

Introduction to the Economics of Religion

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1. Introduction

WITH TWO CENTURIES separating its first and second publications, there is no denying that the economics of religion got off to a slow start. Yet despite this leisurely launch, dozens of economists (and several sociologists) have now picked up where Adam Smith ([1776] 1965) and Corry Azzi and Ronald Ehrenberg (1975) left off. Armed with the tools of economic theory and a large body of data, they have written nearly 200 papers concerning issues that were previously confined to other social sciences—the determinants of religious belief and behavior, the nature of religious institutions, and the social and economic impact of religion. If the study of religion does not yet warrant a *JEL* classification number, let alone the subfield status that it enjoys within every other social science, it nevertheless qualifies as

new territory within the expanding domain of economics.²

Studies of religion promise to enhance economics at several levels: generating information about a neglected area of “nonmarket” behavior; showing how economic models can be modified to address questions about belief, norms, and values; and exploring how religion (and, by extension, morals and culture) affect economic attitudes and activities of individuals, groups, and societies. At the same time, the studies promise to influence sociology, particularly the sociology of religion, which has developed a serious interest in the economic approach. Because nearly all this work is new and scattered over a variety of journals both in and out of economics, an introductory survey would seem to be in order.³

A survey serves also to dispel the

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² The study of religion has enjoyed salience and legitimacy within sociology, psychology, anthropology, history, and (to a lesser extent) political science for many decades. Journals that specialize in the social-scientific study of religion include the *Journal for the Scientific Study of Religion*, *Sociology of Religion* (formerly called *Sociological Analysis*), the *Review of Religious Research*, *Social Compass*, and the *Journal of Church and State*.

³ The survey is not exhaustive. Readers are welcome to write to me for a more complete listing of articles on the economics of religion: LIANNACONE@mailers.scu.edu

popular but untenable view of religion as a fading vestige of prescientific times. The resurgence of evangelical Christianity in the United States, the rise of Islamic fundamentalism in the Middle East, the explosive growth of Protestantism in Latin America, the religious ferment in Eastern Europe and the former Soviet Union, the role of religion in political and ethnic conflicts worldwide—all testify to religion's pervasive and continuing importance. In the United States, where data are most detailed, rates of religious belief and behavior show little or no decline over time. Indeed, American rates of church membership have actually risen throughout the past two centuries. Social scientists have little choice but to take account of religion, because religion shows no sign of dying out.

Studies of religion and economics can be segregated into three major lines of inquiry. This essay emphasizes the line of research that interprets religious behavior from an economic perspective, applying microeconomic theory and techniques to explain patterns of religious behavior among individuals, groups, and cultures. Studies of the economic *consequences* of religion form a second line, which I will review in less depth. Finally, a large body of writings invoke theological principles and sacred writings to promote or criticize economic policies. This last line, which one might call *religious economics*, is primarily of interest to philosophers, theologians, and economists seeking to evaluate economic policies from a religious perspective.⁴

I will not review religious economics,

since its literature is broad and far removed from the research and professional interests of most economists. Religious economics includes a large body of writings by self-described "Islamic economists" who seek to analyze, justify, and implement systems of banking, taxation, income redistribution, and finance consistent with economic principles derived from the Qur'an and the Sunna. It also includes the writings of Christian theologians, clerics, and economists spanning centuries—from medieval Catholic bans on usury, to contemporary Catholic pastorals on the economy; from official pronouncements of mainline Protestant denominations and the National Council of Churches, to the diverse writings of evangelical Protestants and self-styled "Christian Economists." Some of these writings question the very concept of religious economics, criticizing its logic, claims, and assumptions (Kenneth Elzinga 1989). Others propose radical critiques of capitalism, socialism, taxation, banking, and income redistribution. Interested readers can consult a variety of reviews, including Craig Gay (1991), Kuran (1993), Fred Pryor (1990), Muhammad Siddiqi (1981), and A. M. C. Waterman (1987).

Like the work that comes before it, this essay sidesteps questions about the validity of religious beliefs or authenticity of religious institutions. Insofar as an explicit definition of religion proves necessary (for example, to exclude political ideologies and secular philosophies), it suffices to define a religion as any shared set of beliefs, activities, and institutions premised upon faith in supernatural forces.⁵ In practice, how-

⁴ Yet another set of studies includes the small consulting literature that evaluates religious organizations from a practical business perspective so as to use resources more efficiently, market more effectively, and stimulate church growth (e.g., Robert Stevens and David Loudon 1992).

⁵ This definition, adapted from Rodney Stark and William Bainbridge (1985, p. 5), excludes purely individualistic spirituality and systems of metaphysical thought, including some variants of Buddhism, that border on pure philosophy. See

ever, the analysis cannot remain this abstract. Because there is little social-scientific research on religion outside of the United States and other developed Western countries, this essay is largely focused on Judeo-Christian beliefs, activities, and institutions.

Before proceeding, I must comment on the empirical basis for religious research. Religious data are, on the one hand, limited and unreliable. Governments collect few religious statistics and sponsor little religious research; most religious organizations keep sloppy financial records and overly inclusive membership lists; and many aspects of religion are inherently difficult to observe. Yet religious data are more abundant than most academics realize and far more extensive than those pertaining to many other "nonmarket" activities and institutions, such as clubs, friendships, recreational activities, self-help groups, and most social movements.

Surveys provide a wealth of self-reported information about religious beliefs, activities, and affiliation.⁶ Since the late 1930s, the Gallup organization has repeatedly polled people about their denominational preference, church attendance, and religious beliefs. Beginning in 1972, NORC's General Social Surveys provide (nearly) annual responses to many more religious questions (James Davis and Tom Smith

1996).⁷ Hundreds of other national surveys include basic questions about church attendance and denominational preference. And hundreds more, sponsored by denominations, interdenominational agencies, and philanthropic organizations, provide highly detailed, though less representative, information about denominations and their congregations, members, and leaders.

Institutional records complement self-reported survey data. Nearly all denominations track their membership, contributions, expenditures, number of congregations, and number of clergy, and many also keep records on baptisms, conversions, ordinations, missionary activity, and attendance.⁸ The U.S. government collects some relevant data, including statistics on clergy employment and church construction and IRS tax records (which, together with survey data and denominational reports, yield estimates of religious giving and its determinants).⁹ Other useful, though largely neglected, information includes:

⁷ The Canadian General Social Surveys, World Values Surveys, International Gallup polls, and surveys of the International Social Survey Program provide analogous, though less detailed, statistics for many other countries.

⁸ Annual summaries of denominational statistics have appeared in the *Yearbook of American and Canadian Churches* since 1915, and many denominations publish annual reports and/or almanacs that provide more detailed information disaggregated to the local level. The U.S. government's decennial *Census of Religious Bodies*, conducted from the 1850s through the 1930s, reports a wide range of church statistics disaggregated to the level of cities and counties; a series of privately-sponsored censuses provide analogous county-level membership statistics for 1952, 1971, 1980, and 1990 (Martin Bradley et al. 1992, p. vii).

⁹ See annual editions of the *Statistical Abstract of the United States and Historical Statistics of the United States: Colonial Times to 1970* for these and other data pertaining to religion. Only one U.S. Census Bureau survey, the March 1957 Current Population Survey, asked people their religious affiliation. Other governments collect more religious data. In Canada, marriage applications and population censuses ask people their religion. Swedish church statistics, which include individ-

Keith Roberts (1990, pp. 3–26) for other definitions and a discussion of the differences between "functionalist," "substantive," and "phenomenological" definitions.

⁶ As with most survey questions concerning personal beliefs and private behavior, it is difficult to assess the overall accuracy of people's responses to religious questions. Kirk Hadaway, Penny Marler, and Mark Chaves (1993) present evidence that Gallup polls substantially overstate actual rates of church attendance. Working with data from the 1975–76 and 1981 Michigan Time-Use Studies, Jeff Biddle (1992, p. 127) obtains weekly attendance rates about 15 percent lower than those reported by Gallup.

sales of religious books, periodicals, and music; church telephone listings; clergy salaries; church-school and seminary enrollments, and data on religious broadcasting.

2. *The Continuing Importance of Religion*

Psychologists, anthropologists, and sociologists have long viewed religion as a category of behavior largely immune to the rational calculus. Indeed, for many nineteenth-century scholars—including Marx, Freud, and Comte—intense religious commitment sprang from nothing less than outright irrationality. From this assumption it was but a small step to the so-called “secularization thesis,” which came to function as the principal paradigm for the social-scientific study of religion. According to the prominent sociologist Gerhard Lenski (1963, p. 3), sociology was thus “from its inception . . . committed to the positivist view that religion in the modern world is merely a survival from man’s primitive past, and doomed to disappear in an era of science and general enlightenment.”

Never mind that the secularization thesis is wrong (Andrew Greeley 1989; R. Stephen Warner 1993); it has spawned a body of stylized facts that few dare question. For example: that religion must inevitably decline as science

and technology advance; that individuals become less religious and more skeptical of faith-based claims as they acquire more education, particularly more familiarity with science; and that membership in deviant religious groups (so-called “sects, cults, and fundamentalisms”) is usually the consequence of indoctrination leading to aberrant values, or abnormal psychology due to trauma, neurosis, or unmet needs. Most people “know” these statements to be true, even though decades of research have repeatedly proved them *false*.

As survey, census, and historical data have piled up, the continuing vitality of religion has become apparent, and nowhere more so than in the United States. Consider, for example, the following statistical portrait, gleaned from a variety of contemporary studies:

- (1) American church membership rates have risen throughout most of the past two centuries—from 17 percent of the population at the time of the Revolution, to 34 percent by the mid-1800s, to more than 60 percent today.¹⁰
- (2) The fraction of the U.S. population employed as clergy has remained around 1.2 per thousand for the past 150 years. See Figure 1, based on data from various government reports, including the 1850, 1880, and 1906 *Census of Religious Bodies, Historical Statistics of the United States: Colonial Times to 1970*, and the Bu-

ual-level records of church participation, date back to the 17th century (Thorlief Pettersson 1988). British denominational statistics from 1700 through 1970 have been tabulated by Robert Currie, Alan Gilbert, and Lee Horsley (1977). David Barrett (1982) has compiled numerous 20th century religious statistics for more than 200 countries. Still other sources include the Human Relations Area Files, which code anthropologists’ observations about hundreds of premodern societies (Brooks Hull 1994), and volumes of historical statistics concerning the medieval Catholic church (Robert Ekelund et al. 1996), local congregations, and religious communes (Murray 1995b).

¹⁰ Working from fairly reliable church-level sources, including the U.S. government’s *Census of Religious Bodies*, Finke and Stark (1992, p. 16) estimate church membership rates from 1776 through 1980. In Gallup polls, rates of self-reported church membership have declined very slightly, from 73 percent in 1937 to 70 percent in 1995, and the fraction of respondents claiming no religious preference has increased from 6 percent in 1947, and about 3 percent throughout the 1950s and 1960s, to 8 percent in 1995 (though part of this increase is attributable to changes in question wording).

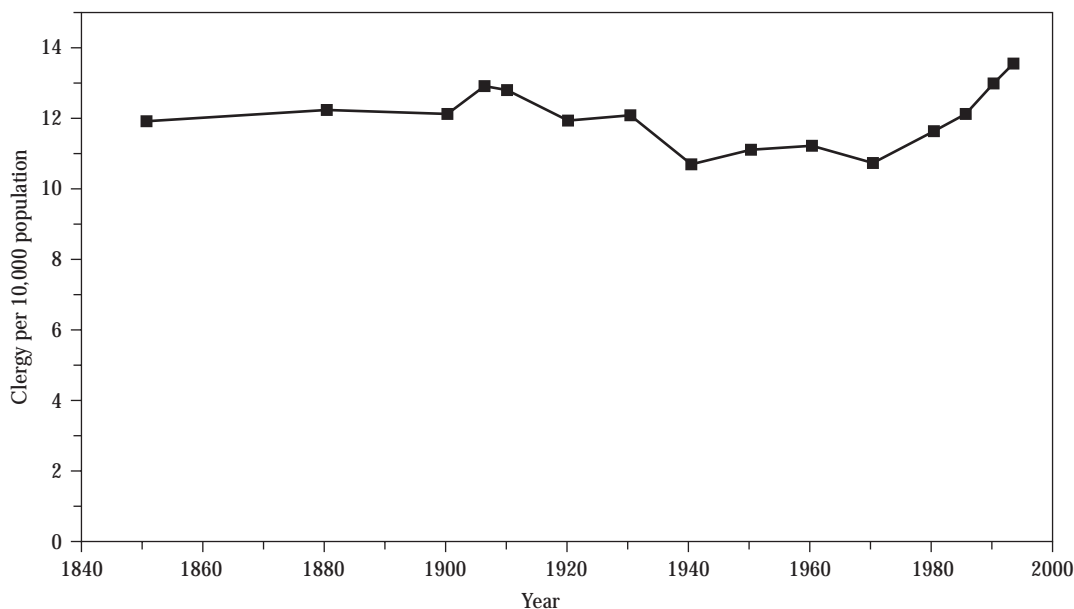


Figure 1. U.S. Clergy Employment, 1850–1995.

Source: 1850, 1880: *Religious Bodies* (U.S. Bureau of Census, 1850 and 1880).

1900–1970: *Historical Statistics of the United States: Colonial Times to 1970* (U.S. Bureau of Census 1975, series G458).

