The "Price" of Religious Participation: An Economic Model of Contributions

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This paper applies the rational actor approach to contributions to Catholic parishes. Creating a data set by combining the Census with church records, the effect of parish size, age of the parishioners and family income on contributions is estimated. Parish size has a negative effect on both contributions and contributions as a percent of income. Income has a positive effect on contributions but a negative effect on contributions as a percent of income. Age of parishioners has no effect.

INTRODUCTION

Religious contributions have been the topic of much research, most of it by sociologists. Congregation size, strictness of churches, level of involvement, organizational structure, market structure that the congregation operates in have all been examined.

The Catholic Church has been the subject of particular interest in the United States. One reason is obviously the size of the church. The other is that Greeley and MacManus (1987) found that Catholics give a much lower percentage of their incomes than most Protestants. This has led to all sorts of questions as to why. Cieslak (1984), Hoge, Carroll and Sheets (1988), Hoge, Zech, McNamara and Donahue (1996) all found that smaller congregations increased donations per family. Zaleski and Zech (1994) found that income did not significantly impact donations for Catholics. There have many different sources of data. Survey results are by far the most common. Institutional data has been used in some of the research and Zaleski and Zech have used Census data to obtain income information.

This paper will examine religious contributions from an economic perspective by modeling religious participation as "good" and monetary contributions as the price of this good.

THEORY

The "rational actor" approach to religious behavior has been growing in size and scope over the last twenty years. The basic concept is that religious behavior is no different than other behaviors that economists examine- subject to the same income and time constraints, one choice among many, all subject to the same maximization conditions. Individuals "consume" religion in the same way they consume other goods and services. They are constrained by income and time and are assumed to maximize utility. The process can be modeled in the following way:

Max $U(X_i \ldots\ldots X_n, R)$
s.t. $P_x(X_i..X_n) + P_r(R) = I$
with R is the religious good
X is a vector of all other goods
P is full price
I is full income

Full price and income include both time and money. Those with higher wages are assumed to substitute money for time. The religious good is assumed to be normal.

THE MODEL

This research will test the determinants of Catholic monetary donations at the parish level. In particular, the significance of family income, parish size, and age of parishioners will be tested using ordinary least squares regression. The equation is as follows:

$DON = b_0 + b_1 INC + b_2 FAM + b_3 BPT/FNS + e$
With:
DON = Donations per family
INC= median household income
FAM=number of registered families
FNS= number of funerals
BPT= number of baptisms

The expectation is that income will have a positive effect on donations. There are two reasons for this expectation. One is that the religious good is normal. The second is that this good can be produced using both time and money. Assuming those with higher incomes will have higher wages and thus a higher value for time, the expectation is that they will substitute money for time.

The number of families or parish size is expected to have a negative impact on donations. This is expected because of the "free rider" problem. Donations to Catholic parishes are voluntary. The larger the parish, the more likely that some will adopt a "let some one else take care of it" attitude. The ratio of baptisms to funerals is included in an attempt to measure the age of parishioners. The expectation is that this would have a positive effect on donations. Younger parishioners would have a greater incentive to ensure a financially stable parish as they would have more years to reap the benefits.

Additionally, an older parish would be more likely to have more retired members who would then have a lower value of time and be more likely to substitute donations of time for money.

THE DATA

The data set for this study was created by combining information from two very different sources- the U.S. census and the Archdiocese of Chicago. The reason that this combination is possible is that the Catholic church has fairly well defined boundaries for their parishes This allows for individual parishes to be slotted into census tracks. Assuming that Catholics are not systematically different from non-Catholics who live in the same neighborhood with regard to most demographic data, then the Census data can be used to represent the average Catholic household.

The Archdiocese of Chicago collects extensive data from each parish on a yearly basis. The data ranges from financial to demographic to services performed in the parish. For this study, the measures that are important are the number of families in the parish, the total weekly contributions, the number of funerals and baptisms.

By combining these two sources, the data for this study was created. For each parish in the Archdiocese, median income, yearly contributions, the number of families, the number of funerals performed, and the number of infants baptized were compiled. Simple mathematical operations can be used to create donations per family, donations as a percent of income and the ratio of baptism to funerals.

RESULTS

DON = Donations per family
INC= median household income
FAM=number of registered families
FNS= number of funerals
BPT= number of baptisms
OLS regression results:

1. DON = 252 -.07FAM + .005 INC
(-8.8) (10.9) r^2 = .28 (t)
2. DON/INC = .011 - .00022 FAM
(-10.01) r^2 = 22 (t)
3. DON/INC= .012 - .00018 FAM - .0004 INC r^2 = .24
(-7.65) (-3.39) (t)
4. DON/INC= .013 - .00018FAM - 004INC -.036 BPT/FNS
(-7.64) (-3.4) (-1.2)
r^2 = .24 (t)

CONCLUSIONS

The results confirm that the donations to Catholic parishes are influenced by both the size of the congregation and the income of the membership. Donations are negatively influenced by the size of the congregation. The number of families variable is highly

significant across all equations with both donations and donations as a percent of income as the dependant variable. Income has a positive significant effect on donations. However, income has a negative significant effect on donations as a percent of income. The ratio of baptisms to funerals- a proxy for the age of the congregation- had no significant impact.

The Catholic church appears to be suffering from a "free-rider" problem. As congregation size increases, donations per family decrease. People appear to adapting a "let some one else do it attitude". Donations to Catholic parishes are a free will offering. There is no way to base the level or the quality of services received on the amount of the donation. For the primary service received- weekly mass- the benefit received can be obtained with no donation at all. Other services, baptisms, funerals, weddings and education could be limited to those who are willing to pay. However, enforcement of these restrictive policies would be inconsistent with Church doctrine.

Smaller congregations do not seem to be a viable solution. The organization structure of the Catholic church tends to make congregations high fixed costs relative to other denominations. Catholics spend money on buildings, education, and administrative structure. The decline in the number of priests may be the biggest obstacle to smaller congregations. Smaller parishes would require more priests. The trend is in the opposite direction.

The impact of the income variable is consistent with previous research. While income has a positive impact on overall donations, donations as a percent of income decline as income increases. As Catholic's income increases, they contribute a lower percent of their income to their parish. This is inconsistent with economic theory on at least one level. The religious good is produced by combining time and money. Economic theory predicts that those with higher incomes and thus a higher value of time will substitute money for time. Instead of volunteering, they will contribute more money. The evidence points in the other direction. The question for further research is why?

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