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## **RELIGIOUS RESOURCES AND CHURCH GROWTH\***

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## **ABSTRACT**

This paper models the growth of religious organizations as a "product" derived from inputs of time and money. Using measures of church attendance and contributions as proxies for time and money resources, we predict membership growth at the levels of both individual congregations and entire denominations. Our data also highlight the tremendous variation in rates of resource mobilization across different denominations. In each of the past two decades, the decline of liberal/mainline denominations and the growth of their more strict/conservative counterparts can be modeled largely in terms of the radically different amounts of time and money that they demand and receive from members.

**Keywords:** Church growth, resource mobilization, church attendance and contributions.

## RELIGIOUS RESOURCES AND CHURCH GROWTH

Why do some religious organizations grow rapidly while others lose members? Or, to address the primary historic trend in American religion, why have theologically conservative denominations prospered while the more liberal, "mainline" bodies decline?

More than 20 years ago, Dean Kelley proposed an answer to this question. His now-classic study, *Why Conservative Churches are Growing* ([1972] 1986), identified organizational "strictness" as the distinguishing feature of strong churches and thus traced the success of conservative denominations to their demands for complete loyalty, unwavering belief, and rigid adherence to a distinctive life-style. Recent work has used rational choice theory to formalize parts of Kelley's thesis and to demonstrate how strictness leads to organizational strength (Iannaccone 1992, 1994a; Finke and Stark 1992). In particular, it has shown that strictness can function to screen out free-riders, thereby raising average levels of commitment and participation within an organization. Like Kelley's book, however, the more recent work gives limited attention to the link between commitment and growth.

This essay tackles the subject of growth more directly. Building from the concepts of religious *resources* and religious *production*, it develops a theoretical model in which "inputs" of time and money combine to "produce" new members. Growth statistics, both within and across denominations, demonstrate the empirical power of this approach. Although growth remains the central concern, we also examine the weaknesses of traditional measures of religious participation, offer suggestions for improvement, and demonstrate how our approach can enhance research on religious markets and denominational differences.

Our arguments owe an obvious debt to resource mobilization scholars, who repeatedly have emphasized that "study of the aggregation of resources (money and labor) is crucial to an understanding of social movement activity" (McCarthy and Zald 1977: 1216; see also McAdam,

McCarthy, and Zald 1988; McCarthy and Wolfson 1993). It is, however, from their general perspective rather than their specific propositions that we have borrowed most heavily.

Compared to social movement organizations, mainstream denominations interact less with external constituencies and employ a much narrower range of resource-mobilizing strategies and technologies. Most of their energies go toward meeting the needs of a relatively small circle of members, who are in the language of McCarthy and Zald (1977:1215) the denominations' principle (goal-accepting) "adherents," (resource-providing) "constituents," and (benefit-receiving) "beneficiaries."<sup>1</sup>

## **Modeling Growth**

A religious organization cannot survive, much less grow, unless it obtains sufficient resources from the environment. Congregations need places to meet and people to lead them; church structures cost money to build and maintain; outreach, evangelism, and community service demands time and money; the activities of ministers, music directors, Sunday school teachers, and janitors never come free, even when supplied by volunteers;<sup>2</sup> the list goes on and on.

Growth can occur only if there exist *surplus* resources, such as time and money beyond the minimal amount required to maintain current operations and to compensate for depreciation in physical facilities and in membership lost to death or departure. Surplus funds permit a church to hire additional staff to design and direct programs of outreach that meet the social, physical, and spiritual needs of potential new members. Income spent on new or enhanced programs can also provide more and better services for current members and thereby increase retention. Assets used to expand and improve meeting facilities can help attract and accommodate additional members. Donations of members' time prove no less important than donations of money. People are naturally drawn to churches with an energetic membership ready to help with potlucks, teach

Sunday school classes, serve on committees, organize worship services, sing in the choir, assist in soup kitchens and community outreach, and help other members with special needs. All these activities require volunteered time and effort, and all help to attract and retain members.

To avoid needless detail, it helps to lump resources under two broad headings, labor and capital, or their rough equivalents, time and money. People's time and effort are combined with purchased inputs (both physical goods and hired services) to produce valued commodities. It follows that growth requires "inputs" of time and money and that greater inputs tend to facilitate growth and inhibit decline (other things remaining equal). Input requirements are not rigid, however, since there are many ways to accomplish most any outcome, including growth. One congregation may rely heavily upon paid professionals, whereas another may get by with lay preachers and other volunteers. Religious organizations can thus *substitute* between time and money (although technological and normative constraints limit the degree of input substitutability [Oliver and Marwell 1992: 257-259]).

Standard economic "production functions" capture these features in a single symbolic expression:

$$\mathbf{G} = \mathbf{F}(\mathbf{L}, \mathbf{K})$$

where **G** represents growth, **L** represents labor, **K** represents capital, and the mathematical function **F** specifies the relationship between inputs and outputs. Roughly speaking, this translates to

$$\mathbf{growth} = \mathbf{time} + \mathbf{money}$$

Stated more precisely, the expression asserts that growth is an increasing function of two substitutable inputs, labor and capital.<sup>3</sup>

The model abstracts from numerous details so as to keep the analysis simple and thus suitable for generating testable propositions. This is not to deny the possibility of other growth-

related factors, such as the religion's content, the organization's commitment to growth and evangelism (Greer 1993, Hadaway 1993, Olson 1993, Royle 1993), the members' socioeconomic attributes, the presence of competing organizations (Finke and Stark 1992), and trends in the economic, social, and demographic environment (Hadaway and Roozen 1993, Hoge and Roozen 1979a). But clearly one is hard-pressed to fully define, much less formally analyze and empirically test a model of the form:

$$\text{growth} = \text{time} + \text{money} + \text{content} + \text{goals} + \text{member\_attributes} \\ + \text{competition} + \text{trends} + \text{social\_environment} + \dots^4$$

The proposed model zeros in on two fundamental factors -- time and money. With it, we hope to demonstrate that the principles of resource mobilization provide an important, but often overlooked, step toward understanding church growth.<sup>5</sup>

At the national level, where environmental factors tend to randomize out and affect all denominations more or less equally, we expect resource variables to be among the most important determinants of denominational growth. At the local level, where social, economic, and demographic factors differ greatly from one community to the next, we expect that congregational growth will depend on a variety of factors but that resources will still prove important.

## **Measuring Resources**

If growth depends on inputs of labor and capital, then one must attend to their measurement. Since virtually all the resources at the disposal of a religious organization originate with its members, we can obtain a fairly complete accounting simply by measuring the time and money that members devote to religious activity. Ideally, one should also measure external support, from government agencies or foreign organizations, and the additional resources derived from financial investments, church-owned properties, and church-run businesses.

