

IZA DP No. 4868

## **Economics and Religion**

Carmel U. Chiswick

April 2010

# Economics and Religion

**Carmel U. Chiswick**

*University of Illinois at Chicago  
and IZA*

Discussion Paper No. 4868

April 2010

IZA

P.O. Box 7240  
53072 Bonn  
Germany

Phone: +49-228-3894-0

Fax: +49-228-3894-180

E-mail: [iza@iza.org](mailto:iza@iza.org)

Any opinions expressed here are those of the author(s) and not those of IZA. Research published in this series may include views on policy, but the institute itself takes no institutional policy positions.

The Institute for the Study of Labor (IZA) in Bonn is a local and virtual international research center and a place of communication between science, politics and business. IZA is an independent nonprofit organization supported by Deutsche Post Foundation. The center is associated with the University of Bonn and offers a stimulating research environment through its international network, workshops and conferences, data service, project support, research visits and doctoral program. IZA engages in (i) original and internationally competitive research in all fields of labor economics, (ii) development of policy concepts, and (iii) dissemination of research results and concepts to the interested public.

IZA Discussion Papers often represent preliminary work and are circulated to encourage discussion. Citation of such a paper should account for its provisional character. A revised version may be available directly from the author.

## ABSTRACT

### Economics and Religion<sup>\*</sup>

This paper provides an overview of the relationship between economics and religion. It first considers the effects of economic incentives in the religious marketplace on consumers' demand for "religion." It then shows how this demand affects religious institutions and generates a supply of religious goods and services. Other topics include the structure of this religious marketplace and the related "marketplace for ideas" in a religiously pluralistic society. Empirical evidence is summarized for the effects on selected economic behaviors of religious affiliation and intensity of belief or practice.

JEL Classification: Z12

Keywords: economics, religion, human capital

Corresponding author:

Carmel U. Chiswick  
Department of Economics  
University of Illinois at Chicago  
601 S. Morgan Street  
Chicago, IL 60607-7107  
USA  
E-mail: [cchis@uic.edu](mailto:cchis@uic.edu)

---

<sup>\*</sup> Prepared for *21<sup>st</sup> Century Economics: A Reference Handbook*, Rebecca Free (ed.), Sage Publications (2010 forthcoming).

## **Economics and Religion**

### **Introduction**

The last two decades of the 20<sup>th</sup> century have seen an explosion of empirical as well as theoretical research into the relationship between religion and economic behavior. For the most part this research ignores theological differences, focusing instead on behavioral differences associated with different religious identities. The causation runs both ways: some studies analyze the effects of religious identity on various economic activities, and others analyze the effects of economic incentives on religious observances and institutions. Both of these lines of research have yielded strong results and have dramatically affected our understanding of the relationship between economics and religion. Prices and incomes are powerful incentives that invariably influence the actions of individuals, and the human capacity for creative rationalization contributes to the widespread evasion of costly behaviors, including costly religious strictures.

Before economics became a modern social science, casual observation generated many stereotypes about differences between religious groups regarding economic success, differences that were often attributed to differences in religious teachings. Today these arguments are viewed with skepticism. Some are based on stereotypes that do not stand up to empirical scrutiny. Others are based on an imperfect understanding of the religious teachings to which they refer. Recent research suggests that some of the most important differences between religious groups can be explained not directly, by the religious strictures themselves, but indirectly by intervening variables that affect the economic incentives faced by individuals.

To provide an overview of this subject, this essay begins with a consideration of the economic incentives affecting a consumer's decisions in the religious marketplace – that is to say, the demand for “religion.” It will then look at how this demand affects religious institutions and generates a supply of religious goods and services. Other topics will include the structure of this religious marketplace and the related “marketplace for ideas” in a religiously pluralistic society. Finally there will be a brief discussion of empirical findings for the effects of religious affiliation and intensity of belief or practice on selected economic behaviors.

### **The Demand for Religion**

From the perspective of an individual consumer, religious expression is an economic good that must compete with all other goods for a share of the resource budget. It is not a good in the material sense, but rather an intangible for which people express a preference by their willingness to spend time and money on its acquisition. Nor is it a good that can be purchased in a consumption-ready form. It belongs to the category of economic goods that must be self-produced by each individual. The consumer may buy goods and services that contribute to this end, but must spend his or her own time to use them in a way that creates a religious experience.

