Religious Competition AND Faithful Remnant: Two Ways that Religious Markets Affect Congregations

By

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Currently, the strongest and most consistent evidence supporting the religious economies model comes from evidence showing that religious groups with a small market share in a geographic area tend to have higher member commitment levels. However, we find, contrary to Stark and Finke's (2000) explanation of this result that leaders of small market faiths do not exert greater effort due to competition from larger groups. Rather, our results support a different, faithful remnant, explanation of the market share effect. Small market share religions tend to more easily lose all but their most committed members and only the most committed potential members join such groups. Using SEM models to analyze congregational-level data from Church of the Nazarene and United Church of Christ congregations we find that, depending on the denomination and the measure of commitment, the faithful remnant mechanism accounts for much or most of the market share effect observed in past research. Small market share congregations have much higher membership turnover rates, which leads, in turn, to higher per (remaining) member giving and attendance rates. However, we also discover that competition, defined differently as the presence of nearby close substitute congregations, also indirectly boosts per (remaining) member commitment levels because nearby substitute congregations also increase membership turnover.

Introduction

Does competition among religious groups in a local geographic area have any effect on the congregations located in that area? This question lies at the center of an important debate in the sociology of religion. In contrast to the view that competing religions might undermine each other's messages and thus increase doubt and reduce commitment, a view often attributed to Berger (1967), the religious economies model championed by Rodney Stark and Roger Finke (e.g., Stark and Finke 2000; Finke, Guest, and Stark 1996; Finke and Stark 1988) contends that competition among a variety of religions in the same geographic area causes religious leaders to work harder and more creatively, offers churchgoers more choices, and thus increases both participation and religious commitment levels in the surrounding population.

In order to test the religious economies model, proponents of the model have used several proxy variables to measure religious competition, e.g., religious pluralism (e.g., Finke and Stark 1988), religious market share (Stark and McCann 1993), or variables that are assumed to be causally related to religious competition such as state regulation of religion (Finke and Iannaccone 1993). Of these variables, tests that use religious market share to measure religious competition have been the most consistently supportive of the religious economies model. Religious groups with a small share of the religious market in a geographic area tend to have higher member commitment levels. In this paper we also find, using data from these same Nazarene congregations (located on the conservative end of the Protestant spectrum), plus data from U.S. United Church of Christ (UCC) congregations (located on the more liberal end of the Protestant spectrum), that per capita giving is higher in low market share areas and, in the case of UCC congregations, church attendance rates are also higher in low market share areas.

However, contrary to Stark and Finke's (2000) explanation of the market share effect, we find that Nazarene leaders do not exert greater effort in response to smaller market share. The rate at which Nazarene ministers make calls on church members and the number of "revivals" that a congregation has each year is unrelated to Nazarene market share. If, as the Nazarene data suggests, leaders are working no harder in small market share areas, what accounts for the higher commitment levels of Nazarene church members when Nazarene Market share is lower?

We propose a different, faithful remnant, explanation of the market share effect. In areas of small market share, there is less social reinforcement and reward for participating in the minority faith. In fact there may even be some stigma for associating with a minority faith. Thus, small market share religions tend to more easily lose all but their most committed members and only the most committed potential members join such groups. In areas of large market share, social pressures and social rewards may encourage participation even among the less committed, thus lowering average commitment levels among members.

Using SEM models to analyze congregational-level data from Church of the Nazarene and United Church of Christ congregations we find that, depending on the denomination

and the measure of commitment, the faithful remnant mechanism accounts for much or most of the market share effect observed in past research. Small market share congregations have higher membership turnover rates, which leads, in turn, to higher per (remaining) member giving and attendance rates.

However, we also discover that competition, defined differently as the presence of nearby close substitute congregations, also indirectly boosts per (remaining) member commitment levels because nearby substitute congregations also increase membership turnover. Like the effects of market share, competition from close substitute congregations has no effect on leader efforts. The impact on commitment levels is indirect via membership turnover rates. With more nearby competing congregations, churchgoers appear to more easily sort themselves out into congregations that they prefer and to which they are more committed.

Market Share

Religious market share is here defined as the proportion of the population[1] living in a geographic area that are adherents of a particular religious group. (Adherents are official members and the children of members for denominations like the Nazarene and UCC that do not have child membership). Thus if Catholics make up 80 percent of the population in a county but Methodists make up only 2 percent of the population, Catholics have a greater religious market share in that county than do Methodists. Proponents of the religious economies (e.g., Stark and McCann 1993) model argue that religious market share is an inverse indicator of the religious competition facing a particular religious group. Those groups with smaller market share, the Methodists in this example, face greater religious competition from the larger groups around them. As a result, religious leaders of small market share faiths must work harder and more creatively to attract new adherents and raise the commitment levels of existing adherents if they want their religious groups to persist and grow. If this greater effort on the part of religious leaders is effective, small market share faiths should have more committed members than members of the same faith (e.g., Methodists) located in areas of greater market share. Not only should they pray more regularly, but they should also attend more regularly and give more money to their congregations than members of the same faith living in areas where that faith enjoys a larger market share. Is this what actually happens?

A broad range of findings is consistent with the market share hypothesis. Catholic dioceses in the U.S. with smaller market share have a higher percentage of their young men who seek the priesthood (Stark and McCann 1993), as do whole nations in which Catholics are a smaller percentage of the population (Stark 1998). This pattern of results applies to other measures such as per member financial giving and appears to be almost universal across denominations, e.g., Assemblies of God, Catholics, Lutherans, and Presbyterians (Perl and Olson 2000) and does not depend greatly on whether the geographic areas are counties (Zaleski and Zech 1995), metropolitan areas and states

[1] In some studies market share is the proportion of all church members, not the entire population, belonging to a particular denomination. we find that the different definitions make little empirical difference.

(Olson 1995), Catholic dioceses (Perl and Olson 2000), regions of the country (Stark and McCann 1993), or even whole nations (Stark 1998). Using a variety of measures of religious commitment, members of small market share denominations tend to have higher commitment levels.

In this paper we use two measures of member commitment levels, per member giving (total receipts from churchgoers in a year divided by the number of members) and average attendance (average Sunday morning worship attendance divided by membership). Past research (e.g., Perl and Olson 2000) suggests that per member giving is more strongly associated with market share than is attendance and that in some data sets the relationship of market share to attendance rates is quite weak or non-existent.

Although the higher commitment levels of small market share religious groups is well established, little is known about *the reasons* for these higher commitment levels. While Stark and Finke (2000) claim it is a result of the greater efforts of small market share religious leaders facing greater competition, published research has not examined whether, in fact, leaders of small market share faiths actually do work harder.

In this paper we examine two measures of leader effort among Church of the Nazarene congregations, the number of pastoral calls that ministers make each year, and the number of revivals held each year by a congregation. By comparing the number of revivals and number of pastoral calls made in areas of low versus high market share it is possible to examine whether Nazarene leaders appear to work harder in low market share areas as the religious economies model claims.

