief systems, we analyze cross-national public opinion data collected over the past decade as part of the World Values Survey (WVS) (Inglehart et al. 2004).<sup>14</sup>

### Survey data and sample selection

Our study spans the eighteen WVS countries with the largest Muslim populations, representing nearly seventy percent of the world’s Muslims.<sup>15</sup> No country excluded from our analysis contains more than two percent of the world’s Muslim population. We restrict our analysis to only those individuals who identify themselves to the WVS as Muslim. This produces a data set containing a very large total of 22,376 individual respondents.

Fundamentalist Islamic belief systems are, by definition, multifaceted. To characterize fundamentalists, we identify sixteen questions asked by the World Values Survey addressing preferences towards gender roles and opportunities, as well as personal religiosity and the role of religion in government. Responses to these questions act as indicators of each individual’s underlying belief system—which may or may not be fundamentalist. These questions, listed in Appendix B, are not based on the experience of a particular country, but rather are of relevance across the Islamic world. Most questions are also extremely specific, and leave little room for outside interpretation or cultural bias.<sup>16</sup>

Notions of gender equality are typically associated with industrialized, Western nations, but these ideas are increasingly becoming globalized. While some individuals believe in equality between the sexes, others favor traditionalist ideals, often transmitted via religious channels, and associated with the people who claim the right to speak in the name of puritanical Islam. Questions such as whether men should have more of a right than women

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<sup>14</sup>The World Values Survey is accessible via the Internet at [www.worldvaluessurvey.org](http://www.worldvaluessurvey.org). For more on the design and scope of other cross-national public opinion studies, see Heath, Fisher, and Smith (2005). Survey research based upon the principle of random sampling is widely recognized as an effective and reliable scientific instrument for the collection of opinion data in political science (Brady 2000).

<sup>15</sup>A complete list of these countries, and the sample sizes for each, are given in Appendix A. We exclude WVS countries with fewer than 150 Muslim respondents to ensure that each country has a sufficient sample size to be able to make meaningful estimates of country-level fundamentalism at a later point in the analysis.

<sup>16</sup>On this issue, see King et al. (2004).



to a job or a university education, whether women must have children, or whether polygamy is acceptable, capture this division well.

Questions about personal religious practices such as frequency of attendance at religious services and belief in God measure another component of fundamentalism, as do questions related to support for the confluence of religion and politics. Fundamentalist Islamic groups, like the Muslim Brotherhood, have long argued that Islamic law be implemented by governments of many Muslim countries. While recently some of these groups have shifted their argument to encourage laws in an Islamic “framework,” the intent is clear—a joining of religion and state. The World Values Survey asks, for example, whether respondents believe that politicians must believe in God, whether religious leaders should influence politics, and whether Islamic law should be implemented. As with opinions favoring traditionalist gender roles, religiosity and political religiosity are necessary, but not sufficient, conditions for being considered fundamentalist.<sup>17</sup>

### Latent class analysis

Groups of individuals with similar belief systems provide roughly similar sets of survey responses across our questions of interest. To assess the nature and degree of this clustering, we employ a statistical technique called latent class analysis.<sup>18</sup> The latent class model utilizes information about the frequency with which different patterns of survey responses were given, and the similarities and differences between these response patterns, to partition the survey sample into subgroups of like-minded individuals. It does so by assuming a latent (unobserved) categorical variable that accounts for the observed relationships between responses to the survey questions.<sup>19</sup> In our analysis, this categorical variable represents different belief systems.

The latent class model identifies the natural groupings (the “classes”) in the data and estimates the most probable class membership for each respondent. However, the model does not determine the actual number of such latent groups, though it can guide the analyst in making a theoretically and empirically sound assessment. In fitting the latent class model, our goal is to estimate the simplest model that isolates and identifies those individuals with a ‘fundamentalist’ belief system. As we demonstrate in the next section, a model with four latent classes accomplishes this task well.

The latent class model also allows for the inclusion of individual-level covariates—such as social class, education level, and employment status—to predict latent class membership (Dayton and Macready 1988; Bandeen-Roche et al. 1997). The covariates represent a second source of information in addition to the survey responses about each individual’s ideological orientation. In this latent class “regression” model, the probability of membership in each

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<sup>17</sup>To be clear, while this article deals with belief systems in Islamic societies, we make no claims regarding whether certain beliefs are aspects of a ‘right’ or ‘true’ Islam.

<sup>18</sup>The technique of latent class analysis was first set forth by Lazarsfeld (1950). A wide range of variations and extensions of that original model have subsequently been developed (Hagenaars and McCutcheon 2002).

<sup>19</sup>Latent class models require no assumptions about respondents assigning utility to their responses, nor about any sort of utility maximization when selecting among outcomes. This contrasts with the statistical methods of ideal point estimation, which are also used to estimate latent characteristics of individuals based upon their observed behaviors, but which do require certain rationality assumptions. See, for example, Clinton, Jackman, and Rivers (2004).

latent class is predicted by the effects of the covariates, and in turn, explains the observed pattern of responses across the sequence of questions of interest.

## Model setup and estimation

In order to 1) cluster survey respondents and 2) estimate the effects of covariates on that clustering, the latent class model assumes that the survey population is made up of a mixture of different types of people, with different probabilities of giving each response to each survey question, depending upon their underlying beliefs. These underlying types, however, are unobserved, and must be inferred from the observed responses and covariates. The model does this by probabilistically categorizing respondents such that conditional on the unobserved latent variable—that is, the variable that labels the belief system clusters—individuals’ survey responses are statistically independent.

