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Human Development and the Demography of
Secularization in Global Perspective

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Abstract

Sociologists of religion often overlook the role of demography. An exception to this rule is found in the work of Pippa Norris and Ronald Inglehart, who link religious decline to human development and the demographic transition. However, their individual-level thesis is based on bivariate trends, with multivariate analysis limited to the aggregate level. In this article, I test their thesis at the individual level using data from the World Values Surveys across a wide range of countries. Analysis of aggregate trends shows that measures of human development that appear significant in bivariate correlations do not survive multivariate, time-series scrutiny. Moreover, I deploy multilevel analysis to explain why aggregate trends provide a misleading picture of how rising national education and income levels affect individuals' religious beliefs. The results cast the developmentalist version of the secularization thesis into doubt. Instead, I suggest that religious belief becomes deregulated and increasingly varied in modern societies as religiosity takes on a self-conscious, rather than taken-for-granted, character. The demographic advantage that religious populations have suggests that the future of secularization, far from confirming a secular teleology, remains indeterminate.

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One variant of secularization theory argues that private religiosity declines as societies modernize. Supply-side theorists, by contrast, emphasize how modernity can sometimes deregulate religious economies, spawning religious diversity, competition, and, ultimately, greater religiosity as individuals' diverse religious demands are catered for. There is also a third, often hidden, element governing the religiosity of a society: demography. This article attempts to integrate insights from all three perspectives and test these against contemporary data. Doing so necessarily brings us into contact with the important work of Norris and Inglehart (2004), which marshals demographic and sociological arguments to formulate a comprehensive theory of human development–driven secularization. Norris and Inglehart claim that while higher religious fertility is overwhelming secularization in the developing world today, the balance will swing in the other direction as human development proceeds. Their landmark book has made many important contributions to our knowledge, and this article supports their demographic propositions. However, I take issue with some of the claims Norris and Inglehart make for the sociological aspects of their theory. This includes their overarching thesis that human development leads to a universal decline in religiosity. I contend that this argument does not stand up to such tests.

THE SECULARIZATION DEBATE

All three founders of sociological theory—Marx, Weber and Durkheim—cast a narrative of modernization in which religion was an inevitable casualty of advancing rationality. For Marx, “solid” religious certainties would “melt into air” under the pressure of industrial capitalism and science, profaning the sacred public sphere (Marx 1973: 70–71). Max Weber spoke of the advance of “disenchantment” as the acids of scientific modernity and bureaucratization shrink the scope for religious explanations and supernatural beliefs (Weber, in Gerth and Mills 1948: 155). Finally, Émile Durkheim, drawing on classical and Spencerian thought, proposed a theory of structural differentiation and moral evolution whereby the role of religious expertise is confined to an ever-shrinking sphere. Increasingly, as in France after the Revolution, society worships itself rather than a supernatural deity (Durkheim 1984 [1893]: Chapter 6; 1995).

More recently, Steve Bruce has synthesized the work of previous modernization theorists such as Ernest Gellner and David Martin to argue for the irreversibility of secularization in modern society. Whereas the previous generation of secularization theorists largely confined their arguments to the declining influence of religious institutions in the running of society, Bruce introduced the radical argument that secularization was also occurring at the level of *individual* beliefs. This comes about for two major reasons: the fragmenting effect of societal differentiation on religious identity and the declining authority of

religious truth claims. Societal differentiation begins because economic rationality demands producer and consumer specialization to maximize comparative advantage, creating occupational differences and burgeoning consumer choice. This spills over into lifestyle pluralism, constricting the religious sphere and fragmenting the “sacred canopy” for people's lives. This renders the religious worldview merely one among many bases for choice-making behavior (Berger 1967). Meanwhile, the mundane specialist knowledge of the technological economy crowds out religious expertise in solving secular problems and leads to a wider questioning of organized religion's totalizing claim to truth (Bruce 1998: 5–7, 15; 2002: 2–43). Exceptions to this rule are found only in cases in which religion acquires a this-worldly role, principally as a vector for ethnic or nationalist resistance—as in Poland under communism or in divided societies such as Northern Ireland—or as an institution of social integration during periods of rapid social dislocation, as with rural-urban migration (Bruce 1998: 19–21).

The work of Pippa Norris and Ronald Inglehart dovetails with Bruce's argument. Whereas Bruce focuses on social differentiation, Norris and Inglehart claim that rising material wealth and political stability reduce the existential insecurities that drive people to seek supernatural explanations of terrestrial events. Inglehart and Norris show that countries that score higher on indices of economic development, wealth, and equality (human development) tend to be less religious than societies with poorer human development scores. The authors maintain that human security is related to religiosity and fertility not only at the international level, but also at the individual level within nations. For example, they note that in the United States, people with lower income and education tend to be more religious than do other Americans (Norris and Inglehart 2004: 110).¹ Others have charted a growth in the proportion of Americans who identify as nonreligious to 14 percent by 2000, and Norris and Inglehart suggest that this proportion will increase in the years to come.² Elsewhere, Norris and Inglehart claim that “one can easily think of striking exceptions [to the rule that human development reduces religiosity] such as Osama bin Laden who is (or was) extremely rich and fanatically religious. But when we go beyond anecdotal evidence such as this, we find that the overwhelming bulk of evidence points in the opposite direction” (2004: 5).

This argument is also made, albeit in a different way, by Anthony Giddens, who suggests that detraditionalization involves the replacement of religious forms of expertise by scientists and their technological “expert systems.” The so-called big questions of human existence are forced into the background of human

¹ However, this relationship was not tested through multivariate analysis.

² These trends appear to be related to political developments (i.e., the association between religiosity and the Republican Party), and a majority of the nonreligious hold conventional religious ideas such as believing in God (Hout and Fischer 2002).

experience by the pace of modern life (Giddens 1991: 194–195). For Daniel Bell, the key elements of modernism—novelty, change, and immediacy—repress the impulse toward reflection in art and culture, thereby enabling a masking of the major existential questions of life (Bell 1996: 47). However, Giddens also suggests that major life events, especially death or other family traumas, permit existential questions to burst through the routines of modernity. These tragedies are less common in an age of modern medicine and enhanced human security, but they still inevitably occur. Giddens and Robert Bellah emphasize the role that psychotherapy plays as a surrogate for religion in late modernity (Bellah et al. 1996; Giddens 1991). Psychotherapy attempts to reorient people away from the disturbing questions thrown up by tragic events and toward a readjustment to modern routines, but it is unclear whether this technique always succeeds in pushing existential questions beneath the surface of everyday life. For Giddens, such shocks can lead to a “return of the repressed,” that is, the return of spirituality in response to high modernity’s inability to address the ultimate questions of human existence (Giddens 1991: 207–208).

Much work on secularization has been done in the European context, in which declining religious attendance and/or belief seems more apparent, but some American researchers take a different view. The so-called supply-side or religious markets model is methodologically individualist and focuses on the *supply of* religious services in contrast to the secularization theorists’ concentration on social structures and changes in individuals’ *demand for* religion. Supply-side theories contend that a major reason for the lack of religious vitality in much of Europe is the dominance of state religions, which restrict competition in the religious marketplace and are inefficient religious monopolists that fail to create religious demand. This is in marked contrast to the United States, where the early separation of church and state led to a freer market in religious provision that could cater to a wider variety of spiritual demands as well as providing the nonspiritual “selective incentives” that often help to attract people to places of worship. Although religious attendance remains low in Europe, religious beliefs show a high degree of vibrancy. Advocates of the supply-side perspective maintain that the disjuncture between beliefs and practice is a result of a religious establishment that fails to serve consumer demand within an overregulated religious market (Stark and Finke 2000: 57–79; Stark and Iannaccone 1994).

Some recent researchers take issue with supply-side theory. Halman and Draulans (2006: 278), for instance, find no support for the supply-side postulate that greater religious diversity is linked to higher levels of religious belief or practice. Instead, the reverse seems to be the case. Using national-level data for a global set of countries, McCleary and Barro (2006) found that attempts by the state to regulate religious markets (a practice often associated with communism) does lower religiosity but that the promotion of official religions by the state

actually increases religious participation, possibly because of the additional resources flowing to organized religion. All told, pluralism seemed to have a mixed effect on religiosity, and recent analyses of European survey data find a consistent pattern of religious decline encompassing attendance, belief, and affiliation (Norris and Inglehart 2004: Chapter 3; Voas and Crockett 2005).

Somewhat of a third way is represented by other theorists, who propose that the story is more complex than a linear theory of either revival or secularization would allow, with trends varying between countries and with different trajectories depending on whether the variable of interest is religious practice, religious belief, religious traditionalism, or religious affiliation. Andrew Greeley (2002), using data from the International Social Survey Programme religion modules, contends that the religious situation in Europe defies any unitary process such as secularization. Grace Davie, drawing on the recent European Values Survey (EVS), finds diverse religious pathways but also a regularity of “believing without belonging” in many European countries. She even avers that the data often show religious belief varying inversely with religious practice (Davie 1994, 2002: 4–8). Meanwhile, Yves Lambert (2000) contends that science can lead to secularization but that most of its effects tend to alter the quality of religion or spawn a conservative religious response. Finally, when we come to the developing world, we see a pattern of religious vitality with no evidence of religious decline across the generations, in contrast to much of Europe. This is confirmed in the World Values Survey (WVS) data by Norris and Inglehart (2004).

