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Abstract:

Economic theory, applied economic modeling and econometric methods offer advantageous tools for analyzing numerous organizations, institutions and social contexts which are not inherently downright economical by nature, as religious markets. In contemporary rational choice religious market models, church growth is assumed to depend on surplus resources available for church development. These extra resources can exist as volunteer work and extra monetary contributions, delivered by enthusiasts and active members, signaling devotion and personal sacrifice. These inputs produce more members and attendants into churches. These hypotheses are tested by applying religious market data from Finland. Models are estimated by comparing data from the dominant state church and the competitive free-church. Both models seem to give support for previous argumentation, emphasizing the importance of volunteer activism and surplus efforts for the church growth.

1. Introduction

The desire to grow is the main basic property of most religious organizations. This aim actually distinguishes churches from other human organizations, which usually just try to gather a solid membership. Christianity has grown into its current dominant position by following Jesus' great commission (Mt 28:18-20), which orders all Christians to expand the church and deliver the gospel. Christian faith has divided into numerous denominations and churches which all operate in the religious markets, consisting sellers and buyers of religious services and products. Churches compete with each another, by trying to gather more supporters, members, monetary donations and volunteers. Increased membership rate would enable more material resources, more employers and more infrastructures, thus enabling continuing growth. Church growth determinants have apparently great practical use for church leadership, as the success of church leaders is usually *de facto* measured by new attendants. Table 1 (in the appendix) gives some examples of church growth (which is called "revival" in theological literature) determinants, found from written works of several famous church growth specialists and revival preachers.

Church growth determinants have been lately examined intensely (both by scholars and practitioners; e.g. Iannaccone, Olson and Stark 1995; Dougherty 2004; Stark and Finke 2000), but this study applies existing models for church growth to a previously unexamined geographical area. Finland offers an interesting testing area for several church growth ideas because it still is a pretty lively religious country (74% of Finns believe in God, World Value Survey 2000). A state church dominates Finland's religious market, but there are no governmental restrictions in the market. Therefore, several other Christian denominations flourish as well, decreasing the monopolistic power of one state church. We compare the hypothesis test results by estimating also a model for a major competitive Christian denomination, the Evangelical Free Church of Finland, which is theologically close to the dominating state church, but which must operate and finance activities by using only private voluntary contributions.

Evangelical Lutheran Church of Finland is the largest Christian church in Finland, with 4,378,410 members (as 31.12.2004), which accounts for 83.6 % of whole Finnish population. It has 576 congregations and 9 dioceses, with about 20,000 employees and 200,000 volunteer workers. Evangelical Lutheran Church of Finland is a national state church and its financing is based on church taxes, which the government collects from members along with municipal rates.

The Evangelical Free Church of Finland (EFCF) is the largest registered Christian non-state church alternative for Finnish people. It has only 100 congregations and 14,000 members, but nearly all its members are active and the church influences Finnish religious market more than seen in its membership numbers. The Evangelical Free Church of Finland sprang out of a revival movement that swept through the Nordic countries in the 1870's.

2. Models for church growth

Reasons for church membership changes are traditionally found from the demographic, social, cultural or economical reasons and context. Increasing secularization in western countries is thought to decrease the attendance in old Christian denominations, as younger and better-educated urban generations are not believed to find good reasons to continue attending religious activities. Better financial situation and health care give alternative leisure-time opportunities for people. Nevertheless, these popular arguments do not often hold with the reality. Therefore, this secularization hypothesis is nowadays replaced by market models (derived from economic micro-theory, analyzing i.e. competition, demand, supply and incentives), often cited as rational choice models. Secularization has emerged in Middle-European countries if it is measured by church attendance, but religious interest does not show to be decreasing in the world. On the contrary, traditional Christianity is emerging in Latin America and Africa. East-Europe is even more religious than before, after the fall of iron curtain, and in North-America the number of mega-churches is expanding. What is most striking is that these trends are largely supported by young and educated generation. Churches are organizations serving their attendants, members and potential new entrants. Therefore, it should be obvious that the quality of services produced and offered by a church defines its popularity. Nevertheless, religious service portfolio consist a large variety of different aspects, so defining “a quality” of churches is a very complex task.