Unfortunately, the traditional social-scientific measures of religious commitment and participation were not designed to provide this information. Consider, for example, the standard question asked in Gallup surveys for the past fifty years: "Did you, yourself happen to attend church in the last seven days?" Using this item to assess the quantity and quality of a church's religious labor force, is a bit like assessing hours of employment by asking people if they worked any time during the last week. We will know who worked, but not how much. The Gallup question provides no way to distinguish between minimally-productive bench-warmers and dedicated church servants.

To clarify the problem, consider the members who attend a worship service every week but never spend additional time in church or on church-related activities. It consumes substantial resources merely to produce a weekly worship service -- a church building must be purchased (or rented) and maintained; someone must be paid or persuaded to conduct the service; others must help to provide music, plan the service, act as ushers, and so on. As long as the attenders contribute time and money equal to the total costs of providing the service, the organization breaks even. But if contributions fall below total costs, as can easily happen if most members do no more than attend, the organization runs a deficit on the very people that survey analysts routinely classify as "committed" members.

Members who only show up for worship services -- even those who do so regularly -- provide their church with little or no surplus labor. Such people scarcely count as members of the church's labor force, except insofar as their presence, singing, testimonials, and prayers enhance the worship experience of those around them. A church's survival thus hinges upon the number of members who devote time *above and beyond* standard worship services. Getting core members to show up for planning meetings, work days, choir practice, fellowship groups, and weekday bible studies may prove much more important than getting casual members to attend more

regularly.

This fact highlights a major shortcoming in the relatively detailed measure of church attendance used in the General Social Survey. Though it provides no fewer than ten response categories to the question "How often do you attend religious services?", only one of these categories describes more-than-weekly involvement. Active members must therefore choose between just two responses: "every week" and "several times a week." From the resource-mobilization perspective, this question needs many more high-end categories, not to mention additional questions on the hours and content of the individual's religious activities.

Despite these failings, the GSS data suffice to demonstrate how unevenly surplus labor varies across denominations. Figure 1 shows the percentage of people in various denominations who claim to attend religious services "several times a week".<sup>6</sup> (When working with national survey data, one must note that denominational affiliation reflects the respondents' self-identification rather than their official membership standing.) Within the "mainline" denominations (Episcopal, Disciples, Lutheran, Methodist, Presbyterian, UCC, and Catholics) the fraction rarely exceeds four percent. In contrast, Southern Baptists weigh in at 12% and the so-called "sects" (Adventists, Jehovah's Witnesses, Mormons, and numerous fundamentalist/evangelical or pentecostal/charismatic groups) routinely score over 20%<sup>7</sup> Among Jehovah's Witnesses, "several times a week" attenders make up a whopping 44% of the total!

**[Figure 1 about here]**

Although more detailed data certainly would help, these figures leave no doubt that many of Kelley's "strict churches" have at their disposal vastly more volunteer labor than their mainline counterparts, per congregation and per capita. For all intents, there simply is no one minding the mainline store six-days a week (nor perhaps even 20-hours each Sunday).

It is possible, of course, that the mainline makes up in dollars what it lacks in volunteer hours. Indeed, the proposed model of growth explicitly acknowledges substitution between labor and capital or time and money. Lay denominations, like the Mormons and the Jehovah's Witnesses, require substantial amounts of volunteered time to compensate for their lack of a paid clergy. Mainline denominations depend heavily upon paid and professional services, not merely in the pulpit but also in their administration, counseling, missionary societies, educational programs, music ministries, and building maintenance. Mainline members also average higher incomes and wage rates than their sectarian counterparts, so they have a rational incentive to pay for services (through contributions) that poorer people might produce with their own time.

Until quite recently, cross-denominational survey data on religious giving was largely unavailable.<sup>8</sup> However, in 1987 the General Social Survey began asking respondents "About how much do you contribute to your religion every year (not including school tuition)?" Though this question is not without problems (most notably, in failing to distinguish individual and household contributions), it provides considerable insight into denominational differences. Figure 2 graphs the average number of dollars contributed per (self-identified) member across various denominations. Once again, the mainline denominations place well below their sectarian counterparts. The contrast becomes even more striking when we measure *percentages* of income contributed to one's church. The Episcopalians, Disciples, Lutherans, Methodists, Presbyterians, UCC members, and Catholics all contribute less than 2% of their income. Southern Baptists, Adventists, fundamentalist/evangelicals, and pentecostal/charismatics contribute between 2% and 4%. And Mormons contribute more than 5%, nearly three times the mainline average.

**[Figure 2 about here]**

Expert judgements provide a final approach to assessing resources. As an alternative to the survey-based measures of time and money, we asked sixteen scholars doing research on

American religion to rate denominations according to their "demands on members' resources."<sup>9</sup> Specifically, we asked each scholar to consider: "Does the denomination expect members to devote a great deal of their time and/or money resources to the denomination's activities or causes?" They then assigned each of twenty-one Christian denominations a score from one to seven, with one representing the lightest demands and seven the heaviest. The level of agreement among the experts proved extraordinarily high. Inter-rater reliability of denominational scores (as measured by Cronbach's alpha<sup>10</sup>) was .98. The ratings also correlate strongly with the previously described measures of weekday attendance and contributions (yielding a multiple correlation of .85, and simple correlations of .65 and .51, respectively). We return to these ratings in the next section.

## **Predicting Growth**

Having used survey data to highlight the different levels of resources available to American denominations, we now use these same data to predict denominational growth. Stated differently, we test the time-and-money model of church growth using the only representative, cross-denominational sample currently available. If this simple model and crude explanatory variables explain a significant fraction of the observed variation in denominational growth, then one can be fairly confident that the resource-oriented approach merits further attention.

Predicting denominational growth with national survey data means working with sixteen cases in the 1970's and fifteen cases in the 1980's. The smaller denominations simply do not have adequate numbers of respondents in the GSS even after merging several years. Degrees of freedom thus limit the analysis to simple models with one or two independent variables.