In statistical terms, let  $i = 1 \dots N$  index survey respondents, and  $X_i$  be a vector of covariates for the  $i$ th respondent. Assume the unobserved latent variable is a discrete variable with  $R$  unordered categories. Because the categories of this variable are exhaustive, the probabilities that an individual belongs to each of the  $R$  categories must sum to one. We therefore employ a multinomial logit link function to map from  $X_i$  to each of these  $R$  prior probabilities:

$$p_r(X_i; \boldsymbol{\beta}) = \frac{e^{X_i \boldsymbol{\beta}_r}}{\sum_{q=1}^R e^{X_i \boldsymbol{\beta}_q}}. \quad (1)$$

The coefficient vectors  $\boldsymbol{\beta}_r$  are estimated in the model, with  $\boldsymbol{\beta}_1 = 0$  (corresponding to an arbitrarily selected “reference” class) fixed by definition. The sign and magnitude of the coefficients in each  $\boldsymbol{\beta}_r$  determine the relative probability that a respondent will belong to class  $r$  with respect to class 1.

The model simultaneously estimates the probabilities that, conditional upon belonging to each class, an individual will give each response to each question. Denote these class-conditional response probabilities as  $\pi_{jkr}$ , where  $j = 1 \dots J$  indexes questions and each question has  $k = 1 \dots K_j$  discrete outcomes. The probability of observing individual  $i$ ’s response pattern if they belong to class  $r$  is

$$f(Y_i; \pi_r) = \prod_{j=1}^J \prod_{k=1}^{K_j} (\pi_{jkr})^{Y_{ijk}}, \quad (2)$$

where  $Y_{ijk}$  represents the observed survey responses.  $Y_{ijk} = 1$  if respondent  $i$  gives the  $k$ th response to the  $j$ th question, and  $Y_{ijk} = 0$  otherwise. Examining these values after the model has been fit provides a profile of the “type” of respondent in each latent class.<sup>20</sup>

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<sup>20</sup>If any survey item does a poor job of “discriminating” between the latent classes—either because the classes do not differentiate on that item, or because the item does not contain that much variation to begin with—it will be apparent in the estimated values of  $\pi_{jkr}$ . Using survey questions with low variance does not impede the estimation or interpretation of the latent class model in any way.

Given observed  $X_i$  and  $Y_i$ , we estimate the parameters  $\beta_r$  and  $\pi_{jkr}$  by maximum likelihood.<sup>21</sup> The log-likelihood function of the latent class regression model is

$$\ln L = \sum_{i=1}^N \ln \sum_{r=1}^R p_r(X_i; \beta) f(Y_i; \pi_r). \quad (3)$$

The estimated  $\hat{\pi}_{jkr}$  and  $\hat{\beta}_r$  can then be used to find the posterior probabilities (again, summing to one) that individuals belong to each class. Because the  $\hat{\pi}_{jkr}$  are estimates of question response probabilities *conditional on* class  $r$ , we apply Bayes' formula to calculate

$$\widehat{\Pr}(r|X_i, Y_i) = \frac{p_r(X_i; \hat{\beta}) f(Y_i; \hat{\pi}_r)}{\sum_{q=1}^R p_q(X_i; \hat{\beta}) f(Y_i; \hat{\pi}_q)}. \quad (4)$$

These posterior probabilities utilize all information—both covariates and survey responses—known about each person in the survey.

Finally, taking the average value of the posteriors  $\widehat{\Pr}(r|X_i, Y_i)$  across all survey respondents provides an estimate of the share of the survey sample in each latent class.

## Individual-level Analysis

We apply the latent class model to the selected WVS items for all Muslim respondents in the eighteen countries under analysis. In pooling respondents across countries, we are explicitly imposing a standard of fundamentalism that is universal.

### Model selection and results

A latent class model with four classes provides an accurate and useful fit to the observed data. Two classes produce an overly crude partition along liberal-conservative lines. Adding a third class distinguishes the secular grouping more clearly, but leads to a poor classification of conservatives. The four-class model accomplishes our objective of isolating a fundamentalist subgroup, which consists of roughly 33 percent of the survey sample.<sup>22</sup> It also estimates that approximately 13 percent can be considered secular.<sup>23</sup> When a fifth class is added to the

<sup>21</sup>To fit the model, we utilize the statistical package `poLCA` (Linzer and Lewis 2007), implemented in R version 2.5.0 (R Development Core Team 2007).

<sup>22</sup>Note that while the survey sample is random within each country, the pooled sample is not a random sample of Muslims worldwide. Countries such as India and Indonesia are under-sampled, while others such as Azerbaijan, Jordan, and Turkey are over-sampled. Thus, the fact that a third of the *sample* belongs to the 'fundamentalist' class does not necessarily imply that a third of the world Muslim *population* would also belong to that class. We address this issue in greater detail below.

<sup>23</sup>It is possible that the secular group is so small because of the choice of countries surveyed. It is also possible that Muslim respondents who hold secular beliefs are not identifying themselves as Muslims on the survey. To investigate this possibility, we fit a four-class model to the 2,541 respondents who report no religious affiliation. A subgroup of 22 percent comprise a secular class similar to what was found among self-identified Muslims; a further 20 percent are still more secular. Even if all of these respondents were actually Muslim, that would only be 1,070 individuals—less than five percent of the total number of self-identified Muslims in the sample.

	Muslim Women			Muslim Men		
	Fund.	Trad.	Relig.	Fund.	Trad.	Relig.
Constant	2.804 (0.224)	2.202 (0.231)	1.456 (0.217)	4.538 (0.230)	2.783 (0.246)	1.685 (0.274)
Unemployed	0.811 (0.102)	0.629 (0.102)	0.623 (0.089)	-0.527 (0.102)	-0.526 (0.114)	-0.685 (0.144)
Education (low to high)	-1.302 (0.096)	-0.639 (0.099)	-0.401 (0.087)	-1.233 (0.090)	-0.701 (0.098)	-0.815 (0.108)
Education <sup>2</sup>	0.108 (0.010)	0.029 (0.011)	0.029 (0.009)	0.098 (0.009)	0.045 (0.010)	0.069 (0.011)
Class (low to high)	0.081 (0.050)	0.050 (0.051)	0.186 (0.046)	-0.086 (0.042)	0.028 (0.047)	0.200 (0.054)

Latent class population shares

Fundamentalist	0.332	(0.005)
Traditional	0.259	(0.005)
Religious	0.278	(0.006)
Secular-Liberal	0.131	(0.003)

Observations	19749
Parameters	270
Residual d.f.	19479
Log-likelihood	-231238

Table 1: *Results from latent class regression analysis with four classes and sixteen survey questions. Coefficients  $\hat{\beta}_r$  are multinomial logits calculated with respect to the secular-liberal class. Standard errors are in parentheses. The four sets of class-conditional response probabilities  $\hat{\pi}_r$  appear in Appendix B.*

model, almost none of the individuals identified as fundamentalist in the four-class model are re-classified, indicating that the four-class model is the most parsimonious.