1977–1995: *Employment and Earnings* (U.S. Bureau of Labor Statistics, January issues).

reau of Labor Statistics' January reports on *Employment and Earnings*.

(3) Since the advent of national opinion polls in the late-1930s, the percentage of Americans claiming to attend church in a typical week has remained remarkably stable, around 40 percent of the total population. Figure 2, based on responses to Gallup polls, plots attendance trends for self-identified Protestants, self-identified Catholics, and all Americans (including non-Christians). No real pattern emerges apart from a downward shift in Catholic attendance immediately following a series of controversial papal pronouncements in the mid-1960s (Michael Hout and Greeley 1987).

(4) Surveyed religious beliefs have proved nearly as stable as church attendance. For decades, about 95 percent of Americans have professed belief in "the existence of God or a

universal spirit" and a large fraction continue to believe in heaven, hell, an afterlife, and the divinity of Jesus. See Table 1 and also Greeley (1989) for details.

(5) Total church contributions appear to have remained around 1 percent of GNP since at least 1955. Religious giving consistently accounts for about half of all charitable giving in the United States (approximately 64 billion dollars in 1995); religious volunteer work is more common than any other form of volunteer work (Charles Clotfelter 1985, p. 145); and the majority of nonprofit institutions are or were religiously based.¹¹

¹¹ Compared to other forms of giving, religious contributions display a relatively low cross-sectional income elasticity (between .4 and .6). Clotfelter (1985, pp. 64–65) summarizes results from three studies that estimate individual-level price and income elasticities for religious giving. J. F.

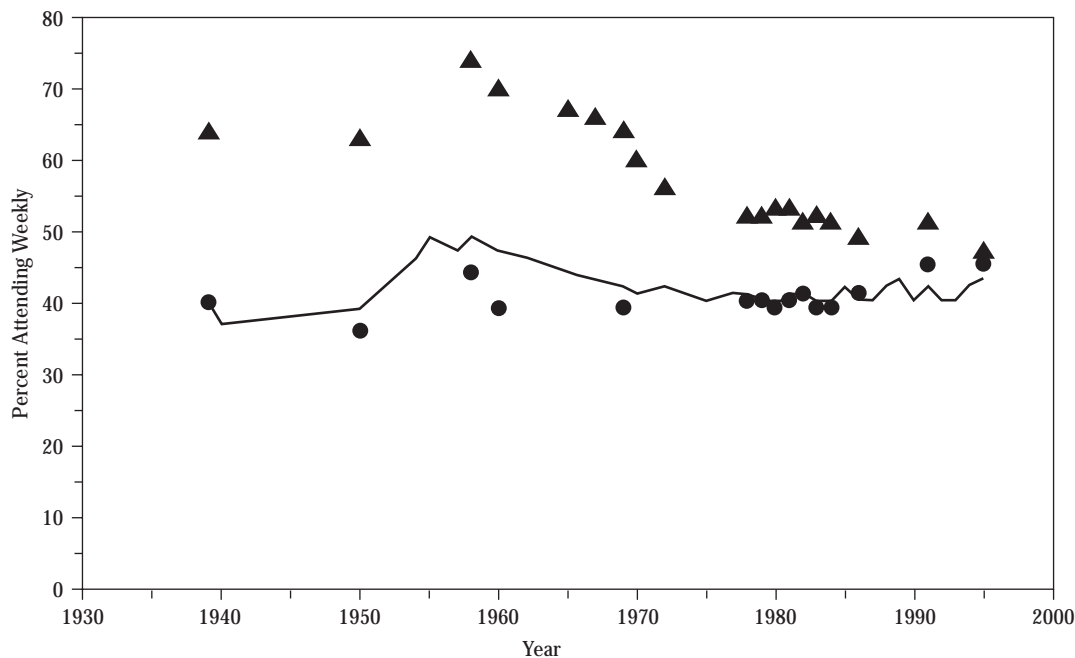


Figure 2. U.S. Church Attendance Rates, 1939-95.

Notes: — = all respondents ● = self-identified Protestants ▲ = self-identified Catholics

Source: Gallup opinion poll statistics, reported in annual editions of *Religion in America* (Princeton Religion Research Center 1990, 1992/3, 1996) and in Hout and Greeley (1987).

(6) Religion is not the province of the poor or uninformed. In numerous analyses of cross-sectional survey data, rates of religious belief and religious activity tend not to decline with income, and most rates increase with education.¹² On the other hand,

styles of religion do vary with income and education. Theologically conservative denominations (typically labeled “fundamentalist,” “Pentecostal,” or “sectarian”) draw a disproportionate share of their members from among the poorer, less educated, and minority members of society (Stark

Pickering (1985) and Jody Lipford (1995) estimate corresponding income elasticities across the congregations of individual denominations. *Giving U.S.A.* reports annual estimates of religious and nonreligious giving from 1955 through 1995 (see AAFRC Trust for Philanthropy, 1996 and earlier annual editions). *Historical Statistics of the United States: Colonial Times to 1970* (U.S. Bureau of the Census 1975, p. 359) provides analogous statistics for 1930 through 1970.

¹² Over the past 40 years, scores of sociological studies have investigated the empirical relationship between income and/or education and numerous measures of religiosity—see, for example, Lenski (1963), Stark (1972), Wade Roof and William McKinney (1987), and Ross Stolzenberg, Mary Bair-Loy and Linda Waite (1995). Since the

mid-1970s economists have weighed in, estimating models more sensitive to nuances of economic theory. Their basic results, however, mirror those of the sociologists: education is a weak but generally positive predictor of religious participation; income is a strong, positive predictor of religious contributions, but a very weak predictor of most other measures of religious activity, such as church attendance, church membership, frequency of prayer, and rates of religious belief. Income or wage effects are almost always dwarfed by those of age, gender, and religious upbringing. See Azzi and Ehrenberg (1975), Ehrenberg (1977), Stephen Long and Russell Settle (1977), Holly Ulbrich and Myles Wallace (1983, 1984), and Biddle (1992).

TABLE 1
POLLS OF RELIGIOUS BELIEFS

	God	Jesus	Life	Heaven	Hell
1945	95		76		
1950	99	77	73	72	58
1955	97		74		
1960	97		74		
1965	97	75	75	68	54
1970	98		73		
1975	94		69		
1980	95	78	71	71	53
1985	94	76	74		
1990		84	71	75	60
1995	96		71		

Notes: Where data are lacking for a given year, but available for one of the two years before or after, the average of these values is entered.

Source: Gallup polls, reported in "Religion in America" (1985, 1990, 1992/93, 1996). Variables:

God = Percent of "Yes" responses to "Do you believe in the existence of God or a universal spirit?"

Jesus = Percent of "Yes. God" responses to "Do you believe Jesus Christ ever actually lived? Do you think He was God or just another leader like Mohammed or Buddha?"

Life = Percent of "Yes" responses to "Do you believe in a life after death?"

Heaven = Percent of "Yes" responses to "Do you think there is a heaven where people who have led good lives are eternally rewarded?"

Hell = Percent of "Yes" responses to "Do you believe there is a hell?"

1972; Roof and McKinney 1987; Iannaccone 1992).

(7) Media hype notwithstanding, most members of "extremist sects and cults" show no signs of deviant personality, such as neurosis, manic depression, or excessive authoritarianism. Charges of forced indoctrination, coercive "brainwashing," and "mind control" have been so thoroughly debunked that few courts and even fewer scholars now take

them seriously (James Richardson 1991).

(8) College professors are, on average, somewhat less religious than the general public, but it is not at all clear that this reflects a fundamental tension between faith and science. Irreligion is most pronounced in the humanities and the social sciences; faculty in the physical sciences and professional fields are much more likely to attend church, profess faith, and approve of religion (Robert Wuthnow 1985). It is, in fact, only within the social sciences most committed to the secularization thesis (psychology, anthropology, and, to a lesser extent, sociology) that one finds high levels of antireligious sentiment (Stark, Iannaccone, and Finke 1996). Among leading physicists, chemists, and biologists, belief in a god who answers prayer is as widespread today as it was in 1916 (Edward Larson and Larry Witham 1997).

(9) Throughout the world, fast growing religions tend to be strict, sectarian, and theologically conservative. In the United States, such groups continue to gain members, even as theologically liberal Protestant denominations (including Episcopalian, Methodist, Presbyterian, and United Church of Christ) struggle with relative and absolute losses.¹³ Mormons and

¹³ Annual editions of the *Yearbook of American Canadian Churches* provide membership figures for numerous denominations. The growth of conservative denominations might seem to contradict individual-level data documenting the stability of people's professed religious beliefs. However, both findings are consistent with a long-recognized tendency for *denominations* to liberalize and secularize over time (James Montgomery 1996a). The apparent shift of the population toward more conservative groups is best seen as an individual-level attempt to stay put (theologically and socially) in the face of organizational drift (Finke and Stark 1992).

Jehovah's Witnesses, long-regarded as highly deviant groups, continue to double their membership every 15 to 20 years, and now outnumber all but the largest five or six Protestant denominations in America. In Latin America, conservative Christian groups (Fundamentalists, Pentecostals, Mormons, and Jehovah's Witnesses) are growing so rapidly that they may soon outnumber Catholics in several countries (David Stoll 1990).

Rates of growth are not the only characteristic that varies across denominations. Virtually every measure of religious involvement or commitment—beliefs, attendance, and contributions—correlates positively with the denomination's overall level of conservatism, strictness, or sectarianism. The resulting pattern, known as the *church-sect* typology, proves useful for classifying denominations. For example, the members of liberal Protestant denominations contribute a relatively small proportion of their income to their churches (around 1.5 percent), whereas the members of conservative Protestant denominations, such as the Southern Baptists and the Assemblies of God, contribute significantly more (between 2 percent and 4 percent), and Mormon contributions average 6 percent of income. Contributions of time, as measured by rates of church attendance, follow a similar pattern, with liberal Protestant denominations ranking lowest, conservative Protestants attending more, and sect members, such as Mormons and Jehovah's Witnesses, attending still more (Dean Hoge and Fenggang Yang 1994; Iannaccone 1992, 1994). Measures of doctrinal orthodoxy (such as belief in the divinity of Jesus, the inerrancy of the Bible, and the existence of a literal heaven and hell) follow the same pattern (Roof and McKinney 1987). Ameri-

can Judaism contains its own spectrum of denominations—Reform, Conservative, and Orthodox—and Jewish survey data reveal patterns analogous to those observed across the spectrum of Christian denominations. For example, Orthodox Jews report the highest rates of religious observance and commitment, and Reform Jews report the lowest (Bernard Lazerwitz and Michael Harrison 1979; Iannaccone 1994, p. 1196).

The National Opinion Research Center's *General Social Surveys* provide detailed self-reported data on Americans' religious beliefs and behavior. Table 2 reports regression results for Christian respondents to the 1986 through 1990 surveys.¹⁴ In columns 1 and 5, individual rates of church attendance (measured in services per year) and religious contributions (measured in dollars per year) are regressed onto standard socioeconomic variables. Columns 2 and 6 introduce a set of denominational dummies. The dummy variables (Cons_prot, Sect_mem, and Catholic) distinguish the members of theologically liberal "mainline" Protestant denominations (the omitted category) from members of the Catholic Church, two theologically conservative Protestant denominations (Southern Baptists and Missouri Synod Lutherans), and a variety of highly conservative sects (including most fundamentalist groups, Pentecostals, Jehovah's Witnesses, Adventists, and Mormons). Columns 3 and 7 add two measures of the respondent's religious beliefs and a dummy that indi-

¹⁴ NORC has conducted the General Social Survey (almost) annually from 1972 through 1996. Each survey's data come from face-to-face interviews with an independently drawn sample of about 1,500 English speaking, noninstitutionalized people aged 18 or over (Davis and T. Smith 1996). Table 2 reports results for surveys which bracket the three years 1987–89, in which the GSS asked about religious contributions. Other years, either before 1986 or after 1990, yield essentially the same attendance results.

TABLE 2
DETERMINANTS OF RELIGIOUS PARTICIPATION

	(1) Attend	(2) Attend	(3) Attend	(4) Attend	(5) Contrib	(6) Contrib	(7) Contrib	(8) Contrib
Education	0.881 (8.17)	1.046 (9.82)	1.311 (9.09)	2.310 (9.72)	63.921 (6.67)	74.458 (7.98)	80.915 (7.53)	110.772 (9.85)
Income	-.093 (0.64)	-.019 (-.13)	.290 (1.56)	.535 (1.78)	91.494 (5.53)	100.194 (6.08)	113.799 (5.55)	131.991 (9.66)
Age	.259 (14.86)	.286 (16.67)	.245 (10.99)	.392 (10.72)	12.731 (8.82)	13.654 (9.53)	12.862 (7.70)	18.640 (10.75)
Sex	5.900 (10.10)	5.833 (10.17)	5.667 (7.63)	9.365 (7.68)	26.112 (0.58)	22.959 (0.52)	10.848 (0.22)	101.018 (1.74)
Married	5.506 (8.92)	5.150 (8.45)	-4.274 (-4.15)	-6.282 (-3.60)	290.361 (8.26)	237.231 (7.12)	-96.249 (-1.83)	-73.139 (-0.85)
Black	4.963 (6.35)	4.185 (4.81)	4.720 (4.17)	7.046 (3.57)	191.978 (3.63)	-33.629 (-0.55)	-44.915 (-0.65)	140.169 (1.49)
Cons_prot		4.612 (5.55)	1.322 (1.26)	2.508 (1.44)		389.631 (5.00)	295.323 (348)	360.862 (4.30)
Sect_mem		13.149 (13.3)	9.582 (7.48)	17.776 (8.51)		765.005 (7.48)	697.114 (6.41)	824.169 (8.71)
Catholic		6.576 (9.45)	6.402 (7.03)	11.242 (7.54)		-70.553 (-1.82)	-117.551 (-2.63)	-22.726 (-0.32)
Literal			9.140 (11.15)	15.358 (11.32)			267.491 (4.90)	387.335 (6.10)
Postlife			7.639 (8.36)	12.404 (8.04)			208.973 (3.58)	292.794 (3.90)
Marsame			13.233 (13.75)	21.562 (12.37)			498.731 (7.44)	720.986 (8.60)
Cons	-5.499	-12.901	-23.775	-52.157	-1302.4	-1587.5	-1893.6	-3192.7
Adj-R ²	.07	.10	.20	---	.11	.15	.19	---
Cases	6105	6105	3339	3339	3223	3223	2530	2530

Source: 1996–90 General Social Surveys, excluding non-Christian respondents.