Linear production functions provide the simplest approach to modeling growth as a function of time and money inputs:

$$\mathbf{GROWTH} = \mathbf{a} + \mathbf{b}_T \cdot \mathbf{TIME} + \mathbf{b}_M \cdot \mathbf{MONEY}.$$

Alternatively, one may employ an equally parsimonious log-linear specification (known as the "Cobb-Douglas" function) popular in economics and used extensively by Coleman (1990: 667-949):

$$\log(\mathbf{GROWTH}) = \alpha + \beta_T \cdot \log(\mathbf{TIME}) + \beta_M \cdot \log(\mathbf{MONEY}).$$

(Dividing all three variables by total membership, one obtains equations that describe growth *rates* as functions of time and money *per capita*.) Ordinary least squares regression can be used to estimate either set of equations. Although the linear specification appears somewhat simpler, resource mobilization scholars might nevertheless prefer the Cobb-Douglas specification, because it limits substitutability among inputs (and thereby maintains a substantive distinction between time and money). The Cobb-Douglas equation implies that each 1 *percent* increase in TIME leads to an  $\beta_T$  percent increase in GROWTH, and each 1 percent increase in MONEY leads to a  $\beta_M$  percent increase in GROWTH. Hence, successive reductions in time can only be offset by progressively larger amounts of money, and no amount of money can take the place of all the time. In contrast, the additive structure of the linear model implies that each 1 *unit* increase in TIME inputs yields an  $\mathbf{b}_T$ -unit increase in GROWTH. Time and money thus act as perfect substitutes, and each one-unit reduction in TIME can always be offset by exactly  $\mathbf{b}_M/\mathbf{b}_T$  more units of MONEY.

Production functions can be depicted graphically using "isoquant" diagrams. Figure 3 displays an isoquant diagram corresponding to a Cobb-Douglas function. For each point in this diagram, such as the point labeled " $\mathbf{X}_1$ ", the horizontal and vertical coordinates (75, 25) show the amount of time and money dedicated to production and the size of the circle surrounding the point depicts the resulting level of output. Since every combination of time and money yields

*some* level of output, one may associate an output circle with every point in the diagram.

However, the general shape of the production function may be inferred from just a few such points corresponding to a few levels of output.

**[Figure 3 about here]**

In figure 3 the innermost set of circles (closest to the origin of the TIME and MONEY axes and thus utilizing low levels of time and/or money) depict input combinations that all yield the same, relatively low level of output. The outermost set of circles depict input combinations that yield a high level of output. The intermediate circles denote input combinations that yield an intermediate level of output. The entire set of points that yield a particular level of output is called an "isoquant." From the shape and position of the isoquants, one can infer the character of the underlying production process. In particular, one can draw inferences concerning *substitution* between inputs. In figure 3, the points  $X_1$  and  $X_2$ , depict two radically different methods of generating the same result, the former method being much more *labor-intensive* since it employs a much higher ratio of time to money.

Turning to data, the *Yearbook of the American and Canadian Churches* (Jacquet and Jones 1991) provides annual reports of denominational membership (the membership figures having been supplied by the denominations themselves). The variable GROWTH8090 measures a denomination's membership in 1990 divided by its membership in 1980, and so gives the proportionate change over the last decade. The preceding section's discussion of religious resources explains why standard church attendance rates tend to overestimate the labor resources available to a denomination. Hence, we estimate TIME as the fraction of a denomination's members who attend religious services "several times a week." We estimate MONEY by averaging the amount of money that members reported in response to the GSS contribution question. Comparable measures may be defined and calculated for 1970 through 1980.<sup>11</sup>

The first two rows of table 1 show that this simple, two-variable regression fits the data quite well, having an adjusted  $R^2$  of .68 in the 1980's and .81 in the 1970's. Both sets of explanatory variables have the expected, positive signs, and both are statistically significant. It would seem that religious resources do indeed "produce" membership growth in accordance with standard production models. Although these regression employ a linear functional form and specific measures of time and money, the basic results prove quite robust. The logarithmic counterparts of all these equations yield qualitatively similar results, as do regressions using alternative measures of attendance and contributions.<sup>12</sup>

**[Table 1 about here]**

Figure 4 graphs the relationship between actual attendance, contributions, and church growth for the twenty denominations. Following the style of figure 3, the horizontal and vertical axes measure a denomination's time and money inputs and the size of denomination's circle depicts its growth rate. The cluster of small circles in the lower left hand corner of the diagram represent the mainline denominations: low levels of inputs and low-to-negative growth (averaging between zero and -15 percent). Most of the conservative denominations and sects occupy the middle of the diagram: their relatively high levels of inputs yield moderate to high rates of growth (averaging between 10 and 20 percent). Two highly sectarian denominations -- the Mormons and Jehovah's Witnesses -- stand out as for their exceptionally high rates of growth (over 50 percent) and high levels of attendance or contributions. Jehovah's Witnesses distinguish themselves as by far the most labor-intensive denomination; Mormonism is extraordinarily money-intensive.

**[Figure 4 about here]**

The third and fourth rows of table 1 show that expert judgments regarding denominational resource demands predict 91% of the variation in denominational growth rates in the 1980's and 75% in the 1970's, more than the survey-based time and money measures combined.<sup>13</sup> Figure 5,

which graphs the relationship between resource demands and growth in the 1980s, is nothing short of amazing. In contrast, rows five and six of table 1 show that standard, demographic variables do a much poorer job of predicting growth. Other demographic controls, such as race, sex ratios, and percent married do worse yet. The small number of observations makes it impossible to estimate resource regressions while simultaneously controlling for demographic variables. But in stepwise regressions, resource demands and time variables consistently entered before demographic variables, and their t-statistics did not decline appreciably after controlling for individual demographic variables.<sup>14</sup>

**[Figure 5 about here]**

The basic message is clear. In each of the past two decades, the decline of the liberal/mainline denominations and the growth of their more strict/conservative counterparts can be modeled largely in terms of the radically different amounts of time and money that they demand and receive from members. At this level of analysis, denominational dynamics prove surprisingly straightforward.

## **From Denominations to Congregations**

Although the discussion has heretofore centered on denominations, there is nothing in the resource model that requires its application to aggregate levels. On the contrary, the model's growth-producing processes tend to operate at the level of individual congregations as sermons are preached, classes are taught, chapels are maintained, and music is performed. Hence resources should also predict the growth of congregations. If the model fails at the congregational level, one might reasonably question whether the denominational findings are artifacts of spurious correlation and the small number of observations.

We have, in fact, found two distinct congregational data sets suitable for analysis. Both permit tests of the effects of the resource variables while also controlling for the effects of

non-resource variables, and both confirm the importance of resources.

The first set, which covers about 400 Disciples of Christ congregations, was assembled and analyzed by Meyers and Olson (1991). The data include congregational membership from 1979 to 1983 and a variety of other congregational attributes measured in 1979. Using regression techniques and the variables at hand, Meyers and Olson sought to identify the statistical predictors of church membership growth. They concluded that "high levels of member involvement (as reflected in higher levels of per capita giving and higher church school participation rates) *precede* increases in church size" (p. 509). To state the matter bluntly: time and money predict growth better than virtually any other variables.