To test the theory that women who have the ability to earn a reasonable income outside of marriage will be less likely to support fundamentalist values, we include a series of covariates in the latent class model. The main test variable is the self-reported employment status of the individual respondent. We also conduct an indirect test by controlling for the respondent’s level of education, as, in general, greater amounts of education are expected to provide greater potential employment opportunities, and hence greater income potential and more Western attitudes towards women’s role in society. To give the model sufficient flexibility to capture a possible upward trend back toward fundamentalism at the very highest levels of education, we also include a squared term for education.

Including a covariate measuring the respondent’s social class allows us to test the effect of poverty. While in general, we expect that women who self-identify as being members of a lower social class will be more fundamentalist than women of a higher social class, some part of this effect will be attributable to respondents in lower social classes typically having less

education. Our hypothesis is that the effects of employment and education will be stronger predictors of belief systems than social class, once all three variables are included in the model.

When fitting the latent class model, we employ interaction terms between sex and each of the other covariates, to reflect our expectation that the effect of these covariates is different for men and women.<sup>24</sup> Estimates of the coefficients on these covariates are given in Table 1.<sup>25</sup> For ease of interpretation, we report the estimated effects for men and women separately, rather than the coefficients on the interaction terms. Because respondents with missing observations on the dependent variables can be included when estimating the latent class model, it is possible to estimate the model across the entire eighteen-country sample for all sixteen dependent variables, even though the full battery of questions was not asked in every country.<sup>26</sup> Results from additional models controlling for respondents' age are not reported, as that variable turns out to have nearly zero effect on predicting latent class membership.

### Subgroup characteristics

The four groupings identified by the latent class model provide considerable insight into the belief systems of Muslims worldwide (see Appendix B). The primary division is between a class we term 'secular-liberal' and the other three classes. Individuals in the 'secular-liberal' class tend to both eschew traditional notions of gender roles and exhibit generally lower levels of religiosity. They pray relatively infrequently, object strongly to the veil, and oppose the implementation of Islamic law. Unlike those in the conservative subgroups, these individuals are divided on questions of whether having children is necessary for a woman and if, when jobs are scarce, men should be advantaged over women. While many of these individuals would not be described as completely 'secular' or 'liberal' by Western standards, they represent the secular-liberal trend in the Islamic world.

At the other end of the spectrum, the 'fundamentalist' grouping combines traditionalist gender norms with high levels of personal and political religiosity. Individuals in this category believe overwhelmingly that women should be religious, veiled, obey their husbands, and must have children. They take comfort in religion, believe that religion and God are very important in their lives, and think politicians must believe in God as well. They also favor implementing Islamic law, and believe that men make better political leaders than women.

The two intermediate subgroups are both more traditional and religious than the 'secular' subgroup, yet they differ from the 'fundamentalists' in specific ways. The first of these classes consists of individuals who are similar to the 'fundamentalists' on issues of traditional gender roles, but are not as religious as the 'fundamentalists', nor believe that religion should be as involved in politics. We term this cluster of individuals the 'traditional' class. The other intermediate class, in contrast, consists of individuals who are very much religious

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<sup>24</sup>The covariates are WVS items X001, X025, X028, and X045. Education and self-reported social class fall into ordered categories with eight and five responses, respectively. Employment status is a nominal variable with eight categories; we recode the variable as 1 if the individual is unemployed or a housewife, 0 otherwise.

<sup>25</sup>We do not include country dummy variables among the covariates, as doing so would imply that respondents who gave the same survey responses and had the same covariates, but resided in different countries, would have different probabilities of belonging to each latent belief system cluster. This would imply that 'fundamentalism' had different meanings in different countries; an operationalization we wish to avoid.

<sup>26</sup>For how the latent class model accommodates missing values, see Linzer and Lewis (2007).

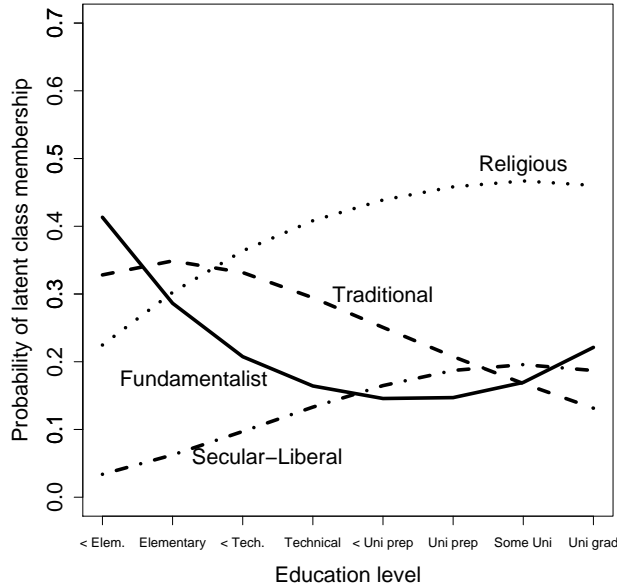


Figure 1: *Predicted prior probabilities that unemployed Muslim women in a low social class fall into each of four belief system clusters, using results in Table 1.*

and supportive of religious practices such as veiling and the implementation of Islamic law. However, this group is nearly indistinguishable from the ‘secular-liberal’ class on issues of traditional gender roles, including opportunities for employment and education, whether men make better political leaders, whether wives must obey their husbands, and whether polygamy is acceptable. We term this final cluster of individuals the ‘religious’ class.