Close Substitute Congregations

Elsewhere (Olson 2002) argues that even though proponents of the religious economies model favor the use of market share as an (inverse) measure of religious competition, market share might not be such a good measure of competition between religious groups for the time and money commitments of members and prospective members. As Stark and Finke themselves note (e.g., Stark and Finke 2004:293), most people stay within the religion in which they are raised or at least in very similar denominations (Sherkat and Wilson 1995). When people switch, they are most likely to switch to other congregations within the same denomination or other congregations belonging to very similar denominations, what Olson (2002) calls "close substitute" denominations. If true, then religious leaders (of congregations at least) face the greatest competition for church members when their congregations are located in areas where there are many nearby congregations of the same denomination (or of very similar denominations). For example, Baptist ministers would need to work the hardest and most creatively to retain the commitment of their members and attract new members when they are located in areas with many nearby Baptist congregations that might also attract their members.

On the surface, this line of reasoning appears to directly contradict the use of market share as a measure of religious competition since one might suppose that greater

competition from nearby substitute congregations (at least within the same denomination) would be highest in areas of high market share, the very areas where competition measured by (low) market share is lowest. However, a denomination's market share in a county need not be that closely related to the number of congregations it has in the same county. This is because the county population size affects the denominator of the market share calculation, but may not have much affect on the number of congregations a denomination has in the same county. Thus, for example, Baptists may have many, or only a few congregations in a large metropolitan county where Baptists are only a small percentage of the total population (which may be majority Catholic)[2].

From the point of view of a single Baptist congregation, the large number of Catholics and Catholic parishes in the county just described may not threaten its membership as much as the other Baptist congregations who are competing in the same "market niche" for prospective members. Their current Baptist members are likely to switch to other Baptist congregations long before they consider converting to Catholicism (though losses through intermarriage to Catholics might be higher).

Although competition from other congregations in the *same* denomination may be especially important, many denominations are quite similar. For example, many persons who would consider joining a Nazarene congregation might also be quite happy joining an Assemblies of God congregation, or any of a number of other white Pentecostal denominations with a somewhat similar history, theology, and worship style. Thus Nazarene congregations might face competition not only from other Nazarene congregations, but also, to a somewhat lesser extent, from other white Pentecostal congregations located in the same county. But how does one know which denominations are close substitutes for Nazarene congregations and which are not? For example, would Nazarene churchgoers be likely to switch to a Church of God in Christ congregation, a largely Black Pentecostal denomination? What about a non-Pentecostal white Baptist denomination? One needs a way to determine the extent to which particular denominations are close substitutes for one another.

Although a full explanation goes far beyond the scope of this paper, we use an index of similarity among pairs of U.S. denominations[3] developed by Olson (2004). Rather than being based on subjective judgments of how similar denominations are in terms of theology, worship style, and the social background of their members, the index uses data from the cumulative U.S. General Social Surveys (the GSSs) collected between 1972 and 2002 including responses from more than 42,000 respondents. In particular the index is based on information concerning patterns of religious switching, religious intermarriage,

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[2] In the analysis below we find that UCC market share in a county has a correlation of only -.061 with the log of the number of close substitute mainline congregations (defined below) in the same county. The correlation of Nazarene market share with the log of the number of White Pentecostal congregations in the same county is somewhat stronger, -.240, but not nearly so strong that market share and number of close substitute congregations can be seen as merely inverses of one another.

[3] Actually all denominations with more than 50 members who were among the more than 42,000 U.S. adults surveyed by the cumulative General Social Surveys between 1972 and 2002.

and friendship formation across denominational lines to determine which pairs of denominations are close in social space and which were farther apart. Using this index of similarity Olson (2004) groups the denominations in the GSS into internally homogenous categories such that the differences between denominations within each category are generally much smaller than the differences between denominations in different categories.

Next, we used data from the Glenmary-ASARB study of Churches and Church membership to determine county-level market share and number of close substitute congregations facing both Nazarene and UCC congregations for each of the counties in which they are located. The Glenmary data is collected every 10 years and is an attempted census of the number of churches and church members, by denomination, for all U.S. counties in the U.S. Participating denominations provide the Glenmary researchers with the number of churches and church members in their denomination in each U.S. county. Although some denominations choose not to participate, most large denominations participate. In the 1980 Glenmary study used in our analyses, 111 denominations participated. Stark (1987) estimates that the 1980 Glenmary study included 80 to 90 percent of all U.S. church members.

Among all the denominations that have participated in the Glenmary studies at one time or another, we classified 22 denominations as white Pentecostal denominations, denominations whose congregations we consider to be close substititutes for Nazarene congregations[4]. Results from Olson's (2004) analysis of GSS patterns of religious switching, intermarriage, and cross-denominational friendship formation suggests that the UCC falls into a broad category of liberal mainline Protestant denominations with five subsets of denominations within it: the Episcopal Church, mainline Lutheran denominations, mainline Presbyterian denominations, mainline Reformed denominations, and the United Church of Christ. Turning to the Glenmary data, we found 23 denominations[5] that fall into the group of liberal mainline Protestant denominations listed above.

[4] These include the following denominations: Apostolic Christian Churches (Nazarean), Apostolic Lutheran Church of America, Assemblies of God, Bethel Ministeral Association, Inc., Church of God (Apostolic), Church of God (Cleveland, Tennessee), Church of God (Seventh Day), Church of God of Prophecy, Church of God, Mountain Assembly, Inc., Church of the Nazarene, Congregational Holiness Church, International Church of the Foursquare Gospel, International Pentecostal Church of Christ, Missionary Bands of the World, Inc., Open Bible Standard Churches, Inc., Pentecostal Church of God, Pentecostal Free Will Baptist Church, Inc., International Pentecostal Holiness Church, Vineyard USA, Independent, Charismatic Churches. Not all of these denominations appeared in the 1980 Glenmary data used here and some of these denominations are mergers of other denominations in the list.

[5] These include: American Evangelical Lutheran Church, American Lutheran Church, Augustana Evangelical Lutheran Church, Congregational Christian Churches, National Association of Congregational Christian Churches, Congregational Christian Churches, Additional (not part of any national CCC body, Episcopal Church, Evangelical and Reformed Church, Evangelical Lutheran Church in America (Eielsen Synod), Evangelical Lutheran Church, Evangelical Lutheran Church in America, Evangelical Lutheran Churches, Association of, Finnish Evangelical Lutheran Church (Suomi Synod),International Council of Community Churches, Latvian Evangelical Lutheran Church in America, Lutheran Church in America, American Association of Lutheran Churches, Universal Fellowship of Metropolitan Community Churches, Presbyterian Church (U.S.A.),Presbyterian Church in the United States, Presbyterian Church in the U.S.A., United Church of Christ, United Evangelical Lutheran Church, United Lutheran Church in America, United

Thus, for each county in which a Nazarene congregation is located, we used the 1980 Glenmary data to count the total of the congregations belonging to white Pentecostal denominations (including other Nazarene congregations). We use the natural log of the resulting total as our measure of competition to Nazarene congregations from close substitute congregations. For each county in which a UCC congregation is located, we use the natural log of the total congregations belonging to any of the liberal mainline Protestant denominations to obtain the number of close substitute congregations competing with UCC congregations.

The Faithful Remnant Explanation

As noted above, many studies show a consistent inverse relationship between a denomination's religious market share and levels of commitment among current members. Member commitment is higher where market share is low. However, no studies have examined the actual mechanisms that are thought to explain this relationship. As noted above, proponents of the religious economies model claim that the greater religious competition found in low market share areas causes religious leaders to work harder and this, in turn, boosts member commitment levels. Here we consider an alternative explanation known as the faithful remnant hypothesis (Olson 2003).