The theological aspects of any particular religion may be thought of as its technology, a set of “recipes” or blueprints for behaviors, expenditures and beliefs that will produce the desired results. This gives the consumer a production function that converts time and money – that is, labor and capital – into an output that can be called “religious experience.” The substance of this theology is generally irrelevant for an economic analysis, much as the theory of the firm can analyze its behavior without

specifying the particular good it produces or the specifics of its production. What follows here is a similar abstraction, an analytical framework that can be applied to good effect for deepening our understanding of many different religious behaviors.

In their seminal work on this subject, Azzi and Ehrenberg (1975) suggest that religion is best thought of as a bundle of three distinct but inter-related goods. First there is spirituality, the desire for which seems to be a primal human impulse that finds some sort of expression in every society from the earliest times to the present. Then there is the fact that religion always seems to have a collective dimension – an individual “joins” or “belongs to” a particular religion and observes various rituals as a “member” of this group, typically in conjunction with other adherents. These two aspects of religion are sometimes referred to as its “spiritual good” and its “social good,” respectively. Religion also addresses the dilemma of human mortality, the frightening inevitability of death and its implications for the meaning of life. This is usually referred to as the “afterlife good,” although not every religion speaks to this need by positing an explicit life after death. In most religions these three “goods” are bundled into a single product called “religion,” but since their economic attributes differ it is useful to consider them separately.

### ***Supernatural Being(s): The Spiritual Good***

For many people, the search for spirituality is at the heart of any religious experience. Not everyone feels deeply about this – preferences vary, just as they do when the subject is ice cream or toys or fashionable clothing. Regardless of the priority placed on it, however, for most people spirituality is the central quality that effectively defines an experience as religious.

Spirituality is a classic example of a self-produced good. It is very, very personal and can never be acquired without intimate involvement of the individual consumer. The religious technology (theology) provides a guide for behaviors that will achieve this, religious rituals and their associated objects are designed to facilitate the process, and religious professionals are there to support and direct these activities. Yet in the end, it is the individual alone who has this spiritual experience at a deeply personal level. Like other dimensions of human capital, it can not occur without the individual's participation and once it has occurred it is inalienable from that person.

Although the spiritual impulse seems to be a basic human need, the extent to which a person chooses to indulge in it is certainly affected by its price. Using a basic two-factor production function approach, the full price of this good is the direct cost of purchased goods and services and the indirect cost of the time spent in pursuit of spirituality. Some religions make heavy demands on consumers' incomes, but many of the most popular can be practiced with little direct expenditure. The search for spirituality thus tends to be a relatively time-intensive activity, and its full price is therefore sensitive to the value of a consumer's time.

Time is valued at its opportunity cost, and a consumer's budget is allocated optimally when the marginal value of time is the same in every alternative use. It is conventional to use the wage rate as a first approximation of this value, whether the actual wage for those who participate in the labor force or the shadow wage for those who do not. The full price of a time-intensive religious activity is thus positively related to the wage rate. Full income is also positively related to the wage rate, especially for people in the positively-sloped region of their labor supply curve. The effect of higher

wages on the demand for spirituality is thus ambiguous: a higher full price reduces the quantity demanded but the higher income shifts the demand curve to the right. Empirical studies suggest that for most Americans the price effect dominates the income effect so that higher wages are associated with less time spent in religious activities seeking spirituality.

In the production process, a relatively high cost of labor is an incentive to “economize” by becoming more capital intensive. In the search for spirituality, this takes the form of religious practices that substitute money for time. A high-wage person, for example, might purchase expensive religious objects but spend little time using them, might donate generously to causes associated with godliness, or might hire a substitute to engage in specific religious rituals on his or her behalf. Expensive time is also an incentive for innovations that raise its marginal product, whether by investing in skills relevant for the production of spirituality or by altering the religious environment in ways more suitable for (complementary to) the reduced time inputs.

This model has implications that result in testable hypotheses that appear to be consistent with the behavior of American consumers. Wealthy consumers often donate large amounts of money to religious causes even though they may not devote much of their own time to religious activities. Congregations with less time-intensive religious practices, like shorter services or fewer holy days, tend to attract disproportionately congregants at the upper end of the wage distribution. American religious institutions have also been innovative in adapting to the spiritual needs of consumers with a high value of time, for example with services conducted in the English language or sermons applicable to a busy lifestyle.

