[NOTE: The following version of the paper is *not* identical the published version. Consult the published paper or its scanned (*.pdf) counterpart before quoting any passage.]

In a largely ignored chapter of The Wealth of Nations, Adam Smith laid the foundation for an economic theory of religious institutions. Smith emphasized the importance of market structure, describing in detail the differences between state-sponsored religious monopolies and competitive religious markets. This paper builds on Smith's discussion both theoretically and empirically. I formalize the concept of a religious market, defend its relevance, and derive predictions concerning the observable effects religious market structure. Data on the religious characteristics of 17 developed, Western nations confirm Smith's claim that monopoly and government regulation impede religious markets just as they do secular ones. Across Protestant nations, rates of church attendance and religious belief are substantially higher in highly competitive markets than in markets monopolized by established churches.

The Consequences of Religious Market Structure

ADAM SMITH AND THE ECONOMICS OF RELIGION*

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In a largely ignored chapter of *The Wealth of Nations*, Adam Smith laid the foundation for an economic theory of religious institutions. Smith argued that self-interest motivates clergy just as it does secular producers, that market forces constrain churches just as they do secular firms; and that the benefits of competition, the burdens of monopoly, and the hazards of government regulation are as real in religion as in any other sector of the economy. Consider, for example, the following passage:

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> 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. … The clergy of an established and well-endowed religion frequently become men of learning and elegance, who possess all the virtues of gentlemen, … but they are apt gradually to lose the qualities, both good and bad, which gave them authority and influence with the inferior ranks of people. … Such a clergy, when attacked by a set of popular and bold, though perhaps stupid and ignorant enthusiasts … have no other resource than to call upon the magistrate to persecute, destroy, or drive out, their adversaries, as disturbers of the public peace. (Smith [1776] 1965, 740-741)

It would appear that no economist has ever bothered to test Smith's assertions about religion,[1] perhaps because religion itself has been viewed as an institution in decline or perhaps simply because rational choice models have been deemed inadequate to explain religious behavior.[2] In any case, however, the persistence of religion and the growth of economics both argue for renewed attention to religious markets.

This paper extends Smith's discussion, both theoretically and empirically. Section 1 formalizes the concept of a religious market, defends its relevance for religion as it actually exists, and derives predictions concerning the observable effects religious market structure. Section 2 tests the most important of these predictions with cross-national data. The data are too crude and the number of cases too few to permit testing highly refined hypotheses, but they do allow us to ask whether competition stimulates or retards religious activity. Proponents of free enterprise will be pleased to hear that Smith's predictions carry the day. Among Protestants, at least, church attendance and religious belief both are greater in countries with numerous competing churches than in countries dominated by a single church. The pattern is statistically significant, and, as seen in figure 1, visually striking. The concluding sections of the paper review the results and limitations of the present study, suggest additional ways to test the theory of religious markets, and question traditional assumptions about both the history and future of religion.

[FIGURE 1 ABOUT HERE]

A THEORY OF RELIGIOUS MARKETS

At the heart of any economic theory of religion is the notion of religion as a commodity, an object of choice. In this respect religion is quite unlike race and gender, the other "control" variables with which it most often shares space in social scientists' regressions. Consumers *choose* what religion (if any) they will accept and how extensively they will participate in it. Nor are these choices immutable – people can and often do change religions or levels of participation over time.[3] As with any other commodity, the consumer's freedom to choose constrains the producers of religion. A particular religious firm can flourish only if it provides a commodity at least as attractive as its competitors'. Hence, to the extent that the religious market is perfectly competitive, the cost of providing an attractive commodity drives religious firms toward efficient production and zero (excess) profits.

Competition and commoditization are by no means new to the religious marketplace. Despite the longevity and importance of such celebrated monopolies as the Medieval Catholic Church, the historical record gives no hint of natural monopoly in the realm of religion. Rather, from Old Testament Israel to contemporary Iran, religious uniformity has arrived on the edge of the sword, and only the sword has sufficed to maintain it. This should not surprise an economist, since the capital requirements and start-up costs for new religions are virtually nil. As two leading sociologists of religion recently observed, "the 'natural' state of religious economies is one in which a variety of religious groups successfully cater to the special interests of specific market segments. ... Of course, when repression is great, religions competing with state-sponsored monopoly will be forced to operate underground. But whenever and wherever repression falters, lush pluralism will break through" (Finke and Stark 1988, 42). "Lush pluralism" is indeed an apt description for the situation in the United States, where the first amendment's anti-establishment clause has left the religious market virtually unregulated for the past two centuries and more than two thousand faiths now compete for American's attention (Melton 1984-85). In other places and times, however, market forces have not been given such free reign. Rent-seeking religious suppliers have sought and often attained privileged positions. As is evident from the passage quoted in this paper's introduction, the consequences of these privileges both interested and disturbed Smith.