DEMOGRAPHIC ASPECTS OF RELIGION

Much of the research on the sociology of religion has focused on religion as a social phenomenon whose rise or decline depends on the choices of individuals or changing structural contexts. However, it is apparent that even in the absence of socially inspired revivals or declines of religion, the degree of religiosity in a society can fluctuate. The chief nonsocial mechanism of change is demography. If we consider “the religious” as a population that is affected not only by assimilation into, or dissimilation out of, the secular population, but also by migration, fertility, and mortality, we arrive at a more multivalent picture. David Voas is one sociologist who has urged that greater attention be paid to the demography of religion. “People enter, exit, and move within religion,” he remarks, “just as they are born, will die, and migrate, in life” (Voas 2003: 94).

Religiosity and Fertility

One postulate of second demographic transition theory is that religious commitment predicts higher fertility, so secularization is linked to falling fertility rates

(Surkyn and Lesthaeghe 2004; van de Kaa 1987). Other researchers confirm a link between religiosity and fertility. Berman, Iannaccone, and Ragusa (2005), for example, employing a pooled model for four Catholic European countries in the period 1960–2000, found that church attendance is associated with fertility at the aggregate level but only in interaction with an indicator for the number of nuns per head. This is attributed to the salutary effect of nuns (not priests) in providing ancillary social services at church, which help to raise the total fertility rate in Catholic countries. Norris and Inglehart (2004) also find a strong correlation between religiosity and fertility that is based on an analysis of aggregate, country-level data. Their multivariate analysis of national-level indicators (aggregated from individual responses) for some sixty-five countries sampled in the four waves of the WVS during 1981–2001 show a significant correlation between religious participation/prayer and proxies for fertility. Although Norris and Inglehart did not directly test for the impact of religiosity on fertility, the strong coefficients on religiosity for population growth and population age structure suggest that religiosity is linked with higher fertility at the global level (Norris and Inglehart 2004: 62–63).

Other studies of the link between religiosity and fertility at the individual level reinforce the contention that a woman's level of religiosity is an important predictor of the number of children she will bear in her lifetime. Westoff and Jones (1979) first reported that among American Catholics, religiosity (as measured by participating in communion) was associated with higher fertility in the 1950s and 1960s, though not in the 1970s. A similar result was found for the late 1980s in the United States (Lehrer 1996). The work of Alicia Adsera on Spain, based on Spanish fertility surveys, argues the reverse, pointing to the growing importance of religiosity in predicting fertility. Whereas religious attendance had no statistical effect on fertility in 1985, this had changed by the 1999 survey, in which practicing Catholics had significantly higher fertility.³ Adsera (2004) attributes this difference to secularization in the post-Franco era, which, in depleting the ranks of the Catholic Church, left behind an increasingly devout remnant of practicing, pronatalist Catholics.

Frejka and Westoff (2006) have recently tried to test this link by examining the 2000 European/World Values Survey (EVS/WVS) data and 2002 National Survey of Family Growth. They found a major gap in fertility between people who attended church weekly or felt religion to be important in their lives and those who attended church less frequently or felt religion to be unimportant to them. Yet multivariate tests of the odds of having a third child showed mixed results: Measures of religiousness seemed to be significant in about half the equations after a battery of controls were applied. Nonetheless, a similar study

³ The difference is especially marked in the progression from the second to the third child (Adsera 2004).

based on the Family Fertility Surveys of the 1990s found a much stronger relationship between religiosity (in terms of both attendance and self-assessed belief) and fertility across eighteen European countries. Here, the significance of the relationship was nearly universal (Berghammer, Philipov, and Sobotka 2006).

In addition to attendance and religiosity, measures of theological conservatism have also been linked to high fertility. Berman (2000) and Fargues (2000), for instance, find that Ultra-Orthodox Jews in Israel have fertility rates several times that of secular Israeli Jews. Berman and Stepanyan (2003), in a study of fertility behavior among radical Islamic sects in Indonesia, Bangladesh, India, and Côte D'Ivoire confirm that in most cases, fertility is significantly higher among families with members who attend Islamic religious schools. Similar findings have been recorded for radical Anabaptist Protestant sects such as the Hutterites in North America (Kraybill and Bowman 2001).

Long-Term Demographic Shifts Affecting Religion

These "silent" demographic effects can be profound in the long term and can outweigh the shorter-term flows of apostates and converts. For example, Rodney Stark shows how early Christians' favorable fertility and mortality rates compared to those of Hellenistic pagans helped to fuel a 40 percent growth rate in the Christian population of the Roman Empire over several centuries. This gave rise to a population increase from forty converts in A.D. 30 to six million by the year 300, leading to a tipping point that helped Christianity to become institutionalized within the empire (Stark 1996). Many Islamic parts of what was once the Roman Empire have been seeing major declines in their Christian and Jewish populations because of emigration, lower fertility, and mixed marriages (Fargues 2001).

Those who study the religious marketplace in the United States have been impressed by the extent to which denominations have grown through migration and fertility advantage. Sherkat (2001), for example, finds that American Catholics have been able to offset large net losses to other denominations through gains arising from (largely) Hispanic-Catholic immigrants and their higher fertility. Fertility differentials can also play a key role, especially in the long term. Mormons, once a very small sect, now equal or surpass Jews among post-1945 birth cohorts, owing to their considerable fertility advantage over Jews and other denominations (Sherkat 2001). Conservative Protestants, a much larger group than the Mormons, also benefit from relatively high fertility. Using the General Social Survey, Roof and McKinney (1987) noted that in the 1980s, Southern Baptists had roughly twice the fertility rates of Jews and secular (unaffiliated) Americans.

A recent article extends this finding by showing that three quarters of the growth of conservative Protestant denominations is due to fertility rather than

conversion (Hout, Greeley, and Wilde 2001). This has powered the growth of the religious right and increased the base of the Republican Party. Indeed, Lesthaeghe and Neidert (2005) demonstrate the extremely significant and robust correlation between non-Hispanic white fertility patterns and the Republican vote for George W. Bush in 2004. States whose white population tends to be liberal and postmaterialist have lower fertility rates, in keeping with second demographic transition theory, and a lower pro-Bush vote share.

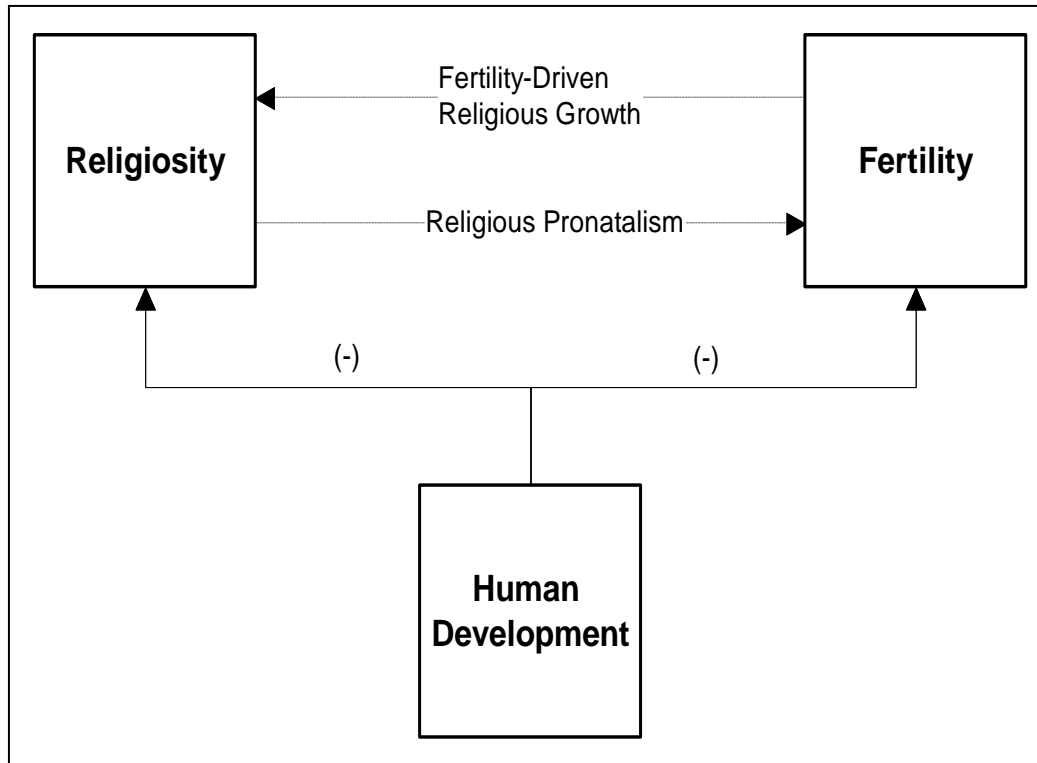
In Europe, less attention has been paid to fertility differences between denominations. However, the growth of the European Muslim population through immigration is a trend that is widely acknowledged. Austria is one of the few European countries to collect religious data on its census. A recent attempt to project Austria's population to 2051 found that a combination of higher fertility and immigration will increase the proportion of Muslims in the country from 4.6 percent of the population in 2001 to between 14 and 26 percent by 2051. The secular/unaffiliated population has also grown, from 4 percent in 1981 to 10 percent in 2001, and is projected to continue to grow in the near future. However, the religiously unaffiliated in Austria have a total fertility rate of just 0.86 children per couple; thus, religious apostates are the main source of growth in this population. This means that in the event that secularization ceases—to say nothing of the possibility of religious revival—the secular population will peak and begin to decline as early as 2021 (Goujon et al. 2006: 24).