### Explaining belief systems

The effects of sex, education, social class, and employment status jointly predict the probability with which an individual is likely to belong to each of the four belief system groups. For women, with the exception of the effect of social class, which does not significantly differentiate between the ‘secular-liberal’ and ‘fundamentalist’ and ‘traditional’ classes, all of the effects are highly statistically significant in the expected direction. To interpret the substantive effect of these variables on the latent class membership of Muslim women, we calculate predicted prior probabilities for hypothetical values of the covariates using Eq. 1.

Increased education has a dramatic effect on reducing the propensity of women to possess a fundamentalist belief system (Figure 1). At the lowest levels of education, almost no women fall in the ‘secular-liberal’ grouping, while approximately seventy percent are either ‘fundamentalist’ or ‘traditional’. The probability that a woman will belong to the ‘traditional’ class declines at each subsequently higher education level. The falloff in the probability of belonging to the ‘fundamentalist’ class is even more precipitous at first, reaching a minimum once a woman has achieved around a university preparatory level of education, and then increasing slightly for highly educated women. At the minimum, however, for women, achieving a secondary school education *reduces by more than half* the probability of falling in

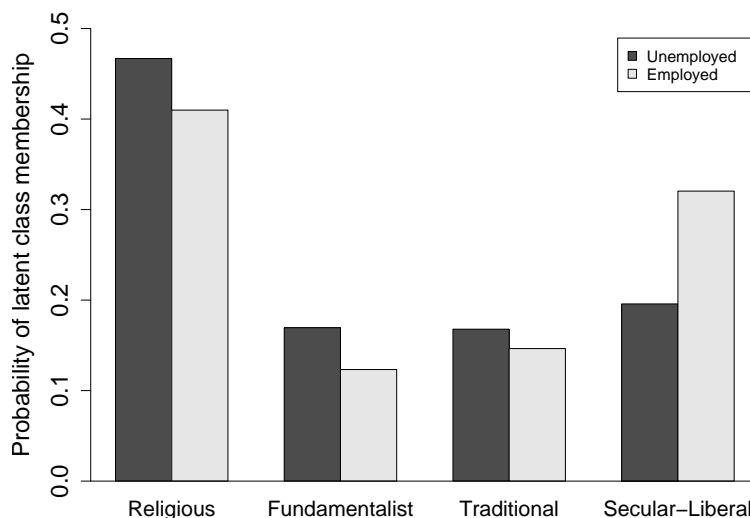


Figure 2: *The effect of employment on Muslim women’s predicted prior probabilities of being in each of four belief system clusters. Results are for university-educated women in a low social class.*

the fundamentalist group, compared to having only an elementary level (or less) of formal education. Note that as women become more educated, their support for traditionalist notions of gender roles decreases, but they may still retain a strong sense of religiosity. Decreasing probabilities of belonging to the ‘fundamentalist’ or ‘traditional’ groups at higher levels of education are offset by increasing probabilities of belonging to either the ‘secular-liberal’ or ‘religious’ groups.

An economic explanation for the effect of education is that having at least a high school education creates opportunities for women to gain employment in the formal rather than informal or agricultural sectors where wages are low and often only serve to supplement a primary income. A possible alternate explanation is that education lowers women’s propensity to hold fundamentalist beliefs because the education system is *itself* secular and encourages that type of thinking. We therefore re-estimate the model only for respondents in Iran, a country where women receive explicitly Islamic education. The estimated effect of education on fundamentalism and secularism in Iran follows the same pattern as in Figure 1, except without the increase in fundamentalism at the highest education levels.<sup>27</sup>

Muslim women who are not employed are roughly five percent more likely to possess ‘fundamentalist’ belief systems than those who work, regardless of education level and social class (Figure 2). Employment has similar effects on the ‘religious’ class for women with higher levels of education. As a result, women who work, are students, or are retired are far more likely to belong to the secular-liberal class—by as much as 12 percent for women with some university-level education.

The effect of social class in this model is small, and subtle. Even though the coefficients on social class for women in Table 1 are positive, being in a high social class actually reduces by a small amount the probability that a woman will be fundamentalist. This is because

<sup>27</sup>Unfortunately, other countries such as Afghanistan under the Taliban, and Sudan (since 1989) that also promote fundamentalist Islamic religious education were not in the WVS.

high-class women are both less ‘fundamentalist’ *and* less ‘secular’ (and, for that matter, less ‘traditional’) than low-class women; instead they are much more likely to belong to the religious class.

Overall, poorly educated, unemployed, low-social class Muslim women are the most likely to hold fundamentalist beliefs.

One of the potentially most important aspects of these findings are related to the preferences and values of female university graduates—likely leaders of any nascent feminist movement in the Muslim world. Azza Karam (1998) proposes that there exist three types of feminists in the Islamic world: secular feminists, Islamist feminists, and Muslim feminists. Secular feminists support Western norms of gender equality and are represented in our data by the ‘secular-liberal’ class that we describe. Islamist feminists argue that Islam promotes a patriarchal structure but that patriarchy is not necessarily oppressive for women,<sup>28</sup> and tend to refer to religious texts for support of their agenda.<sup>29</sup> This group is perhaps best represented in the data by the uptick in support for fundamentalism that is apparent among highly educated women.<sup>30</sup> Muslim feminists, on the other hand, are women who hold a strong personal religious conviction and promote a reinterpretation of Islamic texts in ways that promote equality between the sexes. The key difference between Muslim feminists and Islamist feminists, therefore, is that Muslim feminists are willing to contextualize religious injunctions in order to allow for the possibility of textual reinterpretation (Karam 1998, 12). Our findings indicate that as women become more educated, they shed some of their prior support for gender inequity in favor of a combination of personal religiosity and a worldview of gender equality. Well-educated women who fall into the ‘religious’ class that we describe map most closely onto this analytic category of Muslim feminist. Among those women who are likely to be feminist leaders of Islamic world in the future—those with at least a university education—religious feminists clearly outnumber both Islamist feminists and secular feminists.