***Belonging: The Social Good***

In contrast with the search for spirituality, which is an intensely personal activity, adopting a specific religion implies participating in a group of similarly inclined individuals. This aspect of the demand for religion is analyzed as a “club” good, drawing on an extensive economics literature on Club Theory. Like other self-produced goods, a club good can not be purchased directly but must be produced with the consumer’s own time and effort. A club good, however, can not be produced by a single consumer in isolation. The productivity of resources that one individual devotes to making this good depends on the resource allocations made by other members of the club. For example, joining the church choir has different implications for a consumer’s religious experience depending on how many others join the choir and with what intensity of religious participation.

Although all religions contain some measure of this characteristic, they vary in the way in which it is displayed. At one extreme it may be possible to “buy” a membership, either directly or indirectly by making a large donation. Such a group would lack spiritual content and thus raises the question as to whether it is truly a religion. Most religions, however, require some participation in group rituals related to worship, to life-cycle celebrations, or to obtaining or demonstrating merit by performing good deeds. In each case, the religious experience a consumer obtains as output depends not only on the effective use of his or her own resources, but also on their complementarity with the resources devoted by other participants in the group.

Because of this interaction, clubs are a “quasi-public” good in the sense that they have some but not all properties of a public good. Like a true public good, a consumer

can belong to a religion without diminishing its availability to other consumers. Unlike a true public good, however, a club can devise means of limiting membership and thus excluding potential consumers. This can be done by charging a membership fee or by specific criteria such as age, gender, race, profession, national origin, or place of residence. Although some religious groups use such means of restricting entry, these are generally eschewed by most American religions on the basis of theological, social or political principles.

A club with important inter-personal complementarities that does not limit entry is faced with the classic “free-rider” problem. Since the productivity of a consumer’s resources is enhanced by the resources devoted to the club by its other members, he or she has an incentive to choose a group where the other members spend more than he or she does. In effect, individuals try to economize on their own resources by substituting the resources of others. But it is mathematically impossible for everyone in the group to spend below the average. People spending more than the average are getting less output for their resources and have an incentive to seek another group where they could obtain a greater benefit from the same resource expenditure. When these people leave the original group it begins an immiserating spiral that makes it increasingly unable to attract new members.

In a classic paper, Iannaccone (1992) considers this free-rider problem in the context of religious groups. He points out that many religions impose implicit taxes on their members as a means of supporting the religious group itself. This can take the form of tithing, of requiring the purchase of expensive religious articles, or of social pressure to donate money. There can also be a “tax” on time if membership requires volunteering

for time-intensive ritual or charitable activities. Even in the absence of such taxes, however, many religions require a “sacrifice” of goods or time by which is meant a donation that is actually destroyed as part of a religious ritual. A sacrifice does not contribute directly to the support of the group itself, but from the individual’s perspective it is similar to a membership fee. It thus serves to discourage people from joining if their resource contributions would otherwise be lower than the value of the required sacrifice. By discouraging participation by people whose commitment to the group is low, a large sacrifice can raise the average level of commitment and thus benefit the remaining group members indirectly. A religion may also impose non-monetary requirements to discourage adherents who might otherwise leave the group. Requirements such as those affecting clothing, appearance, or diet, serve to identify adherents as committed members of the group but would be stigmatizing in the world of non-adherents. Both sacrifice and stigma are commonly observed characteristics of religion that serve to limit the problem of free-riders in the religious community.

***An Unusual Investment: The Afterlife Good***

Mortality is at the heart of the human condition, and religion is an important way in which people deal with the uncertainties and loss associated with their own death and that of their loved ones. Religions typically address this issue by embedding the relatively short life span of a human being in a larger picture of eternal life. There are various ways in which a theology deals with this question, but one that is very common is to posit a more or less explicit life which a person will experience after his own death. As long as an action during a person’s current life on earth will have consequences for his or her circumstances in this afterlife, there is an incentive to alter current behavior with a

view toward this long-run future. The benefits of good behavior induced by this theology are summarized by the term “afterlife good.”

A religious theology posits afterlife rewards to people who spend their time and money on “good” behaviors and afterlife punishments to those who spend their resources on “bad” behaviors. To the extent that this causes a consumer to alter his or her spending patterns, it trades present utility for future rewards after death. In this respect it is best thought of as an investment rather than a consumption good, and as such it can be treated analytically like any other investment. Other investments, however, are typically designed to yield their rewards at a later point in a person’s lifetime, whereas the afterlife good pays off only after the investor is dead. The optimal strategy is thus to invest first in prospects that mature earlier and postpone this late-payoff investment until later in life. This is consistent with the observation that older people tend to spend more time and money on religious participation than do youngsters, and it reinforces any tendency for people to become more concerned with the afterlife as they face their own mortality.