Based on models used in previous church growth research (Iannaccone, Olson and Stark, 1995), determinants of church growth do consist three groups of variables. Context variables include population growth, demographics, and incomes, therefore representing overall social and economic environment where the church is operating. Secondly, the institutional variables try to measure the characteristics of the service and quality offered by the church and congregation. One famous example of the importance of institutional variables is the study by D. Kelley (1986), where his argument was

that religious strictness contributes to church growth. Liberal Christianity implies poor quality (low requirements – low rewards), therefore only the conservative evangelical churches are growing. Finally, third types of explanatory variables are included. They are seen as supply side inputs in the religious service production market. This argumentation follows several rational choice models, for example Iannaccone, Olson and Stark (1995), where congregation's surplus resources enable continuing membership and attendance growth. A simple production function would therefore be:

$$\text{Growth} = f(\text{Time, Money}) \quad (1)$$

Inputs of time and money combine to produce new church members. A church cannot grow without sufficient surplus resources, which are enough not just to compensate depreciation (physical facilities) and loss of members because of death and departure (including children). Input variable “time” consists essentially volunteer labor, which is the extra contribution by the core members, enabling church growth and implying work beyond just attending standard services. Similarly, time can be substituted by monetary contributions, when growth-enabling money input is used for outward purposes, reaching new members (or to activate current members for reaching new members), not just supporting the basic routine tasks or paying the costs of red tape.

Intuitively even more well-defined, if not so easy to empirically estimate, are the church growth models emphasizing the importance of active parishioners who bring new entrants into church, who eventually are transformed to active members themselves. This reproduction potential of the enthusiastic members is modeled in research by Hayward (2004), where the effectiveness and quality of those enthusiasts is the key to church growth. More voluntary effort for reaching the nonbelievers contributes to growth. Correspondingly, Dougherty (2004) emphasizes high levels of participation as a key predictor of growth in congregations. High rates of participation demonstrate a strong sense of belonging among existing congregants. Voluntary organizations live and die by the involvement of their members. Faith spreads as adherents share their beliefs with family and friends, because the risk involved in trusting a transcendent God is mitigated by others who believe the same (Stark and Finke 2000).

The church growth is usually measured as a natural log of membership change and independent input variable could include per capita contributions (implying money in the production function above), time offered by voluntary workers, initial membership (including maybe squared membership as well), Sunday school activity, and missionary activity (per capita contributions to

missionary purposes). Previous research has tested that kind of models with especially the US data, but it has never been applied with Finnish data. Nevertheless, similar models have been tested for Sweden (Hamberg, 1991; Hamberg and Petterson, 1994), the UK (Sawkins, Seaman and Williams, 1997), Northern Ireland (McGregor, Thanki and McKee, 2002), Israel (Neuman, 1986) and Germany (Heineck, 2001). In addition, Smith and Sawkins (2003) analyze regional variation within 16 countries.

3. Empirical results

Table 2 presents the estimation results from model 1. The model explains the attendance growth for the Finnish Evangelical Lutheran church (state church, membership about 83,6 % of whole Finnish population), with a selection of available context, institutional and input variables as explanatory variables in cross-section regression. Attendance is measured by using yearly data from 16 most important Sunday services, which form the most important gathering of the active members. Our dependent variable is not the official membership rate (state church membership tells more about social context, tradition and solidarity rather than about the successfulness of the church), but rather attendance, because that measure gives the most important information on actual demand of religious products and services. Time period is 1999-2004 with all Finnish congregations included in the data set.