Table 2 reprints Meyers and Olson's key regression. A few points deserve emphasis. First, the dependent variable is the rate of change in a congregation's membership from 1978 through 1982. Second, the full set of independent variables is quite diverse, and all of them predate the period over which growth is measured. Third, two of the three strongest predictors (as measured by t-statistics and betas) turn out to be expenditures per member and rates of church school attendance per member. The expenditure variable constitutes the only available measure of money inputs, since individual giving was not part of the data set. Church school attendance constitutes the only available proxy for time inputs. It gives the average number of children and adults attending Sunday School and Bible studies, and so provides a measure of participation above and beyond the Sunday worship service. As can be seen in table 2, several other congregational attributes prove statistically significant, but none except race is as powerful as these two resource-oriented measures. For further details, see Meyers and Olson (1991).

Our second set of results come from a much larger study conducted by the United Church of Christ, a liberal mainline denomination that has been losing members since the 1960s. The data cover nearly a thousand UCC churches and include both congregational and individual-level

responses. The individual-level data were collected as part of a 1975-1978 "Church Membership Inventory" in which each participating church distributed a 43-item questionnaire to all persons in attendance during a regular worship service. According to the project director, William McKinney, virtually everyone present completed the questionnaire, yielding a total of more than 70,000 responses and an average of 77 respondents per church. We used these individual responses to compute aggregate values (such as the respondents' average age and income) for each church. We also merged in data from the UCC's 1973-1981 yearbooks, which include official membership and financial statistics for each church. Finally, we obtained decennial census statistics for the communities surrounding each church.

As in the denominational regressions, GROWTH is defined as the number of members in one period (1981) divided by the number of members in an earlier period (1977). Since nearly all the participating churches completed their questionnaires before the end of 1977, this measure of growth postdates the other congregational measures, and thus can not have influenced the independent variables of our regressions.

Unfortunately, membership data for congregations are notoriously "noisy" due to irregular roll-cleaning of inactive members.<sup>15</sup> This lowers the R-squared values obtained in regressions, but it also means that only the strongest independent variables appear as significant predictors of congregational growth. If resource measures predict growth in even these noisy data, one can be fairly confident that they really do matter.

From the UCC yearbook statistics we have computed two measures of monetary resources: per capita contributions and per capita church expenses. (The yearbook statistics exclude bequests, endowments, and income from other sources, such as building rental and product sales.) These data reflect the actual moneys received by the church, and so avoid biases due to mistaken or exaggerated reporting.

We have already noted that church attendance provides only a crude measure of the time that members devote to their church. Sadly, the UCC data do not even provide a very good measure of attendance. The average rate of attendance reported by questionnaire respondents contains a strong upward bias, because regular church attenders were much more likely to be in church when the questionnaire was distributed. Hence, we have estimated attendance as the number of questionnaire respondents divided by the same year's number of official members.<sup>16</sup> The number of questionnaires provide a reasonable estimate of attendance on a typical Sunday, since they were distributed to and completed by nearly everyone in attendance.

The first column of table 3 contains the basic, linear regression results. As in the denominational data set, contributions and attendance significantly predict growth. UCC congregations with higher per capita contributions and higher attendance (relative to membership) manifest significantly more membership growth in the four years following the survey. In other words, contributions and attendance act as leading indicators of congregational growth. The regression's adjusted  $R^2$  is low, around 6%, though it is hard to imagine a good fit emerging from such noisy measures of growth and such crude measures of participation.<sup>17</sup> There are, moreover, numerous environmental factors that can influence growth at the local level.

The second and third regressions in table 3 give these other factors a chance to compete with the resource variables. Though cognizant of the dangers of statistical fishing expeditions (Leamer 1978), we nevertheless used one here simply to show that the estimated impact of resources is not an artifact of omitted variables. Column two reports the results obtained in a stepwise search over dozens of non-resource variables from the questionnaire, census, and yearbook data. All variables are measured or averaged at the level of the congregation.

Only three non-resource variables proved strongly related to congregational growth. As in previous research (e.g., Hoge and Roozen 1979), changes in the surrounding community's

population significantly affect congregational membership. Also as in previous research, population transiency (proxied in our data by the proportion of questionnaire respondents renting an apartment) is a strong, negative predictor of future growth. In the language of the production model, transiency probably causes the membership to "depreciate" faster. Following Olson (1987, 1989), we find evidence that excessive membership tenure also inhibits growth. In churches filled with long-time attenders, current members have many friends, but newcomers find it difficult to form fellowship ties and so perceive the churches "closed" and "cliquish." In the logarithmic, but not the linear, versions of the regressions, membership growth prior to 1977 correlates negatively with subsequent growth (suggesting that growth in one period tends to dissipate the resources needed to facilitate future growth -- see Meyers and Olson 1991). Finally, larger congregations tend to have lower growth rates, but this effect turns insignificant after taking account of contributions and attendance (suggesting that insofar as initial size may affect subsequent growth, it does so through its impact on participation levels). Altogether, the non-resource measures account for about 9.5% of the variance in growth. Variables dropped due to lack of statistical significance include individual demographic characteristics of church attenders (average age, average income, average education, average occupational prestige, average number of children living at home, etc.), homogeneity-diversity of church attenders (standard deviation of ages, incomes, education, etc.), percentage distribution of the budget to different categories (capital expenditures, money sent to the denomination, and money sent to non-denominational organizations like World Vision or local charities), and average levels of attenders' satisfaction with nine aspects of church life.<sup>18</sup>

Comparing columns 1 and 2, we see that the two *pre-selected* resource variables predict nearly as well as all other statistically significant variables (*searched* from among several dozen variables) combined.<sup>19</sup> Comparing columns 1 and 3, we see that the statistical influence of

contributions and attendance remains strong even after including the other variables. And columns 2 and 3 show that resources increase total explained variance even after including all other significant predictors. In unconstrained stepwise regressions, contributions and attendance entered before any variable except population growth. The logarithmic counterparts of all three regressions yield qualitatively similar results.<sup>20</sup>

In short, resources really do matter. Whether we study entire denominations or individual congregations, time and money stand out as statistically significant determinants of growth. The theoretical model survives empirical scrutiny -- a result with general implications for organizational analysis and specific applications to religious research.

### **Extensions: "Resourceful" Thinking About Religious Market Shares**

Having demonstrated that resources affect church growth at both national and local levels, we turn briefly to a related issue -- assessing the relative *size* of different denominations. Our goal is twofold: to further demonstrate the value of resource-oriented thinking and to provide some specific insights that call for a major re-evaluation of the relative size and strength of American denominations and a reassessment of some longstanding notions about the difference between Catholics and Protestants.

One hears much talk these days about "religious markets." Indeed, Steven Warner (1993) recently argued that the market-oriented approach has attained the status of a "new paradigm" in the sociology of religion and is well on its way toward displacing the traditional secularization paradigm. Even so, scholars have not given much thought to measuring the size and composition of religious markets.

