Financial Support of the Church: Member Attitudes and Behavior

Results from Surveys Conducted by the Evangelical Lutheran Church in America

Office for Research, Planning and Evaluation Evangelical Lutheran Church in America

July, 1990

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Summary of Findings

Introduction. In Fall, 1988, the ELCA's Office for Research, Planning, and Evaluation (ORPE) surveyed a random sample of ELCA members on their views and behavior with regard to financial support of the church. The full report is attached; this page describes the key findings.

Cautions. The results probably overestimate actual levels of pledging and giving among ELCA members. Also note that the results represent only members 13 years of age or more, and do not include clergy.

Pledging. Only 47 percent of the respondents pledge, and they pledge a median of \$960 per year (\$18.46 per week). Of those who pledge and answered a question on proportionate and growth giving, 21 percent are growth pledgers and another 11 percent proportionate pledgers; two-thirds do not practice proportionate pledging.

Giving. The reported median annual giving is \$780 per year (\$15 per week). The median proportion of income the respondents give is 2.6 percent; only 4 percent tithe in the traditional sense. The more affluent members give more in absolute terms, but give a smaller proportion of their income than the less affluent. Older members, and those who are more involved in their congregations, give more both absolutely and as a percentage of income. There is no statistically significant relationship, however, between whether one pledges and what proportion of income one gives to the church.

Giving to other organizations does not appear to have any adverse affect on giving to the church.

Methods of making financial appeals. Respondents tend to have the least favorable views of relatively intrusive methods, such as home visits, but to look more favorably on methods they have actually experienced.

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In the United States, where churches receive no support from government, financial support from members is a basic precondition for the mission and ministry of the church. The Evangelical Lutheran Church in America (ELCA) collects extensive financial information from congregations, some of it bearing on giving by members, but this does not give us direct information on the attitudes and behavior of individual members. To obtain such information, the ELCA Office for Research, Planning and Evaluation included a series of questions on financial support in a survey sent to a random sample of ELCA members in the fall of 1988.

This survey was part of Lutherans Say ..., an ongoing program of mail surveys. These surveys are sent to a sample of ELCA members drawn in such a way as to give every baptized member who is 12 years old or more an equal chance of selection. (ELCA pastors are also surveyed, but the focus of this report is on lay attitudes and behavior, and clergy responses will not be reported.) The survey reported on here was the second in the series; it contained four pages on issues concerning the role of the church in society and two pages on financial support. The first Lutherans Say ... questionnaire included questions on demographic and economic characteristics and church participation, so this information was available on most of the respondents to the present survey. In particular, we have information on income levels, and can relate this to giving patterns. Altogether, 855 respondents completed this survey, 738 of whom had also completed the first questionnaire (respondents who completed only the first questionnaire are not included in the analysis, since they provided no information on financial support issues.)

All reported differences between groups of respondents and relationships among the factors considered in this report (giving, income, etc.) are statistically significant at the .05 level; this means that a difference as great as that observed would have occurred by chance only one time in twenty. In addition to fluctuations inherent in sampling (which are taken account of by tests of statistical significance) one has to be aware of the possibility of bias due to the fact that some people responded and others did not. The response rate to the first *Lutherans Say* ... questionnaire was 64.2 percent. Through a telephone survey of a sample of nonrespondents, we have determined that people who are more active in the church, and in middle years or early old age (as opposed to very young or very old) are more likely to respond. The survey results therefore represent people of these kinds better than other kinds of people found among the membership of the ELCA. The response to this, the second questionnaire, was 75.4 percent of that to the first questionnaire--48.4 percent of the original sample of potential respondents--and the same biases intensified. There is also a special problem of bias specific to this questionnaire: that respondents may

overstate the generosity of their giving to the church, and that those who give less generously than others may be less likely to answer questions on giving. Furthermore, since giving is strongly related to activity, and our respondents tend to be much more active than ELCA members at large, biases due to nonresponse are very likely to result in overestimates of how much ELCA members give. For all these reasons, actual levels of giving are probably lower than those reported here.

Appendix A shows the wording and format of the questions; Appendix B provides information on statistical techniques and measures used in the analysis. Further details on the methods used in the study are available from the Office for Research, Planning and Evaluation.