Notes: T-statistics in parentheses. Table entries in columns (1) through (3) and (5) through (7) report OLS coefficients for column variables (annual church attendance rate and annual church contributions) regressed onto row variables; tables (4) and (8) are tobit regressions. Variable definitions: attend = respondent's (R's) church attendance (services/year); contrib = R's church contributions (in 1990 \$/year); education = R's years of schooling; income = household income (in 1990 \$/year); age = R's age; sex, married, and black = dummy variables that equal 1 if R is female, black, or married; cons_prot, sect_mem, and marsame = dummy variables that equal 1 if R belongs to a conservative Protestant denomination (Southern Baptist or Missouri Synod Lutheran), belongs to a sect (Fundamentalist, Pentecostal, Jehovah's Witness, Adventist, or Mormon), or has a spouse belonging to the same denominations; literal and postlife = dummy variables equal to 1 if R believes the Bible is literally true or believes in life after death.

cates whether the respondent is married to someone who shares his or her denominational preference. The Tobit regressions in columns 4 and 8 reestimate these equations, taking account of

range restrictions (because annual contributions are censored below zero dollars, and annual attendance rates are censored below zero and above 52 weeks per year).

The results confirm many of the generalizations noted above. Family income, for example, has little effect on rates of church attendance but a strong positive effect on total giving.¹⁵ The effect of education is positive and statistically significant throughout. Women attend church much more than men, an effect that appears in numerous studies and virtually all measures of personal religiousness. Blacks attend church more than whites, and their rates of giving are somewhat higher after controlling for age, income, and education. Age is an especially strong predictor; older people are more religious (and this effect remains even after controlling for period and cohort effects; Hout and Greeley 1987, p. 328). Columns 2 and 5 confirm the importance of sectarianism. Members of conservative and sectarian denominations attend and give much more than members of liberal denominations even after controlling for socioeconomic differences. (Catholics break the pattern, in that they attend substantially more than mainline Protestants but contribute substantially less.) The remaining columns show that sectarian effects remain strong even after introducing individual-level measures of belief orthodoxy and religious endogamy, suggesting that denominational differences reflect more than the mere sorting of highly religious people into theologically conservative denominations. Despite all these "significant" effects, observable factors account for only a small fraction of the total variance in these (and all) survey data on religious behavior.

¹⁵ I also ran the regressions including a measure of wages, but found its effect to be virtually nil in all regressions, including those restricted to employed respondents, male respondents, and employed males.

3. *The Economic Consequences of Religion*

Over the past century, scholars have made many claims about the economic consequences of religion, but none grander than those associated with Max Weber's *The Protestant Ethic and the Spirit of Capitalism* ([1905]1958). Proponents of Weber's thesis argue that:

[t]he Protestant Reformation triggered a mental revolution which made possible the advent of modern capitalism. The worldview propagated by Protestantism broke with traditional psychological orientations through its emphasis on personal diligence, frugality, and thrift, on individual responsibility, and through the moral approval it granted to risk-taking and to financial self-improvement. (Jacques Delacroix 1992, p. 4)

Despite numerous studies challenging the empirical validity of this argument, the Protestant Ethic thesis lives "as an article of faith in such varied texts as (nearly all) sociology primers, international business textbooks of all stripes, [and] the middlebrow press" (Delacroix 1995, p. 126; cf. Shmuel N. Eisenstadt 1968).

Ironically, the most noteworthy feature of the Protestant Ethic thesis is its absence of empirical support. Economists tempted to carry Weber's myth into their work would do well to heed the rebuttals of Anderson and Robert Tollison (1992), Delacroix (1992), Richard H. Tawney (1926), and especially Kurt Samuelsson (1993) who, in the words of the renowned sociologist George Homans, does not "just tinker with Weber's hypothesis but leaves it in ruins."

Samuelsson and Tawney demonstrate that nearly all the capitalist institutions emphasized by Weber *preceded* the Protestant Reformation that he viewed as their cause. Samuelsson further finds that early Protestant theologians were not particularly interested in economic

matters, nor did they seem to understand markets. And like their Catholic counterparts, most took a dim view of credit and interest. Finally, Samuelsson refutes Weber's stylized account of European economic history, demonstrating that, across the regions cited by Weber, economic progress was uncorrelated with religion, or was temporally incompatible with Weber's thesis, or actually reversed the pattern claimed by Weber. As Delacroix (1995, p. 126) observes, "Amsterdam's wealth was centered on Catholic families; the economically advanced German Rhineland is more Catholic than Protestant; all-Catholic Belgium was the second country to industrialize, ahead of a good half-dozen Protestant entities." Comparing levels of economic development across the Protestant and Catholic countries of Europe, Delacroix (1992) finds no evidence that one group outperforms the other.

Still, there is more to the story of religion's effects than Weber's thesis.¹⁶ At the level of individuals and households, economic behavior and outcomes *do* correlate with religion. It is, for example, well known that American Jews average significantly higher wages and income than non-Jews, a difference largely attributable to their high levels of education (Barry Chiswick 1983,

1985).¹⁷ More striking are the links between religiosity and a wide range of economically important social behavior, such as criminal activity, drug and alcohol consumption, physical and mental health, and marriage, fertility, and divorce.

It is possible, of course, that religion's statistical "effects" are entirely spurious. One may readily posit the existence of underlying characteristics that shape both religious behavior and any other behavior. "Good" kids may avoid drugs, stay in school, *and* go to church. People with liberal values or deviant lifestyles will probably sort themselves out of conservative denominations. One must agree with Richard Freeman (1986, p. 371) that nothing short of a (probably unattainable) "genuine experiment" will suffice to demonstrate religion's causal impact. Yet one should also recognize that there exist plausible a priori arguments for religion's impact and that despite numerous attempts to root out spurious correlation, many religious effects remain

¹⁶ One may reject Weber's thesis about Protestants and Catholics without concluding that *all* religious traditions are equally conducive to economic growth or capitalist institutions. Avner Greif (1994) combines historical evidence and game-theoretical analysis to argue that "individualist" (as opposed to "collectivist") cultural beliefs foster social institutions that encourage anonymous exchange, initiative, and innovation which in turn stimulate long-run economic growth. Kuran (1997) notes that the economic and intellectual development in Islamic countries has lagged that of the West for most of a millennium, an outcome that many scholars trace to Islam's "static worldview." Kuran's (1995) theory of "preference falsification" may help explain the persistence of this and other economically inefficient cultural norms.

¹⁷ Reuven Brenner and Nicholas Kiefer (1981) argue that Jews emphasize education in response to centuries of persecution which raised the value of (portable, non-expropriable) human capital relative to land and physical capital. Barry Chiswick (1983, 1985), however, finds that American Jews do not "overinvest" in education as this argument implies, but instead acquire high levels of education because of their high rate of return to schooling. Their high rate of return may be due in part to relatively large investments in child quality (reflected in small average family size and Jewish mothers' tendency to stay out of the labor market when their children are young), but it may also reflect cognitive differences with a genetic component. Using data from Canadian censuses and NORC's General Social Surveys, Nigel Tomes (1984, 1985) confirms the high earnings of Jews, but finds relatively weak and inconsistent earnings effects for Protestants versus Catholics. Working with panel data, Alfred Darnell and Sherkat (forthcoming) find that youth with fundamentalist Protestant beliefs and membership (in 1965) obtained significantly less education (in 1973 and 1980) than non-fundamentalists, even after controlling for race, region, gender, and parents' income, education, and occupation.

substantively large and statistically significant.¹⁸

Freeman's (1986, pp. 372–73) own study of churchgoing among black male youth illustrates this last point. Based on a careful analysis of NBER and NLS survey data, he concludes that “[c]hurchgoing [favorably] affects the allocation of time, school attendance, work activity, and the frequency of socially deviant activity [crime, drugs, and alcohol]” and that “the pattern of statistical results suggests that at least some part of the churchgoing effect is the result of an actual causal impact.” Other economists—Lipford, Robert McCormick, and Tollison (1993) and Hull and Frederick Bold (1995)—have obtained analogous results using aggregate data *not* based on self-reports. Even after controlling for police expenditures and crime-related socioeconomic variables, they observe significantly lower rates of violent and nonviolent crime in states and counties with higher rates of religious membership.¹⁹

There is, in fact, a large empirical literature on the relationship between religion and different forms of “deviance,” including crime (T. David Evans

¹⁸The argument for genuine impact begins with the fact that most religious institutions *are* forthright and specific about their moral-behavioral injunctions and *do* employ many time-tested methods of indoctrination and social control: early education, parental reinforcement, conditional status and membership, appeals to tradition and an all-seeing judge, and collective activities that foster social ties, facilitate monitoring, and raise the cost of disobedience. Church members in general, and parents in particular, do seem to believe that religious training makes a difference, and do invest substantial resources in religious activities designed to help their children grow up “good.” Though I know of no attempts to formally model these effects, the religious household production framework reviewed in Section IV provides a natural place to start.

¹⁹These studies replicate the results of a sociologist, Bainbridge (1989), who obtained essentially the same religious effect using the same data, a somewhat different set of controls, and a different level of aggregation.

et al. 1995), suicide (Bainbridge 1989; Bernice Pescosolido and Sharon Georgianna 1989), divorce (Timothy Heaton and Edith Pratt 1990), drug and alcohol use (John Cochran and Ronald Akers 1989), and nonmarital sex (Arland Thornton, William Axinn and Daniel Hill 1992).²⁰ Studies of teenage delinquency are particularly abundant, and typically find that youth raised in highly religious homes are less likely to engage in criminal activity, use drugs or alcohol, or engage in premarital sex. These effects are particularly strong for children raised in strict denominations or religiously homogeneous communities. For at least two decades, the criminologists and sociologists producing this research have focussed their efforts on identifying and overcoming spurious correlation. In so doing they have employed sensible theories, sophisticated models, rich and varied data, and numerous controls. The few analogous economic studies, including Freeman (1986), Lipford, McCormick, and Tollison (1993), and Evelyn Lehrer and Carmel Chiswick (1993), have obtained similar results.

Religion seems to affect both mental and physical health. Despite the nonempirical Freudian tradition that blames religion for neurosis, prejudice, and authoritarianism, empirical studies consistently find that high rates of religious commitment and activity are associated with mental health, reduced stress, and increased life satisfaction (Christopher Ellison 1993). Here again, research has focused on problems of spurious correlation, and here again religious effects tend to persist even after

²⁰According to Cochran and Leonard Beeghley (1991, p. 46), “[e]vidence of direct or indirect effects of religion and/or religiosity on nonmarital sexual attitudes or behaviors can be found in more than 80 studies.” Stark and Bainbridge (1997) summarize the still larger literature on religion and crime.

controlling for age, income, education, gender, race, marital status, place of residence, social ties, and previous traumatic events (Ellison 1991).

Medical researchers have reported statistically significant religious effects in hundreds of epidemiological studies, many of which have appeared in leading journals such the *New England Journal of Medicine*, *JAMA*, *Lancet*, and the *American Journal of Epidemiology* (Jeffrey Levin and Harold Vanderpool 1987; Levin 1994).²¹ The causal mechanisms are sometimes clear-cut: Mormons, Seventh Day Adventists, and members of other strict religious groups enjoy longer lives and lower rates of cancer, stroke, hypertension, and heart disease because they tend to follow their religions' strictures governing smoking, drinking, drug use, and other health-related behavior.²² Broader correlations between health and religiosity seem to have many causes, including a negative link between faith and stress or a positive link between church involvement and social support (Levin 1994).