WHO WILL BE THE VICTOR?: RELIGIOUS APOSTASY VERSUS RELIGIOUS FERTILITY

In their masterful and wide-ranging account of religion and politics worldwide, Norris and Inglehart remark (2004: 22–23, emphasis added):

One of the most central injunctions of virtually all traditional religions is to strengthen the family, to encourage people to have children, to encourage women to stay home and raise children, and to forbid abortion, divorce, or anything that interferes with high rates of reproduction. As a result of these two interlocking trends, rich nations are becoming more secular, *but the world as a whole is becoming more religious.*

Norris and Inglehart view human development as the variable that governs the relationship between religiosity and fertility. That is, political and economic security lowers religiosity (with its pronatalist injunctions), in turn lowering fertility (see Figure 1). There is also a direct effect linking improved human security to lower fertility, thus a slower rate of growth in the religious population.

Figure 1: The Norris-Inglehart Secularization Thesis

Norris and Inglehart are bullish about both the immediate and long-term prospects for development-led secularization (2004: 54):

In the long term and in global perspective . . . our theory predicts that the importance of religion in people's lives will gradually diminish with the process of human development. Moreover it does so most dramatically during the first stage of human development, as nations emerge from low-income agrarian economies into moderate-income industrial societies with basic welfare safety nets safeguarding against the worst life-threatening risks . . . [T]his process does not reverse itself.

At a glance, the shift from the pessimism of Norris and Inglehart's introduction to the optimism of their conclusion is puzzling. If religious fertility is currently able to overwhelm development-driven secularization, what will enable secularization to pull ahead? The theoretical answer that they provide is that human development—that is, an economic minimum, political stability, and education—will gradually take root and lower fertility and religiosity in the long run. They

believe that “human development leads to cultural changes that drastically reduce (1) religiosity and (2) fertility rates” (Norris and Inglehart 2004: 26).

Unfortunately, the macro-level trends on this point are not encouraging. For example, the demographic transition in the developing world is already well established, with a number of developing countries such as Brazil, Tunisia, and Iran now reporting below-replacement fertility (Lutz, Sanderson, and Scherbov 2004). Overall, demographers predict that the developing world as a whole will reach below-replacement fertility before the end of the twenty-first century, largely because of urbanization rather than any significant increase in human development. In fact, some see a danger whereby vulnerable nations undergo demographic transition without developing, thereby exposing their fragile economies to high dependency ratios (Wattenberg 2004). Here, it is interesting to note that the demographic transition in Europe frequently occurred well before mass secularization.⁴ If secularization is the main source of declining fertility in the developing world, then we should have already seen strong declines in religiosity by cohort there. Yet, according to the WVS evidence reviewed by Norris and Inglehart (2004: Chapter 3), religiosity does not decline with age in developing countries. Moreover, in parts of the Islamic world, such as Egypt and Saudi Arabia, younger people are more religious than their elders (Wickham 2002).

A major methodological problem with Norris and Inglehart’s technique is an attempt to test a developmentalist (i.e., time-series) theory with cross-sectional data, often on the basis of bivariate trends at one point in time. Yet we know that differences on a variable between countries are often created by historical specificities and tend to be much larger than differences on that variable within the same country over time. Before 1964, for example, southern U.S. states were generally weak on welfare spending but strongly supported the Democratic Party. The erroneous conclusion from a cross-sectional model, even with controls, would be that low welfare spending predicts support for the Democratic Party (Smith 1995). The same goes for the surprising finding that districts of the Punjab during 1961–1971 with higher literacy rates had higher fertility rates. On the other hand, within each district, as literacy increased each year over 1961–1971, fertility declined, as expected. The reason for the erroneous cross-sectional results is that districts with high literacy had high fertility for historical reasons, such as being traditional centers of wealth, power, or religious learning.⁵ This unit effect persisted throughout the course of 1961–1971 (Ali 1978).

⁴ Demographic transition usually preceded mass secularization. In Spain, for example, fertility decline in the early twentieth century was caused by women controlling their fertility in response to declining infant mortality. All of this took place in a religious context without secularization (Reher, Sanz-Gimeno, and Ortega 2008).

⁵ Perhaps because wealth used to be linked to both higher fertility and higher literacy.

Overall, Norris and Inglehart's modernization thesis lacks a systematic multivariate test of the proposition that development indicators predict both religiosity and fertility. It has no time-series dimension. It fails to differentiate between aggregate and individual levels of analysis or to specify the mechanisms that link human development to religiosity and fertility at the two levels. Short of these tests, there can be no basis for the authors' claim that despite current setbacks, religious apostasy will one day win the battle over religious fertility. To address some of these shortcomings, this article will employ multivariate analysis to consider the relationship between religiosity and fertility in developed and developing societies. Moreover, I use time-series techniques to scrutinize some of Norris and Inglehart's macro-level conclusions and move on to employ multilevel analysis to parse out individual and national level effects.

In formulating this analysis, I expected to confirm many of Norris and Inglehart's findings. For example, I predicted that individuals who are more religious would have higher fertility when controls are applied. I expected that the more religious the country of residence, the more religious an individual would be, when other individual characteristics were controlled for. On the other hand, in contrast to Norris and Inglehart, I expected the relationship between country-level and individual-level variables to change as countries develop. I postulated that in developing countries, tradition mediates the relationship between individual religiosity and fertility. Religiosity and high fertility are part of an unreflexive village outlook that is linked to the rhythms of rural underdevelopment.⁶ Society remains less culturally differentiated. In more developed societies, by contrast, new subcultures spring up, often rooted in "lifestyle enclaves" coalescing around shared age or income (Bellah et al. 1996). Religious identity is more self-conscious; individuals and subcultures, often rooted among older people or married couples with children, consciously identify against the secular mainstream, and these subnational dynamics become more important than collective tradition (Bruce 1998: 147). Atheists are also increasingly likely to raise their heads above the parapet, given the less conformist social climate.

There is an analogy here with the crystallization of ethnic identity among the third-generation descendants of immigrants to modern host societies such as the United States. People who connect with their ethnicity must do so self-consciously rather than unreflectively. In other words, the third generation had to consciously *choose* to identify as Italian, whereas their grandparents simply *were* Italian without thinking about it (Novak 1972). Likewise, many nationalist movements took shape when distinctive features of the vernacular culture had atrophied. Irish and Welsh nationalism, for instance, emerged precisely as these respective groups' language was being replaced by English in the early nineteenth

⁶ However, this link might not be present in strongly socialist or Confucian less developed countries. For more on the connection between reflexivity and tradition, see Giddens (1991).

century. Identity, based on romantic historicism and a political project, substituted for traditional culture (Connor 2004; Hutchinson 1987). The awareness of a secular mainstream and the active rejection of it by the religious distinguish modern religiosity from its traditionalist ancestor. This could take the form of Lambert's "fundamentalist reaction" but could equally be represented by more moderate, hybridized religious styles (Lambert 2000: 117). The modernization process thus loosens the relationship between national traditions and individual-level religiosity. This relationship is in turn mediated by stronger subcultures anchored in age, income, or marital status.

As a result, we predict the following:

Hypothesis 1: Religiosity among individuals in a society varies more around the mean within developed countries than in developing ones.

Hypothesis 2: There is little or no association in multivariate, time-series models between a nation's degree of religiosity and either its per capita GDP or its school enrollment level.

Hypothesis 3: There are different relationships between religiosity and human development at the aggregate (i.e., national) and individual levels of analysis.

Two other hypotheses, related to second demographic transition theory, flow from our detraditionalization argument. These concern the notion that as societies develop, human development indicators become progressively less important than the value choices of individuals and their subcultures in determining religiosity and fertility levels. One's position on the traditional-modern spectrum less strongly governs one's fertility and religiosity choices in developed societies, where most people have had the opportunity to acquire education and financial security and to move to urban areas. If people remain religious or more fertile, this is more likely to be caused by conscious choice or membership in a self-conscious religious subculture than to ascribed traditional social norms. In other words, aggregate-level (i.e., national-level) predictors should weaken at the expense of individual ones when it comes to predicting individuals' religious and fertility behavior. Hence we would predict the following:

Hypothesis 4: The aggregate level of religiosity in a country will have a greater impact on individual-level religiosity in developing countries than in developed ones.

Hypothesis 5: Aggregate-level indicators of human development will have a greater impact on individual-level religiosity and fertility in developing countries than in developed ones.

Hypothesis 6: Aggregate-level religiosity is less important in predicting fertility in developed countries than in developing ones.