### **The Supply of Religion**

Since religious experience is a self-produced good, there is no explicit market for it and so no supply curve in the usual sense. Yet there is a market for religious goods and services, and there is a large sociology literature that views the religious sphere as having a “marketplace of ideas” (Warner 1993). In this marketplace religious groups compete with each other for adherents in much the same way that firms compete for customers, and individuals seek out a religious congregation to join in much the same way as they shop for other goods and services. Much of this sociology literature is concerned with the structure of this market, highly competitive in the United States but more like a

monopoly in countries with a state religion. This analogy has contributed much to a new understanding of the economic aspects of religion.

A fundamental requirement for a market to be competitive is free entry of new firms and free exit of firms that are unsuccessful. Religious “startups” are characteristic of the American religious scene. New congregations frequently appear within established religious denominations, and entirely new religions can and do emerge. Most of these new religions are small and many of them eventually disappear for lack of followers, but some –like the Church of the Latter Day Saints (Mormon) and Christian Science – have been very successful and grew into established religions.

Unlike religious monopolies that are licensed (and funded) by the government and typically managed by a religious hierarchy or bureaucracy, competitive religious markets are characterized by independent congregations that hire their own clergy. The clergy in a competitive market are responsible directly to their congregants and thus tend to be more sensitive to their religious needs. Also unlike a religious monopoly structure, congregationalism finds it more efficient to conduct non-ritual religious functions (e.g., charities or proselytizing) in a separate set of para-religious organizations. It is also common for congregations within the same religious denomination to form an umbrella organization (analogous to an industry group) to represent their common interests in the larger society.

Each of these types of religious organization is characteristic of the United States, a pluralistic society in which religious markets are highly competitive. In countries with one or more state religions, however, the government-sanctioned religious body typically carries out all of these religion-related functions. As an indication of how distinctive

American religious pluralism actually is, the separation of function associated with religious pluralism is frequently described as a symptom of “Americanization” in a religious group.

### ***Religious Human Capital***

Most people think of themselves as having been born into a religion, suggesting that perhaps they have no choice as to where they belong. While it is true that a person may be born into a family that practices a certain religion, it is not true that this religion is innate in a newborn child. In fact, religious education and training are an important part of a child’s upbringing, often from a very young age. The consequence of this training is that youngsters accumulate human capital – skills, knowledge, memories, sensations – specific to a particular religion, denomination, or perhaps even congregation. The more religious human capital a person has, the more efficiently he or she can obtain a religious experience from any given amount of resources. Religious education is an important activity for the community as a whole as well as for its individual members, and it is the core function of any proselytizing undertaken by a religious group.

A human capital approach provides additional insights into the workings of a competitive religious market for adults. Each religion may be thought of as having its own religion-specific human capital, the formation of which is characterized by the usual positively-sloped marginal cost curve. Each person may be thought of as accumulating religion-specific human capital until the (shadow) marginal rate of return to religious education approaches the marginal rate of return to other types of human capital. If a person were to convert to a different religion, the human capital specific to the “old” religion would lose its productive value and human capital specific to the “new” religion

would need to be acquired. The economics of religious switching is formally analogous to occupational change or to international migration, a new investment that would be attractive only if the benefits outweigh the costs. The incentives are such that conversion is less likely to occur the greater the human capital intensity of either the “old” or the “new” religion, and it is most likely to occur between denominations with similar human capital where religious skills are highly transferable as, for example, among mainline Protestant denominations in the U.S. Religious switching is also more likely among young adults who have not yet made heavy religion-specific investments.

### **Religion and Socio-economic Behavior**

Religions differ with respect to the compatibility of their teachings with other aspects of the society to which their adherents belong. This can be analyzed as the degree of complementarity between religious and other forms of human capital and the mutual complementarity among different kinds of human capital investments (Chiswick 2006). People whose religious teachings complement the public school curriculum, for example, would have higher rates of return to both types of education and therefore an incentive to invest in both religious and non-religious human capital. Adherents of these religions tend to have high levels of education, better health, lower fertility, and marriage patterns that tend to go along with these attributes.

In contrast, people whose religious teachings are anti-complimentary (i.e., contradictory) to a public school curriculum would have an incentive to specialize in either religious or non-religious investments in human capital. Those who invest more heavily in religious human capital would face lower rates of return to investments in secular education, for example, and those who choose to invest in non-religious forms of

human capital would have less incentive to invest in religious education. In these denominations adherents who are very religious tend to have low levels of education and health, high fertility, and marriage patterns associated with their consequent low socio-economic status, and adherents with greater secular achievements would tend to have lower levels of religious observance.