Finally, it is worth noting that the effects of employment, education, and social class operate somewhat differently on the belief systems of Muslim men. The main difference between men and women is that men are considerably more likely than women to belong to the ‘fundamentalist’ class—by as much as thirty percent for employed men in a low social class. Also unlike women, men who are employed are *more* likely to hold fundamentalist beliefs and *less* likely to hold secular-liberal beliefs. While men at all levels of education are more likely to be ‘fundamentalist’ than ‘secular’, greater education does increase the prevalence of secular belief systems among men.

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<sup>28</sup>Islamist feminists have their roots in the activism of Zeinab al-Ghazali—founder of the Muslim Women’s Association and affiliate of the Egyptian Muslim Brotherhood.

<sup>29</sup>Moghadam (2002) questions whether Islamic feminism, as characterized by Karam (1998), even exists or if this term is an oxymoron.

<sup>30</sup>The emergence of a small but influential class of highly educated, fundamentalist women is an important area of future research. Since their fundamentalist orientation is not likely due to poor job prospects (Hessini 1994), other motivations, including but limited to, anti-authoritarian or anti-globalization sentiment should be investigated.



## Cross-National Analysis

A measure of the value, to women, of participating in the labor force is the size of a country's wage gap between male and female earnings. When the wage gap is large, women seeking financial security will have greater incentives to direct their efforts away from the job market and instead towards marriage. To test whether fundamentalist belief systems are indeed more prevalent among women in countries with higher levels of male-female wage inequality, we aggregate our individual-level results at the country level. This also reveals the geographic distribution of social, religious, and political belief systems across the Muslim world.

### Geographic patterns of Muslim belief systems

We assign each respondent to one of the four ideological groupings according to their modal posterior latent class membership probability.<sup>31</sup> We then tabulate out the proportion of each country's overall, male, and female Muslim population in each group (Figure 3). Geographic patterns are immediately apparent. Fundamentalist belief systems are most prevalent in Middle Eastern and North and West African countries, and in particular the four Arab countries in the sample: Egypt, Jordan, Morocco, and Algeria. Secularism, on the other hand, is confined nearly entirely to Southeastern Europe, India, and the former USSR. Moreover, while each country's fundamentalist types are far more likely to be male, religious types are far more likely to be female. There is little to no difference between the proportion of men and women in the traditional and secular-liberal groups, from country to country.

We use this information to estimate the proportion of Muslims worldwide in each of the four categories (Figure 4). As noted above, the Muslim countries in the WVS are not randomly sampled. To account for this, we weight each country's sample size in proportion to that country's true percentage of the global Muslim population (Appendix A). Worldwide, approximately thirty percent of Muslims belong to each of the fundamentalist, religious, and traditional belief system groups; the remaining ten percent fall into the secular-liberal group. Once again, Muslim women are more likely to belong to the religious group, and Muslim men are more likely to belong to the fundamentalist group.

### Explaining cross-national variation

We model the country-level estimates of the prevalence of fundamentalism among women as a linear function of each country's male-female wage gap. We also control for the effect of wealth, as measured by per capita GDP. Because the proportion fundamentalist is bounded by 0 and 1, we transform it by taking the log-odds before fitting the model.

The results of this regression are given in Table 2. Because the dependent variable is estimated in a preliminary analysis, we report Efron small-sample robust standard errors.<sup>32</sup> Wage gap data are drawn from the United Nations *Human Development Report* (2005, 2004, 2003, 2002, 1999) for the years in which the WVS was fielded in each of the study coun-

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<sup>31</sup>This assignment rule minimizes the probability of misclassification; see Bishop (1995, ch. 1) and Duda and Hart (1973).

<sup>32</sup>These standard error estimates account for heteroscedasticity in the dependent variable and are more conservative than normal OLS standard error estimates (Lewis and Linzer 2005).