In standard markets, such as the market for automobiles, industry analysts routinely calculate market shares in both dollar and "unit" sales. Religious research would benefit greatly

from analogous distinctions. Traditional scholarship has, more or less unconsciously, based its conclusions on *numbers* of official or self-identified members. Membership numbers have their uses, but they often prove misleading when comparing groups whose members manifest significantly different rates of participation and commitment. Dollar contributions provide an alternative measure of market share, and probably a more useful measure of market power. The total amount of time devoted to religious activities provides yet another measure.

The relative market shares of major denominations change dramatically depending on which measure we employ. For example, the Methodists and Southern Baptists have fairly similar numbers of self-identified members, but the contributions of the latter are nearly *twice* those of the former. Measured in terms of dollar contributions, the Mormon church is virtually the same size as the Methodists, despite a total membership that is one seventh their size. The Jehovah's Witnesses have more members attending "several times per week" than are found among the Episcopalians, UCC, and Presbyterians combined! (The mainline denominations' share of the financial pie shrinks further still if one subtracts moneys spent on clergy and staff before making comparisons with groups like the Jehovah's Witness and Mormons whose lay clergy guarantees that most contributions go to missionary work, building construction and maintenance, and other church programs.)

For an overview of these differences, consider the four pie charts in figure 6. The charts provide four different views of the market shares of Christian denominations -- "Membership," "Sunday Attendance," "Weekday Attendance," and "Total Contributions". All data come from the 1984-1990 General Social Surveys, and the only omitted groups are "non-denominational" Protestants and a handful of very small, hard to classify denominations. In the market for (self-identified) members, Catholics, non-Baptist mainline Protestants, and Baptists each have approximately 30% shares, whereas the sects (Fundamentalists, Pentecostals, Mormons, and

others) have a mere 12%. Measured in terms of Sunday church attendance, the mainline shrinks a bit and the sects rise to 16%. Measured in terms of dollar contributions, the sects rise to more than 20%, and Catholics shrink to less than 20%. In other words, despite having three times the population, Catholicism's share of the market for religious contributions is no larger than that of America's sectarian "fringe." The sectarian share is all the more striking given that their members average relatively low incomes.

The most dramatic result concerns weekday attendance, defined here as the number of GSS respondents claiming to attend religious services "several times a week." By this measure, sectarians constitute more than a third of the market, as much as the Baptists, and substantially more than the Catholics and the Mainline Protestants put together.

**[Figure 6 about here]**

Data from Canada's General Social Survey prove that the preceding results are not unique to the United States. The 1986 Canadian GSS asked people whether they had attended church any time *Monday through Friday* of the past week. Figure 7 shows how the response to this question differs from the response to the more standard membership question. Although the Canadian survey's denominational breakdown is less detailed than that obtained from the U.S. data, the basic pattern is the same. Conservative Protestants (Baptists and Evangelicals) make up only 12.8% of the market for members -- less than half the size the more liberal Protestant denominations (Anglican, Lutheran, UCC, and Presbyterian) and less than one third the size of the Roman Catholic membership. But their share of the weekday market is 38%, just shy of the Catholic share and more than twice the liberal Protestant's share. Hence, in Canada as in the U.S., simple measures of membership or affiliation provide a biased view of the religious marketplace.

**[Figure 7 about here]**

Why focus on the relatively small number of people who attend church "Monday through Friday" or "several times per week"? Because it is precisely this core of super-committed members who provide the surplus labor that makes church growth possible. In like manner, future research should focus attention on the surplus dollars available for expansion, evangelism, and renewal, a surplus left after subtracting the portion of contributions that merely cover basic operating costs. The preliminary evidence (of figures 2 and 6) leave little doubt that sects also command a disproportionate share of this pie.

## **Conclusions**

Why do some religious organizations grow while others decline? The complete answer is, no doubt, exceedingly complex. Nevertheless, both theory and data suggest a strikingly simple partial answer. Growth requires resources. It is a "product" derived from "inputs" of labor and capital, which is to say time and money. Hence, religious organizations with high average rates of participation tend to grow, and religious organizations with low average rates of participation tend to decline.

Empirical research on church growth has often emphasized every factor *except* attendance and contributions -- theology, polity, demographics, attitudes, population growth, and the state of the economy. Our analysis suggests that the impact of these variables is dwarfed by that of time and money. A shift in scholarly focus would seem to be in order. Resources deserve more attention and much more careful measurement. Previous research has tended to view church attendance as a simple attribute, comparable to an individual's beliefs or demographic characteristics. We have argued that church attendance is merely the tip of the resource iceberg. Regular attendance is well and fine, but not to be confused with the surplus resources that an

organization needs to thrive. Researchers need to look closer, so that it will be possible to speak not only of the amount of time that members devote to an organization but also the particular activities they have undertaken. Previous research on contributions is even more limited than the work on time; indeed it is almost nonexistent. Our results underscore the need to devote much more attention to the measurement and analysis of religious giving.

In the end, however, resource-oriented research complements, rather than replaces, more traditional approaches. It especially complements existing research on the determinants of denominational strength and success. The theoretical link from organizational strictness to organizational strength has received a great deal of attention in recent years. The empirical relationship between strictness and growth has been observed for more than two decades, but causal explanations have been largely lacking. Resources provide a critical bridge, helping us see how a strict organization's strength leads (via high rates of participation) to growth.

## Notes

1. Many "New Religious Movements" are exceptions to this rule. Lofland (1979), Bromley (1985), and others have effectively employed standard resource mobilization theory to study the financial strategies of the Unification Church and other NRMs (see Robbins 1988: 127-133).
2. When volunteers provide "free" services, they bear an opportunity cost equal to the value of their sacrificed time and energy. The church also bears a cost, since the person who volunteers to do one job can not simultaneously do other church jobs.
3. Strictly speaking, a standard economic growth model would look more like the following:

$$dQ/dt = F(L_t, K_t) - \delta * Q_t$$

where  $Q_t$  represents quantity of members at time  $t$ ,  $\delta$  represents the rate at which membership "depreciates" or declines (due to deaths, drop-outs, mobility, depreciation of facilities, and the like) in the absence of continuing investment, the derivative  $dQ/dt$  represents the current rate of membership growth, and  $L_t$  and  $K_t$  represent the flows of labor and capital invested in continued growth.

4. It is, of course, possible to collect census, survey, and church record data on hundreds of factors that might fall into one or more of the preceding headings, and then search through massive correlation matrices and stepwise regressions for items that best predict growth. Most empirical studies of congregational growth do just that (Hoge and Roozen 1979a, Roozen and

Hadaway 1993). Such methods have value in exploratory research, but they do not constitute hypothesis testing, and they do not take the place of formal models. For more on this subject, see Iannaccone (1994b).