SIMPLE MONOPOLY

The most basic non-competitive model of the religious market, more basic even than the model developed by Smith, is that of a church which enjoys a simple monopoly. The standard, textbook results carry over directly, and the monopoly church earns positive profits by limiting output levels and charging prices in excess of marginal cost. Recently, several economists have invoked this model to reinterpret various Medieval Church doctrines and practices as examples of rent seeking (Ekelund, Hebert, and Tollison 1989; Anderson 1989a, 1989b; and Hull forthcoming). The simple monopoly model implies inefficiency and deadweight losses, as high prices lead demanders to underconsume religious commodities. The model can also be extended in the usual ways to address price discrimination, multiple outputs, and the relationship between an upstream producer, such as the Vatican, and its downstream distributors, such as monasteries and parishes. Since the dominant church enjoys neither technological barriers to entry nor uniformly decreasing average costs, it must rely on the coercive power of the state to maintain its monopoly against the threat of entry and competition by other faiths.

The simple monopoly model limits the analytic nature of religious commodities by defining them as pure quantities. In practice, the church's product has been identified with membership (cf. Ekelund, Hebert and Tollison 1989, 310). This abstracts both from the variety of goods and services actually derived from religion and from product quality, an important concern of Smith. It also leads to a curious paradox that has yet to receive attention: if membership is the "commodity" produced by monopoly churches and the Medieval Church is the best example of such a monopoly, then actual levels of church membership should have been lower in the so-called "age of faith" than at almost any other time in history!

Although simple monopoly is a reasonable model of the Medieval Church, it is far less suited to other non-competitive religious environments. A model more descriptive of England at the time of Smith and still relevant to many contemporary countries is that of a heavily subsidized dominant firm, run or regulated by the state. A large number of smaller, independent and competing firms may exist at the dominant firm's periphery. Public choice theory has much to say about this type of market.

"PUBLIC RELIGION" AND REGULATED RELIGIOUS MARKETS

As an alternative to the simple monopoly and purely competitive models of religious markets, let us consider a model comparable to that which describes the market for basic education throughout the developed world. The state or firms hired by it offer free or heavily subsidized "public religion" to all citizens. The cost of provision is financed in part or full through tax assessments levied on the general population, and the qualifications of religious providers, the nature of their product, and the conditions of its provision are regulated by the government. Private firms providing alternatives to public religion are also tolerated, though substantial barriers may be erected in the form of licensing requirements. Citizens are free to obtain religious products from either the public or private sector and may also be permitted to forgo religion altogether. This model captures the essential features of Europe's "established" churches from the Reformation to the present. In Scandinavian countries, for example, the Lutheran Church is state run even now, and its clergy are civil servants. In West Germany, the Catholic and Lutheran churches jointly provide public religion (though most regions are dominated by just one of the two churches) and much of their revenue comes from membership taxes administered by the state. Even in countries where the dominant church no longer enjoys a special legal status, it is common for that church to benefit from *de facto* establishment in the form of special subsidies, preferential access to public facilities, favorable legislation and court rulings, and on-going political favors.[4]

Empirical and theoretical results from the study of regulated and government run industries provide numerous testable hypotheses about public religion and regulated religious markets. The following paragraphs summarize several of these hypotheses, drawing especially on studies of public education.

1. The public provision of religion will be characterized by inefficiency. Quality adjusted production costs will be higher than those of the private firms. Inefficiency can arise in numerous ways. Smith himself identified the perverse incentives faced by the clergy of an established church. In simplest terms, the providers of public religion are insulated from competitive pressures and the preferences of those they ostensibly serve. To the extent that their remuneration is fixed, they will tend to provide suboptimal effort and, hence, suboptimal quality of services. To the extent that they can increase their pay or lighten their responsibilities through lobbying their regulators, they will tend to so, thereby engaging in socially wasteful rent-seeking behaviors. Here, the empirical record from other industries is instructive. As Mueller (1989, 261-266) notes after summarizing the results of some 50 studies, "the evidence that public provision of a service reduces the efficiency of its provision seems overwhelming." The evidence from research on public versus private schooling provides additional detail. Public schooling in the U.S. consistently costs 80% to 100% more than private schooling, despite the fact that educational attainment is greater in private schools (Lott 1987, Coleman, Hoffer, and Kilgore 1982). Educational studies also reveal the form of teachers' rent-seeking activities. Teachers' unions and education organizations continually lobby for higher teacher salaries, smaller class sizes, and education-specific teacher training (as opposed to general college and graduate training), despite the fact that empirical studies consistently fail to find any link between of these and student achievement (Hanushek 1986). Anticipating similar results in religion, one might expect state churches to cost more per practicing member and to produce members with lower than average levels of religious knowledge and belief. One of the sources of higher costs is likely to be higher than normal wages for the state church's clergy and higher than normal required levels of seminary training.

2. Even when public religion is provided "free" the overall level of religious consumption may be lower than that of a comparable competitive market. The theoretical basis for this prediction is found in Peltzman's (1973) analysis of private versus public education applies. Since consumers have little control over the quantity or quality of publicly provided religion, and since it is difficult to supplement the services of one church with services from another, public religion constitutes a non-augmentable, gift in kind, which people may accept even when their optimal consumption level in a free market would be greater. Lott (1987) cites the substantial body of empirical evidence that the both the fraction of the population going to school and the resulting levels of educational attainment were not increased by compulsory education laws (which invariably were accompanied by increased government involvement in the actual production of education). Reduced levels of consumption are even more likely in the case of religion since its public provision is rarely coupled with compulsory attendance. Thus we might predict that in countries or regions where the government's role in the provision of religion is unusually high, actual levels of religious practice and belief will be unusually low.