### **Empirical Evidence**

Empirical analyses of economic and demographic behaviors in the United States suggest that religion is an important factor in many decisions related to education, health, fertility, marriage and divorce. This literature distinguishes between religious affiliation, on the one hand, and the degree of religiosity on the other. Whether or not a person identifies himself as belonging to a particular religion or denomination seems to be less important than the intensity of religious observance and the degree of commitment to the group. Some of these findings fit conventional stereotypes, but some do not.

### ***Data on Religion and Economics***

Empirical analyses of the effect of religion on economic and demographic behaviors are constrained by the paucity of data. Data collected by the U.S. Government generally does not have a question on religion. A few economic surveys ask respondents to self-identify as Protestant, Catholic, Jew, or Others, categories that are too heterogeneous for testing hypotheses about religious behavior. The National Survey of Religious Identity (NSRI) and the American Religious Identity Survey (ARIS) have nation-wide random samples with considerable detail for self-identified religion. A number of other sets of data are available from the website of The Association of Religion Data Archives (ARDA) also have questions about religion, some more detailed

than others, but few of these data sources have information on employment or wage rates that would be useful to test economic hypotheses. Newer surveys are beginning to address this problem, but in the meantime only a few of the existing data sets can be used to study the influence of economic factors on religious behavior.

Studies that use economic data to analyze the effects of religious identification on economic and demographic behaviors find that the usual religion categories – Protestant, Catholic, Jew, Other – are too heterogeneous to be very useful. The aggregation principles for religious groupings should be analogous to those used for aggregating factors of production or industrial output. Religions can be grouped together into a single category if they are close substitutes with each other or if their respective types of religious human capital have similar complementarity properties with respect to non-religious human capital. Religions should be separated into different groupings if neither of these conditions holds. The so-called Mainstream Protestant denominations can be grouped together because they typically have very similar religious human capital. Fundamentalist Protestant denominations can be grouped together because they typically share a strained relationship between religious human capital and some of the non-religious human capital of mainstream America. In contrast, Mainstream Protestants and Fundamentalist Protestants should not be grouped with each other because they differ with respect to both religious human capital and its complementarity with non-religious human capital.

Empirical results are much clearer when religious identification variables are classified according to these principles. It has become conventional to distinguish between “fundamentalist” and “mainstream” Protestant denominations. If the data permit,

it is also useful to split out the Mormons and the “African” Protestant denominations into separate categories. The Other category includes a number of very small groups, but whenever possible the people reporting no religion (including agnostics and atheists) should be separated from those identifying with small religious groups (e.g., Greek Orthodox, Buddhists, Hindus, Moslems).

Variables relating to the degree of religiosity – that is, to the intensity of religious observance without regard to the particular religion – also need to be interpreted with caution. Some of the most common questions ask about the frequency of attendance at religious services and donations of money (and sometimes of time) to religious organizations. Other questions may ask about beliefs: whether there is a supernatural deity (God), whether there is life after death, or whether the words of the Bible are to be taken literally. These questions are reasonably good indicators of religiosity for Protestant religions, and perhaps for Christians in general, who usually comprise the large majority of American respondents. For other religions, however, they may be less apt. The concept of God, for example, may be different for some of the Asian religions than it is for the monotheistic religions of Judaism, Christianity and Islam. As another example, intensely religious Jews may interpret the Bible literally only in its original Hebrew language, subject not only to variations in translation but also to a variety of possible interpretations of its original intent. Such differences reduce the effectiveness of these questions as general indicators of religiosity, although the problems are assumed to be small for samples with mainly Christian respondents.

As an increasing number of immigrants bring with them a religion that is relatively new to the United States, another issue arises with regard to intensity of

religious practice. This occurs when a religion is specific to a particular ethnic group, as is the case for Jews, Greeks, Armenians and Russians. (It was also the case for Roman Catholics in an earlier era, when immigrants from Ireland, Italy, Germany and Poland attended separate churches, but their descendants today are no longer deeply divided along ethnic lines.) The distinction between ethnicity and religion is not always clear in such cases, and survey respondents might indicate belonging to a religion when in fact their identity is primarily with the ethnic group. Even if their actual beliefs are similar to those of agnostics or atheists, the fact that they observe religious rituals as part of their ethnic activity may lead them to self-identify otherwise.