5. The model does not rule out the impact of the additional factors noted above; it merely assumes that they operate indirectly. Theology, socioeconomic attributes, commitment, goals, and the social environment can still influence membership retention and recruitment, but they must do so *through* resources. For example, a member's personal feelings of commitment can affect growth, but only insofar as these feelings give rise to concrete actions -- reaching out to people in need, serving on church committees, testifying publicly of one's faith, and contributing to the building fund. The model thus restricts the mechanism by which other factors determine growth.

6. The percentages in figure 1 are undoubtedly inflated, since survey respondents tend to overstate their actual rates of church attendance (Hadaway, Marler, and Chaves 1993). However, given the widespread nature of this bias, the denominational comparisons almost certainly remain valid.

7. The Mormon rate of 6.4% is misleadingly low because beginning around 1979 the LDS Church consolidated its meeting schedule, moving several types of services, which previously met throughout the week, to Sundays. Hence, although many Mormons now "attend religious services" only once each week, this attendance includes three different meetings totaling about 3 hours. Moreover, Mormons routinely devote substantial additional time to their religion: visiting other members ("home teaching"), serving on missions, worshiping in the home ("family home

evening"), attending a variety of church-sponsored events ("Firesides," dances, and recreational events), and serving the church in administrative, teaching, and other capacities. None of this activity is measured by standard church attendance survey questions.

8. The major exceptions are Stark and Glock's 1963 survey of San Francisco Bay Area church members and a national, population survey conducted by the Yankelovich organization for the Independent Sector in 1984.

9. This was only one of nine dimensions along which the experts rated the denominations. The other eight dimensions repeated questions from a study conducted by Dean Hoge (Hoge and Roozen 1979a: 179-197, 1979b: E1-E14). The questions concern the denominations' "emphasis on distinctive life style and morality," "attitude toward pluralism of beliefs among members," "theological conservatism or liberalism," "strength of ethnic identity," "attitudes toward ecumenism," "centralized or congregational polity," "emphasis on local and community evangelism," and "involvement in social action." In all cases, our experts' average ratings correlated almost perfectly ( $r > .92$ ) with those produced by Hoge's experts, suggesting extraordinary stability in the (perceived) character of denominations over the past fifteen years.

10. Typical survey-based scales are formed by summing an individual respondent's scores on several survey items. Cronbach's alpha then provides a measure of inter-item correlation across the sample of respondents. The present scale is formed by summing the responses of 16 different experts. Hence, each individual expert acts like a different "item" or measure of the underlying characteristic (resource demands), and each denomination acts as a separate case. In this context,

Cronbach's alpha provides an index of correlation among the experts, and thus is a measure of inter-rater reliability. The presumed statistical model is  $s_{ij} = t_j + e_{ij}$ , where  $s_{ij}$  denotes the  $i^{\text{th}}$  expert's distinctiveness score for the  $j^{\text{th}}$  denomination,  $t_j$  denotes the  $j^{\text{th}}$  denomination's true distinctiveness level, and  $e_{ij}$  denotes the (random) error in the  $i^{\text{th}}$  expert's judgment regarding the  $j^{\text{th}}$  denominations.

11. The 1970's MONEY data come from denominational figures reported in the *Yearbook*.

Ideally, one would like to define and measure all variables with respect to a single, consistent membership criterion. In practice, however, population surveys assign respondents to denominations based on their stated religious preference or identification, whereas denominations report membership figures (and thus per capita contributions) on the basis of official institutional membership, the criteria for which vary significantly from one denomination to the next.

Fortunately, these differences become less problematic when comparing growth rates over time.

The effects of "loose" (or "strict") membership criteria tend to wash out, because they consistently inflate (or deflate) a denomination's membership figures year after year. Population surveys attain a comparable consistency, since they apply a single, self-identification-based membership criterion across all denominations.

12. The logarithmic regression results corresponding to the first and second rows of table 1 are:

$$\log(\text{growth7080}) = .631 \cdot \log(\text{time70}) + .304 \cdot \log(\text{money70})$$

(3.888)\*\*                      (1.564)                      adj-R<sup>2</sup> = .739

$$\log(\text{growth8090}) = .603 \cdot \log(\text{time80}) + .267 \cdot \log(\text{money80})$$

(2.856)\*                      (1.265)                      adj-R<sup>2</sup> = .382

13. The experts tended to produce very similar rankings when asked to rate denominations with regard to other attributes -- lifestyle distinctiveness, belief strictness, theological conservatism, ecumenism, evangelistic emphasis, and involvement in social action (but not strength of ethnic identity or centralized polity). This might reflect a tendency to oversimplify and implicitly assume that most denominational attributes co-vary along a single underlying dimension. It also underscores the potential for spurious correlation when working with a small number of observations. On the other hand, there *are* strong theoretical reasons for expecting many of these attributes to cluster (Kelley 1986; Iannaccone 1994).

14. Simultaneously regressing growth onto resource demands and demographic controls yields:

$$\begin{aligned}
 \text{grow7080} &= .963 \cdot \text{demands} + .066 \cdot \text{income70} - .192 \cdot \text{educ70} - .184 \cdot \text{n\_child} \\
 &\quad (4.10)^{***} \quad (0.21) \quad (0.07) \quad (0.88) \\
 &\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{adj-R}^2 = .719 \\
 \\
 \text{grow8090} &= .985 \cdot \text{demands} - .232 \cdot \text{income80} + .292 \cdot \text{educ80} + .001 \cdot \text{age} \\
 &\quad (8.04)^{***} \quad (1.12) \quad (1.75) \quad (0.01) \\
 &\quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \quad \text{adj-R}^2 = .915
 \end{aligned}$$

The impact of demographic controls is equally small when regressing growth onto attendance and contributions. As noted in the text, other controls have even less impact. This includes controls for each denomination's total size and average congregational size. It also includes controls for the regional distribution of the denomination's membership (percent located in the West, South, and East) and a "regional growth index" (formed as a weighted average of regional population

growth rates multiplied by the fraction of a denomination's membership located in that region).

For more on the definition of these controls, see Hoge and Roozen (1979b: E1-14).

15. Most UCC conferences set a minimum amount that each church is supposed to contribute to the denomination. This amount is based on the number of members reported to the denomination, and so encourages congregations to remove inactive members. Even so, actual year-to-year changes in reported membership suggest that role cleaning occurs very erratically.

16. We also attempted to create an alternative measure, based on a weighted average of the respondents' self-reported attendance rates -- the individual weights being proportional to the *inverse* of the individual respondent's attendance rate. However, this proved quite unstable, since respondents with very low attendance rates received extremely large weights.

17. The results printed in table 3 provide our most conservative estimate of the impact of contributions and resources, based on a subsample of the data that excludes 49 extreme cases.