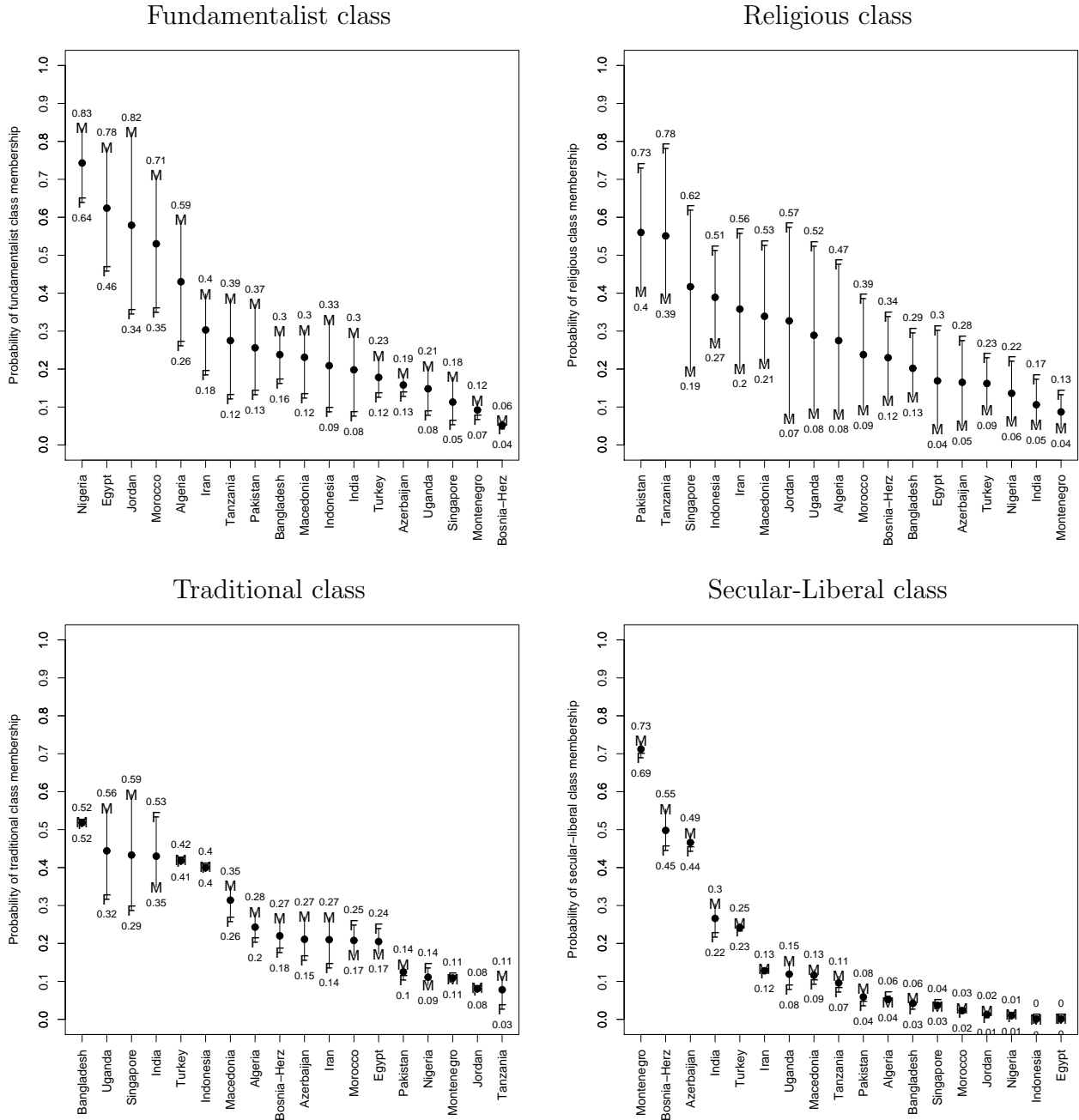


Figure 3: *Estimated proportion of each country's Muslim population (●) that belongs to each of four belief system groupings, as well as proportions of males (M) and females (F). Countries in each figure are sorted by overall population share.*

tries.<sup>33</sup> The wage gap in each country in each year is calculated as female estimated earned income (PPP US\$) divided by male estimated earned income. We obtain our measure of

<sup>33</sup>When data are missing, these data are taken from the closest available year. WVS study years are Algeria 2002; Azerbaijan 1996 (missing, use 1997); Bangladesh 2002; Bosnia-Herzegovina 2001 (missing, use 2003); Egypt 2000; India 2001; Indonesia 2001; Iran 2000; Jordan 2001; Macedonia 2001 (missing, use 2002);

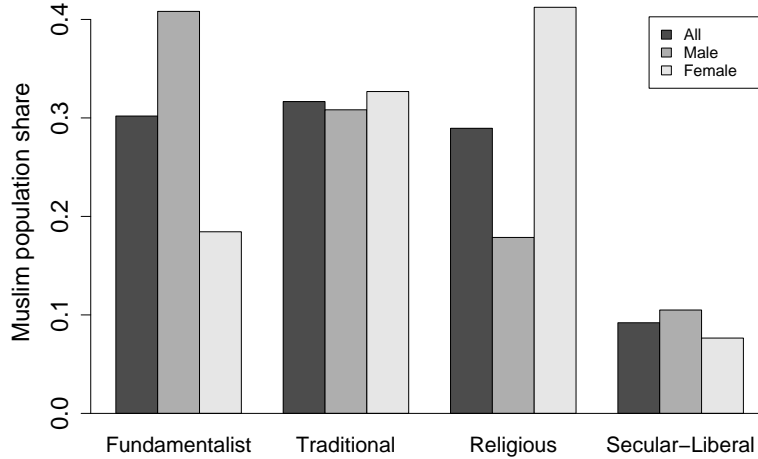


Figure 4: *Estimated proportion of male, female, and all Muslims worldwide in each belief system subgroup.*

Variable	Coefficient	SE	$t$	$p$
Intercept	5.259	3.128	1.681	0.115
Wage gap	-4.767	1.785	-2.670	0.018
Per capita GDP (log)	-1.353	0.659	-2.052	0.059

Table 2: *Linear regression model; dependent variable is estimated percent Muslim women fundamentalist by country, log-odds transformed (Montenegro omitted for lack of data on independent variables).  $N = 17$ ;  $R^2 = 0.396$ ;  $\hat{\sigma} = 0.82$ . The two independent variables are correlated at  $-0.405$ .*

per capita GDP (PPP constant 2000 international \$) from the World Bank *World Development Indicators* (2005) database, also for the years in which each country’s WVS was administered.

The effect of the male-female wage gap on a country’s level of fundamentalism among women is pronounced—indeed, on a percentage basis, the effect is nearly one-to-one at low levels of wealth (Figure 5). Even with only 17 observations, and using robust standard error estimates, the effect is significantly greater than zero. The wealth effect, while not as large as the wage gap effect, is still substantial, and also achieves statistical significance. The highest predicted level of fundamentalism among Muslim women is in countries that are the poorest while at the same time having the greatest male-female wage gap.

These observational data alone can not rule out the possibility of endogeneity bias, to the extent that fundamentalist ideas regarding gender norms cause wage inequality and poor economic growth, rather than the reverse. Yet, although this alternate hypothesis may be plausible in today’s globalized economy where the ability to tap into female human capital could attract investors, it is not at all clear to have been true when the Islamist movement began developing broad popular support in the 1960s and 1970s and many societies held similarly unequal attitudes toward gender roles. Consider, from a broader perspective, the

Montenegro 2001 (not available); Morocco 2001; Nigeria 2000; Pakistan 2001; Singapore 2002; Tanzania 2001; Turkey 2000; Uganda 2001.