Religious affiliation also affects patterns of marriage and marital stability, and it does so in ways consistent with economic models of marriage markets and household production. One may view the religious commitments of husband and wife as complementary, but

denomination-specific, human capital inputs to household production (Gary Becker, Elizabeth Landes, and Robert Michael 1977; Iannaccone 1990). This complementarity encourages marriage within one's denomination, particularly if it has few close substitutes, and enhances the stability of same-faith marriages. There is strong support for these predictions, particularly in Lehrer and C. Chiswick (1993), the most sophisticated study to date. Lehrer and Chiswick find high rates of "religious endogamy" within all denominations and especially high rates among Jews, Catholics, and Mormons. They also confirm that interfaith marriages are more likely to end in divorce, particularly for members of exclusive religious groups. A Mormon's marriage to a non-Mormon is thus three times more likely to end in divorce than a marriage to another Mormon. Lehrer (1996a, 1996b) also observes more subtle intermarriage effects, including higher rates of female employment and lower rates of intended fertility, which she interprets as reduced marriage-specific investment due to the increased risk of divorce.²³

Although the research cited above demonstrates a relationship between religion and economically relevant behavior, there may be no comparable relationship between religion and economic attitudes. People's religious affiliation or degree of religiosity seems not to influence their attitudes concerning capitalism, socialism, income redistribution, private property, free trade, and government regulation. Within virtually

²¹ Levin (1994, p. 1477) reports that "A significant, positive religious effect on health was found in prospective and retrospective studies; in cohort and case-control studies; in studies of children and of older adults; in studies of U.S. White and Black Protestants, European Catholics; Parsis from India; Zulus from South Africa, Japanese Buddhists and Israeli Jews, among others; in studies from the 1930s and the 1980s; and in studies of self-limiting acute conditions, of fatal chronic diseases and of illnesses with lengthy, brief, or absent latency periods, diagnosis and mortality."

²² It is less clear why nonmembers fail to adopt equally healthy lifestyles. One might argue that religions might help people overcome self-control problems or that religious strictures cause people to *overinvest* in health.

²³ Other fertility effects exist only for specific denominations. Mormons average much higher than normal fertility, and Jews and people with no religious affiliation have lower than normal fertility. Fundamentalists are less likely than others to use effective methods of contraception, and when faced with an unwanted pregnancy, are more likely to choose adoption over abortion (Marshall Medoff 1993).

every religious tradition or denominational grouping (fundamentalist versus liberal, Protestant versus Catholic, or Western versus Asian) one finds a bewildering variety of economic statements emanating from the representative bodies and leading thinkers of most denominational families (Gay 1991; Kuran 1993). It would seem that every religious tradition and sacred literature contains enough ambiguity to justify any number of economic positions.

The economic attitudes of a denomination's rank-and-file members are even more diverse than those of its officials. For example, despite media hype concerning the conservatism of "the Religious Right," opinion polls consistently find that the economic attitudes of evangelical-fundamentalist Protestants are no more "conservative" than those of other Protestants (Ralph Pyle 1993). Indeed, on several dimensions, most notably income redistribution and aid to the poor, they are significantly less conservative than the average American (even after controlling for their race, income, and education). This is not to say that conservative Protestants are indistinguishable from other Americans, but that their conservatism revolves around a set of theological, moral, and social issues (such as school prayer, abortion, and sexual conduct), which prove largely independent of their economic attitudes. This lack of correlation between religious and economic thinking is, of course, just one more blow to Weber's "Protestant Ethic" thesis.

In sum, religion seems to matter, but its impact is far from uniform. It affects some behavioral outcomes (such as earnings, education, and economic attitudes) much less than others; many effects vary across denominations (and are often strongest in sectarian groups); and some effects, such as life satisfaction, relate most strongly to levels of

belief, whereas others, such as physical health and most forms of deviance, relate more strongly to levels of involvement. As Freeman (1986, p. 372) notes, this very lack of uniformity argues against spurious correlation due to any simple form of omitted heterogeneity. Religious effects do not reduce to a single unobserved factor, such as goodness, conservatism, credulity, or risk aversion—a finding that motivates the search for more sophisticated models of religious behavior.

4. *Economic Analyses of Religion*

Adam Smith ([1776]1965, pp. 740–66) laid the foundation for the economic analysis of religion in a largely ignored chapter of *The Wealth of Nations*.²⁴ Smith argued that self-interest motivates clergy just as it does secular producers; that market forces constrain churches just as they constrain secular firms; and that the benefits of competition, the burdens of monopoly, and the hazards of government regulation are as real for religion as for any other sector of the economy.

For nearly 200 years, Smith's statements constituted "almost everything that economists, *qua* economists have said on [the] subject" of religion (Kenneth Boulding 1970, p. 188). But since the 1970s, and especially in the past few years, economists and sociologists have returned to Smith's insights. Viewing religious behavior as an instance of rational choice, rather than an exception to it, they have analyzed religious behavior at the individual, group, and market level.

²⁴ Smith ([1759]1984) addresses religion–moral issues more extensively in his *Theory of Moral Sentiments*, noting the consolation and ethical motivation provided by belief in a righteous, "all-seeing Judge" and "a life to come" (III.2.33–34, pp. 131–32). For an extensive discussion of Smith's religious views, see Peter Minowitz (1993).

The preceding sections lend plausibility to this enterprise by underscoring religion's continuing appeal in the face of unprecedented prosperity, education, and freedom. By all accounts, Americans *choose* to remain relatively pious and religiously active. They are under no compulsion to claim a faith or join a church as many Europeans were in times past; they have access to an immense market of more than 1,500 denominational alternatives (Gordon Melton 1989); they can, and often do, vary their level of religious involvement or move between congregations or denominations ("shopping" for the church that best meets their perceived needs); and they readily justify their religious involvement in terms of its perceived benefits. Although many of these benefits might be illusory, or at least unknowable, many others (in the realm of health, deviance, and family life) stand up to methods of inference far more sophisticated than those which characterize most personal judgments.

4.1 Religious Household Production

Contemporary research on the economics of religion begins with Azzi and Ehrenberg's (1975) household production model of church attendance and contributions. Within this provocative model, individuals allocate their time and goods among religious and secular commodities so as to maximize lifetime *and* afterlife utility. Azzi and Ehrenberg posit "afterlife consumption" as the primary goal of religious participation, an assumption that implies a strong restriction on the way religious commodities enter household utility functions. Formally, households are assumed to maximize an intertemporal utility function which depends upon both (secular) consumption, Z_t , in each period and expected afterlife consumption, A ;

$$U = U(Z_1, Z_2, \dots, Z_n, A). \quad (1)$$

Secular consumption in each period is a standard household commodity, which depends upon household inputs of time, T_Z , and purchased goods, X_Z . Afterlife rewards depend upon the household's entire history of religious activities, R_1, \dots, R_n , which in turn depend upon the time and purchased goods devoted to religious activities in each period. Hence,

$$\begin{aligned} Z_t &= Z(T_{Zt}, X_{Zt}) \\ R_t &= R(T_{Rt}, X_{Rt}) \\ A &= A(R_1, \dots, R_n). \end{aligned} \quad (2)$$

Although Azzi and Ehrenberg acknowledge that religious activities may yield utility in the here and now, they structured their model to emphasize and analyze what they perceive as the fundamental feature of religious behavior. When combined with a standard life-cycle budget constraint *and* the assumption that the marginal product of religious activity does not decrease with age, the A-E framework leads to the formal conclusion that religious activity should increase with age. This age effect arises because resources devoted to afterlife salvation are assumed *not* to accumulate interest throughout the life-cycle, whereas standard investments do. (The age effect is partially offset by wage growth, leading A-E to predict stronger age effects for women, whose age-earnings profiles tend to be flatter than men's, and the possibility of declining religious activity at young ages when wages rise most rapidly.) The model also predicts substitution between time and money devoted to religion. Thus, standard efficiency conditions imply that households with lower values of time will produce religious commodities in a more time-intensive manner and that, within a given household, members with lower wages (typically, wives) will supply more time to religious activity.

The empirical support for Azzi and Ehrenberg's predictions is mixed. Their own analysis of survey data and that of Ehrenberg (1977) tend to confirm their predictions, most notably the predictions that women's age-attendance profiles will be steeper than men's and that men's profiles will be U-shaped.²⁵ Working with detailed time-use data for Jewish male workers in Israel, Shoshana Neuman (1986) obtains results supportive of the A-E model, including U-shaped age effects. But surveys analyzed by Ulbrich and Wallace (1983, 1984) find no evidence that afterlife expectations cause religious participation to increase with age, nor that women's higher rates of religiosity can be explained in terms of lower alternative wages. Dennis Sullivan's (1985) simultaneous equations test of the relationship between church contributions and attendance finds weak support for Azzi and Ehrenberg's model.²⁶

On balance, it seems clear that the opportunity cost of time does affect religious behavior, leading to variation in both the level and time intensity of religious activity. Regression analyses of survey data consistently find that as wage rates increase, religious participation becomes more money-intensive, with rates of church contributions rising

²⁵ Ehrenberg (1977) extends the original A-E model to take account of both time and money inputs to religious household production, and tests his predictions for both using data from the 1969 National Jewish Population Study. In a sense, however, these results provide too much support for A-E's afterlife model, because (based on my analysis of 1972-90 GSS data) only 30 percent of American Jews claim belief in an afterlife. Even among Jews who attend religious services monthly or more, only 36 percent claim to believe, whereas the corresponding share among Christians is 87 percent.

²⁶ My own analysis of attendance and contributions data from the 1986-90 General Social Surveys provides partial support for the A-E model. Religious activity does increase with age, and the age is greater for women than men. Neither age profile is U-shaped, however.

relative to rates of church attendance. This pattern holds over the life cycle (with participation becoming most money-intensive in the prime earning years), across households (with higher rates of attendance relative to contributions in lower-wage households), and across denominations. Denominations whose members average relatively high levels of income and education rely more heavily on the services of professional ministers, teachers, choir directors, and janitors. They also tend to hold fewer and shorter meetings and require less time-consuming rituals. (For additional work emphasizing trade-offs between time and money, see Amyra Grossbard-Shechtman and Shoshana Neuman 1986; and C. Chiswick 1995.) It is less clear, however, that afterlife expectations and interest rates explain religious age trends; and it is virtually certain that different values of time do not account for the large gap between female and male rates of religious activity.²⁷

Despite its limitations, the A-E model remains important, both as the first formal model for religious participation (within *any* discipline) and as the foundation for nearly all subsequent economic models of religious behavior. These later models retain Azzi and Ehrenberg's household production framework, while broadening its assumptions. In particular, they de-emphasize afterlife expectations, positing instead a wide range of payoffs to religious activity (including a sense of purpose, moral instruction, group identity, social support and status, and

²⁷ The large gap between male and female rates of self-reported religiosity and religious participation has not narrowed over the past few decades, despite the tremendous increase in women's labor force participation rates, nor do controls for wage rates and employment status account for much of the male-female gap in cross-sectional surveys (David de Vaus 1984).

mutual aid).²⁸ Other changes concern the goods-time production framework which, in its initial formulation, abstracts from the collective side of religious activity, suggests statistical models much like those already employed by sociologists, and has little to say about the strongest predictors of individual participation: denomination, personal belief, and family background.

4.2 Religious Human Capital

Intuitively, a person's capacity to produce or appreciate religious commodities will depend not only upon their inputs of time and goods, but also upon religious knowledge, familiarity with church ritual and doctrine, and friendships with fellow worshippers. This suggests a natural extension to Azzi and Ehrenberg's model: the inclusion of "religious human capital," S_R , which indexes the stock of religion-specific experience derived from one's past religious activities (Iannaccone 1984, 1990; cf. John Durkin and Greeley 1991). The religious commodities produced in period t then become

$$R_t = R(T_{Rt}, X_{Rt}, S_{Rt}) \quad (3)$$

and increments to religious human capital arise as a form of "consumption capital" or learning by doing (George Stigler and Becker 1977).

$$\Delta S_{Rt} = F(T_{Rt-1}, X_{Rt-1}, S_{Rt-1}) \quad (4)$$

This amounts to a model of religious habit (or taste) formation, and thus provides an alternative to Azzi and Ehrenberg's original explanation for age trends. Participation can grow over time

²⁸ See, for example, Hull and Bold (1989) who list four distinct benefits associated with religion: "temporal bliss, social goods, deferred perpetuity, and altered fate," or Ekkehart Schlicht (1995) who emphasizes religion's capacity to create meaning. One should also note that, when asked why they attend church or maintain a religious affiliation, people tend to emphasize concrete, here-and-now benefits.

due to (rational or myopic) "addiction" rather than afterlife expectations.

Most religious capital is quite specific, because doctrine, ritual, and styles of worship vary greatly from one denomination to the next. Moreover, most religious experience and training (unlike general education and occupational training) is received directly from parents and the religious institutions that they support. This leads to various predictions, nearly all of which receive strong empirical support:

(1) As children mature and begin to make their own religious decisions, they gravitate toward the beliefs and denominations of their parents. And even those who switch religions will tend to choose religions similar to those in which they were raised. Hence, the likelihood of conversion between particular religious groups is greater the more similar the groups, and overall rates of conversion to and from a particular group are lower the more distinctive the group.

(2) Religious switching, like job changing, will tend to occur early in the life cycle as people search for the best match between their skills and the context in which they produce religious commodities. Over time, the gains from further switching diminish, as the potential improvement in matches decreases and the remaining years in which to capitalize on that improvement decrease, whereas the costs of switching increase, as one accumulates more capital specific to a particular context. Conversions among older people should be very rare (Iannaccone 1990).²⁹

(3) Insofar as the religion of husband

²⁹ The model also predicts, and data confirm, that socioeconomic mobility promotes denominational mobility—people raised in relatively poor (fundamentalist Protestant) denominations are more likely to switch to relatively rich (mainline Protestant) denominations if they themselves are prosperous and well educated.

and wife are complementary inputs to household production (and the divorce statistics suggest that they are very complementary; Lehrer and Chiswick 1993), the same forces that lead people to adopt their parents' religion also lead them to marry within their religion. Those who do intermarry will face a strong incentive to adopt the religion of their spouse (or vice versa), and the efficiency gains from such marital realignments will tend to be greater when the less religious spouse does the converting.