The faithful remnant explanation suggests that small market share religions tend to more easily lose all but their most committed members and only the most committed potential members join such groups. This is because, all else being equal, in areas of low market share, churchgoers are less likely to receive social reinforcement for their religious participation from others in their community. If their religious identity is an unusual identity, they may actually be thought odd and experience negative sanctions or stigma for their unusual religious involvements. Even though people tend to stay in the same or similar religions throughout their lives, children raised in small market share faiths are more likely, all else being equal, to marry outside of their faith and discontinue their participation in the religion of their youth. That is, dropout and defection rates should be highest in areas where a religion has a small market share.

When people leave a voluntary organization, it is usually the least committed members who leave first. This tends to leave the more committed members, the "faithful remnant," in the church and thus "raises" per member commitment levels in the same way that the average height of a basketball team is "raised" when the shortest members leave the team. Also, if a low market share religious group is able to persist in an area for some time it means that it has successfully added more new members to balance its larger losses from defections. (Those small market share congregations that have not successfully countered their higher losses eventually close their doors and do not appear in the data available to researchers.) Like the process of leaving, the processes of joining

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Presbyterian Church of North America, United Presbyterian Church in the United States of America. Not all of these denominations appeared in the 1980 Glenmary data used here and some of these denominations are mergers of other denominations in the list.

a congregation also tends to filter out the less committed potential members. The most committed potential members join first, thus tending to raise mean commitment levels among the resultant membership. If, in fact, low market share congregations have both higher rates of membership losses and higher rates of membership gains (to offset the losses), both processes should accelerate the filtering out of less committed members and lead to higher mean commitment levels among the remaining members.

If true, one can deduce the otherwise counterintuitive hypothesis that the higher the membership turnover rate, the higher will be the commitment levels among the remaining and new members at the end of a time period. When, as is the case in almost all of the published market share research, average commitment is measured only *among current members* (or persons counted as members by religious organizations), average commitment levels should be higher in low market share areas because higher membership turnover rates accelerate the rate at which the less committed leave and only the more committed join. Ironically, these higher mean commitment rates should go hand-in-hand with a higher rate of lapsed and former members living near small market share congregations. However, the commitment levels of these former members are not assessed in most analyses of market share effects.

We note here that Brewer, Jozefowicz, and Stonebraker (2004) have proposed a complementary explanation that emphasizes the positive (largely non-religious) benefits that attenders of large market share denominations receive as network "externalities." Attending a congregation with large market offers more potential external benefits since attendance exposes one to a larger social network of persons (both in the congregation and, indirectly, in the surrounding community) that one may use to obtain other benefits (advice, business connections, etc.). Thus they predict that per capita financial giving will be less in large market share areas (because even low commitment churchgoers who give little money will want to attend to obtain the network benefits), but attendance rates will be unrelated to market share. They make no predictions about membership turnover rates.

[Figure 1 About Here]

Methods of Analysis

Two Models

Figure 1 shows two diagrams of the relationships between the key variables discussed above. The top diagram is drawn to be consistent with the claims of the religious economies model. Both diagrams have the main independent variables, the two different measures of religious competition (market share and number of close substitute congregations), in the upper left. Both diagrams have the main dependent variables, per member congregational giving and attendance, in the lower right. The main difference is the intervening variable proposed by the two models, leader effort in the case of the religious economies model and rate of membership gains and losses in the case of the faithful remnant model. These variables are shown in the upper right of each diagram.

The paths (arrows) in the diagram indicate the directions of proposed causal influence in each of the models. The paths are labeled with letters that are used here and later in the paper to identify particular relationships. The plus and minus signs on the paths indicate the direction of the causal association assumed by each model.

Starting in the upper left of the top, religious economies, diagram, market share is taken as an inverse measure of the religious competition facing a congregation and thus it has a negative (or inverse) relationship with leader efforts (path A). Leaders work harder when market share is smaller. Leader effort, in turn, has a positive relationship with measures of per member commitment levels (path C). Per member giving and attendance rates are higher when leaders are working harder and thus figure one shows a positively signed arrow between these variables. We have drawn a dashed, negatively signed, arrow from market share directly to per member giving and attendance (path D) to reflect the widely found negative relationship between these variables in past research. The line is dashed, rather than solid, to reflect the notion that once one is able to statistically control for the intervening variable (leader efforts) the religious economies model predicts that the apparent relationship of market share on per member giving and attendance will disappear or be greatly reduced in magnitude since the effect of market share is indirect via leader efforts.

Although proponents of the religious economies model do not discuss competition from nearby substitute congregations when discussing the effects of market share, we have added it, and the appropriate arrows (paths B and E) to the upper diagram in ways that seem consistent with the model. That is, competition from nearby substitute congregations should cause religious leaders of congregations to work harder (path B), which in turn raises per member attendance and giving levels. Again, we draw a dashed line from number of close substitute congregations to per member giving and attendance (path E) since the religious economies model suggests that the effects of competition on commitment levels operate not directly, but indirectly through greater leader efforts.

In the lower (faithful remnant) diagram, market share has a negative relationship with rates of membership gains and losses (path F), that is, when market share is low, membership turnover is greater. The diagram also suggests that all else being equal, competition from nearby substitute congregations should boost rates of member gains (from other congregations) and losses (to other congregations) as the pool of potential members sorts itself out into the congregations that most match individual churchgoers preferences (path G). As explained above, the filtering out of less committed members that occurs along with higher rates of membership gains and losses should lead to higher per member commitment levels among remaining, current, members. The faithful remnant mechanism (high turnover rates) should work whether higher turnover rates are the result of low market share or competition from nearby substitute congregations. Thus the diagram shows a positively signed arrow from rates of membership gains and losses to per member attendance and giving (path H). Again there are dashed arrows (paths D and E) from the two competition measures to per member attendance and giving indicating that once one controls for the intervening variable (rates of membership gains

and losses) the direct effect of the two competition measures on the commitment measures should disappear.

Statistical Methods

With the exception of the results shown in the top of table 1 below, the statistical results presented in this paper are standardized path coefficients from structural equation modeling (SEM) using AMOS software. These path coefficients are closely analogous, and can be interpreted in the same way, as standardized regression betas. We use SEM rather than regression primarily to enable the construction of latent variables to more accurately measure the congregational level variables derived from the annual reports of congregation to their denominations (see below). We use latent variables to represent all the variables drawn from individual congregations (with the exception of number of revivals per year in Nazarene congregations which is explained below). We experimented with latent variables based on data from different number of years, two versus three versus four years of observed variables per latent variable and found that results were almost identical and that models with fewer years were easier to fit to the data. Thus the latent variables used in the analyses below are all based on data from two consecutive years[6], 1983 and 1984. Although the tables below do not list the SEM model fit statistics, all of the models fit very well with RMSEA usually less than .02 and always less than .04.

Control Variables

Because the two main dependent variables (per member giving and attendance rate) and many of the key intervening variables (e.g., rate of membership gains and losses) are ratio variables constructed by dividing by the size of a congregation's membership, all of the analyses showing standardized path coefficients from SEM include statistical controls for the inverse of membership as recommended by Firebaugh and Gibbs (1985). Failure to include the inverse of membership in regressions where the dependent variable is constructed by dividing by membership size results in biased coefficient for the other independent variables. However, when used in this way the coefficient for the inverse of membership represents the effect of the y-intercept in regression and should not be interpreted as the inverse of the influence of congregation size on the dependent variable. Thus in order to avoid this confusion, we do not show the coefficient for the inverse of membership in the regressions shown in the tables even though all of these regressions include this control variable[7].