The (more impressive looking) results from the entire sample are:

$$\begin{aligned} \text{growth} &= .218 \cdot \text{contrib} + .265 \cdot \text{attend} \\ &\quad (6.75)^{***} \quad (8.19)^{***} \quad \text{adj-R}^2 = .148 \end{aligned}$$

$$\begin{aligned} \text{growth} &= -.070 \cdot \text{renters} - .200 \cdot \text{yrs\_attend} - .061 \cdot \text{members77} \\ &\quad (2.07)^* \quad (5.45)^{***} \quad (1.88) \\ &\quad -.012 \cdot \text{grow7377} + .106 \cdot \text{pop\_growth} \\ &\quad (0.37)^* \quad (2.94)^{**} \quad \text{adj-R}^2 = .074 \end{aligned}$$

$$\text{growth} = .244 \cdot \text{contrib} + .223 \cdot \text{attend}$$

$$\begin{array}{r}
(7.01)^{***} \quad (6.48)^{***} \\
-.109 \cdot \text{renters} - .134 \cdot \text{yrs\_attend} + .042 \cdot \text{members77} \\
(3.36)^{***} \quad (3.80)^{***} \quad (1.27) \\
.052 \cdot \text{grow7377} + .006 \cdot \text{pop\_growth} \\
(1.60) \quad (0.16) \quad \text{adj-R}^2 = .178
\end{array}$$

18. Two sets of questionnaire items ask about church satisfaction. The first set asks respondents they are seeking help in the following nine areas of their lives, the second set asks how helpful the church actually has "been to you in the following areas of your life?" The nine areas include: Be aware of the needs of others in my community; Build good moral foundations for my personal life; Find meaning for my personal existence; Raise my children properly; Know of God's care and love for me; Meet my personal problems of anxiety, conflict, etc.; Strengthen my faith and religious devotion; Understand my daily work as Christian vocation; Work for justice in my community and my world.

19. When comparing the two sets of variables, one must recall that searches tend to inflate  $R^2$  and overstate significance levels. In other words, it is unlikely that an alternative theory would have predicted, *in advance*, the two or three variables that happen to out-predict resources in this data set. It is also unlikely that the *same* two or three variables will out-perform resources in a different data set.

20. The logarithmic regressions corresponding to the linear regressions in table 3 are as follows:

$$\log(\text{growth}) = .154 \cdot \log(\text{contrib}) + .159 \cdot \log(\text{attend})$$

$$\begin{aligned}
& (4.69)^{***} & (4.84)^{***} & \text{adj-R}^2 = .054 \\
\log(\text{growth}) = & -.121 \cdot \text{renters} - .178 \cdot \text{yrs\_attend} \\
& (3.91)^{***} & (5.48)^{***} \\
& - .066 \cdot \log(\text{grow7377}) + .134 \cdot \log(\text{pop\_growth}) \\
& (2.20)^* & (4.13)^{***} & \text{adj-R}^2 = .078 \\
\log(\text{growth}) = & .128 \cdot \log(\text{contrib}) + .128 \cdot \log(\text{attend}) \\
& (3.89)^{***} & (3.78)^{***} \\
& -.131 \cdot \text{renters} - .138 \cdot \text{yrs\_attend} \\
& (3.87)^{***} & (3.78)^{***} \\
& -.014 \cdot \log(\text{grow7377}) + .131 \cdot \log(\text{pop\_growth}) \\
& (0.41)^* & (3.66)^{***} & \text{adj-R}^2 = .117
\end{aligned}$$

The significance levels of the coefficients in these equations mirror those of their linear counterparts. The logarithmic specification might nevertheless be more appropriate given the highly skewed rates of congregational growth and per capita giving found in the UCC data. Log transformations make the distributions of both these variables much more nearly normal.

## References

- Bromley, David G. 1985. "Financing the Millennium: The Economic Structure of the Unificationist Movement." *Journal for the Scientific Study of Religion* 24(3): 253 -275.
- Finke, Roger and Stark, Rodney. 1992. *The Churching of America, 1776-1990: Winners and Losers in America's Religious Economy*. New Brunswick, NJ: Rutgers.
- Greer, Bruce A. 1993. "Strategies for Evangelism and Growth in Three Denominations (1965-1990)." Pp. 87-111 in *Church and Denominational Growth: What Does (and does not) Cause Growth or Decline*. Edited by David A. Roozen and C. Kirk Hadaway. Nashville: Abingdon Press.
- Hadaway, C. Kirk. 1993. "Is Evangelistic Activity Related to Church Growth?" Pp. 169-187 in *Church and Denominational Growth: What Does (and does not) Cause Growth or Decline*. Edited by David A. Roozen and C. Kirk Hadaway. Nashville: Abingdon Press.
- Hadaway, C. Kirk; Marler, Penny Long; and Chaves, Mark. 1993. "What the Polls Don't Show: A Closer Look at Church Attendance." *American Sociological Review* 58 (December): 741-752.
- Hoge, Dean R., and Roozen, David A. 1979a. *Understanding Church Growth and Decline: 1950 - 1978*. New York: The Pilgrim Press.
- Hoge, Dean R., and Roozen, David A. 1979b. *Technical Appendix to Understanding Church Growth and Decline: 1950 - 1978*. Hartford, CT: Hartford Seminary Foundation.
- Iannaccone, Laurence R. 1992. "Sacrifice and Stigma: Reducing Free-Riding in Cults,

- Communes, and other Collectives." *Journal of Political Economy* 100(2) (April): 271 - 292.
- Iannaccone, Laurence R. 1994a. "Why Strict Churches Are Strong." *American Journal of Sociology* 99(5): 1180-1211.
- Iannaccone, Laurence R. 1994b. "Reassessing Church Growth: Statistical Pitfalls and their Consequences." Santa Clara University Working Paper.
- Jacquet, Constant H., and Jones (eds.). 1992. *Yearbook of American and Canadian Churches, 1991*. Nashville, TN: Abingdon.
- Kelley, Dean. 1986 [1972]. *Why Conservative Churches are Growing: A Study in the Sociology of Religion with a New Preface for the ROSE Edition*. Macon: Mercer University Press.
- Leamer, Edward E. 1978. *Specification Searches: Ad Hoc Inference with Non-experimental Data*. New York: Wiley.
- Lofland, John. 1979. "White-hot mobilization: strategies of a millenerian movement." Pp. 157-166 in Mayer Zald and John McCarthy (eds.) *The Dynamics of Social Movements*. Cambridge, MA: Winthrop.
- McAdam, Doug, McCarthy, John D., and Zald, Mayer N. 1988. "Social Movements." Pp. 695-737 in *The Handbook of Sociology* (Neil J. Smelser, ed.) Beverly Hills, CA: Sage.
- McCarthy, John D., and Zald, Mayer N. 1977. "Resource Mobilization and Social Movements: A Partial Theory." *American Journal of Sociology* 82(6): 1212-1241.
- McCarthy, John D., and Mark Wolfson. 1993 "'You Can Make a Difference': The Role of Agency, Strategy, and Structure in Grass-Roots Resource Mobilization." Unpublished Ms.
- Meyers, Eleanor Meyers and Daniel V. A. Olson. 1991. "A Contemporary Profile of the Christian