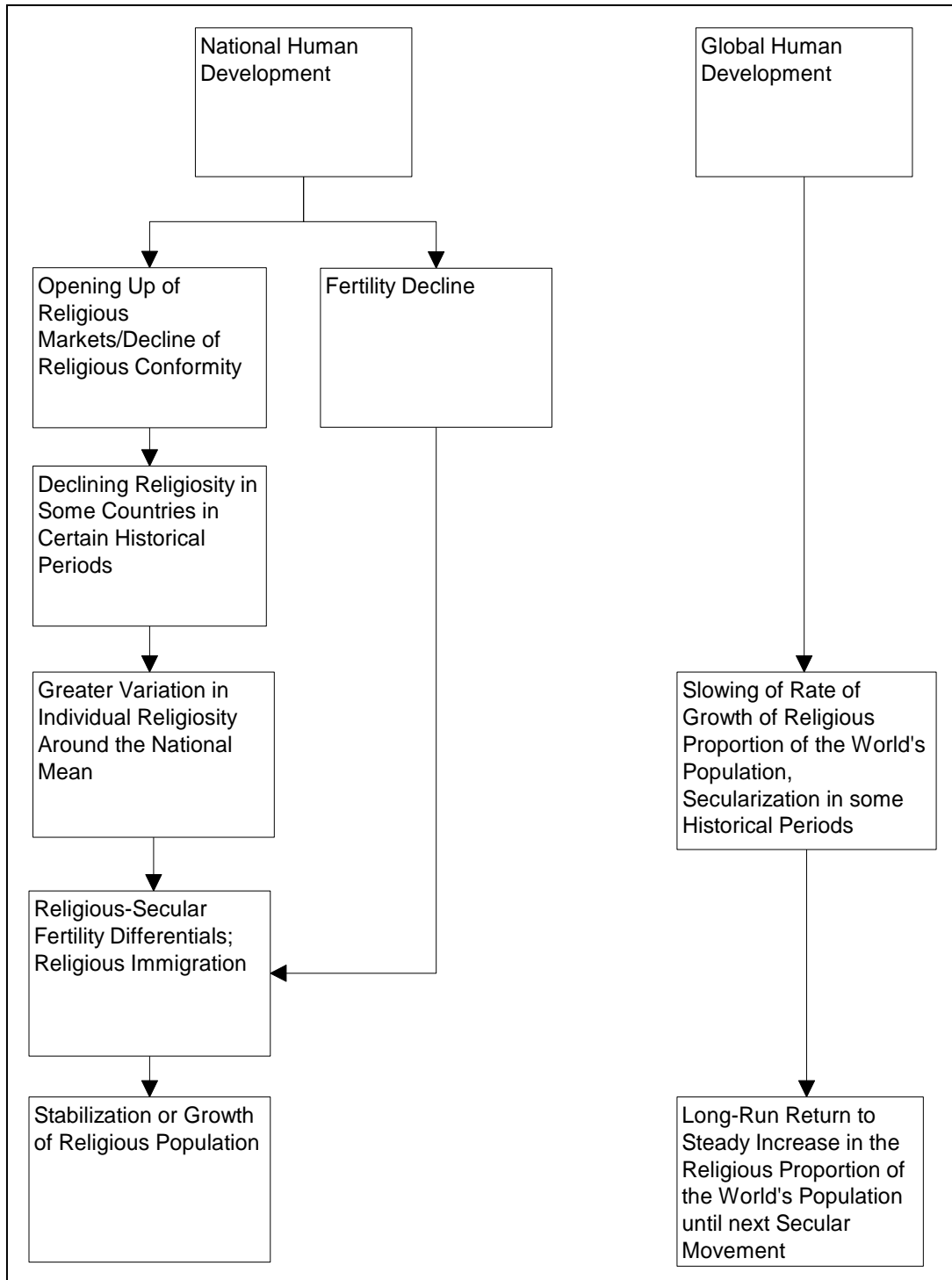
Figure 2: Human Development and Religiosity

Figure 2 presents a schematic overview of the alternative theoretical argument advanced here. Human development leads to fertility decline within nations, and may, in specific historical and national contexts, prompt religious decline. This is particularly true when religious conformity accompanies political conformity. In Spain, for example, the end of Franco's dictatorship in 1975 led to both political and religious freedom, and many Spaniards opted to leave Catholicism, while others became attracted to Protestant sects. This created a greater degree of religious pluralism but also a net decline in Spanish religiosity. If the Iranian theocratic regime collapses, Shia Islam will likely be tainted in a similar fashion and suffer decline. However, the impact of political change on personal piety is mediated by the nature of the links between organized religion and the regime in power (especially if it is unpopular) (Martin 1993 [1978], 2005).

Increasing religious pluralism does enhance the significance of secular-religious fertility differentials. To return to the case of Spain, adherence to religion became a stronger predictor of a woman's fertility because the remnant of religious Spaniards were "true believers" rather than social conformists and hence were more pronatalist. Their former coreligionists fell away from the church and its injunctions and became free to express their reduced fertility intentions. This widened the religious-secular fertility gap (Adsera 2004). Growing national secularism is also associated with lower total fertility, which prompts a demand for immigrants (in Spain, these are mainly Latin American and North African), who tend to be more religious than the host population. In the long run, the combined effect of these demographic forces is to stabilize or revive the religious proportion of the population. This model thereby combines insights from both the secularization and religious markets approaches in that deregulation of the religious economy may lead to initial secularization as some people choose to be nonreligious but can ultimately feed religious revival through secular-religious differential population growth.⁷

The global model reflects what is happening at the national level. Global fertility decline affects poorer, more religious countries more dramatically. Fertility rates drop, lowering the growth rate of the proportion of the world's population residing in strongly religious countries, which Norris and Inglehart correctly observe (2004: 5, 22–24). Note, however, that the theory of global religious decline depends on non-Western secularization, and there is as yet no evidence for this. Indeed, Bruce explicitly exempts his theory from non-Western contexts (Bruce 2002: Chapter 1). Nonetheless, in previous eras, secularization clearly did occur. The English Church census and English Methodist Church records, for example, suggest that weekly church attendance might have peaked in the 1850–1870 period and fallen steadily ever since. Declines in both religious

⁷ I am indebted to an anonymous IJRR referee for this insight.

belief and attendance in the twentieth century in much of Europe are also clear from survey data (Bruce 2002). That having been said, we should not commit the fallacy of overgeneralizing such results into a myth of past piety that is applicable to all eras and places (Stark and Finke 2000: 63–66). Secularization seems to wax in certain times and places and wane in others. Currently, for instance, there is no evidence from cohort trends that secularization is occurring outside the West, though it is proceeding swiftly in much of Catholic Western Europe.

DATA AND METHODS

Data are drawn from the 1981, 1990, 1995–1997, and 1999–2000 waves of the EVS and WVS. Aggregate data come from World Bank Development Indicators for the relevant year, except for country religiosity, which has been computed by taking the arithmetic mean of the individual responses to the WVS question “Are you a religious person” and apportioning “not religious” and “atheist” responses into a nonreligious total. Unfortunately, World Bank Gini coefficient data are too incomplete to be of use, so we are unable to test for inequality, one of the three elements of Norris and Inglehart’s human development measure. Note that almost all of the developing countries have been sampled only in the 1999–2000 wave of the WVS; hence, we limit our analysis of the WVS (in Tables 4–6) to that wave. The time-series analysis employs Prais-Winsten regression with panel-corrected standard errors and uses aggregate data for the ten European countries that were sampled in all three waves of the EVS (1981, 1990, and 1999–2000). These countries were chosen because they are the only ones that were consistently sampled across all three waves of the EVS. (See note 10 for a list of countries.) The multilevel logistic regressions use national-level data as level 2 regressors and EVS/WVS data as level 1 estimators. All analysis uses Stata 7.0 data analysis and statistical software.

Individual variables from the WVS are as follows:

Dependent: Individual religiosity: “a religious person” (1), “not religious person” or “atheist” (0)

Independent: Children: number of children ever born (resident or otherwise); Unmarried: unmarried (1), married (0); Age: years; Female: male (1), female (2); Income: constant Year 2000 US\$; Education: age completing education

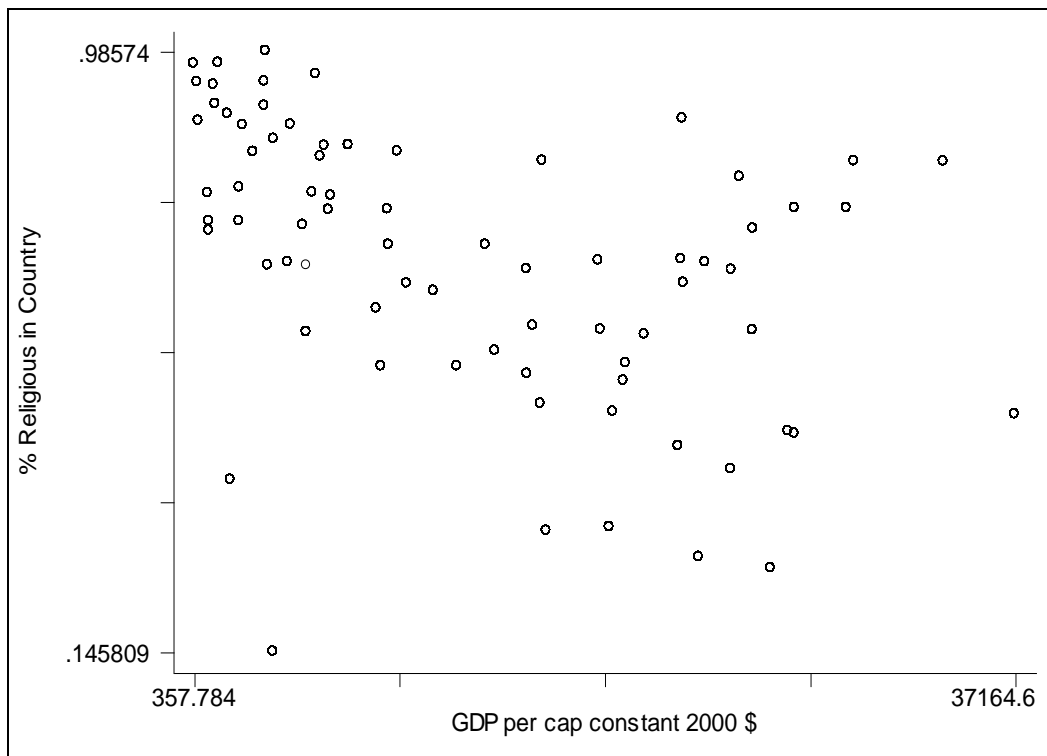
RESULTS

Hypothesis 1: Individual Variations in Religiosity Around Their Country Mean

We begin our investigation by noting that there is indeed an aggregate bivariate correlation between per capita GDP (a major element of human security) and

national religiosity. Nonetheless, the picture is far more complex than a straight-line developmentalist approach would allow. The relationship between per capita GDP and religiosity, for instance, is actually curvilinear (see Figure 3), with increased national income associated with lower religiosity in developing countries and higher or flat religiosity in developed ones.⁸ Even here, we should not immediately infer that higher per capita GDP leads to religious decline even in developing countries, since the shape of the curve seems related to the fact that most wealthy low-religiosity countries are European. Within geographical areas, the pattern dissipates (as we shall see in statistical tests). For instance, taking the few individual countries outside Christian Europe that have been sampled over several time points (such as Turkey or Albania), we find that they tend to shift to the right toward higher incomes but remain at similar levels of religiosity.