3. Government officials will influence public religion's content so as to maximize their own profits and political tenure. This skewing of religion's content reduces the public's satisfaction with the churches and therefore reduces average levels of religious participation. Studies of regulated industries show that regulators do not freely grant

favors to producers or consumers, but rather employ their regulatory powers to maximize their own utility. Hence, in the case of cable TV, local policy makers demand that cable companies provide community programming, institutional networks, and excess capacity that greatly inflate cable costs but benefit only politicians, educators, librarians, and other government employees (Zupan 1989, 404-407). In the case of schooling, Lott (1987, 1989) has argued that government's *quid pro quo* takes the form of political indoctrination, teaching children to "appreciate" their leaders and their political system. There is little doubt that governments have traditionally pursued and received the same sort of support from their churches. "The divine right of kings" is but one of the pro-government doctrines that regulated churches have provided in return for protection against competition (cf. Smith 1965, 744). The exchange relationship between the leaders of the church and leaders of the state has not been lost on citizens or social critics. Indeed, in most countries with state supported churches, anti-government and anti-clerical positions go hand in hand.

4. Public religion narrows the range of religious opportunities open to citizens. It is narrowed in part because the government uses the church as an instrument of indoctrination. But this is not the only reason. By its very nature religion deals in absolutes. It is therefore impossible for any single church, regardless of its state ties, to provide the full range of religious options demanded by all segments of the market. A single auto company can manufacture virtually all types of road vehicles: small and large cars, luxury and economy models, trucks, motorcycles, and vans. But a single church is hard-pressed to offer a similar range of personal faiths. It can not be both monotheistic and polytheistic; it can not proclaim both that Jesus is the Christ and that the messiah is yet to come; it can not both accept and reject the Bible as God's word, nor can it demand both an all male priesthood and full equality of the sexes.[5] Individual churches must therefore choose positions that are at least as well defined as those of political parties. On the other hand, the available evidence (including America's two thousand denominations) suggests that consumers desire even more variety in religion than they do in their vehicles and political parties. This gives yet another reason why religious satisfaction and activity will be lower where religion is heavily regulated or monopolized.

5. Empirical research suggests that the stultifying effects of religious regulation and monopoly will be long-lived. Even after a state church is disestablished and the religious market is legally open, it may take generations for the situation to approach that of a perfectly competitive market. As I have noted elsewhere (Iannaccone 1984, 1990) people's religious choices display a great deal of inertia, due not only to the effects of indoctrination and habit formation, but also due to the nature of religious commodities. Religious commodities are typically produced in a social context and their appreciation depends on relationships with other church members, knowledge of specific rituals and practices, and familiarity with specific doctrines. The specific knowledge and relationships needed to appreciate the religion of a particular church may be viewed as a form of "religious human capital" acquired through a process of learning by doing. Hence, even when more efficient alternative religions arise, most people will wish to switch to it, since doing so renders much of their religious capital obsolete. Since most religious training is

obtained directly from one's parents or one's parents' church, the tendency to remain within an inefficient church can persist over generations.

TESTING THE THEORY

This section tests the assertion that levels of religious belief and participation are lower in monopolized religious markets than in competitive religious markets. The data compare religious market structure and levels of religious activity in 17 developed, Western countries. In this, admittedly preliminary analysis, the degree of religious monopoly in a country is assumed to correlate with its Herfindahl index of religious firm concentration. More sophisticated tests, requiring more detailed data, are discussed in a later section of the paper.

DATA

The data on religious belief and participation come from surveys conducted between 1981 and 1983 under the direction of the International Study of Values (Bouma and Dixon 1987, 187-192; Abrams, Gerard, and Timms 1985). The first three columns of Table 1 list the measures I used. These include the percentage of the (survey) population attending church each week, the percentage claiming belief in a personal God, life after death, Hell, Heaven, and the Devil, the percentage who pray or meditate and who believe that their church is providing adequate answers to man's spiritual needs.[6] The nations in Table 1 represent all the countries for which I currently have data.[7] The data on the religious composition of each country come from Barrett's *World Christian Encyclopedia* (1982). The *Encyclopedia* provides a denominational breakdown of the population in every nation of the world. From these figures I computed both the "market share" and the "population share" of the denominations in each country.[8] S_{ij}, the market share of denomination i in country j, is the number of people in country j affiliated with denomination i divided by the total number of people in country j affiliated with *any* religious denomination. The combined market shares of all denominations must always equal one, but any single denomination's may vary between zero and one. $\underline{S}_{ij}$, the population share of denomination i in country j, is the number of people in country j affiliated with denomination i divided by the total population of country. $\underline{S}_{ij}$ is always slightly less than S_{ij} since some people in each country claim no religious affiliation. As a point of reference the second to last column of Table 1 lists the population share of the Roman Catholic church in each nation. It ranges from nearly 1 in Spain to essentially zero in Scandinavia. The combined population shares of the Protestant denominations in each nation are usually only slightly less than one minus the share of Catholics, since the fraction of the population belonging to other religions or no religion is generally quite small.