In this paper, explanatory variables are also divided into three main groups. First church growth is explained by context variables, which include demographic and social factors, consisting outward properties of the environment in which the church is operating. Examples of context variables used are municipality population growth rate and unemployment rate. Municipality population growth rate gives information about the demographic trend, as it could usually be assumed that more leisure activities are required in cities with high population growth. Nevertheless, church growth in Finland is assumed to be lower in rapidly growing urban centers, because the population movements are dominated by younger generation adults with much less leisure time and usually secularized attitudes towards Finnish church. Young urban population is nowadays most keen to resign its church membership.

Context variables measure the environment characteristics where the church is operating in municipal level. Neither context variables (population growth or unemployment) do seem to be

significant for the attendance growth. As expected, coefficients for population growth and unemployment rate are both negative, implying that Lutheran church is continuously losing attendance in urban cities, with increasing population. Following the same argumentation, in the same urban cities with decreasing church attendance, the unemployment rate is typically higher. Therefore, it is not surprising that both context variables have a negative sign.

Institutional explanatory variables (church size, membership growth, share of female priests) try to measure congregation's intrinsic characteristics. It would be intuitive digestible that congregations which are already large, are not anymore able to increase their attendance levels. This variable is also obviously related to context variables, especially population growth and urbanization, as the large congregations are in the same way concentrated in urban high population density areas, which typically face decreasing attendance rates. The coefficient is significant (in 5% significance level) and negative, as expected. Declining church attendance trend is most clearly seen in large urban centers, where the congregations are large (as in Helsinki). On the other hand, small rural congregations are still able to gather a large share of population in weekly Sunday sermons. The second institutional explanatory variable, membership rate growth, is not significant. Membership rate growth could bring new entrants into church, rootless people seeking new friends in non-familiar commune, but the variable is not statistically significant. Nevertheless, it is positive, as expected.

It would have been interesting to test the institutional strictness hypothesis (as argued by Kelley 1986), but getting a valid measure of the level of theological strictness or distribution of liberal critical attitudes among the congregation (amongst priests or parishioners) is not straightforward. Only fragile proxy variable for the liberal attitudes attainable was a share of female clergy in every congregation. While currently all church offices are also open to women, including that of bishop, Finland's first women pastors were ordained no earlier than in 1988. Currently the proportion of women clergy in the Finnish Evangelical Lutheran Church is 22% or 720, so the increase has been pretty rapid. Nevertheless, several congregations still have negative attitudes related to ordinance of women. The share of female pastors in congregation could therefore represent one (but far from perfect) proxy variable of theological strictness. The variable was not found to be significant (as seen in table 2), but interestingly its sign is negative.

Input variables are assumed to explain the supply side activity in the Finnish religious market. More supply side inputs into market and congregational production would enable to generate church

growth. Accordingly to argumentation by Iannaccone, Olson and Stark (1995), more resources, volunteer work, religious services, service quality and money, would mean more attendance and thus growth. This assumption is tested by including several explanatory input variables into model and testing their significance. All independent variable coefficients are assumed to be positive.

Results reveal that several input explanatory variables are significant indeed. Especially volume of pastoral care services, monetary contributions and the volume of evangelistic meetings have significant, large and positive coefficients for explaining church attendance. The availability of diagonal volunteer services and confession school volunteer activism variables were also significant in 10% significance level, with large and positive coefficients. Especially the volunteer activity seems to be an important factor in making a congregation vibrant and attractive for newcomers. Organizing special “evangelist meetings” is not very typical in Finnish Lutheran church, which means that congregations having that kind of extra outreaching activism are specially devoted and motivated on gaining new active members. That extra effort also seems to bring fruit.