4.3 Religious Groups and Institutions

The preceding models manifest an ironic shortcoming: though designed to explain church attendance and affiliation, they never really address the existence of churches. Formally, all religious production occurs at the level of individuals or households. In practice, however, religious behavior is anything but an individual matter.³⁰ Recent work in the economics of religion has thus shifted its focus from individuals and households to groups and institutions. Simple models of isolated utility maximizers, constrained only by personal income and commodity prices, have given way to models that emphasize the role of specialized firms or clubs in the production of religious commodities.

Though some of this work views churches as standard, neoclassical firms in which (priestly) producers "sell" their religious goods and services to (lay) consumers, other papers take club theory as their starting point. Club models are motivated by the observation that, despite its firm-like characteristics, the typical congregation func-

tions as a mutual-benefit organization, dedicated to the collective production of worship services, religious instruction, social activities, and other quasi-public "club goods." Except for a few full-time religious professionals and a handful of benchwarmers, most members contribute both to production and consumption of these religious commodities.

Churches as clubs. Club models of religion may be framed as an extension to the household production approach. The religious commodities that enter a household's utility function now depend not only upon their own inputs of time, goods, and capital, but also upon the inputs of fellow church members. So, for example, the pleasure and edification that I derive from a worship service does not depend solely on what I bring to the service (through my presence, attentiveness, public singing, and so forth); it also depends on how many other people attend, how warmly they greet me, how well they sing, how enthusiastically they read and pray, how deep their commitment, and so forth. Formally, the household's religious production function becomes

$$R = R(T_R, X_R, S_R; Q) \quad (5)$$

where Q indexes the *quality* of the group, which is in turn a function of the religious inputs of the *other* group members (Iannaccone 1992; see also Jack Carr and Janet Landa 1983; B. Chiswick 1991; Sullivan 1985; and Joe Wallis 1990).

In many ways, this model turns the standard club story on its head. Rather than emphasize problems of congestion, it emphasizes the *positive* externalities associated with religious participation. In congregational settings, an active member (who attends regularly, sings wholeheartedly, and greets others enthusiastically) increases the utility of

³⁰The famous sociologist Emile Durkheim ([1915] 1965, p. 62) went so far as to *define* religion in terms of its collective dimension, and observed that "[i]n all history we do not find a single religion without a Church" (p. 59).

other members. Conversely, free (or “easy”) riders, who participate less frequently and less energetically, threaten to undermine the viability of most religions—a problem well-documented by sociologists of religion.

It can be shown, both formally and empirically, that apparently gratuitous sacrifices can function to mitigate a religion’s free-rider problems by screening out half-hearted members and inducing higher levels of participation among those who remain. Perfectly rational individuals may thus find it in their interest to join so-called “sects” and “cults” that demand stigma, self-sacrifice, and bizarre behavioral standards concerning dress, diet, grooming, sexual conduct, entertainment activities, and social interaction. At the same time, other people (particularly those with higher market opportunities) will find it optimal to form less demanding groups, such as mainstream churches (Iannaccone 1988, 1992, 1994; Murray 1995a, 1995b).

Club-theoretic models of high-cost “sects” and easygoing “churches” explain and integrate a large body of empirical findings that have fascinated sociologists of religion for more than a century (and before that Adam Smith 1965, p. 747). The predicted correlates of sectarian religion include strict behavioral standards, high rates of church attendance and giving, small congregations, dramatic conversions, and a relatively large number of minority and lower-class members. The intuition behind many of these predictions is straightforward. For example, sectarian congregations tend to be small because each congregation must monitor members in order to maintain its behavioral requirements. Because monitoring costs increase with group size, sects cannot exploit economies of scale as fully as can the larger congregations of mainline

churches. Conversion, apostasy, and other abrupt shifts in behavior are more common in sectarian groups than mainline churches because sect membership is a kind of corner solution, requiring total abstinence from many secular commodities. With no room for compromise, a member’s optimal response to a change in the shadow price of these commodities is discrete: continue abstaining and remain a member, or leave the group and jump to a standard, non-religious optimum. By restricting access to secular activities and rewards (including high-paying jobs and high-status social networks), sects impose especially high costs on individuals with high wages and good career prospects. Thus, sect membership is relatively more attractive to people with limited secular opportunities. (See Iannaccone 1992, pp. 283–89 for details.)

Montgomery (1996a) carries the church-sect framework into a dynamic, overlapping generations model that captures the documented tendency for new religions to originate as high-cost sects but evolve over time into less demanding churches. Within his model, people’s utilities depend on their endowments of religious human capital, which bind them to their denominations of origin, and their (stochastically determined) secular human capital, which yields higher payoffs in nonsectarian groups. As the children of low-wage sect members regress toward the earnings mean, they switch to looser groups or pressure their sect to moderate its costly demands. Economic and religious mobility thus leads to denominational drift along the church-sect continuum.

Insofar as churches function like standard economic clubs, one also expects to find more free riding in larger congregations. Contributions data provide the most direct test of this prediction, and Sullivan (1985), Robert Stone-

braker (1993), and Peter Zaleski and Charles Zech (1994) all report a negative relationship between congregational size and per-member rates of annual giving. Zaleski and Zech's results are particularly interesting, because they concern both Protestant and Catholic congregations. All recent studies of giving find that even after controlling for income Catholics contribute much less than Protestants—about two-thirds less in Zaleski and Zech's data (and one-half less in the GSS data analyzed in Table 2). But Zaleski and Zech find that the much larger average size of Catholic congregations accounts for 35 percent of this giving gap, more than all other variables in their congregational data set (which includes measures of income, clergy costs, and lay-leader assessments of the pastoral staff's effectiveness and the membership's involvement, influence, and morale). Before advising the Pope, however, one must note that Lipford (1995) estimates a *positive* relationship between size and giving across a large sample of Baptist, Presbyterian, and Episcopal congregations in North Carolina.

Because all these contribution studies employ different data and different specifications, future research may reconcile their results. Additional work is especially needed to address the endogeneity of size, specifically the selection bias that occurs if large, poorly financed congregations shrink and die more readily than large, well-financed congregations.

Churches as firms. Whereas club models address the collective side of religious production, other models draw attention to the differing roles of clergy and lay people. Viewing churches as profit-maximizing firms, one may invoke standard insights of neoclassical theory to analyze the development of

religious doctrine, the organizational structure of religious institutions, and the evolution of religious practices. For example, Stark and Bainbridge (1985, pp. 171–88) have emphasized the role of individual entrepreneurship in the formation of new religions. Richard Dolin, Frank Slesnick, and John Byrd (1989) compare the structure of contemporary denominations to those of standard franchises, suggesting that economic theories of franchising can enhance our understanding of church growth. Drawing upon a raft of historical sources, Finke and Stark (1992) argue persuasively that the explosive growth of the Methodist and Baptist denominations in nineteenth century America was due to their clergy's more effective marketing and superior incentives relative to that of the older Congregational, Presbyterian, and Episcopalian denominations.

To date, the most ambitious work analyzing churches as firms is Ekelund et al.'s (1996) recent book on the political economy of the medieval Catholic church. Building from Adam Smith's ([1776]1965, p. 749) classic insight that "the clergy of every established church constitute a great incorporation," Ekelund et al. explain numerous features of medieval Catholicism in terms of its monopoly status. They view the church as a monopolistic "multi-divisional" firm characterized by a central office that controls overall financial allocations and conducts strategic, long-range planning, but allows its (usually regional) divisions a high degree of autonomy in day-to-day operations. Drawing upon standard theories of monopoly, rent seeking, and transaction costs, they offer economic explanations for interest rate restrictions, marriage laws, the crusades, the organization of monasteries, indulgences, and the doctrines of heaven, hell, and purgatory.

As one example of the approach, consider Ekelund et al.'s treatment of the church's usury doctrine (analyzed more formally in Ekelund, Robert Hébert, and Tollison 1989). Here rent seeking is seen as the primary motivation for the maintenance of a particular doctrine. The central church's monopoly position allowed it to extract rents from downstream producers (the clergy) and from input suppliers (banks) by controlling the borrowing and lending interest rates. The authors argue that usury rules enabled the church to borrow at low rates while lending (through papal bankers) at much higher rates, and they cite many sources spanning several centuries to defend their claims.

One can, however, tell a very different, though perhaps not mutually exclusive, story. Carr and Landa (1983, p. 153) and Edward Glaeser and José Scheinkman (forthcoming) argue that usury laws acted as a form of social insurance against shocks that were not otherwise insurable. In all societies, but especially simple agrarian ones, individuals face the constant threat of bad harvests and other unpredictable disasters. Interest rate restrictions can benefit the victims of bad shocks (who will have high demand for credit) while penalizing those who had experienced good shocks (and are thus in a position to lend). Glaeser and Scheinkman formalize this model and derive a variety of nonobvious predictions, including some that they test using American data. The model's greatest appeal lies in its ability to account for the pervasive nature of interest restrictions, which arise in societies and religious traditions far removed from those of medieval Europe.

Testing theories about hell, purgatory, and the crusades is even more difficult than testing theories about interest rate restrictions, particularly when the relevant historical evidence is

largely anecdotal and widely scattered over time and space. For the most part, Ekelund et al. must therefore limit themselves to interpretations that provide economic rationales for these practices. Nevertheless, they deserve credit for opening the door to economic theorizing about the *content* of a religion, and for motivating other economists to follow in their path. Other recent contributions to the economics of the medieval church include Hull (1989) and Dieter Schmidtchen and Achim Mayer (1997).

Still other recent work offers economic explanations for a much broader range of religious phenomena: the Calvinist doctrine of predestination (Glaeser 1994), the emergence of Judaic monotheism (Alexander Raskovich 1996), the distinctive character of religious texts (Geoffrey Miller 1994), cross-cultural and intertemporal variation in beliefs about the afterlife (Hull and Bold 1994), and the relationship between different styles of theology and different styles of religious organization (Douglas Allen 1995). The papers by Glaeser and Scheinkman, Schmidtchen and Mayer, Glaeser, and Raskovich illustrate ways that economists can model doctrines formally and (sometimes) arrive at nonobvious testable predictions.

4.4 *Religious Markets*

If individual denominations function as religious firms, then they collectively constitute a religious market. Recognizing this, Adam Smith ([1776]1965, pp. 740–41) argued that established religions face the same incentive problems that plague other state-sponsored monopolies:

The teachers of [religion] . . . , in the same manner as other teachers, may either depend altogether for their subsistence upon the voluntary contributions of their hearers; or they may derive it from some other fund to which the law of their country many entitle them.

. . . Their exertion, their zeal and industry, are likely to be much greater in the former situation than the latter. In this respect the teachers of new religions have always had a considerable advantage in attacking those ancient and established systems of which the clergy, reposing themselves upon their benefices, had neglected to keep up the fervour of the faith and devotion in the great body of the people . . .

Anderson (1988) reviews Smith's arguments in some detail, citing the many benefits—individual and collective, moral and economic—that Smith ascribed to religious competition. Charles Leathers and Patrick Raines (1992) dispute Anderson's interpretation, arguing that Smith's own statements are less clear-cut, but the empirical issue remains: does competition stimulate levels of religious activity, and do upstart sects display more vitality than established churches?

Confirming evidence has begun to appear on many fronts. Consider, for example, Figure 3, which graphs the strong and striking negative relationship between church attendance and a Herfindahl-style index of religious concentration in 12 predominantly Protestant countries.³¹ Weekly church attendance rates range from 40 percent of the total population in the United States (where the Constitution guarantees religious competition), to less than 10 percent in

Scandinavian countries (where a single, state-run Lutheran church dominates the market, runs on tax dollars, and pays its clergy as civil servants). Indeed, every available measure of piety, including frequency of prayer, belief in God, and confidence in religion, is greater in countries with numerous competing churches than in countries dominated by a single established church, and these relationships remain strong even after controlling for income, education, or urbanization. It is also true that *within* each country the average level of religious belief and participation is consistently lower in the established churches, which enjoy the financial and regulatory support of the state, than among the small denominations operating at the competitive fringe of the country's religious market.

A correlation between rates of religious diversity and religious participation has been observed in many other settings, contemporary and historic, regional and cross-national. Finke and Stark's (1988) analysis of church membership in turn-of-the-century American cities finds higher rates of religious affiliation and Sunday school activity in cities with higher rates of religious diversity. Finke, Avery Guest, and Stark (1996) replicate this finding for the cities and towns of New York state, using detailed data from the 1850s and 60s. Working with contributions data from 177 contemporary U.S. congregations, Zaleski and Zech (1995) find higher per capita rates of giving in congregations located in areas where their denomination enjoys a low market share and where the overall religious market is more diverse. Even within Sweden, a country known for its lack of religious activity, Eva Hamberg and Thorlief Pettersson (1994) find that local religious diversity correlates with local rates of religious participation.

³¹ The Herfindahl index for the denominations in country j , has the form $\sum_i S_{ij}^2$, where S_{ij} denotes the share of people in country j belonging to denomination i . The country's overall attendance rate, A_j , will equal the weighted sum $\sum_i a_{ij} S_{ij}$ where a_{ij} denotes denomination i 's attendance rate, and if a_{ij} depends (negatively) on S_{ij} , then first-order approximations yield $A_j = \sum_i (\alpha_i S_{ij} + \beta_i S_{ij}^2)$. Assuming identical parameters, α_{prot} and β_{prot} for all non-Catholic denominations, one obtains equations suitable for regression analysis: $A_j = \alpha_{\text{cath}} S_{\text{cath},j} + \alpha_{\text{prot}} \sum_i S_{ij} + \beta_{\text{cath}} S_{\text{cath},j}^2 + \alpha_{\text{prot}} \sum_i S_{ij}^2$, where the \sum_i 's range over all non-Catholic denominations. Iannaccone (1991) finds that regressions of this form explain more than 90 percent of the observed variance in national rates of church attendance, frequency of prayer, and belief in God.