Figure 3: Per Capita GDP and National Religiosity, WVS, 1981–2000

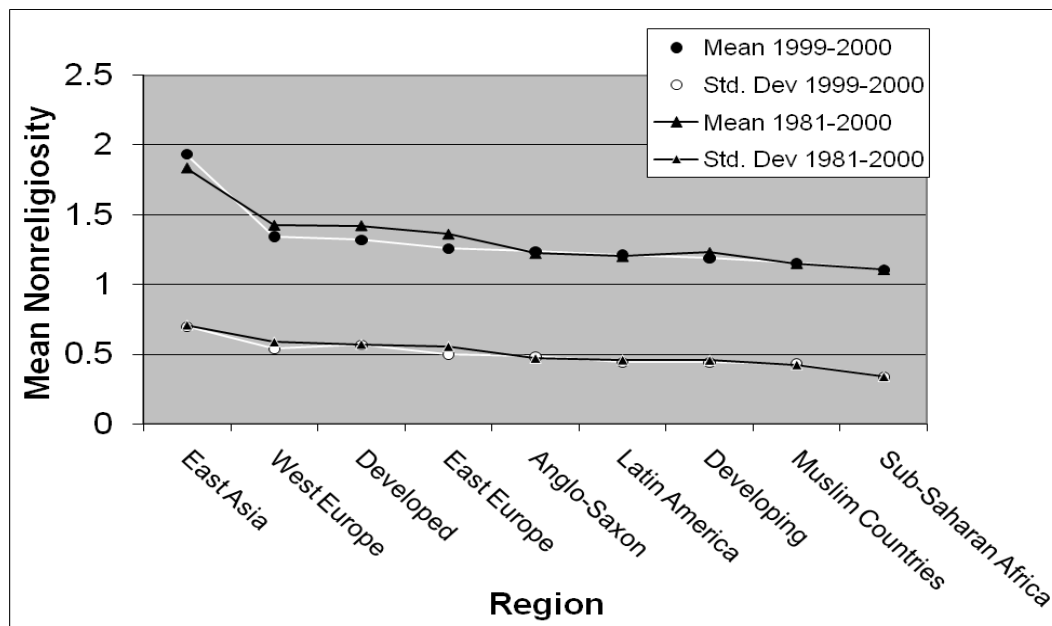


The power of specific national-historical contexts is critical to the argument advanced here (see Figure 2). This difference shows up in contrasting developed

⁸ This graph incorporates repeated measures data for ten West European countries for 1981, 1990, and 1999–2000.

(mainly Western) countries and less developed (mainly non-Western) ones. In this vein, consider Hypothesis 1: that religiosity among individuals in a society varies more in developed countries than in developing one. To test this, we examine the relationship between religiosity levels and their standard deviation in different regions of the world. Two datasets are used: the WVS for 1999–2000 and a combined dataset that includes the 1999–2000 WVS as well as the mainly European 1981 and 1990 survey waves. The pattern is strikingly similar in the two datasets. Figure 4 graphs the mean religiosity (as measured by the WVS religiosity question outlined above⁹) of different regions of the globe against individuals’ standard deviation from their region’s mean religiosity. The regions are arrayed from the least religious, East Asia, where the mean approaches 2 (i.e., all respondents answered “nonreligious”), to the most religious, sub-Saharan Africa, where the mean is close to 1 (i.e., all respondents answered “religious”).

Figure 4: Mean and Variation in Religiosity by Region



Note the common topography of the two sets of lines: regions that display lower religiosity exhibit higher variation around that mean, while the most religious

⁹ The WVS question is “Are you a religious person?,” with 1 as “religious,” 2 as “not religious,” and 3 as “atheist.” Note that in subsequent analysis, we collapse categories 2 and 3 into the “nonreligious” category, which is assigned a value of zero. Geographic regions are mutually exclusive, though “developed” and “developing” countries encompass all regions. “Anglo-Saxon” refers to Canada, the United States, New Zealand, and Australia.

regions show the opposite tendency. This suggests that religious norms constrain individual beliefs more than nonreligious norms do. More developed societies seem to be less religious, as secularization theory predicts, but they also manifest a greater spread of religious practice within their populations, as we would predict from our theory of growing religious deregulation and pluralism in Figure 2.

Hypothesis 2: Human Development and Country Religiosity

We will revisit the question of religious deviation later, but for now, we shall proceed to test Hypothesis 2. We start with a replication of Norris and Inglehart's (2004) aggregate, bivariate analysis based on World Bank development indicators, presented in Table 1. Like Norris and Inglehart, we find the expected negative bivariate correlations between per capita GDP and country religiosity and between levels of secondary schooling and country religiosity. However, these correlations are modest, and they disappear when both education and per capita GDP (which are in fact associated) are input together in a simple multivariate model.

**Table 1: Regression Coefficients on Country Religiosity:
Bivariate Versus Multivariate Models, 1999–2000 WVS**

	Bivariate	Multivariate
Log per capita GDP	–0.069* (0.026)	–0.026 (0.039)
Population aged 65+	–0.021** (0.007)	–0.012 (0.011)
Education (secondary enrollment %)	–0.003** (0.001)	–0.001 (0.002)
Constant	0.132 (0.221), 0.904 (0.060), 0.973 (0.084)	0.112 (0.255)
R²	0.165, 0.183, 0.196	0.239
N	37	37

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note: The bivariate model is actually composed of three distinct models (one per variable), hence the three constants and R^2 s.

Source: Norris and Inglehart (2004: Chapter 3).

Multivariate analysis seems to remove the developmental effects that Norris and Inglehart cite as crucial for secularization. But perhaps these effects will

reappear in a more robust model. Our next methodological step, therefore, is to aim for time-series depth by restricting our analysis to the ten West European countries covered in all three waves of the EVS.¹⁰ The availability of repeated measures for each country allows us to use proper time-series techniques to control for serial autocorrelation. Sample size is small because of the lack of a long time series for many countries; therefore, it is important to limit the number of predictors and place the results in proper perspective. In particular, the R^2 in a model this size is not very meaningful; hence the need to focus on the coefficients. The resulting model, shown in Table 2, reinforces our contention that national income per capita has no impact on the degree of religiosity in a country for these ten cases over the 1981–2000 period. Depending on the methodology used, national education levels have either have no effect or a small *positive* effect on national religiosity. Only the proportion of people over age 65, a demographic indicator, is strongly significant over time and place in lowering the degree of religiosity in a country. As we shall see, there are powerful reasons to suspect that this finding is related less to development than to the secularization and fertility histories of particular Western European countries. Thus, a country's level of human development does not seem to affect its degree of religiosity in these developed societies, as predicted by Hypothesis 2.

Table 2: Regression Coefficients on Country Religiosity, 1981–2000 EVS, Ten West European Countries Only

	OLS Model	PCSE (AR1) Model	PCSE (PSAR1) Model
Log per capita GDP	0.068 (0.110)	0.091 0(0.059)	−0.071 (0.067)
Education (average age completed)	−0.008 (0.019)	−0.004 (0.017)	0.023 (0.014)
Population aged 65+	−0.036*** (0.012)	−0.034*** (0.008)	−0.037*** (0.010)
Constant	0.464 (0.847)	0.266 (0.550)	1.38** (0.414)
R^2	0.184	0.458	0.984
N	30	30	30

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note: There are no data for Norway for 2000, so I use 1997 data. All PCSE models are time-series models. PCSE refers to panel-corrected standard errors. AR1 applies a blanket correction for first-order autocorrelation; PSAR1 uses corrections that are panel-specific (i.e. specific to each country).

As was stated earlier, the clearest association seems to be between a higher proportion of older people (over age 65) and *lower* levels of religiosity. At first

¹⁰ These countries are Belgium, France, Denmark, Sweden, Spain, Iceland, Ireland, Britain, the Netherlands, and Norway (surveyed in 1997 but not in 2000).

glance, this might seem puzzling, since older people would be expected to be more rather than less religious, and hence an older society should be more religious than a younger one. As Europe's population ages, surely, all else being equal, Europe should grow increasingly religious?