Not all the input variables seem to be equal in generating church attendance growth. Services and activities which are traditionally seen as common “normal” tasks for a state church, as taking care of baptisms of small children, weddings, children day-care, funerals, and so on, are not significant explanatory variables in the model 1. Maybe congregates take those services as granted, and they do not imply surplus services or extra quality, and therefore do not generate growth. Any variables explaining Sunday school services were not significant, but were almost all positive as expected. All the variables related for hired employees were not significant, except that the training expenses for educating hired employees was significant and negative. More education and costly training of salaried personnel does not seem to be worthwhile. Maybe extra training means that employees are days away from their congregations and the volume of church service decreases. This finding is in line with Dougherty (2004), who found that increases in paid staff reduced congregational growth, as people lose a sense of ownership and belonging in a group when they have no say in its operation. The employees of Finnish Lutheran church are already pretty highly educated (the primary requirement for ordination as a pastor is a Master of Theology degree from an approved university, requiring about 5 years of university schooling), so maybe the cost-benefit relation is not beneficial for making any more training investments.

The positive and significant coefficient for confession school volunteer activism is not surprising. Finnish confirmation training is actually a unique national custom, which still nowadays gathers

almost all the youngsters to the church, as 89% of Finland's fifteen-year-olds attend confirmation training. This means, that when 84% of the population are actually members of the church, confession schools are drawing in a considerable proportion of those who do not belong to any church and of those belonging to other churches. Confirmation training is most commonly associated with the process of young people becoming adults, and is seen in this context as a standard rite of passage and for Finnish youngsters it seems to be a self-evident thing to go through. After confession school, many youngsters utilize the opportunity to become volunteer group leaders for the next year confession schools, usually held in camp areas. The more volunteer confession school activism there is, the more active the congregation seems to be. Young people are also bringing their friends, parents and relatives to church.

No variables related to missionary activities were found to be significant, clearly opposing the argumentation by Oswald J. Smith (table 1). On the other hand, no variables signaling special volunteer missionary activism were used. Missionary contributions by Lutheran congregations are usually standardized and officially agreed upon, so they do not require any surplus resources or activity.

Overall it could be said that the model 1 for the Evangelical Lutheran Church of Finland is quite well in line with previous findings emphasizing the importance of supply side inputs, surplus resources and the quality of religious production in religious markets. More quality resources (money, volunteer activity, personal service) are bringing the people back to churches. Growth is not only a byproduct of solid structures or external environment. An atmosphere of belonging leads to participation and church growth follows. When church growth is seen as an aim and task itself (by for example holding evangelist meetings and encouraging new confession school group leaders) and congregations are working for it, the results are seen in the data. On the other hand, only managing the routine tasks (baptisms, weddings, funerals), how well that might be done, is not activating the congregation and not bringing in new passionate members.

In table 3 are the estimation results for model 2. That model uses the data from the largest contestant for the Finnish state church, Evangelical Lutheran Church, modeled previously. Evangelical Free Church of Finland is much smaller church, but the largest registered Christian church in Finland (Assemblies of God is much larger, but not registered, so there is no official data available). This EFCF church data is never applied before, and consist 17 largest congregations from the time period of 1967-2004, forming a balanced panel data. Panel data estimation methods

were used (random effects GLS estimation technique) and the results are found in table 3. Dependent variable is the church membership growth (natural log), which can be seen as the main target and indicator for expanding the competitive free churches. All members are joined in a voluntary basis and the share of non-active members is usually very low. Being a member in a free church (and therefore not being a member in state church, with all its service benefits) still means carrying a small social stigma with it. In Finland, non-Lutheran churches are still seen as somewhat slightly dubious organizations among the common folk.