[TABLE 1 ABOUT HERE]

Having computed the market share of each denomination, it is easy to define a Herfindahl index of religious concentration for each nation:

$$H_j = \sum S_{ij}^2$$

where *i*, the index of summation, runs over all denominations in country *j*. Like all other measures of market concentration, the Herfindahl index is only an indirect indicator of actual levels of market competition. Nevertheless, it does have the distinction of being the only such measure with a solid theoretical foundation – see Stigler (1964).[9] And it is doubtful that one can do much better in the present context. Notice that H equals the probability that two people, selected at random from those claiming a religious affiliation, share the same religion. The computed values, listed in the last column of Table 1, attest to tremendous differences across nations that are in other respects quite similar. At one extreme we have countries dominated by a single church, Lutheran in Scandinavia and Roman Catholic in Southern Europe, de facto religious monopolies (with histories of legal monopoly as well). At the other extreme we have the wide-open markets of the New World, among which the U.S. is by far the most competitive. In the U.S., randomly chosen pairs of people come from different denominations nearly 90% of the time.

ANALYSIS

I will test two closely related models of religious activity. In the first, I assume that rates of attendance and belief in each denomination depend directly upon *total* market concentration: $a_{ij} = a_i(H_j)$. If competition stimulates religious activity, then each a_{ij} should rise as total market concentration falls. In the second model, closer to the spirit of Smith's argument, I assume that each denomination's a_{ij} depends (negatively) on the size of its *own* market share: $a_{ij} = a_i(S_{ij})$. Since the *Encyclopedia* does not typically report religious activity by denomination and since the raw data from the ISV surveys were not available to me I estimated both of these models at the national level. To do so, one notes that national rates are just population-weighted averages of denominational rates:[10]

$$A_j = \sum_i a_{ij}\underline{S}_{ij}$$

Taking first order linear approximations, $a_i(S_{ij}) \cong \alpha_i + \beta_i(S_{ij})$, one then obtains equations suitable for OLS estimation:

$$A_j = \sum_i (\alpha_i + \beta_i H_j)\underline{S}_{ij} = \sum_i \alpha_{ij}\underline{S}_{ij} + \sum_i \beta_i H_j \underline{S}_{ij} \qquad [1]$$

and

$$A_j = \sum_i (\alpha_i + \beta_i S_{ij})\underline{S}_{ij} = \sum_i \alpha_i\underline{S}_{ij} + \sum_i \beta_i S_{ij} \underline{S}_{ij} \qquad [2]$$

In both cases, the hypothesis is that the β's are negative.

Models (1) and (2) allow base rates of religious activity, à, to vary across denominations, an assumption consistent with both survey results and the fact that some denominations, such as the Roman Catholic church, emphasize church attendance far more than others.[11] The models also allow different responses, á, to market structure.[12] We can therefore test one of Smith's other claims, namely, that the clergy's incentives (and hence also the members' devotion) is more readily sustained within Catholic monopolies than within Protestant monopolies. Smith observed that "in the Church of Rome, the industry and zeal of the inferior clergy are kept more alive by the powerful motive of self-interest, than perhaps in any established protestant church" (1965, 742).

Equation (1) above is similar to that which Finke and Stark (1988) used to estimate the impact of religious diversity on church membership in turn-of-the-century American cities. Their results have been questioned on purely statistical grounds (Breault 1989, cf. Finke and Stark 1989), but the present analysis obtains similar results despite using data not subject to the same criticisms.[13] Since Finke and Stark estimate equations that are, in essence, restricted forms of equation (1), it would be interesting to reexamine their hypotheses using the more general specifications above.[14] These specifications have some advantages over Finke and Stark's. For example, rather than assuming a uniform response to increased diversity, both equations allow one to test whether different denominations respond differently to changes in market structure. Moreover, by comparing the corresponding á-estimates in (1) and (2) it is possible to determine whether a denomination's capacity to evoke commitment is more strongly related to its *own* market share, $\underline{S}_i$, or the *overall* market structure, H.

The small number of countries in my sample makes it impossible to estimate a separate à and á for each denomination. However, in test regressions no major Protestant denomination's coefficient estimates differed significantly from those of the rest and non-Christians were too few to warrant separate inclusion. I therefore have distinguished only between Catholics and non-Catholic religious affiliates, virtually all of whom are Protestant. Columns 1 and 2 of Table 2 list the results of church attendance regressions of form (2) and (1) respectively. The regressions in columns 3 and 4, 5 and 6, and 7 and 8, and 9 and 10 correspond to those in columns 1 and 2, but the dependent variables measure prayer, confidence in one's church, belief in God, and belief in an afterlife. All statistical calculations were performed on a PC with STATA, version 2.05.[15]

[TABLE 2 ABOUT HERE]

Turning first to the attendance regressions (columns 1 and 2) we find that Protestant attendance rates are strongly related to market structure but Catholic attendance rates are largely independent of it. Catholics attend church at much the same rate regardless of whether their church constitutes a large or small fraction of the national market, but Protestants are much less likely to attend church when a single Protestant denomination monopolizes their market. The expected attendance rate among Protestants declines from around 35% in a perfectly competitive market to zero in a country completely monopolized by a single Protestant denomination. This one effect accounts for more than 60% of the observed variation in national attendance rates.[16] Moreover, the effect remains strong when other variables, such as per capita income and urbanization, are added to the regression.[17] Figure 1, which plots each nation's attendance rates against the Protestant contribution to total market concentration, shows that concentration affects the entire sample and not just a few extreme observations.