I Pledging Patterns

As Table 1 shows, just under half of the respondents report that they or a family member living in their household made a pledge or written financial commitment to their congregation for 1988. In most cases, there is only one pledge in the household, but 14

| | Table 1 | | |
|-----------------|---------|---------|--------|
| What proportion | of ELCA | members | pledge |

| Behavior in 1988 | Number | Percent | Percent |
|--------------------------------|--------|---------|---------|
| Pledged, specified amount | 309 | 38.1% | |
| Pledged, didn't specify amount | 70 | 8.6% | |
| Subtotal: Pledged | 379 | | 46.7% |
| Didn't pledge | 433 | 53.3% | 53.3% |
| Total who provided information | 812 | 100.0% | 100.0% |
| (Information missing) | (43) | | |

percent report that there are two, and 6 percent that there are three or more.¹

The amounts pledged vary tremendously, from \$12 to \$10,000 per year. To give a sense of how these amounts are distributed, Table 2 divides the respondents into decilesthat is, into ten groups with equal numbers of people in them--and shows the range of pledges found among the people in each decile. In interpreting this table, remember that

Note that all the tables and figures presented in this report are about *individual* members, not about households. For instance, the statement in the report about the number of pledges per household means that 14 percent of members are in households with two pledges, not that 14 percent of households have two pledges.

those who do not pledge at all (and those who pledge an unknown amount) are not included. The figures for the first decile, for instance, show that the one-tenth who pledge the least make pledges ranging from \$12 to \$208 per year, or \$0.23 to \$4.00 per week. The median amount for all pledgers is \$960 per year or \$18.46 per week; in other words, of those ELCA members who pledge, half pledge more than this and half less. One quarter pledge \$500 per year (\$9.61 per week) or less; at the other end, one quarter pledge \$1,560 per year (\$30 per week) or more.

Table 2
How Much ELCA Members Pledge: Deciles

Range of Amounts Pledged

| | Per Year | <u>Per</u> | Week |
|--------------------|-----------|------------|-----------|
| <u>Decile</u> from | <u>to</u> | from | <u>to</u> |
| Lowest \$12 | \$208 | \$0.23 | \$4.00 |
| 2nd 216 | 360 | 4.15 | 6.92 |
| 3rd 364 | 520 | 7.00 | 10.00 |
| 4th 520 | 676 | 10.00 | 13.00 |
| 5th 676 | 960 | 13.00 | 18.46 |
| 6th 988 | 1,092 | 19.00 | 21.00 |
| 7th | 1,352 | 21.15 | 26.00 |
| 8th 1,400 | 1,900 | 26.92 | 36.54 |
| 9th 1,920 | 2,600 | 36.92 | 50.00 |
| Highest 2,600 | 10,000 | 50.00 | 192.31 |

Notes

Only the 309 respondents who pledge and specify an amount are included.

Where the top of one range is the same as the bottom of the next range (for instance, for the 3rd and 4th deciles) that is because the last few respondents in the lower of the two deciles and the first few respondents in the higher decile pledge the same amount.

In recent years, the ELCA and its predecessor bodies have been advancing the ideas of proportionate and growth giving. *Proportionate giving* means determining one's pledge by thinking about the proportion of income one will commit to the church; *growth giving* means making a commitment to increase that proportion from year to year. The survey tried to determine, *behaviorally*, to what degree ELCA members in fact are proportionate or growth givers--whether they use the terms or not--and *conceptually*, what degree of

awareness of these ideas exists among members. Both terms include the word "giving," but they express intentions, and so it is most useful to use them to talk about patterns of pledging rather than patterns of giving. To avoid confusion, this report will speak of proportionate and growth pledging.

The behavioral issue had to be addressed through a series of questions (found in the Appendix) about whether one pledged, whether one knew what percentage of income the pledge was, and how the pledge was determined. (The question about knowing what percentage one pledges was necessary because the concepts of proportionate and growth pledging refer to explicit decisions related to percentages; therefore, without this knowledge, one cannot--by definition--be a proportionate or growth pledger.) The answers to this series of questions are summarized in Table 3. Basically, what this table shows is that among respondents who pledge (note that this is slightly less than half of all respondents) about one-third are either growth or proportionate pledgers; just over one-fifth are growth pledgers.