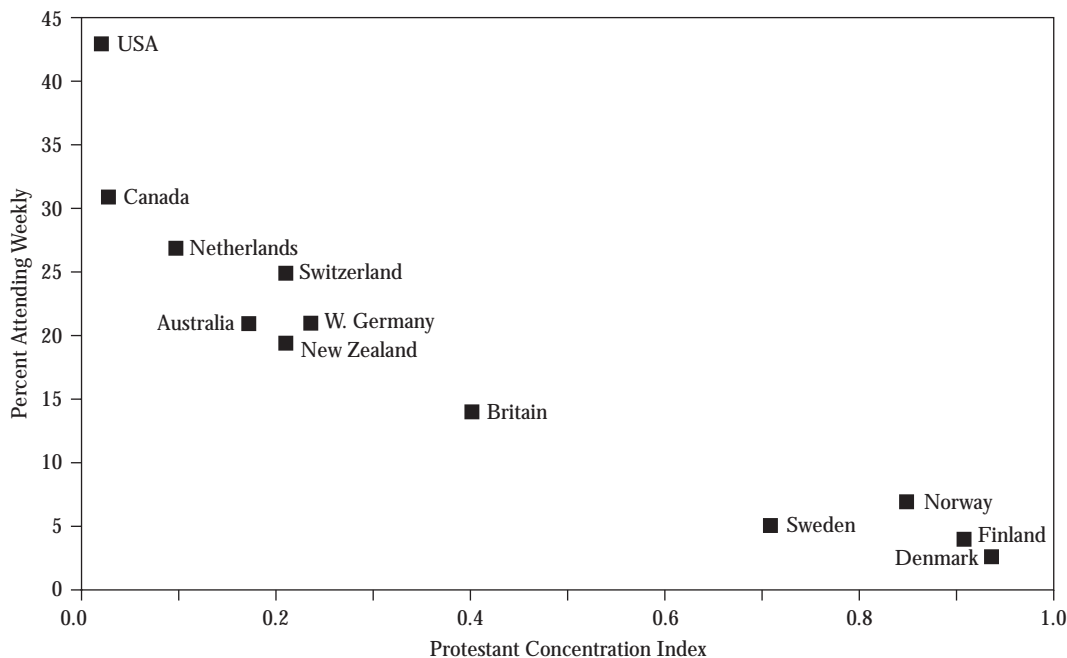


Figure 3. Market Concentration versus Church Attendance Rates.

Source: Iannaccone (1991). A country's "Protestant" concentration index is calculated from the 1980 population shares of the country's non-Catholic denominations. Weekly church attendance rates come from international Gallup polls conducted in the late 1970s. See footnote 31 for details.

Studies of Catholic religious participation provide partial support for the "lazy monopoly" model. Analyzing data from the 102 Roman Catholic dioceses in the United States, Stark and James McCann (1993) find that, relative to the total Catholic population, the number of children attending Catholic schools and the number of priestly ordinations tend to be higher in regions where Catholics make up a relatively small fraction of the population. Stark's (1992) analogous cross-national study, based on aggregate data from 45 nations, finds a strong negative correlation between the number of priests per Catholic and the percentage of Catholics in the total population. Although both these studies suggest that Catholic commitment is lower where Catholics make up a larger share of the popula-

tion, they must be set against the fact that church attendance rates are *not* consistently low where Catholics make up a large share of the population. Among the predominantly Catholic nations of Western Europe, weekly church attendance rates range from a low of 12 percent in France to a high of 82 percent in the Irish Republic.³²

It is, of course, risky to infer causa-

³² Stark (1992) has argued that the traditionally high rates of religiosity in Ireland and Poland, two overwhelmingly Catholic nations, are less anomalous than they at first seem, because in each case the Church has functioned as a vehicle of resistance to external political domination (from England and the Soviet Union, respectively). One might thus view these "monopoly" churches as fiercely competitive institutions within their broader political markets. The observed decline in Polish Catholic religious activity following the fall of the Soviet Union provides some support for this interpretation.

tion from correlations. But the causal story is strengthened by studies that track the effects of increased competition over time. Finke (1990) and Finke and Stark (1992) document the impact of “deregulation” in American religious history, showing that rates of church membership rose as the colonial pattern of established churches and *de facto* religious monopoly gave way to a free religious market. Kelley Olds (1994) provides detailed and statistically sophisticated evidence that the number and wages of preachers in colonial New England rose in response to the disestablishment and privatization of religion.

Both Finke and Olds find that disestablishment produced both winners and losers, a First Amendment effect discussed by Michael McConnell and Richard Posner (1989). Despite the substantial increase in overall church membership, the major denominations that originally enjoyed state support suffered severe losses relative to “up-start sects.” Thus, from 1776 through 1850, the combined market shares of the Episcopalian, Congregationalist, and Presbyterian denominations dropped from 55 percent to 19 percent of all religious adherents, while the fraction of Methodists and Baptists rose from 19 percent to 55 percent. Nor is this pattern unique to America—similar effects have been noted in Korea, the Philippines, Eastern Europe, the former Soviet Union, and Japan (Iannaccone, Finke, and Stark 1997). Perhaps the most dramatic and colorful case is post-World War II Japan, where the abolition of state-Shinto and advent of religious freedom led to a five-year period known as “The Rush-Hour of the Gods” during which some 2,000 new sects and cults were formed.

Studies of religious competition and deregulation have caused a stir within

the sociology of religion, which traditionally viewed religious pluralism as a secularizing threat to faith and fervor. Some of the field’s best-known scholars have, in fact, gone so far as to advocate market models as a “new paradigm” for the sociology of religion (Warner 1993). Ironically, however, this new paradigm resurrects an old view, shared not only by Adam Smith, but also Alexis de Tocqueville, and even Thomas Jefferson, who once advised that in matters of religion “the maxim of civil government” should be reversed to read “Divided we stand, united, we fall.”³³

5. Policy Implications

Jefferson’s quip is, of course, emblematic of the radical commitment to religious freedom and the separation of church and state embodied in the U.S. Constitution’s First Amendment. Yet even in the United States, where a “wall of separation” has characterized church–state relations for more than two centuries, policy debates persist. The Waco fiasco, which ended in the fiery deaths of David Koresh and his followers, is but the latest in a long string of confrontations concerning the government’s role in regulating deviant religious groups. Though small in membership, such “sects” and “cults” feature prominently in media stories, public debates, and legal disputes about the place of religion in society. One encounter repeated claims that participation in such groups should not be viewed as the exercise of religious freedom but rather as enslavement to organizations bent on “brainwashing” and exploitation. Indeed, many popular writings, psychological articles, and legal decisions have approached cult

³³ See Robert Healey’s (1984, p. 360) discussion of this and other Jeffersonian statements concerning religious minorities.

membership as a priori evidence of pathology or coercion.

Economic models tend to undermine the presumed validity of these interpretations. As noted in the discussion of club models, many of the bizarre and apparently pathological practices of deviant groups can function as rational, utility-enhancing attempts to promote solidarity and limit free riding. At the same time, a large body of empirical research from the 1970s and 80s refutes most charges of “brainwashing” and coercion (Richardson 1991). Theory and data thus combine to suggest that government regulation of religion tends to reduce individual welfare, stifling religious innovation by restricting choice, and narrowing the range of religious commodities.

Beyond the question of deviant sects and cults, one encounters a broader but related set of issues concerning the overall consequences of regulating religion. Here again we find Smith claiming that competition would not only generate more religion but also *better* religion: religious laissez-faire is the best way to satisfy the demand for religious instruction, reduce religious conflict, and promote “pure and rational religion, free from every mixture of absurdity, imposture, or fanaticism.”³⁴

There are, as yet, no direct tests of Smith’s claim that religious competition benefits societies, by providing better religion, less civil strife, and (by extension) more prosperity. But at least one relevant empirical regularity does exist.

³⁴ Smith (1965, pp. 742–43) explicitly rejected the argument of his friend David Hume, who predicted that religious competition would encourage fanaticism, superstition, intolerance, and civil unrest, and who therefore endorsed an established church “to bribe [the] indolence” of the clergy. Jefferson seems to have shared Smith’s view that religious freedom would soon lead people to adopt a rational (Unitarian) faith (Healey 1984, pp. 373–74).

Several studies have found that democratic regimes seem more likely to arise and survive within Protestant Christian cultures, a regularity that S. Martin Lipset (1993) and others attribute to traditions of tolerance embraced as a matter of political necessity by the members of competing Protestant groups.³⁵

6. *Conclusions*

In the 20 years since Azzi and Ehrenberg’s pioneering article, the economics of religion has grown into a sizable body of research. Papers are appearing with ever-greater frequency, and virtually every topic familiar to sociologists of religion has received some attention: the nature of religion; the determinants of individual religiosity and participation rates; conversion, commitment, and religious mobility; the emergence and evolution of religious institutions; secularization and pluralism; deviant religions; the socioeconomic correlates of sect membership; church–state issues; the economic consequences of religion; and more.

How should one judge this work? Perhaps one should begin by recognizing that the economic approach has set off a small revolution within the sociol-

³⁵ In cross-sectional regressions comparing the economic development, political liberty, and religious composition of the world’s 150 largest countries, Fred Glahe and Frank Vohries (1989) find that an index of “Judeo-Christian democracy” explains about 40 percent of the variation in current levels of economic development (and 53 percent across the subsample of capitalist countries). Their analysis, however, employs just three variables: (1) a measure of economic development which combined per capita GNP, average life expectancy, the adult literacy rate, and the infant survival rate) in an equal-weighted additive scale; (2) an index of political liberty deemed reliable by several scholars; and (3) the proportion of each country’s population affiliated with a Judeo-Christian denomination. The “Judeo-Christian Democracy” variable is defined as each country’s political liberty index multiplied by its proportion of Judeo-Christian inhabitants

ogy of religion, a sizable subfield that sustains four journals, four associations, and three annual meetings in the United States and Europe. The International Society for the Sociology of Religion based its 1990 meetings on the theme of "religion and economics" (and subsequently published the plenary papers in the March 1992 issue of *Social Compass*). The *Journal for the Scientific Study of Religion* devoted most of its March 1995 issue to economic articles and a symposium on the rational choice approach. Papers from a recent special conference on rational choice theories of religion recently appeared in a volume edited by Lawrence Young (1997). And, as I have already noted, several prominent sociologists of religion have gone so far as to characterize market models or rational choice theory as their field's "new paradigm." To be sure, not all the attention has been positive, but given the disciplinary barriers separating sociology and economics, the amount of attention is itself remarkable.

Within economics, research in the economics of religion has grown from a trickle in the late 1970s and 1980s to a steady stream, though by no means a torrent, in the 1990s. Most AEA conferences now include one or two sessions on religion, such as the religion and economics session featured in the AER's May 1996 *Papers and Proceedings*. Other recent papers on the economics of religion have appeared in a variety of journals, including the *Journal of Political Economy*, *Economic Inquiry*, *Explorations in Economic History*, *Public Choice*, the *Journal of Law, Economics, and Organization*, the *Journal of Economic Behavior and Organization*, and the *Journal of Institutional and Theoretical Economics*. These last two journals also published special collections of papers on religion and economics, in 1994 and 1995, respectively,

and the *JITE* devoted its March 1997 issue to papers from a recent conference on the subject.

The economics of religion is by no means a tightly integrated whole, and most of its contributors have worked independently. I have tried to present a fairly systematic overview, emphasizing the connections between different contributions and the progression from households to markets. In the process, however, I have had to overlook some topics that have, as yet, received little attention, but that may grow increasingly important. In my view (and that of the sociologists most critical of rational choice), a better treatment of these topics would fill the most important gaps that now exist in the economics of religion, specifically:

(1) Research has tended to sidestep questions concerning the substance of religion, taking the demand for religion as given and keeping the character of religious commodities loosely defined. While this approach avoids narrow formulations, it provides little insight into the difference between a congregation and a social club, or church attendance and bowling. Clearly, one would like to do better. Recall that for Azzi and Ehrenberg, religion's distinguishing feature is to be found in its promise of afterlife rewards. For Stark and Bainbridge (and many other sociologists of religion) this definition is broadened to accommodate a wide range of "supernatural" commodities. For Schlicht (1995) and many theologians, the critical feature is broader still—a set of beliefs and behavior that give meaning to life. Others have stressed religion's capacity to support collective goods, such as property rights and public morality (Hull and Bold 1989, Anderson and Tolison 1992). It is not, as yet, clear how these broader conceptions can be captured within formal models.

(2) However one defines religion and religious goods, it is clear that religious activities involve a large amount of risk. The promised rewards may never materialize, the beliefs may prove false, the sacrifices may be for naught. In this respect, religion is the ultimate “credence good”—a fact noted by several authors. Hull and Bold (1989) and Iannaccone (1995) argue that many standard features of religious institutions exist to reduce (or at least appear to reduce) the risk of fraud and misinformation (e.g., congregational structures, which limit the need for full-time professionals, and regular group activities, which augment the supply of product testimonials). For the most part, however, the problem of religious uncertainty has received little attention and scarcely any formal analysis. Expected utility models might seem like the natural first step, but as Montgomery (1996b) has emphasized, objective religious “information” may simply not exist, leaving no *rational* way to assign probabilities to most religious claims.