Researchers have often remarked upon American's exceptionally high levels of religiosity (Sigelman 1977, Stark and Bainbridge 1985, Neuhaus 1986). Figure 1, together with the Herfindahl index reported in Table 1, shows this apparent anomaly is in fact completely consistent with America's uniquely competitive religious market, a condition which in turn follows from its diverse ethnic heritage and first amendment prohibition against established religion (Posner 1987). Conversely, the minimal levels of religious participation in Scandinavian countries is consistent with their being monopolized by Protestant state religions.

Church attendance is, of course, only one aspect of religiosity. In principle, monopoly could be bad for public performance but good for private piety. In fact, however, both internal and external measures follow the same pattern. The remaining regression results in Table 2 show that it is not just church attendance, but also prayer, confidence in one's church, and virtually all religious beliefs that decline in monopolized Protestant markets. In virtually every regression the effect of Protestant concentration remains strongly negative. Again, however, Catholic monopoly does not share the weakness. The estimated effects of Catholic concentration are insignificant throughout.

In short, an economic theory of religious markets provides powerful insights into Protestantism. One could hardly ask for a tighter fit than that obtained for church attendance, and the data on other aspects of religiosity provide added confirmation. We are left, however, with a major question: why does religiosity not suffer the same fate under Catholic monopoly that it does under Protestant monopoly?

CATHOLIC MONOPOLY

I can offer no *empirical* answer to the question of Catholicism's apparent success with monopoly. The data available for this study simply do not admit refined hypothesis testing. However, I would conjecture that Catholic national churches have managed monopoly better than their Protestant counterparts for two reasons, both of which are consistent with economic theory. The first mitigating factor is Catholicism's *internal* diversity. This diversity arises in part because the Catholic church spans many different countries and cultures, so that Catholic leaders have little choice but to acknowledge and condone varying styles of worship. The typical Catholic "consumer" can therefore choose from broad menu of options – traditional Latin liturgies, folk masses, charismatic revival worship. The range of options available to members of Protestant national churches, particularly the Lutheran state churches of Scandinavia, is not nearly as great. Catholic diversity also affects the options of the clergy. The numerous different orders of the Catholic church, whose hierarchies and reward structures are largely independent, introduce additional competition *within* the Catholic church that substitutes for competition *between* Catholicism and other denominations. Indeed, many Catholic orders originated as protest movements within the church, counterparts to the sects and schisms that have been the major source of competition and innovation within Protestantism.

Catholic monopolies may also benefit from being less fully co-opted and bureaucratized than their Protestant counterparts. The Catholic churches of Spain, Austria, and even Italy, have never been as heavily regulated or thoroughly nationalized as the Lutheran churches of Sweden, Norway, Denmark, or Finland. In these latter countries, the established churches are effectively branches of the government, financed by the state, run by civil servants, and hence plagued by the same inefficiencies as other state monopolies. The ties between Catholic church and the state are by comparison nowhere as close, its status nowhere as secure, and hence its employees nowhere as poorly motivated. Lest these observations appear as nothing more than ex post rationalizations, the reader should note that they originate in Smith:

> In the church of Rome, the industry and zeal of the inferior clergy are kept more alive by the powerful motive of self-interest, than perhaps in any established protestant church. The parochial clergy derive, many of them, a very considerable part of their subsistence from the voluntary oblations of the people. ... The mendicant orders derive their whole subsistence from such oblations. ... They are obliged, therefore, to use every art which can animate the devotion of the common people. ... In Roman catholic countries the spirit of devotion is supported altogether by the monks and by the poorer parochial clergy. (Smith [1776]1965, 741-742)

The Catholic church's failure to fit the simple monopoly model may thus represent a "success" for the more sophisticated model of regulated religion discussed in section one. A refined empirical analysis that differentiates between the effects of market share and state support might well account for both Protestants *and* Catholics.

If the preceding observations are correct, then a revised history of the Catholic church and European religious development may be in order. It could well be that when, in the Medieval Era, the Catholic church was at the height of its secular power, its *spiritual* influence was relatively low. Near universal deference to the political and economic power of the Catholic church may have been accompanied by pervasive cynicism and disregard for its theological and moral teachings. Indeed, a growing number of religious historians are coming to just this conclusion. Turner (1983, 145) asserts that "the rural hinterland of Europe lay outside the civilising influence of the Church," and Ladourie (1980), Thomas (1973), and Laslett (1971) document widespread religious apathy in pre-modern Europe.[18] Similar observations apply to colonial America. Finke and Stark (1986, 1989b) produced detailed time series evidence that rates of church membership rose steadily from the late eighteenth to the early twentieth century, the very period during which America moved from colonies with de facto and often de jure established churches to a free and increasingly diverse market of competing denominations.