[6] We used the years 1983 and 1984 since both denominations had all the necessary variables for both of these years. In the data available to me UCC attendance figures were only available from 1983 (the first year the UCC started recording attendance) through 1985.

[7] As far as we know, no previous studies of the effects of market share, including my own (e.g., Perl and Olson 2000) have properly included controls for the inverse of membership, a result which probably has affected the interpretation of results, especially the relatively weak apparent effect of market share on attendance rates in previously published research.

In addition to the congregational and Glenmary data, many of the analyses below include statistical controls for a number of county-level variables (most from the 1980 U.S. census) that were found to have important relationships with one or more of the independent, intervening, or dependent variables. These include: 1) dummy variables for eight of the nine U.S. census regions (e.g., New England states, mid-Atlantic states, Pacific Coast states, etc.); 2) median age; 3) median years of schooling completed for persons 25 years of age or older; 4) the proportion of households that are headed by a married couple; 5) the proportion of the land area in the county that is classified as urban; 6) the proportion of the population that is classified as white; 7) the median family income; 8) the proportion of persons who are living at the same address as five years ago—a measure of population stability; 9) population growth from 1980 to 1990; and 10) the proportion of the population that are church adherents in some denomination. The last variable comes from the Glenmary data. For the UCC but not the Nazarene congregations we also have a per capita income figure for an area (usually smaller than the whole county) that was designated by each congregation as its community. This is usually a combination of census tracts. These figures came with the congregational data that we received from the UCC. These per capita income figures for more focused areas than whole counties turn out to be a better predictor of congregational financial giving than are the median income figures for the whole county. In the text below we refer to these variables collectively as the county-level variables.

Skewness

Many of the variables drawn from congregations and some of the control variables have highly, positively, skewed distributions. In the case of congregations this is due to the skewed distribution of membership sizes such that there are many small but a few very large congregations. In the case of some of the control variables like population density, it is due to the skewed distribution of county population sizes. In the case of these skewed variables (most of the variables in the analyses), we created new, non-skewed variables by taking the natural log of these variables or by raising the variable to a fractional power (to avoid the loss of cases where the untransformed variable equals zero since the natural log of zero is undefined).

Congregational Data Sources

The data on congregations come from annual reports made by individual congregations to their respective denominations reporting on such things as total membership, losses and gains in membership over the past year, average worship attendance, and income and expense figures for the year. The data from these reports are compiled by the denominations and were graciously made available to me by denominational researchers in both the Church of the Nazarene and the United Church of Christ. From the Church of the Nazarene we received data on all their U.S. congregations for the years 1980 to 1990. we have comparable data from all UCC congregations for the years 1973 through 1985. After removing congregations with missing data, all of the Nazarene regressions reported

below are based on data from 3,599 congregations and the UCC regressions are based on 3,349 congregations. Although the data is now up to 25 years old, the processes of religious competition should not be affected by the age of the data.

Because the data on congregations from both denominations identifies the county in which the congregation is located, it is possible to match the congregational data to 1980 census data and 1980 Glenmary data on market share and close substitute congregations for the same counties.

[Table 1 about here]

The top five rows of Table 1 allows one to compare Nazarene and UCC congregations on a number of the key variables in the analyses below. Like many Pentecostal denominations, most Nazarene congregations are small. In 1984, the median Nazarene congregation had only 80 members. Although Nazarene members tend to have lower incomes than members of many other U.S. denominations, they give a substantial amount of their income to their congregations. In 1984 the average Nazarene congregation received about $608 per member. (All financial figures in this paper are reported in 1984 dollars. Current, 2004, U.S. dollars are worth about .54 1984 dollars.) In contrast, the United Church of Christ, which is a more theologically liberal denomination and tends to attract upper-middle class and more educated members, tends to have larger congregations, (the median congregation had 211 members in 1984), but received only $257 per member in that same year, only 42 percent of the comparable Nazarene figure. Attendance rates are also different. In 1984 the median attendance rate of Nazarene congregations was 93 percent of total membership while the median for UCC congregations was only 43 percent[8].

Neither the UCC nor the Church of the Nazarene is large relative to the U.S. population. In 1980 the church of the Nazarene reported 563,728 members while the UCC reported 1,599,539 members. Though both denominations are small, the UCC tends to be more geographically concentrated than the Church of the Nazarene. The median UCC congregation is located in a county where 2.5 percent of the population are UCC adherents, but the median Nazarene congregation experiences only a .7 percent market share. It might seem that with such small market shares that minor differences of one or two percent of the population would make little difference in the behavior of congregations and churchgoers. Yet, as is clear below, these small-scale differences can be important.

Competition and Commitment: Simple Relationships

[8] These differences partly reflect higher standards for membership in Nazarene than UCC congregations. More non-members attend Nazarene congregations for a longer time before becoming members.

What are the relationships between the competition measures and the measures of member commitment levels? Are there actually any statistical associations that require explanation? The lower half of Table 1 shows correlations[9] (with controls only for the inverse of membership size) between the key measures of competition (the independent variables) and the two measures of member commitment levels (the dependent variables). Thus, for example, the correlation between market share and financial giving among Nazarene congregations is -.103 and -.356 among UCC congregations. Both results are consistent with the relationship predicted for path D in figure 1 and demonstrate that per capita giving is higher in small market share congregations.

The results in the next row show that, as predicted for path E in figure 1, the presence of more numerous close substitute congregations is also associated with higher per member giving. For Nazarenes the correlation is a fairly weak .038 and for UCC congregations the correlation is .112. As with market share, the effects of the competition measures on commitment measures appears to be stronger for the UCC congregations than for the Nazarene congregations.

The last two rows of correlations in table 1 show the relationships of market share and numbers of close substitute congregations with attendance rates. As with financial giving, UCC congregations appear to be more affected by these variables than do the Nazarene congregations. The correlation of market share and attendance rates for Nazarenes is .024 and is not statistically significant (ns). This seems consistent with past research results (e.g., Perl and Olson 2000) showing that market share is less strongly associated with attendance rates than per member giving. However, among UCC congregations the correlation is -.107 and statistically significant in the predicted direction. Attendance rates are lower in areas of low market share. Nevertheless, for both denominations, the correlation of market share is weaker with attendance rates than with per member giving.

The last row of correlations in Table 1 appears to contradict the predicted positive effects of close substitute congregations on attendance rates (path E for attendance). For both UCC and Nazarene congregations, the correlation is negative, though for Nazarenes the correlation is statistically insignificant. The results, contrary to predictions, suggest that among the UCC at least, another process may be at work. Competition from nearby competing congregations may cause some members to occasionally attend worship services at these other congregations, thus lowering attendance rates. However, one must be cautious since none of the results in table 1 include statistical controls variables other than the inverse of membership, variables such as population density that might also explain these results.

[9] These correlations used the natural logs of the variables in order to eliminate the effect of skewed distributions. The dependent variables are latent variables formed from two years of data.