### *Some Preliminary Findings*

With these considerations in mind, a number of empirical studies have investigated the effects of religion and religiosity on economic and demographic behaviors (Lehrer 2009). The evidence for the United States is generally consistent with the predictions of economic theory, but for the most part the particular religion to which a person belongs does not seem to matter as much as the fact that a person belongs to some religion rather than none. It is possible that this arises because people ignore religious teachings (theology) when making human capital investment decisions. It is possible, however, that in a pluralistic society religion would have low explanatory power for statistical reasons. For example, suppose people tend to choose an affiliation compatible with their non-religious human capital portfolio, and suppose religious groups tend to adapt practices and even teachings to be compatible with the characteristics of their members. The data would then show that people are sorted into religious groups by their

socio-economic characteristics and there would be little additional explanatory power for religion after controlling for the usual determinants of a human capital investment.

The empirical evidence for the United States also suggests that the degree of religiosity has a very important effect on investments in non-religious human capital. Measures of religiosity describe an individual's commitment to religious practices (e.g., church attendance) and the intensity of his or her belief in its theology. For at least some of the socio-economic outcomes religiosity seems to have a non-linear effect. For example, education levels tend to rise with religiosity up to a point, but people with very high levels of education tend to have low levels of religiosity. This pattern is consistent with predictions of the human capital model outlined above. People whose religious human capital is complementary with secular investments would exhibit a positive relationship between religiosity and, say, education, while those with anti-complementary religious human capital would combine high religiosity with low education levels or low religiosity with high education levels.

### **Institutional Change**

Americans affiliate with religions that have adherents in other parts of the world. Some of these are international with a leadership established somewhere in its "world headquarters," while others are rooted in a single country to which adherents look for inspiration and guidance. In either case, however, the adherents living in the United States typically alter their observances (and even sometimes their beliefs) to better fit the American socio-economic scene in a process that is labeled "Americanization." This may be perceived as a falling-off of religious observance, yet the evidence suggests that Americans are among the most religious people in the modern world.

Economic analysis suggests an alternative interpretation in which Americanization is seen not as rampant materialism but rather an adaptive response to different economic circumstances. High American wage rates provide an incentive to substitute goods for time in the production of any religious experience – hence the observed tendency towards “materialism” – but they also provide an incentive to improve the efficiency of time spent in religious observance. In a competitive religious marketplace people seek the religious community most compatible with their personal preferences, and clergy have an incentive to be sensitive to the religious needs of their congregants. Religious education also adapts to the relatively high education level of American congregants, and human capital formation is another means of raising the efficiency of time spent in religious activity. As Americans adapt their consumption patterns to changes in their economic environment, their religious consumption patterns and even theologies also change, and their congregations change along with them.

This institutional adaptability goes a long way toward explaining why religion continues to play an important role in American life despite all predictions to the contrary. Karl Marx characterized religion as “the opiate of the masses” that should disappear with economic development – it has not. Others believed that religion could not survive the scrutiny of science and would disappear among people with high levels of secular education – it has not. Instead, evidence for the United States suggests that when wages and wealth are held constant, religious participation actually increases with the level of education. By placing religion and religiosity in their economic context, it is possible to obtain a deeper appreciation of the social importance of religion and its ability to thrive in many different circumstances.

## REFERENCES AND FURTHER READINGS

Association of Religion Data Archive. <http://www.thearda.com>

Azzi, C. and R. Ehrenberg (1975). "Household Allocation of Time and Church Attendance." *Journal of Political Economy* 83: 27-56.

Chiswick, C. U. (2006). "An Economic Perspective on Religious Education: Complements and Substitutes in a Human Capital Portfolio." *Research in Labor Economics* 24: 449-467.

Iannaccone, L. R. (1990). "Religious Practice: A Human Capital Approach." *Journal for the Scientific Study of Religion* 29(3): 297-314.

Iannaccone, L. R. (1992). "Sacrifice and Stigma: Reducing Free-riding in Cults, Communes, and Other Collectives." *Journal of Political Economy* 100(2): 271-291.

Kosmin, B.A. and A. Keysar (2006). *Religion in a Free Market: Religious and Non-Religious Americans*. Ithaca, NY: Paramount.

Lehrer, E. L. (2009). *Religion, Economics, and Demography: The effects of religion on education, work, and the family*. New York, Routledge.

Warner, R. S. (1993). "Work in Progress toward a New Paradigm for the Sociological Study of Religion in the United States." *American Journal of Sociology* 98(5): 1044-1093.