EXTENSIONS

The empirical results of this study are suggestive, but nevertheless preliminary. More detailed data are needed to move beyond the simple monopoly model and directly investigate the effects of market regulation. The most straightforward extensions would involve disaggregating national attendance rates by denomination. Just as one gains insight comparing the performance of students in public versus private schools, so a comparison of established and non-established churches should prove illuminating. As in the case of education, economic theory predicts that the established churches' "public religion" will prove much less compelling than the independent churches' "private religion." Subsidies and other forms of preferential treatment may guarantee that the established church remains dominant, but an examination of actual outcomes should reveal its underlying deficiencies. Preliminary analysis does, in fact, support this prediction. Table 3 lists church attendance rates for a variety of denominations in Scandinavian countries. The data, taken from Barrett (1982), are far too incomplete for statistical analysis; many denominations are omitted, and most figures are little more than informed guesses. Nevertheless, the difference between established and non-established churches is impossible to ignore. The average church attendance rate among members of the Lutheran State churches is less than one tenth that of the independent churches. Indeed, if state church members were as pious as their independent church counterparts, Scandinavia would be no less religious than the United States.[19] The only apparent exception to this rule is the Orthodox Church of Finland, which like the Finnish Lutheran Church has a meager 4% attendance rate. But this is actually the exception that proves the rule, since it turns out that Finland is the only Scandinavian country with *two* official established churches, the Lutheran *and* Orthodox (Barrett 1982, 293). These results add further weight to the argument that religious outcomes depend critically upon the religious market's regulatory environment. Market share and market concentration, the variables that were the focus of the regression analysis, are merely proxies for more basic forces determining the clergy's opportunities and incentives. Studies of religion need to pay attention to such apparently mundane issues as how ministers are hired, paid, and promoted; what laws and regulations govern religious schools; how religions gain access to the media; and what legal impediments stand in the way of aggressive new religions. Careful attention to these factors may go a long way toward explaining the relative fortunes of the different religions.

[TABLE 3 ABOUT HERE]

CONCLUDING REMARKS

Smith's theory of religious markets constitutes a uniquely economic contribution to research on religion, exposing the weaknesses of established churches and explaining why nations with similar cultures and economies can have very different levels of religiosity. It is a theory that explains America's "exceptionally" high level of religiosity in contrast to the pervasive religious apathy of Northern Europe. It is a theory, also, that challenges long-held assumptions about the Medieval Era as an "age of faith." Indeed, given the historic trend away from state-supported religious monopolies and the current trend toward religious tolerance in Eastern Europe and the Soviet Union, “converts” to the theory of religious markets might well predict that the 21st century will be the true Age of Faith. If this last observation seems beyond the bounds of reason, I would merely remind the reader of George Stigler’s (1982, 4) admonition that “if on first hearing a passage [by Adam Smith] you are inclined to disagree, you are reacting inefficiently; the correct response is to say to yourself: I wonder where I went amiss?”

NOTES

[1] Smith’s observations on religion have, however, been the subject of recent discussion by Posner (1987) and Anderson (1988).

[2] See Iannaccone and Hull (1990) for an overview of the small but growing literature on the economics of religion.

[3] In America’s highly competitive religious market, religious mobility is commonplace in both cults and mainline denominations. Over ninety percent of cult converts drop out within a few years (Melton 1986; Robbins 1988), and forty percent of Protestants change denomination at least once in their life. Mobility is lower among Jews and Catholics, with only fifteen percent leaving their faiths (Roof and McKinney 1987), but these figures do not include “internal” mobility between different branches of Judaism and between Catholic parishes with very different styles of worship, nor do they take account of lapses in affiliation. Even within religions that experience low rates of defection, nearly forty percent of members disaffiliate at least temporarily, ceasing to practice their religion for two years or more (Hoge 1988).

[4] See Barrett (1982) for overviews of church-state relationships in virtually every country of the world.

[5] Catholicism, particularly in the Medieval era, provides the best example of a church attempting to be all things to all people. Despite papal encyclicals and inquisitions, the Church tolerated a great deal of diversity of belief and practice, and through is monasteries and orders provided for a fair amount of product variety within a single firm. On the other hand, even the range of options available within the Medieval Catholic church never approached that which has always existed among different religions.

[6] These figures are of course subject to the same biases as other self-reported measures. However, repeated surveys show only small variation over time (Sigelman 1977), and there is no evidence that response biases vary systematically over country or denomination.

[7] Some missing data are inevitable, because not all countries involved in the ISV project employed the same surveys. In principle, it would be possible to add the less developed or non-Western countries that participated in the ISV study when their data become available: Japan, Kuwait, Hungary, Mexico, Chile, Lebanon, South Korea, and South Africa. In practice, however, this could prove analytically counterproductive. In contrast to the developed, Western nations in Table 1, each of these other countries has a religious, cultural, or social environment quite unlike any of the other countries in the study. Their inclusion would tend to demand the inclusion of an equal number of dummy variables to capture culture specific effects. Hence, adding these observations might well make the data set *less* suited to formal hypothesis testing and statistical analysis.