Intervening Variables: Leader Effort

The diagrams in Figure 1 above suggest the correlations in the lower portion of Table 1 may be due to intervening variables. The religious economies model suggests that competition fosters higher commitment levels because religious competition spurs religious leaders to be more energetic and creative in their attempts to garner adherents' support for their religious groups (the first link in the explanation—paths A and B). This greater leader effort, in turn, boosts member commitment levels (the second link in the explanation—path C). In order for the entire explanation to be correct, the first link in the explanation must be correct. Small market share must lead to greater leader efforts. In this section we examine this first link in the religious economies explanation. In the next section we examine the first link in the faithful remnant explanation.

In their annual reports to the denomination Nazarene congregations report several variables that can be seen as indicators of leader efforts to strengthen commitment of current and potential adherents. Each church reports the number of pastoral calls made each year. These are face-to-face meetings (not just phone calls). The median number of reported calls was 500 in 1980. (Nazarene pastors are no slouches.) Pastors in larger congregations make more calls annually because they have more members to call and also, in some cases, because they have more than one minister making calls. In order to take account of this trend we examine the natural log of calls *per member*[10]. Taking the natural log reduces the skewness of the resulting distribution.

According to the religious economies model, there should be more pastoral calling done in small market share congregations. The top half of Table 2 examines whether this is true.

[Table 2 about here]

Table 2 contains standardized path coefficients from SEM regressions. One can interpret these figures the same way that one interprets standardized regression betas. All regressions in table 2 and the remaining tables have controls for the inverse of membership even though these path coefficients are not shown[11] in the tables. The path coefficients in regressions 1 and 2 in the top half of table 2 show the relationships (paths A and B) between the two measures of competition and the log of pastoral calls per member. The labels for these independent variables indicate the sign (positive or negative) of the predicted relationship according to figure 1 and the religious economies model. Regression 1 shows results without controls for the 10 county-level variables while regression 2 includes controls for these variables.

[10] Separate analyses, not shown here, show that if, instead, one uses the natural log of calls (without dividing by membership) the substantive results are the same and the statistical results are almost identical.
[11] We did not include them since they only represent the intercepts for the regression and are not that meaningful in this context even though improperly excluding controls for the inverse of membership can alter the other results in the regression.

Contrary to the religious economies model the results in regression 1 run exactly counter to the predicted effects of competition on pastoral calling. More pastoral calling is done in areas of high, not low, market share. More pastoral calling is also done in areas with fewer, not more, close substitute congregations nearby. However, once controls for the ten county-level variables are included, the path coefficients for both market share and substitute congregations become statistically insignificant. (In order to save space here and in the other tables, we do not show all the coefficients for the ten county-level variables, only an "xxx" to indicate that these variables are included in the regressions.) The relationships apparent in regression 1 turn out to be due to differences in population density. In analyses not shown here, it is apparent that Nazarene market share tend to be greater in rural areas and more pastoral calling is done in rural areas. The number of close substitute congregations is higher in urban areas, the same areas where pastoral calling is lower. Regression 2 suggests contrary to the religious economies model that the competition variables exert no effect on the rate of pastoral calling.

Nazarene congregations also report how many "revivals" they hold each year. These are usually a special series of worship services held on consecutive weeknights often involving a special outside speaker and often emphasizing conversion or recommitment to Christian faith. If the religious economies model were correct, one would expect congregations facing greater competition to hold more revivals to both increase the commitment of current members and garner new support from non-members.

The median Nazarene congregation held two revivals in 1980, but the distribution is highly positively skewed with a few congregations holding many more revivals. Because many congregations (about 11 percent in 1980) hold no revivals in a year, and because it not possible to take the natural log of zero, we calculated the mean number of revivals reported by a congregation over the eleven years of 1980 to 1990, divided the result by eleven, and took the square root of this average. This yielded a roughly symmetric distribution for analysis (skewness= -.129) that we refer to as the square root of mean revivals per year.

Regressions 3 and 4 in the lower half of Table 2 shows the relationships between the two measures of competition and the number of revivals. The pattern of results is very similar to the results in regressions 1 and 2. Without the county-level controls in regression 3, the standardized path coefficients for the two competition variables are weak but in the opposite direction of the predictions of the religious economies model. However, when county-level control variables are added in regression 4, the effect of the competition variables both become statistically insignificant. Again, in other analyses not shown here it is clear that population density accounts for this change. More revivials are held in rural areas, the areas where Nazarene market share tends to be higher and the number of nearby substitute congregations is lower. Regression 4 agrees with regression 2 in indicating that neither of the two competition measures appears to have any effect on either measure of leader effort. Contrary to the religious economies model Nazarene leaders do not work harder in areas of low market share or in areas where they face more competition from nearby substitute congregations.

Taken together the results in Table 2 fail to support the predictions of the religious economies model concerning the first step in it's two-step explanation of the link between religious competition and member commitment levels. Since this first step in the explanation appears not to be correct, the overall explanation also appears to be incorrect. Thus, the remainder of the paper explores the faithful remnant explanation.

Intervening Variables: Membership Turnover

As shown in the lower diagram in figure 1, the faithful remnant model also proposes a two-step explanation for the relationships between the competition measures and the member commitment measures, but here the intervening variable is the rate of membership turnover. Both Nazarene and UCC congregations annually report their membership gains and losses as well as their current membership totals. Thus it is possible to compute the rate of membership gains as the total members gained in the year divided by the beginning membership size. One can calculate the rate of membership losses in a similar fashion. One might suppose that rates of membership gains and losses would be negatively correlated (more gains than losses in growing churches and more losses than gains in churches with declining memberships). However, rates of gains and losses are strongly *positively* correlated even after controlling for membership size and county-level characteristics (correlation =.412[12]). Thus, to simplify the presentation of results we created a new variable that is the sum of the annual gains plus losses divided by the membership at the beginning of the year. Not only does this variable yield results similar to the results obtained from both the rate of gains and rate of losses considered separately, but the results are also stronger. In the text below we refer to this as the membership turnover rate[13]. To take account of skewness we use the natural log of this variable.

[Table 3 about here]

Regressions 1 and 2 in Table 3 show results for Nazarene congregations while regressions 3 and 4 show analogous results for UCC congregations. In all four regressions, the effect of market share on membership turnover is negative as predicted by the faithful remnant model. In both denominations, low market share is associated with higher rates of membership turnover even when, as in regressions 2 and 4, the county-level control variables are included. This is strong confirmation of the first step in the two-step faithful remnant explanation.

[12] This correlation is derived from an SEM model in which both the log of gains per member and the log of losses per member are latent variables (based on two years of data, 1983 and 1984) and statistical controls are used for (incoming paths come from) the ten county-level control variables and the inverse of membership size.

[13] We also tried a third variable, rate of membership turnover defined as the lesser of annual gains or losses divided by beginning membership. This variable shows the rate at which members are "replaced" each year. The log of this variable also yields the same, but slightly weaker, results as those shown for the rate of gains plus losses in Table 3.