However, the mystery disappears when we see that countries with a higher proportion of older people, such as Norway or Sweden, have very low religiosity in comparison with more youthful and religious societies such as Ireland or Iceland. This is essentially a cross-sectional effect, not a developmental one. We can show this with enhanced precision by comparing the results of fixed-effects and between-effects regressions in these ten countries. The former model controls for differences between countries (fixed effects) to focus purely on changes over time, while the latter screens out differences between survey waves (between effects) to zero in on variation between countries. The results¹¹ show that the cross-sectional (between effects) model has ten times the predictive power of the historical (fixed effects) model, and the proportion of older people attains significance only in the cross-sectional model. In other words, Sweden did not become less religious because it aged, but an older Sweden is much less religious than a younger Ireland. This technique thereby illustrates that the statistical significance of the proportion of older people for religiosity is actually a cross-country effect (likely caused by the historical specificities of each country's trajectory of secularization) and has no predictive power over time. The corollary of this, as predicted by Hypothesis 2, is that the relatively high religiosity of developed countries such as Ireland, Iceland, or the United States cannot be explained by low education or income levels. All of this casts doubt on the notion that variations in human development explain patterns of religiosity.¹²

Hypothesis 3: Human Development and Religiosity: Comparing National and Individual Levels

Having addressed the multivariate and time-series issues at the aggregate level of the nation, we now are ready to move on to a multilevel approach that considers individuals in their national contexts. Consider Table 3, which compares two models of religiosity in our sample of ten developed European countries: one at level 2 (country), taken from the last column of Table 2, and the second at level 1 (individual). Notice that the signs of the standardized coefficients are reversed for two of three predictors (age and education) between the two levels of analysis, while in the other case, income, the signs match, but only the individual-level

¹¹ Tables available on request.

¹² It is, of course possible, that the third major leg in the human development stool, income inequality (high in the United States and Ireland, low in Iceland), could account for this variation, but we have no way of testing this proposition, given the lack of pre-2000 Gini coefficient data.

coefficients are significant. This tallies with Hypothesis 3, which predicted dissonance between country-level and individual-level patterns. Even allowing for differences in the World Bank indicators that were used for part of the country analysis and the WVS survey questions that were used for individuals, this result is striking. A higher level of personal education leads, on balance, to lower religiosity for an individual, but if the proportion of secondary-educated population in a country increases, this produces no significant drop in a country's level of religiosity. Finally, older people are significantly more religious than young people across Europe. We would therefore expect that as countries age, they become more religious, but the reverse seems to be true: "Older" countries (in terms of age structure) such as Sweden and Belgium are less religious than "younger" ones such as Ireland or Iceland. This should alert us to the pitfalls of analyses such as Norris and Inglehart's that imply that individual-level relationships can be read off aggregate-level ones and vice versa.

Table 3: Models of Country Versus Individual Religiosity, EVS, 1981–2000, Ten West European Countries Only

Country Model	Coefficient	Individual Model	Standardized Coefficient	Odds Ratio
Log per capita GDP	–0.071 (0.067)	Income Category	–0.020** (0.015)	0.985
Education (age completed)	0.023 (0.014)	Education (age completed)	–0.240*** (0.000)	0.928
Population age 65+	–0.037*** (0.010)	Age	0.004 (0.601)	1.000
Wave and country intercepts	Not applicable		Not reported, but all significant	
Constant	1.38** (0.414)	Constant	1.326	
R²	0.984	Pseudo R²	0.060	
N	30	N	20,634	

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note: The country model presents a linear regression, and the individual model presents a logistic regression. Both correct for heteroskedasticity arising from survey wave and country effects.

Hypothesis 4: The Declining Effect of Country Norms on Individual Religiosity as We Move from Developing to Developed Countries

In Figure 2, we advanced the argument that economic development brings a de-regulation of religion and greater religious variation among individuals, with the result that national-level variables will have less of an impact on individuals' religious choices. To explore these findings further, we employ a multilevel logistic regression of the impact of various individual (level 1) and country (level 2) variables from the WVS and World Bank on individual religiosity. Table 4 presents the standardized coefficients and odds ratios for all countries in the period 1999–2000 and breaks these down into developing (per capita GDP less than \$5,000) and developed (per capita GDP over \$20,000) countries. One of the most glaring results is the minimal predictive power of individual-level variables in the analysis. For instance, for all countries, a model that uses only country-level terms achieves a pseudo- R^2 of 0.161—a better result than the 0.157 recorded for a model that adds individual-level variables to the country-level terms! For developing countries, the two models attain the same fit of 0.225. These results are partly an artifact of listwise deletions caused by sample sizes decreasing substantially when individual-level variables are added. Yet models that drop the country-level dummy terms, leaving just individual-level parameters, show pseudo- R^2 s no higher than the 0.02–0.06 range. Country-level characteristics seem to count for a good deal more than individual-level variation in explaining individual religiosity. This would appear to say nothing about Hypothesis 4.

The one bright spot is the performance of the developed country model. Among individuals residing in countries with a GDP in excess of \$20,000, we find that individual characteristics become far more important, improving the model fit from 0.157 to 0.177, and individual-level coefficients are much stronger, especially in comparison to the model for countries with a GDP under \$5000 (i.e., developing countries). This provides some support for Hypothesis 4. The direction of the coefficients, on the other hand, defies any easy interpretation. Older people and low earners are more religious than are youths and people with high incomes, and these developmentalist effects are stronger and more significant in rich countries. Conversely, better-educated people are less religious in developing countries but not in developed ones. Women are consistently more religious than men, a finding that is echoed in a good deal of the literature on European religion (Hayes 1996).

These results make for a difficult fit with developmentalist theory, as age, income, and education often pull in different directions. To further complicate an already messy picture, the coefficients at the individual level could be reflecting relative rather than absolute effects. Richer individuals might, for example, manifest lower religiosity than the poor within a country, but it does not follow

that as countries grow wealthier, their populations become more secular. This is the gist of Hypothesis 3 (of disconnect between levels of analysis), which dovetails with the results of Table 3.

Table 4: Logistic Regression on Individual Religiosity, Fixed Effects Model, 1999–2000 WVS

	All	Odds Ratio	GDP > \$20,000	Odds Ratio	GDP < \$5,000	Odds Ratio
Children	0.088*** (0.011)	1.090	0.135*** (0.024)	1.143	0.066*** (0.019)	1.067
Unmarried	-0.036*** (0.007)	0.971	-0.089*** (0.014)	-0.930	0.018 (0.013)	1.015
Age	0.038*** (0.001)	1.004	0.074*** (0.002)	1.008	0.047* (0.002)	1.005
Female	0.128*** (0.043)	1.589	0.124*** (0.084)	1.566	0.121*** (0.072)	1.554
Income	-0.013 (0.006)	0.991	-0.064*** (0.011)	0.954	0.014 (0.011)	1.010
Education	-0.028** (0.003)	0.991	0.008 (0.005)	1.002	-0.034* (0.004)	0.989
Country intercepts	Not shown		Not shown		Not shown	
Pseudo-R²		0.157		0.177		0.225
N		35,207		8,008		14,650
Country intercepts only model:						
Pseudo-R²		0.161		0.157		0.225
N		54,559		9,597		25,456

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note: The model presents both standardized coefficients and odds ratios for ease of mutual comparability. Notice that the country intercepts only model has a considerably higher number of cases, owing to no listwise deletions from missing response data.

Hypothesis 5: Aggregate-Level Indicators of Human Development Will Have a Greater Impact on Individual-Level Religiosity and Fertility in Developing Countries Than in Developed Ones

Human Development and Individual Religiosity. Table 5 plumbs the data still further by replacing the country-level dummy terms with level 2 parameters based on World Bank data for income, education, proportion female, and total fertility

rate. We also add country religiosity to the model, as calculated from the mean of individual-level data. The individual-level results, as expected, are consonant with those from the analysis in Table 4, based on country-level dummies. The coefficients for country religiosity show strength across all regions, and this appears to refute Hypothesis 4, which predicted that country religiosity would have a weaker association with individual religiosity in developed countries.

Table 5: Logistic Regression on Individual Religiosity, Multilevel Model, 1999–2000 WVS

	All Countries	GDP > \$20,000	GDP < \$5,000
Children	1.084*** (0.011)	1.139*** (0.023)	1.070*** (0.018)
Unmarried	-0.948*** (0.007)	-0.927*** (0.014)	-0.967** (0.012)
Age	1.006*** (0.001)	1.009*** (0.002)	1.004* (0.002)
Female	1.581*** (0.043)	1.561*** (0.084)	1.506*** (0.068)
Income	-0.980*** (0.006)	-0.954*** (0.010)	-0.983 (0.010)
Education	1.002 (0.002)	1.003 (0.005)	-0.998 (0.004)
C: Religiosity	1.925*** (0.030)	2.219*** (0.073)	1.634*** (0.039)
C: log per capita GDP	1.004 (0.017)	1.643 (0.483)	-0.860*** (0.033)
C: % female	1.108*** (0.022)	1.067 (0.082)	1.096** (0.033)
C: Secondary education (%)	1.008*** (0.001)	1.001 (0.001)	1.021*** (0.001)
C: Total fertility rate	1.736*** (0.044)	1.130 (0.204)	2.130*** (0.080)
Pseudo-R²	0.137	0.174	0.185
N	33,696	8,008	14,650

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

C refers to country-level (level 2) parameters.