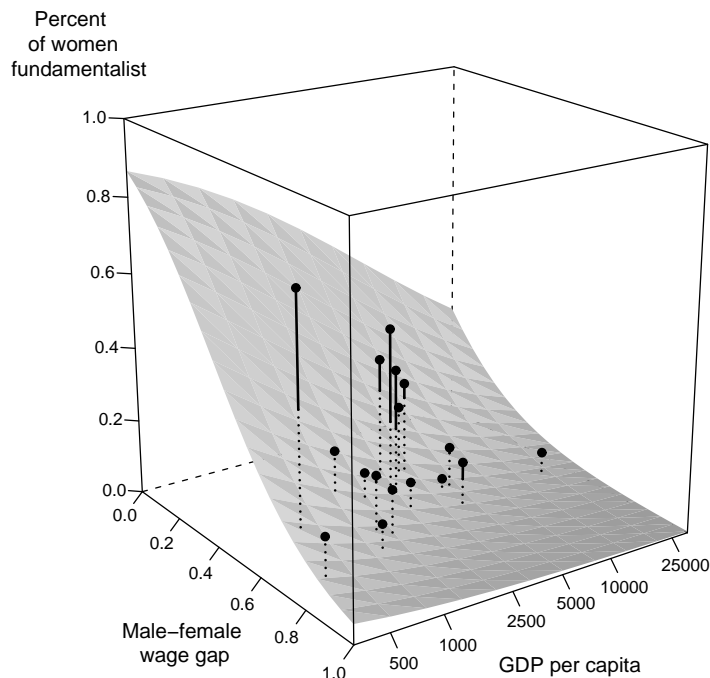


Figure 5: *Predicted proportion of women, by country, who are fundamentalist at varying levels of wage inequality and per capita GDP (Table 2). Individual countries are denoted by circles, with vertical lines indicating the positioning of each; lines are dotted below the best-fit surface.*

changing attitudes toward gender outside of the Islamic world over time. At the turn of the twentieth century, norms of gender equality were just beginning to become internationalized with most societies holding beliefs that systematically favored men over women. In fact, Islam’s favorable attitudes toward women’s property rights may have even economically advantaged Muslim women versus women in other societies at that time. However, countries such as those in the West whose economies offered women greater employment opportunities were less likely to hold onto these norms of gender inequality over time. The Muslim world was not particularly disadvantaged economically when it entered the twentieth century. But Islamic inheritance laws and other economic and political institutions hindered growth (Kuran 2004) and ultimately the Islamic world came to be known as more retrograde with regard to internationalized gender equality norms than other parts of the world.

## Conclusions and Implications

This study provides empirical evidence for a mechanism linking a lack of economic opportunity to support for fundamentalist belief systems among Muslim women worldwide. We do not claim that economic considerations are the only relevant factors. Rather, we demonstrate that among the many forces that may impel Muslim women to adopt a fundamentalist value system, one significant one is the quest for financial security.

Women with unfavorable economic prospects have more to gain on the marriage market by adopting fundamentalist beliefs than they do on the employment market by adopting secular—or even just non-traditionalist—beliefs. In particular, women without jobs, or with lower levels of formal education have a greater tendency to view the world from a traditionalist or fundamentalist perspective. And countries that are poorer and provide fewer economic opportunities for independent women contain more women (on a percentage basis) that hold fundamentalist beliefs.

An important goal of this article has been to consider some of the economic motivations of Muslim women in a strategic context.<sup>34</sup> This approach is in stark contrast to the usual treatment of the Islamic world, which some seem to believe is dominated by immutable cultural, historical, and religious forces. Our intent has not been to target Islam as a religion with particular gender practices, but instead to try to explain the variation in attitudes that we observe across the Muslim world. We are interested in determining when Western norms regarding gender are adopted and by whom.

What are the implications of these findings? Consider three broad areas. First, if we care about women's rights in family protection, employment, and education in and of themselves then these findings suggest that increasing economic opportunities for women in the Muslim world will lead to a decrease in fundamentalism. Second, Natchwey and Tessler (1999) have argued that support for political Islam tends to be associated with cultural factors, like personal religiosity and attitudes toward gender equality. While Islamists in government are still a relatively rare phenomenon, the recent victory of Hamas in Palestine and the electoral successes of the Muslim Brothers in Egypt and the Islamic parties in Turkey suggest that political Islam is increasingly an important political phenomenon. Third, Fish (2002) posits that the inferior status of women in Muslim countries accounts for at least part of the link between Islam and authoritarianism. From a normative perspective, if gender attitudes are a determinant of democratic capacity, then these findings shed light on the possibility for the development of more democratic government in the Islamic world.

Finally, this study has shown that there exists tremendous variation in ideological beliefs both within the Islamic world and among individual Muslims. This suggests that interpretations of Islam are mutable. While fundamentalist attitudes toward women are widespread, being Muslim does not mean that one need adopt particular beliefs with regard to the sexes. Binder (1988) has argued that there exists the potential for Islamic liberalism and this article has suggested one way that this liberal tradition may be activated.

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<sup>34</sup>The strategic basis for male support for fundamentalism is just beginning to be explored (e.g., Arce and Sandler 2003) and provides another potentially fruitful research area.

## Appendix A

Countries in study, and total number of individuals interviewed in each country by the WVS, tabulated by sex and Muslim religion. †Respondents in Algeria were not asked their religion. ‡Respondents in Pakistan were asked their sectarian affiliation (Sunni or Shi'a) rather than religion; with 97 percent of the Pakistani population Muslim, we assumed all respondents were Muslim. \*source: Wikipedia (2007).

Country	WVS Total	Muslim			Muslim Only		Country share of world Muslim population*
		Total	Male	Female	Percent Muslim in country	Percent of respondents in sample	
Algeria†	1282	1282	650	632	1.000	0.057	0.021
Azerbaijan	2002	1821	893	928	0.910	0.081	0.005
Bangladesh	1499	1378	761	617	0.919	0.062	0.084
Bosnia-Herzegovina	1200	485	235	250	0.404	0.022	0.002
Egypt	3000	2830	1446	1384	0.943	0.126	0.047
India	2002	217	119	98	0.108	0.010	0.113
Indonesia	1000	929	467	462	0.929	0.042	0.139
Iran	2532	2457	1324	1133	0.970	0.110	0.043
Jordan	1223	1168	569	599	0.955	0.052	0.004
Macedonia	1055	266	155	111	0.252	0.012	<0.001
Montenegro	1055	221	109	112	0.209	0.010	<0.001
Morocco	2263	1012	496	516	0.447	0.045	0.021
Nigeria	2022	640	338	302	0.317	0.029	0.042
Pakistan‡	2000	2000	1041	959	1.000	0.089	0.104
Singapore	1512	574	272	302	0.380	0.026	<0.001
Tanzania	1157	466	272	194	0.403	0.021	0.011
Turkey	4607	4460	2221	2239	0.968	0.199	0.045
Uganda	1002	170	94	76	0.170	0.008	0.003
Total	32413	22376	11462	10914	0.690	1.000	0.684

## Appendix B

Sixteen World Values Survey questions are used in this study. WVS item numbers are given in brackets. Table contains overall percentage of respondents giving each answer, and percentage tabulated by latent class, with cells containing estimated probabilities that a member of each class gives each response ( $\hat{\pi}_{jkr}$ ).