The results in Table 3 also give some, but not complete, support for the prediction that competition from nearby substitute congregations increases membership turnover as the competing congregations swap members. The positive path coefficients in regression 1 (.280) and regression 2 (.110) show that among Nazarene congregations competition from nearby substitute congregations boosts turnover rates, but some of the apparent relationship in regression 1 is due to county-level variables such as greater population mobility in urban areas where substitute congregations are more numerous. UCC congregations seem less affected by competition from nearby substitute congregations. Although the path coefficient in regression 3 is in the predicted direction, statistical controls for county-level variables in regression 4 make the path coefficient insignificant and thus appear to account for all of the apparent effects of competition from nearby congregations. The membership turnover of UCC congregations appears to be less affected (than Nazarene congregations) by the presence of nearby substitute congregations.

Taken together these results suggest that membership turnover rates may be an important intervening variable in explaining the effects of market share, and to a lesser extent close substitute congregations, on member commitment levels. However, it remains to be seen if membership turnover actually has a faithful remnant effect. That is, do higher turnover rates lead to higher per member giving or higher attendance rates (path H) as the faithful remnant model predicts?

[Table 4 about here]

Faithful Remnant and Financial Giving

Tables 4 and 5 each examine two questions: Is there a faithful remnant effect (does turnover boost commitment levels among remaining members) and how much of the relationship between the independent variables (market share and number of close substitute congregations) and the commitment measures are explained by the faithful remnant effect? In table 4 per member giving is the dependent variable while attendance rate is the dependent variable in Table 5. Regressions one through three use Nazarene data while regressions four through six use UCC data.

Regression 1 in Table 4 uses only the two independent variables (and the inverse of membership size, not shown) to predict the log of per member financial giving for Nazarenes. Without other controls, market share has the predicted negative relationship (-.103) with per member giving. However, consistent with the results in table 1 (but contrary to the predicted effect of competition from close substitute congregations), the number of nearby close substitute congregations has no apparent relationship with financial giving (-.006 not significant)[14], at least among Nazarene congregations.

Regression 2 in Table 4 adds controls for the log of member gains plus losses per member. The faithful remnant model predicts that any negative effect of market share

[14] Note that the path coefficients in regression 1 are slightly different from the correlations shown in table 1 since the correlations in table 1 do not include controls for the other independent variable.

apparent in regression 1, should become zero, or at least become significantly smaller, when membership turnover rates are controlled (thus the dashed arrow for path D in figure 1). This is because the model argues that the effect of market share on per member giving is mediated through the two-step process (paths F and H) via the intervening variable, membership turnover. As predicted, regression 2 shows that the path coefficient for market share becomes statistically insignificant when membership turnover is controlled. Among Nazarene congregations, all of the relationship of market share and per capita giving is explained by the faithful remnant effect.

Consistent with this explanation, the path coefficient for gains plus losses per member (path H) in regression 2 is very strongly positive (.417). The greater the member gains and losses, the higher the per member giving of the remaining members. This is a strong confirmation of the faithful remnant mechanism and is one of the most consistent findings in this research (as in visible in regressions 2, 3, 5, and 6 in both Table 4 and Table 5. Higher turnover rates lead to higher commitment levels even after controlling for county-level variables.

The increase in the magnitude of the coefficient for number of close substitute congregations between regressions 1 and 2 is of some interest[15] but not of central importance since the coefficient again becomes statistically insignificant with controls for county-level variables in regression 3. Regression 3 also shows that county-level controls do not diminish the strong positive effect of membership turnover rates.

Regressions 4 through 6 of Table 4 show analogous results among UCC congregations. The biggest difference between Nazarene and UCC congregations is that UCC congregations appear to be much more affected by market share. The overall relationship of market share and per member giving is much stronger in the UCC than among the Nazarene congregations. This may reflect liberal-conservative denominational differences in which Nazarene giving remains fairly high regardless of the setting while UCC giving is lower and fluctuates more with the social and religious context.

Consistent with the faithful remnant model, adding controls for membership turnover in regression 5 reduces the magnitude of the coefficient for market share. However, comparing regressions 4 and 5 in Table 4, one sees that even though the actual reduction in the magnitude of the coefficient for market share (from -.349 to -.234) is slightly larger than the reduction among Nazarene congregations (visible in regressions 1 and 2), the proportion of the reduction is much less. A good deal of the effect of market share remains unexplained. Even in regression 6 where there are controls for county-level variables such as per capita income, the beta for market share is -.131 leaving

[15] Because the indirect path from number of substitute congregations to per member giving (paths G and H) are together strongly positive (in regression 2), the coefficient for number of substitute congregations (path E) becomes negative in regression 2 (since the overall relationship between substitute congregations and per member giving is essentially zero). However, in regression 3, the addition of county-level statistical controls weakens the strength of the indirect path, especially path G, since urbanism accounts for much of the higher turnover rates associated with larger numbers of close substitute congregations. Once the indirect path is weakened, so is the direct path, path E, and the coefficient for close substitute congregations returns to statistical insignificance.

approximately a third of the relationship apparent in regression 4 unexplained. The faithful remnant mechanism is clearly operative among UCC congregations, but it doesn't explain the entire market share effect as it does among Nazarene congregations.

[Table 5 about here]

Faithful Remnant and Attendance

Results in table 5 show that the faithful remnant mechanism also operates with regard to attendance rates. Moreover, these same results suggest a possible explanation for why past research (e.g., Perl and Olson 2000) has shown that market share appears to be less related to attendance rates than to per member giving.

Looking at the coefficients for market share in regressions 1 and 4 of table 5, one sees that compared to the analogous coefficients in Table 4, the overall relationship of market share to attendance rates is weaker than the relationship to per member giving. Among Nazarene congregations the overall relationship is statistically insignificant (-.016). Among UCC congregations the coefficient is negative (-.116) and in the direction predicted by the religious economies model, but much weaker than the analogous coefficient for predicting per member giving in table 4 (-.349).

As predicted in the faithful remnant model, adding controls for membership turnover rates in regressions 2 and 4 *changes the coefficient for market share in a more positive direction.* Just as, in Table 4, including the controls for membership turnover reduced the magnitude of the negative effect of market share on per capita giving (a change in a positive direction), in Table 5, including controls for membership turnover changes the coefficient for the effect of market share on attendance rates in a positive direction from statistical insignificance in regression 1 to a positive value (.115) in regression 2. Among UCC congregations the market share coefficient goes from -.116 in regression 4 to zero in regression 5, again a move in a positive direction. These coefficient changes in a positive direction are due to the strength of the faithful remnant mechanism, the indirect paths between market share and attendance rates via turnover rates (paths F and H) which have an overall negative effect[16].

In other words, the higher turnover rates brought about by low market share causes attendance rates to be higher in low market share areas. However, once the faithful remnant mechanism is accounted for in regression 2, the separate, direct, effect of market share is positive (.115). Moreover, this positive effect remains in regression 3 where county-level control variables are included. Among UCC congregations the direct positive effect of market share on attendance rates becomes apparent in regression 6 where both membership turnover rates and the county-level control variables are included. Regressions 3 and 6 suggest that larger market share may actually have the direct effect of boosting attendance rates!

[16] Because path F is negative (see table 3) and path H is strongly positive (see the coefficients for member turnover rates in regressions 3, 4, 6, and 7 in tables 4 and 5), the overall effect of paths F and H together is negative.