Country Religiosity and Individual Religiosity. On the other hand, the strong link between country and individual religiosity across developed and developing regions seems at odds with Figure 3, which showed a link between lower country religiosity and higher religious deviation among individuals. Part of the explanation lies with the nature of the dependent variable, since Figure 3 is based on the three-item WVS question (religious/nonreligious/atheist) rather than on the

dichotomous religious/nonreligious dependent variable that was used in the models in Table 5. When we replace our logistic regression on religious/nonreligious with a linear regression on religious/nonreligious/atheist (which has more variation), we find that the coefficient for country religiosity is stronger in developing countries than in developed countries. The same is true when we remove country-level indicators such as per capita GDP, education, proportion female, and fertility, some of which are strongly correlated with country religiosity. These level 2 predictors are strongly significant in developing countries and thereby weaken the coefficient for country religiosity somewhat, but they play no role in developed countries.

Finally, we need to pay attention to the residuals in these models. We saw that country intercepts predicted 0.225 of the variation in private religiosity in developing countries but only 0.157 of that in developed ones. Evidently, there is more individual-level variation among respondents from developed countries that cannot be explained through reference to characteristics of countries such as mean country religiosity.

Country Human Development Indicators and Individual Religiosity. Looking in detail at the country-level human development indicators in Table 5, we see that a country's average level of income and education seems to be important for individual religiosity only in developing societies. Comparing developed (GDP > \$20,000) and developing (GDP < \$5,000) countries, we find that developmentalist effects fall away for developed countries, as Hypothesis 5 predicts. Education, meanwhile, behaves in a manner utterly at odds with the Norris-Inglehart paradigm, since higher levels of secondary school enrollment seem to predict greater, not lesser, individual religiosity. A nearly identical result was obtained when tertiary education levels were substituted for secondary education levels. Apparently, a rising tide of income and education does not float all individual boats toward a secular endpoint. Lower total fertility rates, as with a high proportion of those aged over 65, predict lower individual religiosity but only in developing countries. As with our country intercepts model, we find that various development indicators pull in opposing directions while individual and contextual variables fail to tell the same story.

Human Development and Individual Fertility. In Table 6, we continue our examination of Hypothesis 5 by regressing the individual fertility of female respondents on a series of variables from the 1999–2000 WVS. The first aspect to note about this model is how more of the human development indicators seem to be speaking with one voice. In developing countries, national per capita GDP, individual income, and individual educational attainment all carry significant coefficients in the expected, developmentalist direction (i.e., fertility-reducing).

Secondary school enrollments, however, confound even this finding, since higher levels of secondary school enrollments are associated with higher individual-level fertility after other controls are applied. Critically, the country-level variables lose much of their predictive power in the developed country model. Hence, despite stronger individual-level coefficients, the developed country model is less than half as powerful as the developing country model.

Table 6: Regression Coefficients on Women's Individual Fertility, 1999–2000 WVS

	GDP > \$20,000	GDP < \$5,000
Unmarried	−0.252*** (0.012)	−0.279*** (0.009)
Age	0.021*** (0.001)	0.066*** (0.001)
Individual religiosity	0.218*** (0.049)	0.130** (0.048)
Individual education	−0.025*** (0.004)	−0.045*** (0.004)
Personal income	−0.092*** (0.010)	−0.025** (0.008)
Country religiosity	−0.042 (0.033)	0.133*** (0.019)
Country secondary school enrollment %	0.003 (0.002)	0.006*** (0.001)
Country per capita GDP	−0.156* (0.076)	−0.716*** (0.155)
Country population age 65+	−0.162*** (0.026)	−0.182*** (0.009)
Country % female	0.096 (0.077)	−0.153*** (0.023)
Constant	0.302 (3.821)	9.073*** (1.125)
R²	0.191	0.457
N	4,186	6,402

* $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Note: The country total fertility rate was dropped from the analysis, owing to problems with multicollinearity. Country variables have been standardized.

Hypothesis 6: National Religiosity and Individual Fertility in Developed and Developing Countries

The results just described reinforce many of the findings of our religiosity models, which found that country-level variables are far more potent in developing

countries, while individual-level estimators are more powerful in developed societies. They likewise reinforce Hypothesis 5 (regarding the fading explanatory power of human development variables as we move from developing to developed countries), since per capita GDP and national education levels lose significance in the developed country model. Our sixth hypothesis, which predicted that national religiosity would be more important for fertility in developing countries, is dramatically confirmed, since country religiosity is highly significant in predicting individual fertility in countries with a per capita GDP under \$5,000 and insignificant in countries with a per capita GDP in excess of \$20,000.

At the individual level, the role of private religiosity shows no slackening tendency as a predictor of a woman's fertility as countries develop. Indeed, one of the striking findings in this model is that individual religiosity is a significant predictor of higher fertility, and the magnitude of the coefficient remains the same across developed and developing regions. We also find that personal education and income remain significant predictors of lower fertility among women in both developed and developing countries. This stands in clear contrast to the religiosity models, in which these human development variables worked at cross-purposes or were often insignificant.

THEORETICAL IMPLICATIONS

The most important finding of this research is that while some national-level human development indicators do, on balance, reduce religiosity and fertility in developing countries, this effect fades in developed countries. In developed countries, a greater proportion of individuals' religious beliefs and fertility behavior is explained by individual-level characteristics or remains otherwise unexplained by country characteristics. Hence, rising levels of national education and income in societies that have progressed beyond a basic stage of development are unlikely to reduce religiosity, whether directly or indirectly, through lowering fertility.

This article accepts that the secularization thesis provides a valid explanation for certain changes in modernizing societies. Social differentiation does constrict the influence of religion in people's lives and reduce the religious context to just one among several frameworks for people's lives; the rise of new sources of scientific authority and improvements in human security help secular institutions to usurp many of the functions that religion once performed. This may lead to public secularism, but private belief is another matter, and here I submit that private secularization occurs only in specific historical-geographic contexts. Moreover, in the longer term, as Figure 2 shows, the demographic advantage accruing to religious people (through higher fertility, a more female-dominated sex ratio, and,

for Europe, religious immigration) continues as societies develop. This means that secularism has to keep “running to stand still” (Kaufmann 2007a).

Our research suggests that higher levels of national and individual education are associated with lower fertility, much as Norris and Inglehart would predict. But the same cannot be said for religion, in which personal educational attainment shows no signs of predicting lower religiosity. Indeed, a recent study reports no relationship at all between an individual’s education and religiosity in Europe (Halman and Draulans 2006: 279). The picture is somewhat more mixed for rising levels of income. We find that higher personal income has a pronounced impact in lowering fertility across both developing and developed countries but seems to predict lower religiosity only in developed countries.

The results of our analysis show that somewhat different relationships hold between dependent variables and parameters at the individual and national levels. This pattern can be interpreted two ways. One possibility is that individuals’ relative income and education change in importance as determinants of private religiosity and fertility as societies develop. A rising tide of aggregate income or education could exacerbate or reduce inequalities of income and education within society, altering their power as predictors of individuals’ religiosity and fertility. This would result in the direction or size of individual-level income and education coefficients being out of phase with their aggregates at national level. Thus, a rising tide of human development might spur secularization among some people and revival or resistance among others, in line with our observations of greater social pluralism in Figure 2.

Another explanation is that rising absolute income and education simply become less effective in reducing individuals’ religiosity and fertility as development proceeds. This seems to be the pattern that emerges from our models in Tables 4 through 6, in which national-level indicators lose some of their predictive power to (specified or unspecified) individual characteristics when we move from developing to developed countries. The link between human development and religiosity and fertility at the aggregate level proceeds from this individual-level relationship, tending to weaken as societies develop. Indeed, even if we examine the results obtained by Norris and Inglehart, the human development index becomes an insignificant estimator of aggregate religiosity within postindustrial societies, despite being significant at the $p < 0.001$ level within the wider global sample. Let us be clear: There is no evidence that human development continues to have an impact on religiosity in developed societies (Norris and Inglehart 2004: 66, 99). The authors admit as much when they write that the human development process lowers religiosity and fertility “most dramatically during the first stage of human development.” Nonetheless, their subsequent comment that “this process does not reverse itself” seems weakly supported by their WVS evidence (Norris and Inglehart 2004: 54).