(3) Although beliefs lie at the core of every religion, economists have yet to say much about the formation of beliefs, religious or otherwise, nor have they given much attention to the process by which religions seek to shape people’s beliefs and values. Although this issue is important in all economic settings, religion would seem to be the ideal testing ground for models of value change and belief formation. Note, for example, that religions are both forthright and specific about the beliefs and values they seek to inculcate, making it relatively easy to estimate their impact through surveys and observation. Note also that religions employ a vast arsenal of weapons in the war to shape souls: childhood education, parental reinforcement, selective membership, rites of passage, group monitoring, public

declarations of commitment, sanctions and status, promises of supernatural rewards and punishment, appeals to history and sacred authority, and so forth. Kuran (1995) has studied the effects of such pressure in some detail and provides stark examples of “religious preference falsification” in Middle Eastern countries. Models of religious habit formation, based perhaps on the experience effects framework reviewed above, offer a somewhat different approach. Montgomery (1996b) advocates a (non-rational) cognitive-dissonance theory of belief formation, whereas Russell Hardin (1997) emphasizes the costs and benefits that lead people to favor some beliefs and some sources of information over others. Each approach remains largely undeveloped.

Progress on these topics requires not just more and better models, but also more attention to the large body of empirical regularities documented by sociologists of religion. Without doubt, the sociology of religion has suffered from a poverty of theory, but it is rich in data, particularly compared to related areas of inquiry (such as the study of gangs, social clubs, and political movements). Religious censuses stretch back over centuries; religious beliefs and behavior have been documented in great detail over many years and across many cultures; and much more is known about the membership, finances, and history of churches and denominations than any other type of social organization. Economists of religion would do well to study this literature, for the best prospects for progress in the scientific study of religion rest in the marriage of economic theory and sociological data.

Nigel Tomes (1985, p. 245) once began a paper by observing that “economics is fundamentally atheistic. Religious beliefs, practices, and behavior play no role in the life of homo economicus.” I

would end mine with a countervailing hope: the economics of religion will eventually bury two myths—that of homo economicus as a cold creature with neither need nor capacity for piety, and that of homo religiosus as a benighted throwback to pre-rational times.

REFERENCES

- AAFRC Trust for Philanthropy. 1996. *Giving USA 1996: The Annual Report on Philanthropy for the Year 1995*. 41st Annual Issue. AAFRC Trust for Philanthropy.
- Allen, Douglas W. 1995. "Order in the Church: A Property Rights Approach," *J. Econ. Behav. Organ.*, 27:1, pp. 97–117.
- Anderson, Gary M. 1988. "Mr. Smith and the Preachers: The Economics of Religion in the Wealth of Nations," *J. Polit. Econ.*, 96:5, pp. 1066–88.
- Anderson, Gary M. and Robert D. Tollison. 1992. "Morality and Monopoly: The Constitutional Political Economy of Religious Rules," *Cato J.*, 12:2, pp. 373–92.
- Azzi, Corry and Ronald G. Ehrenber. 1975. "Household Allocation of Time and Church Attendance," *J. Polit. Econ.*, 83:1, pp. 27–56.
- Bainbridge, William S. 1989. "The Religious Ecology of Deviance," *Amer. Soc. Rev.*, 54:2, pp. 288–95.
- Barrett, David B., ed. 1982. *World Christian Encyclopedia*. Nairobi: Oxford U. Press.
- Becker, Gary S., Elizabeth M. Landes, and Robert T. Michael. 1977. "An Economic Analysis of Marital Instability," *J. Polit. Econ.*, 85:6, pp. 1141–87.
- Biddle, Jeff E. 1992. "Religious Organizations," in *Who Benefits from the Nonprofit Sector?* Charles T. Clotfelter, ed. Chicago: U. Chicago Press, pp. 92–133.
- Boulding, Kenneth E. 1970. *Beyond Economics: Essays on Society, Religion, and Ethics*. Ann Arbor, MI: Ann Arbor Paperbacks.
- Bradley, Martin B. et al. 1992. *Churches and Church Membership in the United States: 1990*. Atlanta, GA: Glenmary Research Center.
- Brenner, Reuven and Nicholas M. Kiefer. 1981. "The Economics of the Diaspora: Discrimination and Occupational Structure," *Econ. Develop. Cult. Change*, 29:3, pp. 517–34.
- Carr, Jack L. and Janet T. Landa. 1983. "The Economics of Symbols, Clan Names, and Religion," *J. Legal Stud.*, 12:1, pp. 135–56.
- Chiswick, Barry R. 1983. "The Earnings and Human Capital of American Jews," *J. Human Res.*, 18:3, pp. 313–36.
- . 1985. "The Labor Market Status of American Jews: Patterns and Determinants," *American Jewish Yearbook*, 85, pp. 131–53.
- . 1991. "An Economic Analysis of Philanthropy," in *Contemporary Jewish Philanthropy in America*. Barry A. Kosmin and Paul Ritterband, eds. Savage, MD: Rowman & Littlefield, pp. 3–15.
- Chiswick, Carmel U. 1995. "The Economics of American Judaism," *Shofar*, 13:4, pp. 1–19.
- Clotfelter, Charles T. 1985. *Federal Tax Policy and Charitable Giving*. NBER Monograph. Chicago, IL: U. Chicago Press.
- Cochran, John K. and Ronald L. Akers. 1989. "Beyond Hellfire: An Exploration of the Variable Effects of Religiosity on Adolescent Marijuana and Alcohol Use," *J. Res. Crime & Delinquency*, 26:3, pp. 198–225.
- Cochran, John K. and Leonard Beeghly. 1991. "The Influence of Religion on Attitudes toward Nonmarital Sexuality," *J. Sci. Study Rel.*, 30:1, pp. 45–62.
- Currie Robert, Alan Gilbert, and Lee Horsley. 1977. *Churches and Churchgoers: Patterns of Church Growth in the British Isles since 1700*. Oxford: Clarendon Press.
- Darnell, Alfred and Darren E. Sherkat. Forthcoming. "The Impact of Fundamentalism on Educational Attainment," *Amer. Soc. Rev.*
- Davis, James A. and Tom W. Smith. 1996. *General Social Surveys, 1972–1996*. [machine readable file]. NORC ed. Chicago, IL: National Opinion Research Center.
- Delacroix, Jacques. 1992. "A Critical Empirical Test of the Common Interpretation of the Protestant Ethic and the Spirit of Capitalism." Paper presented at meetings of Int. Assoc. Business & Society in Leuven, Belgium.
- . 1995. "Religion and Economic Action: The Protestant Ethic, the Rise of Capitalism, and the Abuses of Scholarship," *J. Sci. Study Rel.*, 34:1, pp. 126–27.
- Dolin, Richard A., Frank Slesnick and John T. Byrd. 1989. "The Organizational Structures of Church and Orthodoxy." Paper presented at meetings of West. Econ. Assoc., Lake Tahoe, NV.
- Durkheim, Emile. [1915]1965. *The Elementary Forms of the Religious Life*. Translated by Joseph W. Swain. New York: Free Press.
- Durkin, John T., Jr. and Andrew M. Greeley. 1991. "A Model of Religious Choice Under Uncertainty: On Responding Rationally to the Nonrational," *Rationality and Society*, 3:2, pp. 178–96.
- Ehrenberg, Ronald G. 1977. "Household Allocation of Time and Religiosity: Replication and Extension," *J. Polit. Econ.*, 85:2, pp. 415–23.
- Ekelund, Robert B. Jr., Robert F. Hébert, and Robert D. Tollison. 1989. "An Economic Model of the Medieval Church: Usury as a Form of Rent Seeking," *J. Law, Econ., Organ.*, 5:2, pp. 307–31.
- Ekelund, Robert B. et al. 1996. *Sacred Trust: The Medieval Church as an Economic Firm*. New York: Oxford U. Press.
- Ellison, Christopher G. 1991. "Religious Involvement

- ment and Subjective Well-being," *J. Health & Soc. Behav.*, 32:1, pp. 80-99.
- . 1993. "Religion, the Life Stress Paradigm, and the Study of Depression," in *Religion in Aging and Mental Health: Theoretical Foundations and Methodological Frontiers*. Jeffrey S. Levin, ed. Thousand Oaks, CA: Sage, pp. 78-121.
- Elzinga, Kenneth G. 1989 "What is Christian Economics?" in *Christian Perspectives on Economics*. Robert N. Mateer, ed. Lynchburg, VA: Contem. Econ. & Bus. Assoc., pp. 5-11.
- Eisenstadt, Shmuel N. 1968. *The Protestant Ethic and Modernization: A Comparative View*. New York: Basic Books.
- Evans, T. David et al. 1995. "Religion and Crime Reexamined: The Impact of Religion, Secular Controls, and Social Ecology on Adult Criminality," *Criminology*, 33:2, pp. 195-224.
- Finke, Roger. 1990. "Religious Deregulation: Origins and Consequences," *J. Church & State*, 32:3, pp. 609-26.
- Finke, Roger; Avery M. Guest, and Rodney Stark. 1996. "Mobilizing Local Religious Markets: Religious Pluralism in the Empire State: 1805-1865," *Amer. Soc. Rev.*, 61:2, pp. 203-18.
- Finke, Roger and Rodney Stark. 1988. "Religious Economies and Sacred Canopies: Religious Mobilization in American Cities, 1906," *Amer. Soc. Rev.*, 53:1, pp. 41-49.
- . 1992. *The Churching of America, 1776-1990: Winners and Losers in Our Religious Economy*. New Brunswick, NJ: Rutgers U. Press.
- Freeman, Richard B. 1986. "Who Escapes? The Relation of Churchgoing and Other Background Factors to the Socioeconomic Performance of Black Male Youths from Inner-city Tracts," in *The Black Youth Employment Crisis*. Richard B. Freeman and Harry J. Holzer, eds. Chicago and London: U. Chicago Press, pp. 353-76.
- Gallup, George H., Jr. 1996. *Religion in America, 1996*. Princeton, NY: Princeton Religion Research Center.
- Gay, Craig M. 1991. *With Liberty and Justice for Whom? The Recent Evangelical Debate over Capitalism*. Grand Rapids, MI: Eerdmans.
- Glaeser, Edward L. 1994. "Incentive, Predestination, and Free Will." Mimeo.
- Glaeser, Edward L. and José A. Scheinkman. Forthcoming. "Neither a Borrower nor a Lender Be: An Economic Analysis of Interest Restrictions and Usury Laws," *J. Law Econ.*
- Glahe, Fred and Frank Vorhies. 1989. "Religion, Liberty and Economic Development: An Empirical Investigation," *Public Choice*, 62:3, pp. 201-15.
- Greeley, Andrew M. *Religious Change in America*. Cambridge, MA: Harvard U. Press, 1989.
- Greif, Avner. 1994. "Cultural Beliefs and the Organization of Society: A Historical and Theoretical Reflection on Collectivist and Individualist Societies," *J. Polit. Econ.*, 102:5, pp. 912-50.
- Grossbard-Shechtman, Amyra and Shoshana Neuman. 1986. "Economic Behavior, Marriage and Religiosity," *J. Behav. Econ.*, 15:1/2, pp. 71-85.
- Hadaway, C. Kirk, Penny Long Marler, and Mark Chaves. 1993. "What the Polls Don't Show: A Closer Look at U.S. Church Attendance," *Amer. Soc. Rev.*, 58:6, pp. 741-52.
- Hamberg, Eva M. and Thorleif Pettersson. 1994. "The Religious Market: Denominational Competition and Religious Participation in Contemporary Sweden," *J. Sci. Study Rel.*, 33:3, pp. 205-16.
- Hardin, Russell. 1997. "The Economics of Religious Belief," *J. Instit. & Theor. Econ.*, 153:1, pp. 259-78.
- Healey, Robert M. 1984. "Jefferson on Judaism and the Jews: 'Divided We Stand, United, We Fall!'" *American Jewish History*, 73:4, pp. 359-74.
- Heaton, Timothy B. and Edith L. Pratt. 1990. "The Effects of Religious Homogamy on Marital Satisfaction and Stability," *J. Family Issues*, 11:2, pp. 191-207.
- Hoge, Dean R. and Fenggang Yang. 1994. "Determinants of Religious Giving in American Denominations: Data from Two Nationwide Surveys," *Rev. Rel. Res.*, 36:2, pp. 123-48.
- Hout, Michael and Andrew M. Greeley. 1987. "The Center Doesn't Hold: Church Attendance in the United States, 1940-1984," *Amer. Soc. Rev.*, 52:3, pp. 325-45.
- Hull, Brooks B. 1989. "Religion, Afterlife, and Property Rights in the High Middle Ages," *Stud. Econ. Anal.*, 12:1, pp. 3-21.
- Hull, Brooks B. and Frederick Bold. 1989. "Towards an Economic Theory of the Church," *Int. J. Soc. Econ.*, 16:7, pp. 5-15.
- . 1994. "Hell, Religion, and Cultural Change," *J. Inst. & Theor. Econ.*, 150:3, pp. 447-64.
- . 1995. "Preaching Matters--Replication and Extension," *J. Econ. Behav. Organ.*, 27:1, pp. 143-49.
- Iannaccone, Laurence R. 1984. "Consumption Capital and Habit Formation with an Application to Religious Participation." U. Chicago: Ph.D. Dissertation.
- . 1988. "A Formal Model of Church and Sect," *Amer. J. Soc.*, Supplement, 94, pp. 241-68.
- . 1990. "Religious Practice: A Human Capital Approach," *J. Sci. Study Rel.*, 29:3, pp. 297-314.
- . 1991. "The Consequences of Religious Market Structure: Adam Smith and the Economics of Religion," *Rationality & Society*, 3:2, pp. 156-77.
- . 1992. "Sacrifice and Stigma: Reducing Free-Riding in Cults, Communes, and Other Collectives," *J. Polit. Econ.*, 100:2, pp. 271-97.
- . 1994. "Why Strict Churches Are Strong," *Amer. J. Soc.*, 99:5, pp. 1180-211.
- . 1995. "Risk, Rationality, and Religious Portfolios," *Econ. Inquiry*, 38:2, pp. 285-95.
- Iannaccone, Laurence R., Roger Finke, and Rod-