- (Disciples of Christ) Church," in *A Case Study of Mainstream Protestantism: The Disciples Relation to American Culture 1890-1989*. Edited by Newell D. Williams. Grand Rapids, MI: Eerdmans, 509-520.
- Oliver, Pamela E., and Marwell, Gerald. 1992. "Mobilizing Technologies for Collective Action." Pp. 251 - 272 in *Frontiers in Social Theory* (Aldon D. Morris and Carol McClurg Mueller, eds.). New Haven, CT: Yale University Press.
- Olson, Daniel V. A. 1987. *Networks of Religious Belonging in Five Baptist Congregations*. Unpublished Ph.D. dissertation, Department of Sociology, University of Chicago.
- Olson, Daniel V. A. 1989. "Church Friendships: Boon or Barrier to Church Growth." *Journal for the Scientific Study of Religion* 28:4 (December).
- Olson Daniel V. A. 1993. "Congregational Growth and Decline in Indiana Among Five Mainline Denominations." Pp. 208-224 in *Church and Denominational Growth: What Does (and does not) Cause Growth or Decline*. Edited by David A. Roozen and C. Kirk Hadaway. Nashville: Abingdon Press.
- Robbins, Thomas. 1988. *Cults, Converts, and Charisma: The Sociology of New Religious Movements*. London: Sage.
- Roof, Wade Clark, and McKinney, William. 1987. *American Mainline Religion: Its Changing Shape and Future*. New Brunswick: Rutgers University Press.
- Roozen, David A., and Hadaway, C. Kirk. 1993. *Church and Denominational Growth*. Nashville: Abingdon Press.
- Royle, Marjorie H. 1993. "The Effect of a Church Growth Strategy on United Church of Christ Congregations." Pp. 155-168 in *Church and Denominational Growth: What Does (and*

*does not) Cause Growth or Decline.* Edited by David A. Roozen and C. Kirk Hadaway.  
Nashville: Abingdon Press.

Stark, Rodney, and Glock, Charles. 1968. *American Piety.* Berkeley: University of California Press.

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

**Table 1:  
Predicting Denominational Growth**

	growth 1980-90	growth 1970-80	growth 1980-90	growth 1970-80	growth 1980-90	growth 1970-80
time80	.6867*** (4.55)	...	...	...	...	...
money80	.5525** (3.66)	...	...	...	...	...
time70	...	.6591*** (4.42)	...	...	...	...
money70	...	.3349* (2.25)	...	...	...	...
demands	...	...	.9584*** (12.11)	.8729*** (6.70)	...	...
income80	...	...	...	...	.6867 (0.40)	...
educ80	...	...	...	...	-.0771 (0.18)	...
age80	...	...	...	...	-.8453** (2.60)	...
income70	...	...	...	...	...	-.3790 (0.82)
educ70	...	...	...	...	...	.3349 (0.10)
n_child70	...	...	...	...	...	.4144 (1.83)
cases	15	16	15	16	15	16
adj-R <sup>2</sup>	.683	.806	.912	.740	.421	.350

**Notes:**

Sources: General Social Surveys, 1972-1990; Yearbook of American and Canadian Churches, 1970-1992; and a survey of experts.

Beta values are in plane text; absolute t-statistics are in parentheses.

Significance levels: \* < .05, \*\* < .01, \*\*\* < .001.

Variable definitions: All for the following variables are measured or aggregated at the level of the denomination. Yearbook data: growth 1980-90 = 1990 membership divided by 1980 membership; growth 1970-80 = 1980 membership divided by 1970 membership; money70 = contributions per member. Expert ratings: demands = seven-point, additive scale. GSS data: time80, time70 = percent attending "several times per week"; money80 = (inflation adjusted) average contribution, 1987-1989; income80, income70 = (inflation adjusted) real income; educ80, educ70 = average years of education; age80 = average age; n\_child70 = average number of children.

**Table 2:  
Predicting Congregational Growth  
Disciples of Christ, 1979-1983**

	growth
sun_school	.190 (3.34)***
expense	.293 (5.08)***
elite	.106 (1.87)
race	-.238 (4.01)***
non_disciple	-.120 (2.11)*
non_seminary	-.124 (2.09)*
cases	272
adj-R <sup>2</sup>	.185

**Notes:**

Source: Meyers and Olson (1991: 513).

Significance levels: \*\*\* < .001, \*\* < .01, \* < .05.

Beta values are in plane text; absolute t-statistics are in parentheses.

Variable definitions: growth = percentage growth in congregation, 1979-1983; sun\_school = proportion of members who were in church school in 1979; expense = per capita congregational expenses in 1979; race = indicator variable for predominantly white membership; elite = proximity to a Disciples college or seminary; non\_disciple = the proportion of the last 12 years during which the congregation was led by person(s) with a degree from a mainline, Disciple-related, but not Disciple-owned seminary; non\_seminary = proportion of years led by person(s) with no seminary training.

**Table 3:  
Predicting Congregational Growth  
United Church of Christ, 1977-1981**

	growth	growth	growth
contributions	.154*** (4.45)	...	.138*** (3.86)
attendance	.157*** (4.54)	...	.110** (2.92)
renters	...	-.130*** (3.75)	-.143*** (4.13)
yrs_attend	...	-.159*** (4.28)	-.102** (2.66)
pop_growth	...	.148*** (4.03)	.134 (3.70)***
growth7377	...	-.013 (0.37)	.043 (1.24)
members77	...	-.096** (2.91)	-.031 (0.85)
cases	842	842	842
adj-R <sup>2</sup>	.058	.095	.123

*Notes:*

Significance levels: \*\*\* < .001, \*\* < .01, \* < .05.

Beta values are in plane text; absolute t-statistics are in parentheses.

Variable definitions: growth = 1981 membership divided by 1977 membership; contributions = per capita contributions; attendance = number of questionnaire respondents divided by 1977 membership; renters = share of members living in rented housing; yrs\_attend = average years attending this congregation; age = average age of respondents; growth7377 = membership in 1977 divided by membership in 1973; members77 = congregation membership in 1977; pop\_growth = community population in 1980 divided by community population in 1970. All variables are measured or aggregated at the level of the individual congregation.