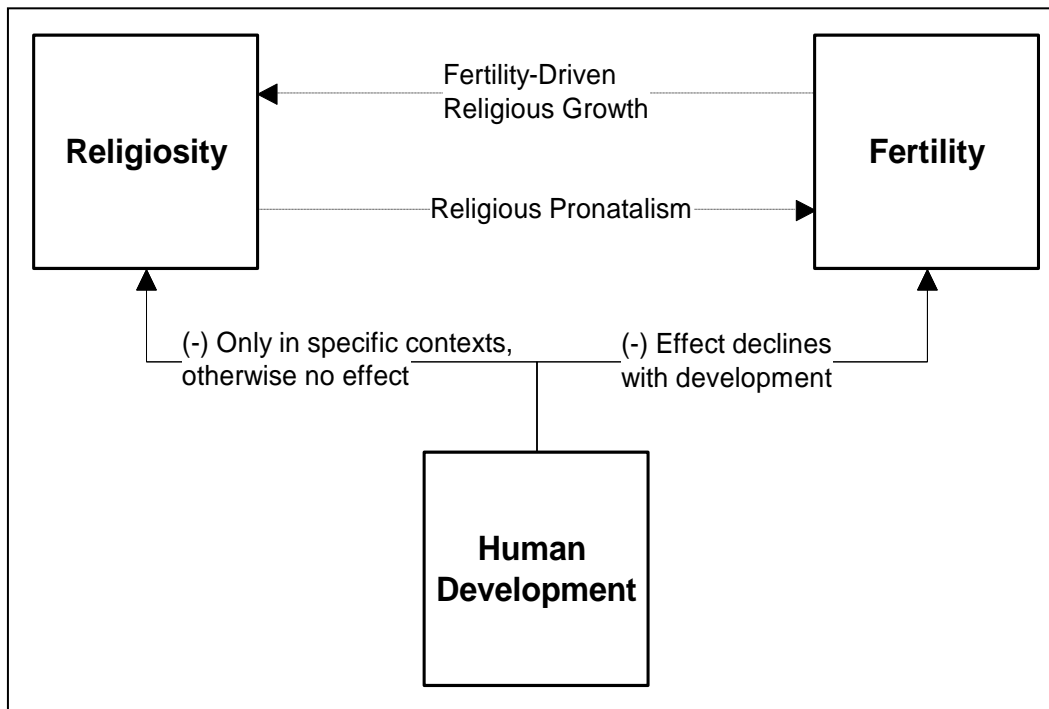
I would make a far more circumscribed claim about human development and secularization. On the one hand, national human development is important for fertility and has a dramatic effect on fertility decline in developing countries. This effect weakens but remains present in developed countries. Lower fertility in the developing world, which is more religious than is the developed world, will lead to slower growth in the world's total religious population, in line with developmentalist secularization theories. On the other hand, human development becomes less clearly related to religiosity as society pluralizes. Higher per capita GDP modestly reduces religiosity in the developing world, but rising education and generational turnover make little difference, and country-level dynamics (possibly related to politics, culture, and ideology) are a more important determinant of religious trends. The transition to higher levels of human development eliminates the secularizing impact of rising per capita GDP and leads to a greater variety of religious belief. Meanwhile, religious people continue to have higher fertility in both the developing and developed worlds, leading to general growth in the religious population unless checked by a renewed spirit of secularism, which seems associated with particular places in certain historical periods (see Figure 2).

The combination of these forces points in an indeterminate direction. The world could become less religious, become more religious, or remain as it is. In the near term, global religiosity will continue to grow (albeit at a decreasing rate, owing to the demographic transition in the third world), but we cannot predict where and when a new secular social movement like Soviet socialism or Italian nationalism will arise. Unit effects related to the particular history and politics of each country will almost certainly be an important determinant of cross-national variation in religious behavior. In effect, human development in the developing world could lead in a West European or East Asian direction (low religiosity) or could take an American route to modernity (high religiosity). To read a multi-level, multivariate, time-series relationship into unilevel, bivariate, cross-national patterns, as Norris and Inglehart do, is to engage in a statistically dubious exercise, as our earlier analyses in Tables 1 through 3 illustrate.

This is not to say that we should throw the baby out with the bathwater. At the macro level, the demographic strand of Norris and Inglehart's theory holds up well under both multilevel and multivariate analysis. Human development *does* lower individual fertility, especially during the early stage of a country's development, and this reduces the growth of the global religious population. On the other hand, the macro-level links between human development and religious decline remain unsupported. As the authors admit, "we have very little time-series data from low-income societies, and thus no direct measure of whether secularization or a resurgence of religiosity is occurring in them." For example, Norris and Inglehart remark that in the Muslim world, "younger generations in Islamic societies remain as traditional as their parents and grandparents" (2004: 149, 240). This

article thus proposes revision of the Norris-Inglehart paradigm along the lines shown in Figure 5.

Figure 5: The Norris-Inglehart Secularization Thesis: A Revisionist Interpretation



Earlier, we remarked that different developing countries could modernize along either a religious (American) or secular (European) pathway. Nevertheless, neither American nor European religious trajectories can be taken for granted. We know that there was an increase in the proportion of Americans without religious affiliation in the 1990s (Hout and Fischer 2002). Likewise, it is worth outlining that an alternative scenario of religious growth is possible for Western Europe based on declining rates of secularization (evident in the nations that underwent secularization earliest), higher native religious fertility, and religious immigration (Goujon et al. 2006; Kaufmann 2007a, 2007b). Overall, this seriously questions the notion that the secularization process “does not reverse itself” (Norris and Inglehart 2004: 54). This does not mean that religious revival is inevitable; it merely casts doubt on the teleological picture sketched by some exponents of the secularization thesis.

CONCLUSIONS

This article assesses the claims of developmentalist secularization theory using data from the WVS, EVS, ESS, and World Bank. Although higher income and education, two key human development indicators specified by Norris and Inglehart (2004), appear to be linked to lower religiosity in national-level bivariate correlations, these relationships break down under even the most basic multivariate analyses. Moreover, a multilevel model of the relationship between human development and religiosity suggests that raising per capita income levels will have no effect on religiosity beyond an early stage of development. Indeed, rising national education levels seem to be associated with *higher* religiosity. Within developed countries, high earners are less religious than are low earners, but in view of the insignificant national-level effects, this probably reflects relative rather than absolute income dynamics. Meanwhile, higher education levels play no role in lowering religiosity in developed countries.

For Norris and Inglehart, high fertility in developing countries is a key driver of global religiosity. This article endorses that part of their analysis. Human development is clearly linked to lower individual fertility, but as with religiosity, this effect falls away dramatically in developed societies. Overall, we find that human development generally exerts a weaker effect on religiosity and fertility in developed countries than in developing ones. These findings cast doubt on the role of higher education and income levels in promoting secularization, especially after the earliest stages of development. Moreover, individuals in developed countries tend to deviate more widely from national religious norms than do their counterparts in developing countries. In developed countries, the specified and unspecified characteristics of individuals come to play a greater role than national features in explaining variations in private religious belief. One explanation is that as societies develop, individuals and their subcultures become more detached from national patterns and traditions of religious behavior. Traditional religiosity comes to be replaced by self-conscious religious identity in the same way that unreflexive traditional ethnic cultures have been superseded by self-conscious ethnic or nationalist movements. One can conceptualize this as a form of deregulation of the religious marketplace, which can lead to secularization as religious conformity declines and some people choose not to classify themselves as religious. The ensuing secular-religious fertility differentials and, possibly, religious immigration can reverse these trends. The nonreligious almost always have a slower rate of demographic growth than the religious do. Thus, the precipitation of the “silently” nonreligious out of their previously religious normative context can, paradoxically, lead to slower growth of the secular population against its religious rival.

In this sense, this article combines elements of the religious markets, secularization, and religious demography paradigms. It also revises them. The religious markets theory needs to accept that pluralism can lead to declining religious conformity, opening up a nonreligious option of which many people will avail themselves. Theorists of religious demography must accept that demography will play a greater role at certain times and places. It will be more telling over the long term and during periods of secular "exhaustion." Finally, secularization theorists could be more careful to place their arguments about declining private belief in specific historical-geographical contexts such as twentieth century Europe and some of its settler offshoots.

There is also a need for secularization theory to incorporate demography. For example, my research is compatible with many aspects of the theory of secularization, especially if limited (as Steve Bruce's is) to a specific Western European, late nineteenth/twentieth century context. It accepts that differentiation can lead many to secular beliefs, while religious subcultures survive by self-consciously orienting themselves against the secular mainstream. The only issue remains the relative size of these religious subcultures. While theorists of secularization imply that such subcultures will be relegated to the fringes of society, my research posits that religious individuals and subcultures might well expand because of a reduced rate of secularization, religious fertility advantage over the nonreligious, and religious immigration. It is conceivable that the religious will eventually reemerge as the mainstream. An examination of the northwestern European societies that secularized earliest shows that, on the basis of current demographic and religious indicators, we are likely to see a reversal of secularizing trends in the twenty-first century. This is the case even in the highly unlikely event that immigration to these countries, which tends to be disproportionately religious, ceases.

We might think of the problem as being analogous to the relationship between immigration ("religious demography") and assimilation ("apostasy") into a secular population. It is possible that assimilation will conquer demography, but the outcome is never predetermined. If we examine the history of human migration and ethnicity, even in a restricted setting such as the British Isles, there are cases in which demography has triumphed culturally (e.g., Anglo-Saxons displacing Britons as the dominant ethnic group from the sixth century) and cases in which assimilation has emerged the cultural victor (e.g., Normans in England and Ireland becoming assimilated into their host cultures after 1066). The future of religion in humankind will be determined by the balance between these competing processes rather than purely by assimilation to secularism.

This article maintains that secularism currently has an inbuilt demographic disadvantage in both developing and developed countries, and this handicap can be overcome only through mass assimilation of religious people to a dynamic

secular message. The evidence presented here indicates that the worldwide fate of secularism has little to do with material advancement. Instead, secularism's future could be determined by its ability to return to an earlier dynamism, with origins in Renaissance Italy's resistance to papal control and an early efflorescence during the Enlightenment in the eighteenth century. Secularism subsequently gained popular traction in alliance with liberal, socialist, and nationalist movements in the nineteenth and twentieth centuries that attempted to wrest state power from conservative religious opponents (Baycroft and Hewitson 2006). In the absence of such "religious" inspiration, secularism could lose momentum, allowing a demographically more dynamic religious population to reestablish itself as a hegemonic force. In this case, developing countries might become even more likely to avail themselves of a more religious, "American" route to modernity.

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