Unfortunately there were only three explanatory input variables available from the data, but they nevertheless represent the changes in supply side input resources pretty well. Congregational budget growth represents the change in the volume of monetary contributions (devoted to congregations own use) and also the inputs for developing the congregation's activities. All money used in free churches is coming from volunteer contributions (contrary to Lutheran state churches, with taxation rights and a solid and guaranteed income flow). It could be assumed, that more money contributions would enable more membership growth, but the causal relation (or its direction or possible lags) are not self-evident. Therefore, a variable representing monetary contribution devoted specially to the foreign missionary purposes is included in the model. This variable would probably better represent the surplus resources and extra effort inside the congregation, as the foreign mission is not usually seen as the core assignment of the church (or maybe it is, as Jesus and Oswald J. Smith argued). Nevertheless, if there are no surplus monetary resources available and the church budget is especially tight, then savings are usually searched and found in missionary contributions (as no local pastor is required to be removed from the office). At the same time, a healthy and prosperous congregation is well able to give contributions to foreign countries as well. Among the EFCF, the missionary work is seen traditionally as a very important part of gospel and the first EFCF missionary workers were sent to China as early as 1890's. All work done in EFCF is somehow voluntary (typically only few paid pastors and other employees per congregation), but Sunday school activity requires devoted volunteers, which are ready to give up their possibilities to attend the Sunday sermons and spend their time with children instead. Increasing level of activity, devotion and self-denial is seen in the volume of Sunday school teachers, which imply more Sunday school pupils and enable a church growth potential.

Results (found in the table 3) seem to support the supply side input argumentation. Increase in the monetary contributions for foreign missionary work is positive and highly significant explanatory variable for church growth in model 2. Also the Sunday school activity growth increases the

congregational membership. More inputs into volunteer activity or in outreaching the nonbelievers are seen in local growth. Growth requires surplus resources. Only managing the conventional operations and keeping the *status quo* is not enough. The variable measuring a change in monetary contributions for local operations was not significant, but was positive nevertheless. The results are also in line with the “limited enthusiasm models” (Hayward, 2004), as the level of enthusiasm is clearly seen in voluntary work and monetary contribution data. It is surely the intensity of those enthusiasts, which enables church growth through volunteers and extra surplus efforts. By definition, enthusiasts are exactly those who contribute extra surplus inputs into church life.

4. Conclusion

Empirical estimations for the religious market in Finland seem to support the notion that surplus resources (time and money) and participation contribute to church growth (following Iannaccone, Olson and Stark 1995; Dougherty 2004). Two empirical models were estimated; one for the monopolistic state church, and one for a competitive free church, but the results were fairly similar. For the Evangelical Lutheran Church, the tax money pays the normal routine expenses and guarantees the continuity of the operations and pastor’s employment. But the existence of volunteer work (which is not essentially required for managing the basic operations) implies extra surplus effort in that context. If there is such extra effort, then new people are coming to the church on Sundays. Important volunteer work seems to be connected to diaconal and pastoral care services, evangelist meetings and confession school group leadership. Volunteers, requiring devotion and extra effort, do those tasks. Voluntary monetary contributions for a state church (in addition to taxation) are similarly a signal of extra devotion present on building and supporting the surplus activities.

For the free church the existence and solid stream of voluntary monetary contributions are a matter of life and death. Local operations (pay-check for the pastor and managing the physical facilities) require a major part of the money gathered from the members. Signal of existing extra surplus effort in a free church is an increase in monetary contributions for foreign missionary purposes, as they do not directly and immediately benefit the local church. Similarly growth in Sunday school activity implies extra effort, as in free churches Sunday schools are organized and implemented solely by volunteer work. Teaching a Sunday school class has an opportunity cost for a church member, requiring devotion above the level of conventional church visitor.

Church growth begins when a habitual member puts an extra effort into the implementation of his beliefs, and start making more “inputs” into his local church. This “religious investment” can be done either by volunteer work, monetary contributions or just asking a friend to come along. The estimation results in this paper especially emphasize the importance of the common members. If they get enthusiastic on their beliefs and take action for fulfilling it, the church growth eventually follows.

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Appendix

Tables

Table 1. Different explanations found from literature for revival success.