This could happen in at least two complementary ways, one predicted by the assumptions behind the faithful remnant hypothesis, the other predicted by the explanations suggested by Brewer et al. (2004). Both explanations argue that where market share is higher there are positive social pressures and/or rewards for attendance. Taking Nazarenes as an example, if larger market share suppresses membership turnover rates because more social reinforcement for participation coming from Nazarene associates in the community encourages Nazarenes to remain members, this same positive social reinforcement for participation could also give an additional boost to the attendance rates of those who are members. Alternatively, even though Brewer et al. predict no relationship between market share and attendance, the logic of their argument suggests that both members and non-members would want to attend large market share congregations more frequently so that they would be able enjoy the positive network externalities such attendance provides. The direct effect of higher market share should be to boost attendance rates.

The market share coefficients in regressions 1 through 3 suggest that one reason that past research has often found that attendance rates are only weakly associated with market share may be that the direct positive effect of market share on attendance is cancelled out (in regression 1) by the indirect negative effect of market share on attendance rates via turnover rates (through paths F and H) as explained by the faithful remnant model. When the direct and indirect effects are combined, as in a simple correlation, there appears to be no relationship of market share and attendance rates. But once the direct and indirect paths are separated in regressions 2 and 3, the separate, but opposite, influences of the direct and indirect influences of market share become apparent. Membership turnover rates act as a suppressor variable.

Having noted the apparent direct positive effect of market share and its possible interpretations, we urge some caution in making too much of this result. Further analyses with other methods and other denominations will show whether this is a robust result.

The coefficients for close substitute congregations in table 5 are also quite interesting. Contrary to the predicted positive coefficients predicted by the religious economies model, the coefficients are all negative or non-significant. Moreover, consistent with the faithful remnant model, adding controls for membership turnover rates (in regressions 2 and 5) changes the coefficients in a negative direction from their values in regressions 1 and 4. The situation is the reverse of the situation for market share. The overall effect of the indirect paths through membership turnover rates (paths G and H) is positive. Competition from close substitute congregations facilitates member swapping which boosts turnover rates, which in turn raises attendance rates among the remaining members. Once this positive, indirect, path through membership turnover rates is separated out in regressions 2 and 5, the direct effects of competition from nearby substitute congregations are negative. Moreover, these negative effects remain statistically significant, though weaker, even after controls for county-level variables are added in regressions 3 and 6. Competition from nearby substitute congregations appears to have a weak negative effect on attendance rates.

Since member swapping among competing congregations is already accounted for by membership turnover rates, it seems possible that the lower attendance rates may partly result from current members occasionally attending competing congregations without switching their membership[17].

Conclusions

Taken together the results show little support for the religious economies argument that the market share effect is the result of competition from other larger religious groups that raise individual members' commitment levels because small market share religious leaders work harder. The strongest evidence for such an argument might be that the faithful remnant mechanism is unable to account for all of the predicted negative relationship between market share and per member giving among UCC congregations (though it does account for a substantial portion of the relationship). In the three other tests (Nazarene financial giving, Nazarene attendance rates, and UCC attendance rates) the predicted negative correlation of market share to commitment levels either does not exist or when it exists it is entirely explained by the faithful remnant mechanism (via membership turnover rates).

Even though the faithful remnant mechanism does not entirely explain the negative relationship of market share and UCC financial giving it seems unlikely that the remaining negative effect (in regression 6 of table 4) is explainable by greater leader efforts in low market share areas. Results in Table 2 show that small market share does not boost leader efforts among Nazarene church leaders. Of course, these indicators of leader effort are only available for Nazarene congregations. It is perhaps possible that if such indicators were available for the UCC or other denominations, or if better indicators were available, the results might be more supportive of the religious economies arguments. But until such results are available[18], evidence suggests that small market share does not directly raise the efforts of congregation leaders.

Our results show that competition measured as the presence of close substitute congregations is real and affects the mean giving and attendance rates of congregations primarily by boosting membership turnover rates. Among UCC congregations, most of the direct effect of close substitutes on membership turnover (Path G) is accounted for by the greater transciency of more urban environments in which the numbers of close substitute congregations are higher (see regression 4 in Table 3). However, among Nazarene congregations competing congregations appear to boost membership turnover rates even after taking county-level variables into account (regression 2 in Table 3).

[17] One problem with this explanation is that one would then also expect some offsetting boost in attendance from the occasional attendance of members from competing congregations.

[18] In the search for other measures of leader effort for use in future research, it is worth noting that if, instead of congregations, one were to use whole geographic areas, especially whole countries, as the unit of analysis, one might find that leaders of smaller market share faiths exert more effort. However, such a result could be wholly explainable by the faithful remnant effect since the leaders of such groups would have to be chosen from among the faithful remnant members who remained in the group despite less social support for participation.

Although the indirect effects competition from close substitute congregations appears to be real and important for understanding how religious contexts affect congregations, our results show little evidence that such competition actually increases the commitment levels of *individual* adherents. First, regressions 3 and 6 of table 5 suggest that competition from nearby substitute congregations may have a direct, and negative, effect on attendance rates that offsets any positive indirect effect competition may have. Such an effect is directly contrary to the claims of the religious economies model[19]. Second, our results suggest that any positive effects that competition from close substitute congregations has on commitment levels comes not through increasing the giving and attendance of individual churchgoers. Instead, as with the market share effect, the mean giving of congregations is increased because of higher turnover rates. The less committed members leave and are replaced by more committed members thus raising mean commitment levels of the congregation without necessarily increasing the commitment of any single member.

In fairness to the religious economies model it should be noted that if competition from close substitute congregations stimulates member swapping among congregations, individual member's financial giving and attendance rates may increase as they move from a congregations that they like less to a congregation that they like more. In this way, competition could increase individual commitment levels.

In contrast to the religious economies model, the results strongly support the faithful remnant model. Market share has a strong negative association with membership turnover rates (path F) in both denominations even after introducing county-level controls (see regressions 1-4 in Table 3). Membership turnover, in turn, has a very strong positive relationship to both per member giving and attendance rates (regressions 2, 3, 5, and 6 in Tables 4 and 5) in both denominations. Not only does the faithful remnant mechanism account for all or part of the relationships between market share and the commitment level variables, but the faithful remnant mechanism may also explain why previous studies find that market share appears to have a weaker relationship to attendance than to per member giving. The indirect, negative, effect of market share on attendance via membership turnover rates cancels out the direct positive effects of market share on attendance rates when these two causal paths are not separated, as is the case in simple correlations.

Together these results suggest that market share and competition from close substitutes affect the mean giving and attendance of congregations. But this effect comes not primarily from leaders' efforts. Instead forces outside of the congregation, either social pressure or the positive network externalities highlighted by Brewer et al., affect who joins and who leaves a congregation and thus whose commitment levels end up being counted in calculations of mean giving and attendance rates.

[19] Though interesting, we nevertheless think it wise to first examine results from other denominations before proclaiming that this apparent direct, negative, effect of competition is a robust result reflecting a real phenomenon.