		Total	Secular- Liberal	Fund.	Trad.	Relig.
How important is religion in your life? [A006]	Very impt.	0.814	0.204	0.945	0.846	0.903
	Somewhat	0.142	0.497	0.048	0.146	0.095
	Not very	0.035	0.239	0.004	0.008	0.002
	Not at all	0.009	0.060	0.003	0.001	0.000
When jobs are scarce, men should have more right to a job than women. [C001]	Agree	0.673	0.449	0.899	0.736	0.466
	Disagree	0.223	0.430	0.045	0.143	0.378
	Neither	0.104	0.120	0.055	0.121	0.156
Do you think that a woman has to have children in order to be fulfilled or is this not necessary? [D019]	Not necessary	0.198	0.407	0.113	0.142	0.212
	Needs children	0.802	0.593	0.887	0.858	0.788
On the whole, men make better political leaders than women do. [D059]	Agree strongly	0.345	0.206	0.691	0.143	0.194
	Agree	0.328	0.317	0.202	0.617	0.219
	Disagree	0.235	0.324	0.078	0.226	0.384
	Disagree strongly	0.092	0.153	0.029	0.013	0.203
A university education is more important for a boy than for a girl. [D060]	Agree strongly	0.147	0.094	0.329	0.053	0.043
	Agree	0.173	0.134	0.193	0.296	0.053
	Disagree	0.368	0.375	0.246	0.512	0.384
	Disagree strongly	0.311	0.397	0.232	0.138	0.520
Is wearing a veil in public places an important trait for a woman? [D067]	Very impt.	0.491	0.035	0.710	0.288	0.525
	Important	0.185	0.076	0.151	0.289	0.172
	Somewhat	0.098	0.167	0.049	0.140	0.111
	Not very	0.088	0.166	0.043	0.133	0.080
	Not at all	0.139	0.556	0.048	0.150	0.112
Is being religious an important trait for a woman? [D070]	Very impt.	0.773	0.074	0.937	0.678	0.865
	Important	0.150	0.326	0.042	0.283	0.109
	Somewhat	0.043	0.278	0.014	0.031	0.020
	Not very	0.021	0.183	0.006	0.007	0.004
	Not at all	0.014	0.139	0.000	0.000	0.002
To what extent do you agree or disagree that it is acceptable for a man to have more than one wife? [D076]	Agree strongly	0.069	0.034	0.155	0.013	0.016
	Agree	0.106	0.054	0.153	0.129	0.038
	Neither	0.140	0.188	0.108	0.230	0.084
	Disagree	0.449	0.583	0.427	0.504	0.396
	Disagree strongly	0.237	0.140	0.157	0.124	0.466

		Total	Secular- Liberal	Fund.	Trad.	Relig.
To what extent do you agree or disagree that a wife must always obey her husband? [D077]	Agree strongly	0.376	0.135	0.686	0.222	0.191
	Agree	0.329	0.273	0.202	0.613	0.266
	Neither	0.139	0.284	0.060	0.101	0.222
	Disagree	0.114	0.251	0.041	0.059	0.210
	Disagree strongly	0.043	0.057	0.011	0.005	0.112
How important is God in your life? (ten point scale) [F063]	Not at all (0) - (9)	0.155	0.567	0.091	0.125	0.059
	Very imp. (10)	0.845	0.433	0.909	0.875	0.941
Do you find that you get comfort and strength from religion? [F064]	No	0.038	0.257	0.006	0.005	0.010
	Yes	0.962	0.743	0.994	0.995	0.990
How often do you pray to God outside of religious services? [F066]	Every day	0.566	0.177	0.614	0.568	0.628
	Once a week/more	0.155	0.174	0.118	0.201	0.143
	Once a week	0.080	0.114	0.073	0.086	0.062
	Once a month/more	0.063	0.088	0.053	0.069	0.063
	Several times/year	0.054	0.199	0.040	0.034	0.044
	Less often	0.039	0.118	0.033	0.030	0.035
Politicians who do not believe in God are unfit for public office. [F102]	Agree strongly	0.521	0.125	0.732	0.293	0.672
	Agree	0.226	0.106	0.135	0.463	0.144
	Neither	0.076	0.219	0.030	0.085	0.071
	Disagree	0.115	0.318	0.056	0.141	0.063
	Disagree strongly	0.062	0.232	0.046	0.018	0.050
Religious leaders should not influence how people vote in elections. [F103]	Agree strongly	0.317	0.441	0.399	0.067	0.403
	Agree	0.381	0.351	0.249	0.631	0.300
	Neither	0.116	0.090	0.095	0.170	0.116
	Disagree	0.132	0.063	0.169	0.123	0.127
	Disagree strongly	0.053	0.055	0.087	0.009	0.054
Religious leaders should not influence government decisions. [F105]	Agree strongly	0.290	0.443	0.399	0.032	0.412
	Agree	0.399	0.333	0.235	0.682	0.238
	Neither	0.137	0.131	0.139	0.158	0.149
	Disagree	0.135	0.049	0.156	0.119	0.163
	Disagree strongly	0.039	0.044	0.070	0.009	0.038
Which of these traits should a good government have? It should implement only the laws of the shari'a. [F111]	Agree strongly	0.387	0.030	0.571	0.136	0.333
	Agree	0.290	0.034	0.226	0.444	0.299
	Neither	0.180	0.373	0.099	0.241	0.240
	Disagree	0.091	0.379	0.064	0.128	0.075
	Disagree strongly	0.052	0.184	0.040	0.052	0.054



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