[8] Here and throughout, I have used the terms "denomination" and "religion" synonymously to refer to any religious group which has its own distinct organization. Hence, the Roman Catholic Church counts as a denomination, as does the Southern Baptist Church, the Mormon Church, and Reform Judaism.

[9] Convinced of the Herfindahl index's relative superiority, the U.S. Justice Department's Antitrust Division announced in 1982 that it would henceforth use the index in place of previously used four- and eight-firm concentration ratios to help determine whether a merger should be challenged. See Asch and Seneca (1985, 163-166) for more information on industry concentration measures.

[10] I am assuming that people not affiliated with any denomination rarely, if ever, attend church. The assumption is borne out by numerous surveys, such as NORC's General Social Survey and Gallup opinion polls.

[11] In the words of a Belgian Catholic priest, "Of course our members attend church more often than the Protestants; it's *required*. Do you think they would they go otherwise?"

[12] In fact, models (1) and (2) are equivalent if the response to market structure, β, does not differ across denominations. To see this note that for all denominations, i, $\underline{S}_{ij}/S_{ij}$ equals r_j, the fraction of people in nation j affiliated with *any* denomination. Hence, if all β_i's = β, the last term in (1) becomes $\beta H_j \alpha \underline{S}_{ij} = \beta H_j \alpha S_{ij} r_j = \beta H_j r_j$ (since market shares must sum to 1), and likewise the last term in (2) becomes $\beta \alpha S_{ij} \underline{S}_{ij} = \beta \alpha S_{ij}^2 r_j = \beta H_j r_j$.

[13] The present data set is not without its weaknesses, the most notable being its small number of observations. However, it does not suffer from a high correlation between the concentration measure, H, and the market share of Catholics. Since Breault claims that Finke and Stark's result is an artifact of this correlation, it is significant that a similar result arises in a completely different data set where the correlation is neither large (-.35 as opposed to -.88) nor statistically significant. The present study also employs more refined measures of individual religiosity, measures of actual activity and belief. Finke and Stark and Breault rely on church membership rates, a less precise indicator and a statistically problematic one, given that it is derived from the same underlying data as that which yields the diversity index that appears on the right hand side of their regressions.

[14] Finke and Stark estimate equations of the form $A = \alpha + \alpha_c \underline{S}_c + \beta D$, where $\underline{S}_c$ is the Catholic market share and D is religious diversity. Their diversity index turns out to be the complement of the Herfindahl index: D = 1-H. Hence, their equation is obtained by restricting equation (1) so that all β_i's are equal and all β_i's *except* that of Catholics are equal.

[15] In preliminary analysis, the Irish Republic proved to be true outlier. The church attendance rate in Ireland is nearly twice that of the next highest country and nearly three times the average for all other countries. In church attendance regressions, Ireland's residual was more than three times the standard error of the regression and nearly twice that of any other country. I therefore decided to omit Ireland from my regression estimates. Since the critical results in the estimated equations all concerned Protestant countries, Ireland's exclusion was not deemed to be a serious problem. Its presence tended to reduce estimated significance levels (since it nearly doubled the regressions' mean square errors) but did not significantly alter the Protestant parameter estimates.

[16] The regression of attendance onto a constant and $H^*\underline{S}_{prot}$ alone has an R^2 of .70.

[17] Adding AVEINC (national per capita income in 1972 U.S. dollars) and URBAN (percent of the population living in urban areas) to the regression in column 1 yields: ATTEND = 39.7*$\underline{S}_{cath}$ + 55.5*$\underline{S}_{prot}$ + 0.033*$S\underline{S}_{cath}$ - 0.424*$S\underline{S}_{prot}$ + .00033*AVEINC - .424*URBAN, with t-statistics of 1.19, 2.53, 0.11, -2.70, 0.49, and -0.85, respectively. Hence, the additional variables are not significantly related to attendance, nor does their inclusion significantly alter the estimated effects of the other dependent variable. They have equally little impact on the other regressions in Table 2.

[18] These citations are taken from Wallis and Bruce (1989).

[19] Greeley (1989,126-127) reports a similar finding for England versus the United States. He concludes that “[t]he lower levels of religiousness in Great Britain are purely an Anglican phenomenon.”