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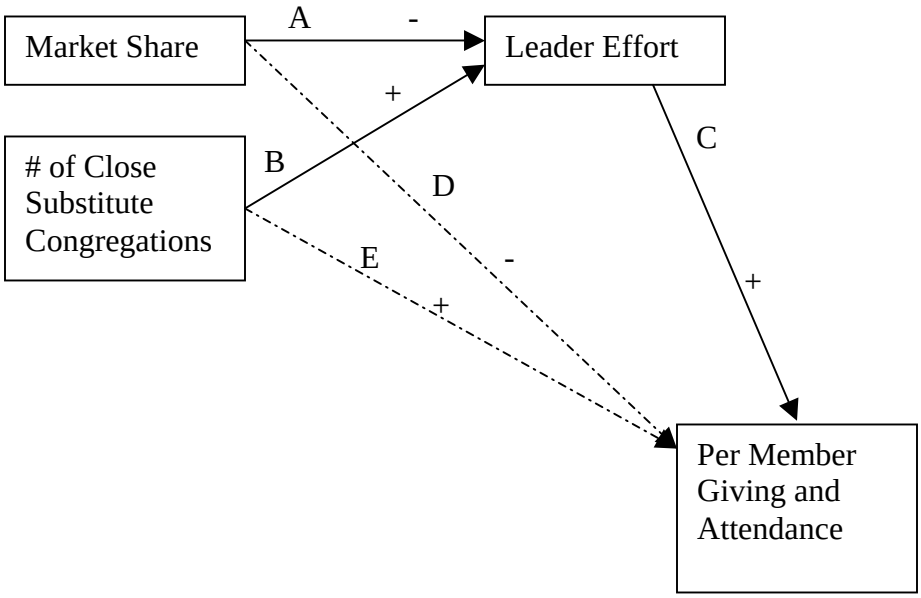
Figure 1

Two Models of Congregational Commitment Levels

Religious Economies Model



Faithful Remnant Model

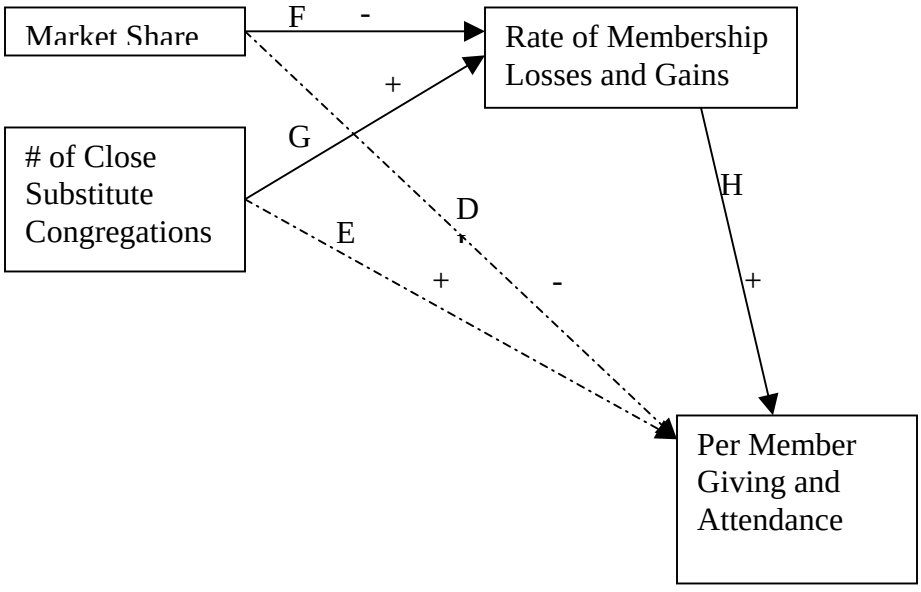


Table 1

Denominational Differences

	Nazarene	UCC
Median Congregation Size	80	211
Median Market Share	0.70%	2.50%
Median # of Close Subst. Congregations	13	28
Mean 1984 $'s Given per member	$608	$257
Median Attendance Rate per member	93%	43%

Correlations[1] of Key Independent and Dependent Variables by Denomination

	Nazarene	UCC
	Per Capita Giving	
Market Share, Path D, predicted = neg.	-0.103	-0.356
# of Close Subst. Congs. Path E, pred. = pos.	0.038	0.112
	Per Member Attendance	
Market Share, Path D, predicted = neg.	0.024 ns	-0.107
# of Close Subst. Congs. Path E, pred. = pos.	-0.032 ns	-0.076

[1] Correlations use latent variables with controls for the inverse of membership size, see text

Table 2

Competition and Leader Efforts

Nazarene Congregations Only
Dependent Var. = **log pastoral calls per member**

	1	2
Log Market Share, Path A, pred. = neg.	0.074	-0.006 ns
Log # of Close Sub. Congregtns., Path B, pred. = pos.	-0.112	-0.022 ns
10 County-level control vars.		xxx
R-squared	0.208	0.239

Dependent Variable = **sq. rt. mean # revivals per year**

	3	4
Log Market Share, Path A, pred. = neg.	0.054	-0.011 ns
Log # of Close Sub. Congregtns., Path B, pred. = pos.	-0.076	0.002 ns
11 County-level control vars.		xxx
R-squared	0.448	0.473

Table 3

Competition and Membership Turnover

Nazarene Congregations

Dependent Variable = **log gains plus losses per member**

	1	2
Log Market Share, Path F, Pred. = neg.	-0.201	-.130
Log # of Close Sub. Congregtns., Path G, pred. = pos.	0.280	.110
10 County-level control vars.		xxx
R-squared	0.284	.424

UCC Congregations

Dependent Variable = **log gains plus losses per member**

	3	4
Log Market Share, Path F, Pred. = neg.	-0.306	-.169
Log # of Close Sub. Congregtns., Path G, pred. = pos.	0.118	.044 ns
11 County-level control vars.		xxx
R-squared	0.166	.317

Table 4

Predictors of Per Member Giving

Dependent Variable = log per member giving

Nazarene Congregations

	1	2	3
Log Market Share, Path D, pred. = neg. to zero with controls	-0.103	-0.022 ns	-0.042 ns
Log # of Close Sub. Congregtns., Path E, pred. = pos. to zero with controls	-0.006 ns	-0.120	-0.010 ns
Log Gains Plus Losses/Mem., Path H, pred. = +		0.417	0.392
10 County-level control vars.			xxx
R-squared	0.010	0.136	0.199

UCC Congregations

	4	5	6
Log Market Share, Path D, pred. = neg. to zero with controls	-0.349	-0.234	-0.131
Log # of Close Sub. Congregtns., Path E, pred. = pos. to zero with controls	0.073	0.029 ns	0.000 ns
Log Gains Plus Losses/Mem., Path H, pred. = +		0.372	0.344
11 County-level control vars.			xxx
R-squared	0.151	0.265	0.317

Table 5

Predictors of Attendance Rates

Dependent Variable = log of attendance per member

Nazarene Congregations

	1	2	3
Log Market Share, Path D, pred. = neg. to zero with controls	0.016 ns	0.115	0.107
Log # of Close Sub. Congregtns., Path E, pred. = pos. to zero with controls	-0.027 ns	-0.167	-0.085
Log Gains Plus Losses/Mem., Path H, pred. = +		0.497	0.555
10 County-level control vars.			xxx
R-squared	0.146	0.322	0.363

UCC Congregations

	4	5	6
Log Market Share, Path D, pred. = neg. to zero with controls	-0.116	0.000 ns	0.051
Log # of Close Sub. Congregtns., Path E, pred. = pos. to zero with controls	-0.089	-0.133	-0.064
Log Gains Plus Losses/Mem., Path H, pred. = +		0.378	0.412
11 County-level control vars.			xxx
R-squared	0.386	0.505	0.541