Preacher/author	Representative literature	Secret of revival
Aldrich, Joseph C.	<i>Life-style evangelism</i>	Attractive and diversified activities
Allen, A. A.	<i>The price tag for the miracle working power of God</i>	Full-hearted devotion
Barrows, Cliff		Religious songs and music
Edwards, Jonathan	<i>A humble attempt, 1748</i>	United prayer
Finney, Charles G.	<i>Memoirs of Revivals of Religion</i>	Excellent preaching
Graham, Billy	<i>Just As I Am</i>	Prayer
		Cooperation of various denominations
Hybels, Bill	<i>Courageous leadership</i>	Quality and active leadership
Mangs, Frank	(Only in Finnish: <i>Ihmisiä taistelun helteessä</i>)	Working with fellows
		Complete Surprise
Mills, Benjamin F.		Good organization and innovative methods (district combination plan, card-signing, etc)
		Full-hearted devotion
Moody, Dwight L.	<i>The Life of D.L. Moody</i>	Prayer
		Prayer
Smith, Oswald J.	<i>Passion for souls</i>	Contributions to missionary work
		Prayer
Torrey, Reuben A.	<i>How to conduct and promote a successful revival, 1908.</i>	Mastery of Bible
Warren, Rick	<i>Purpose-Driven Church</i>	Answering to people's needs
		Well-defined strategy
Whitefield, George	<i>George Whitefields Journals</i>	Charismatic preaching

Table 2. Estimation results for church attendance growth model 1
(Evangelical Lutheran Church of Finland)

Explanatory variables	Co-efficient (stand.)	t-value	sig.
Context			
Population growth	-.070	-1.305	.193
Unemployment	-.019	-0.412	.681
Institutional			
Church size	-.136	-1.971	.049 *
Membership rate growth	.028	.577	.564
Female priests %	-.061	-1.464	.144
Inputs			
Diaconal volunteer services	.066	1.702	.089 (*)
Pastoral care	.270	5.160	.000 **
Sunday School frequency	.068	1.400	.162
Sunday school attendance	-.016	-.346	.730
Sunday school volunteers	.029	.604	.546
Sunday school employees	.061	1.444	.149
Confirmation class volunteers	.068	1.701	.090 (*)
Baptisms	-.035	-.671	.503
Weddings	-.013	-.246	.806
Money contributions	.161	3.995	.000 **
Employment payments	.010	.219	.827
Employment training expenses	-.096	-2.333	.020 *
New employees	-.059	-1.444	.149
Missionary expenses	-.054	-1.120	.263
Missionary gross payments	.024	.379	.705
Evangelist meetings	.098	2.489	.013 *
R ² .159			
F-test (21), .266 5.087 (.000) **			

Note: Explanatory variables representing per member shares. (*), * and ** denotes statistical significance in .10, .05 and .01 levels, respectively.

Table 3. Panel estimation results for church growth model 2 (Evangelical Free Church of Finland).
Random effects (GLS) model.

Explanatory variables	Model 2
Constant	0.022 (0.004) 5.25 **
Inputs	
Monetary local activity budget growth	0.001 (0.014) 0.09
Monetary contribution growth for foreign missionary purposes	0.015 (0.005) 3.09 **
Sunday school attendance growth	0.012 (0.007) 1.67 (*)
$R^2 = 0.173$	
$n = 629$, groups = 17	
Wald $\chi^2(3) = 12.24$ [0.0066] **	

Note: Hausman test suggested for using random-effects vs. fixed-effects model, $\chi^2(3) = .38$ [0.9439]

Additional information on variables:

In model 1 the dependent variable is the relative change in attendance rates for 16 most important Sunday services during the period 1999-2004. Those Sundays/holydays are:

Epiphany (6.1.), Palm Sunday (28.3.), Holy Thursday (1.4.), Good Friday (2.4.), 1.Easter Sunday (4.4.), 2.Easter Sunday (5.4.), Ascension Day (13.5.), Whit Sunday (23.5.), Midsummer Day (25.6.), St. Michael's Day (3.10.), All Saints' Day (6.11.), 1. Advent Sunday (28.11.), Day of Independence (6.12.), Christmas Eve (24.12.), 1. Christmas Day (25.12.), 2.Christmas Day (26.12.)

In model 2, the data set consists 17 largest/oldest local churches from the time period of 1967-2004. All the variables are in log-difference form.