- ney Stark. 1997. "Deregulating Religion: The Economics of Church and State," *Econ. Inquiry*, 35:2, pp. 350-64.
- Kuran, Timur. 1993. "The Economic Impact of Islamic Fundamentalism," in *Fundamentalisms and the State: Remaking Politics, Economies, and Militance*. Martin E. Marty and R. Scott Appleby, eds. Chicago: U. Chicago Press, pp. 302-41.
- . 1995. *Private Truths, Public Lies: The Social Consequences of Preference Falsification*. Cambridge, MA: Harvard U. Press.
- . 1997. "Islam and Underdevelopment: An Old Puzzle Revisited." *J. Instit. & Theor. Econ.*, 153:1, pp. 41-71.
- Larson, Edward J. and Larry Witham. 1997. "Belief in God and Immortality Among American Scientists: A Historical Survey Revisited," *Nature*.
- Lazerwitz, Bernard and Michael Harrison. 1979. "American Jewish Denominations: A Social and Religious Profile," *Amer. Soc. Rev.*, 44:4, pp. 656-66.
- Leathers, Charles G. and J. Patrick Raines. 1992. "Adam Smith on Competitive Religious Markets," *Hist. Polit. Econ.*, 24:2, pp. 499-513.
- Lehrer, Evelyn L. 1996a. "Religion as a Determinant of Marital Fertility," *J. Popul. Econ.*, 9:2, pp. 173-96.
- . 1996b. "The Role of the Husband's Religious Affiliation in the Economic and Demographic Behavior of Families," *J. Sci. Study Rel.*, 35:2, pp. 145-55.
- Lehrer, Evelyn L. and Carmel U. Chiswick. 1993. "Religion as a Determinant of Marital Stability," *Demography*, 30:3, pp. 385-404.
- Lenski, Gerhard E. 1963. *The Religious Factor*. Rev. ed. Garden City, NY: Doubleday.
- Levin, Jeffrey S. 1994. "Religion and Health: Is There an Association, Is It Valid, and Is It Causal?" *Soc. Sci. Med.*, 38:11, pp. 1475-82.
- Levin, Jeffrey S. and Harold Y. Vanderpool. 1987. "Is Frequent Religious Attendance Really Conducive to Better Health?: Toward an Epidemiology of Religion," *Soc. Sci. Med.*, 24:7, pp. 589-600.
- Lipford, Jody W. 1995. "Group Size and the Free-Rider Hypothesis: An Examination of New Evidence from Churches," *Public Choice*, 83:3-4, pp. 291-303.
- Lipford, Jody W., Robert E. McCormick, and Robert D. Tollison. 1993. "Preaching Matters," *J. Econ. Behav. Organ.*, 21:3, pp. 235-50.
- Lipset, Seymour Martin. 1994. "The Social Requisites of Democracy Revisited," *Amer. Soc. Rev.*, 59:1, pp. 1-22.
- Long, Stephen H. and Russell F. Settle. 1977. "Household Allocation of Time and Church Attendance: Some Additional Evidence," *J. Polit. Econ.*, 85:2, pp. 409-13.
- McConnell, Michael W. and Richard A. Posner. 1989. "An Economic Approach to Issues of Religious Freedom," *U. Chicago Law Rev.*, 56:1, pp. 1-60.
- Medoff, Marshall H. 1993. "An Empirical Analysis of Adoption," *Econ. Inquiry*, 31:1, pp. 59-70.
- Melton, J. Gordon. 1989. *Encyclopedia of American Religions*. 3rd ed. Detroit: Gale Research.
- Miller, Geoffrey P. 1994. "The Legal-Economic Approach to Biblical Interpretation," *J. Instit. & Theor. Econ.*, 150:4, pp. 755-62.
- Minowitz, Peter. 1993. *Profits, Priests, and Princes: Adam Smith's Emancipation of Economics from Politics and Religion*. Stanford, CA: Stanford U. Press.
- Montgomery, James D. 1996a. "Dynamics of the Religious Economy: Exit, Voice, and Denominational Secularization," *Ration. & Soc.*, 8:1, pp. 81-110.
- . 1996b. "Contemplations on the Economic Approach to Religious Behavior," *Amer. Econ. Rev.*, 86:2, pp. 443-47.
- Murray, John E. 1995a. "Determinants of Membership Levels and Duration in a Shaker Commune, 1780-1880," *J. Sci. Study Rel.*, 34:1, pp. 35-48.
- . 1995b. "Human Capital in Religious Communes: Literacy and Selection of Nineteenth Century Shakers," *Explor. Econ. Hist.*, 32:2, pp. 217-35.
- Neuman, Shoshana. 1986. "Religious Observance within a Human Capital Framework: Theory and Application," *App. Econ.*, 18:11, pp. 1193-202.
- Olds, Kelly. 1994. "Privatizing the Church: Dismemberment in Connecticut and Massachusetts," *J. Polit. Econ.*, 102:2, pp. 277-97.
- Pescosolido, Bernice A. and Sharon Georgianna. 1989. "Durkheim, Suicide, and Religion: Toward a Network Theory of Suicide," *Amer. Soc. Rev.*, 54:1, pp. 33-48.
- Pettersson, Thorleif. 1988. "Swedish Church Statistics Unique Data for Sociological Research," *Social Compass*, 35:1, pp. 15-31.
- Pickering, J. F. 1985. "Giving in the Church of England: An Econometric Analysis," *App. Econ.*, 17:4, pp. 619-32.
- Pryor, Fred. 1990. "A Buddhist Economic System—In Principle," *Amer. J. Econ. Soc.*, 49:3, pp. 339-49.
- Pyle, Ralph E. 1993. "Faith and Commitment to the Poor: Theological Orientation and Support for Government Assistance Measures," *Soc. Rel.*, 54:4, pp. 385-401.
- Raskovich, Alexander. 1996. "You Shall Have No Other Gods Besides Me: A Legal-Economic Analysis of the Rise of Yahweh," *J. Instit. & Theor. Econ.*, 152:3, pp. 449-71.
- Richardson, James T. 1991. "Cult/Brainwashing Cases and Freedom of Religion," *J. Church & State*, 33:1, pp. 55-74.
- Roberts, Keith A. 1990. *Religion in Sociological Perspective*. 2nd ed. Belmont, CA: Wadsworth.
- Roof, Wade Clark and William McKinney. 1987. *American Mainline Religion: Its Changing Shape and Future*. New Brunswick, NJ: Rutgers U. Press.
- Samuelsson, Kurt. 1993. *Religion and Economic*

- Action: The Protestant Ethic, the Rise of Capitalism, and the Abuses of Scholarship.* Toronto: U. Toronto Press.
- Schlicht, Ekkehart. 1995. "Economic Analysis and Organised Religion," in *Survival and Religion: Biological Evolution and Cultural Change*. Eric Jones and Vernon Reynolds, eds. New York: Wiley, pp. 111–62.
- Schmidtchen, Dieter and Achim Mayer. 1997. "Established Clergy, Friars and the Pope: Some Institutional Economics of the Medieval Church," *J. Instit. & Theor. Econ.*, 153:1, pp. 122–49.
- Siddiqi, Muhammad N. 1981. *Muslim Economic Thinking: A Survey of Contemporary Literature*. Leicester: Islamic Foundation.
- Smith, Adam. [1776]1965. *An Inquiry into the Nature and Causes of the Wealth of Nations*. New York: Modern Library.
- . [1759]1984. *The Theory of Moral Sentiments*. Glasgow ed. D. D. Raphael and A. L. Macfie, eds. Indianapolis: Liberty Fund.
- Stark, Rodney. 1972. "The Economics of Piety: Religious Commitment and Social Class," in *Issues in Social Inequality*. Gerald W. Thielbar and Saul D. Feldman, eds. Boston: Little, Brown, pp. 483–503.
- . 1992. "Do Catholic Societies Really Exist?" *Ration. & Soc.*, 4:3, pp. 261–71.
- Stark, Rodney and William S. Bainbridge. 1985. *The Future of Religion*. Berkeley: U. California Press.
- . 1997. *Religion, Deviance, and Social Control*. New York: Routledge.
- Stark, Rodney, Laurence R. Iannaccone, and Roger Finke. 1996. "Religion, Science, and Rationality," *Amer. Econ. Rev.*, 86:2, pp. 433–37.
- Stark, Rodney and James C. McCann. 1993. "Market Forces and Catholic Commitment: Exploring the New Paradigm," *J. Sci. Study Rel.*, 32:2, pp. 111–24.
- Stevens, Robert E. and David L. Loudon. 1992. *Marketing for Churches and Ministries*. The Haworth Press.
- Stigler, George J. and Gary S. Becker. 1977. "De Gustibus Non Est Disputandum," *Amer. Econ. Rev.*, 67:2, pp. 76–90.
- Stoll, David. 1990. *Is Latin America Turning Protestant? The Politics of Evangelical Growth*. Berkeley, CA: U. California Press.
- Stolzenberg, Ross M., Mary Bair-Loy, and Linda J. Waite. 1995. "Religious Participation in Early Adulthood: Age and Family Life Cycle Effects on Church Membership," *Amer. Soc. Rev.*, 60:1, pp. 84–103.
- Stonebraker, Robert J. 1993. "Optimal Church Size: The Bigger the Better?" *J. Sci. Study Rel.*, 32:3, pp. 231–41.
- Sullivan, Dennis H. 1985. "Simultaneous Determination of Church Contributions and Church Attendance," *Econ. Inquiry*, 23:2, pp. 309–20.
- Tawney, Richard H. 1926. *Religion and the Rise of Capitalism*. New York: Harper and Row.
- Thornton, Arland, William G. Axinn, and Daniel H. Hill. 1992. "Reciprocal Effects of Religiosity, Cohabitation, and Marriage," *Amer. J. Soc.*, 98:3, pp. 628–51.
- Tomes, Nigel. 1984. "The Effects of Religion and Denomination on Earnings and Returns to Human Capital," *J. Human Res.*, 19:4, pp. 472–88.
- . 1985. "Religion and the Earnings Function," *Amer. Econ. Rev.*, 75:2, pp. 245–50.
- Ulbrich, Holley and Myles Wallace. 1983. "Church Attendance, Age, and Belief in the Afterlife: Some Additional Evidence," *Atlantic Econ. J.*, 11:2, pp. 44–51.
- . 1984. "Women's Work Force Status and Church Attendance," *J. Sci. Study Rel.*, 23:4, pp. 341–50.
- U.S. Bureau of the Census. 1850, 1880, 1941. *Census of Religious Bodies*. Washington, DC: U.S. GPO.
- . 1975. *Historical Statistics of the United States: Colonial Times to 1970*. Part 1, Washington, DC: U.S. GPO.
- . *Statistical Abstract of the United States: 1995*. 115th edition. Washington, DC: U.S. GPO, 1995.
- U.S. Dept. of Labor, Bureau of Labor Statistics. 1977–1995. *Employment and Earnings*. Washington, DC: U.S. GPO.
- de Vaus, David A. 1984. "Workforce Participation and Sex Differences in Church Attendance," *Rev. Rel. Res.*, 25:3, pp. 247–56.
- Wallis, Joe L. 1990. "Modelling Churches as Collective Action Groups," *Int. J. Soc. Econ.*, 17:1, pp. 59–72.
- Warner, R. Stephen. 1993. "Work in Progress toward a New Paradigm for the Sociology of Religion in the United States," *Amer. J. Soc.*, 98:5, pp. 1044–93.
- Waterman, A. M. C. 1987. "Economists on the Relation between Political Economy and Christian Theology: A Preliminary Survey," *Int. J. Soc. Econ.*, 14:6, pp. 46–68.
- Weber, Max. 1958. *The Protestant Ethic and the Spirit of Capitalism*. Translated by Talcott Parsons. New York: Free Press.
- Wuthnow, Robert. 1985. "Science and the Sacred," in *The Sacred in a Secular Age*. Phillip E. Hammond, ed. Berkeley, CA: U. California Press, pp. 187–203.
- Young, Lawrence A., ed. 1997. *Rational Choice Theory and Religion*. New York: Routledge.
- Zaleski, Peter A. and Zech, Charles E. 1994. "Economic and Attitudinal Factors in Catholic and Protestant Religious Giving," *Rev. Rel. Res.*, 36:2, pp. 158–67.
- . 1995. "The Effect of Religious Market Competition on Church Giving," *Rev. Soc. Econ.*, 53:3, pp. 350–67.