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TABLE 1: National Measures of Religious Participation, Belief, and Market Structure

Country	*Attends Weekly*[a]	*Prays or Meditates*	*Religious Beliefs*						*Percent Catholic*[b]	*Herfindahl Index*
			Church	*God*	*Afterlife*	*Heaven*	*Hell*	*Devil*		
Australia	21	64	--	42	49	57	35	36	29	27
Austria	20	--	--	45	--	--	--	--	--	--
Belgium	30	56	40	39	37	33	18	20	92	95
Britain	14	50	42	31	45	57	27	30	13	41
Canada	31	--	--	--	54	--	--	--	46	35
Denmark	3	48	26	24	26	17	8	12	1	94
Finland	4	49	58	25	49	46	22	29	0	91
France	12	44	48	26	35	27	15	17	80	92
W.Germany	21	59	47	24	39	31	14	18	45	46
Irish Rep.	82	81	64	73	76	83	54	57	95	91
Italy	36	72	43	26	47	41	31	30	91	98
Netherlands	27	56	33	34	42	39	15	20	43	38
New Zealand	20	--	--	34	45	--	--	--	18	25
Norway	7	61	50	40	44	48	22	28	0	85
Spain	41	69	45	55	55	50	34	33	98	99
Sweden	5	33	37	19	28	26	10	12	1	71
Switzerland	25	--	--	--	50	--	--	--	50	45
U.S.A.	43	85	73	65	71	84	67	66	26	12

a. Derived from ISV surveys, 1981-1983: Attends weekly – percentage attending church once a week or more; prays or meditates – percentage who take moments of prayer, meditation, or contemplation; church – percentage who believe that their church is giving adequate answers to man's spritual needs; God – percentage who believe there is a personal God; afterlife, heaven, hell, devil – percentage who believe in afterlife, heaven, hell, and the devil, respectively.
b. Derived from the *World Christian Encyclopedia* (Barrett 1982): Percentage Catholic – percent of country's population that are Catholic; Herfindahl index – computed from denominational shares.

TABLE 2: Weekly Church Attendance

	Attend	*Attend*	*Pray*	*Pray*	*Church*	*Church*	*Personal God*	*Personal God*	*Afterlife*	*Afterlife*
S_{cath}	25.8 (0.88)	33.3 (1.56)	49.7 (0.86)	53.7 (1.27)	-33.1 (-0.54)	23.5 (4.61)	-36.6 (-.664)	15.3 (.345)	21.8 (0.70)	44.1 (1.83)
S_{prot}	35.3 (2.98)	35.2 (3.03)	84.2 (3.69)	86.6 (4.06)	95.9 (3.96)	80.2 (3.05)	78.1 (3.85)	63.0 (3.17)	72.9 (5.73)	67.3 (5.18)
HS_{cath}	-0.017 (-0.07)		0.124 (0.28)		0.281 (0.52)		0.253 (0.54)		0.033 (0.12)	
HS_{prot}	-0.363 (-2.51)		-0.411 (-1.61)		-0.407 (-1.29)		-0.406 (-1.66)		-0.327 (-2.02)	
SS_{cath}	0.047 (0.16)		0.187 (0.76)		0.84 (1.33)		0.767 (1.36)		0.248 (0.76)	
SS_{prot}	-0.358 (-2.54)		-0.378 (-1.43)		-0.573 (-2.04)		-0.564 (-2.38)		-0.383 (-2.53)	
R^2	0.93	0.93	0.98	0.98	0.96	0.95	0.94	0.93	0.97	0.97
Adj R^2	0.90	0.90	0.97	0.97	0.95	0.94	0.91	0.90	0.97	0.96
SE	7.6	7.6	10.6	10.1	11.2	12.3	10.5	11.4	8.1	8.4
Number of nations	17	17	14	13	13	13	14	14	17	17

NOTES: The *t* statistics are in parentheses. The dependent variables are defined in the notes to table 1. The independent variables are: S_{cath} = share of Catholics in the population; S_{prot} = share of Protestants and other non-Catholics in the population; HS_{cath} = the product of H, the Herfindahl index of religious concentration, and S_{cath}; HS_{prot} = the product of H and S_{prot}; SS_{cath} = product of the Catholic market and population shares; SS_{prot} = sum of the product of each non-Catholic denomination's market and population shares.

TABLE 3: Weekly Church Attendance Rates in Scandinavia

Country and Denomination	*Number of Members*	*Attendance Rate (%)*
Denmark		
*National Church of Denmark	4700000	4%
Catholic Church	27254	30%
Seventh-Day Adventist Church	7000	60%
Mission Covenant Church	6000	90%
Methodist Church	5000	36%
Church of God	300	70%
Finland		
*Lutheran Church of Finland	4360588	3%
*Orthodox Church of Finland	54000	4%
Jehovah's Witnesses	15000	75%
Free Church of Finland	8100	60%
Seventh-Day Adventist Church	7500	59%
Pentecostal Friends	5000	85%
Swedish Baptist Church	3000	50%
Baptist Union of Finland	3000	50%
Confessional Lutheran Church	431	45%
Norway		
*Church of Norway	3740000	10%
Norwegian Baptist Union	12300	50%
Mission Covenant Church	11000	70%
Religious Society of Friends	200	34%
*Church of Sweden	7941561	3%
Baptist Union of Sweden	60000	60%
Catholic Church	58929	26%
Oberon Mission Society	44650	33%
Swedish Holiness Union	15000	71%
Seventh Day Adventist	7200	71%
LDS Mormon	5195	70%
Latvian Evangel. Lutheran Church in Exile	4500	36%

SOURCE: Barrett (1982).
NOTES: Asterisks denote established churches.