Table 3
Decision Making Behavior: Proportionate and Growth Pledging

| Pledge Decision Making Pattern | Number | Percent |
|--|--------|---------|
| Growth | 70 | 21.4% |
| Proportionate | 37 | 11.3% |
| Non-proportionate (explicitly) | 98 | 30.0% |
| Non-proportionate (don't know pct. pledging) | 122 | 37.3% |
| Total who provided information | 327 | 100.0% |
| (Pledgers with information missing) | (52) | |
| (Not clear whether pledged) | (43) | |
| (Didn't pledge) | (433) | |

Conceptually, respondents report a high level of knowledge. Fully 85 percent say that they have not only heard of the idea of "proportionate giving" but also understand what it means; only 5 percent say they have never heard of it. For "growth giving," 68 percent understand the concept, while 27 percent have never heard of it.

The decision making process people use is clearly and strongly related to the amount they pledge. (In the following analysis, the concern is the process people manifest behaviorally, not their use of concepts.) The proportionate pledgers (not the growth pledgers) are the most generous, pledging an average of \$2,053 per year; the growth pledgers commit an average of \$1,424. The nonproportionate pledgers average \$1,084 and those who pledge but do not know what percentage of income they pledge average \$869.

However, causal conclusions--that proportionate and growth pledging enhance pledging levels--may not be warranted, since it is possible that people who pledge generously are more open to thinking about their pledging in relation to their income, as their self evaluation when they do so is more apt to be positive than for people who pledge less generously.

Whether one pledges, and levels of pledging, are also clearly and strongly related to a number of background factors. Those who are more educated or have a higher income are relatively likely to pledge, as are older members and those who are more involved in their congregations. Predecessor church body is also an important factor. Of members of former Association of Evangelical Lutheran Churches, 75 percent pledge; for members of former Lutheran Church in America congregations, the corresponding figure is 54 percent, and for members of former American Lutheran Church congregations, 41 percent.

II Giving Patterns

How much do ELCA members actually give? Table 4 shows the distribution, in deciles. Note, however, that the information on this subject is not as complete as on pledging. For pledging, 309 respondents indicated a particular amount and 433 that they did not pledge, leaving 113 "indeterminate" cases; for giving, 560 respondents indicated a particular amount and 2 an amount of zero, leaving 293 "indeterminate" cases--over two and a half times as many. Some of those who did not indicate how much they give may be generous contributors who feel that asking for this information is an invasion of privacy. Almost certainly, however, some people do not contribute, or contribute very little, but are embarrassed to say so. There are probably many more than 2 zero givers among the respondents, and many more small givers than the responses show. Since we cannot include people who did not answer the question in our estimates of giving, actual giving levels in the ELCA are probably lower than those shown here. Furthermore, some of those sent Lutherans Say ... questionnaires do not complete and return them, and we have determined that the less active and committed members are the least likely to respond. Again, this means that actual giving levels are probably lower than those reported here.

Among those who reported the amount they give, the median giving level is \$780 per year (\$15 per week); one quarter give \$312 per year (\$6 per week) or less, while one quarter give \$1,320 per year (\$25.38 per week) or more. Giving levels, clearly, are lower than pledging levels: median giving is 81 percent of median pledging. This is *not* because people underfulfill their pledges; for those respondents who pledge, the amount given averages 99 percent of the amount pledged! However, on the average those who do not pledge give less than those who do--\$883, compared with \$1,211--so overall giving levels are brought down, below overall pledging levels, by the people who do not pledge.

Table 4
How Much ELCA Members Give: Deciles

Range of Amounts Given

| I | Per Year | Per Week | | | |
|---------------|---------------|----------|--------|--|--|
| Decile from | to | from | to | | |
| Lowest\$0 | \$ 156 | \$0.00 | \$3.00 | | |
| 2nd | 260 | 3.00 | 5.00 | | |
| 3rd 260 | 480 | 5.00 | 9.23 | | |
| 4th 480 | 520 | 9.23 | 10.00 | | |
| 5th 520 | 780 | 10.00 | 15.00 | | |
| 6th 780 | 1,040 | 15.00 | 20.00 | | |
| 7th 1,040 | 1,200 | 20.15 | 23.08 | | |
| 8th 1,200 | 1,560 | 23.08 | 30.00 | | |
| 9th 1,560 | 2,236 | 30.00 | 43.00 | | |
| Highest 2,288 | 10,000 | 44.00 | 192.31 | | |

<u>Notes</u>

Only the 562 respondents who stated an amount (including \$0) are included.

Where the top of one range is the same as the bottom of the next range that is because the last few respondents in the lower of the two deciles and the first few respondents in the higher decile give the same amount.

Giving levels, of course, are heavily influenced by income, and so it is important to examine giving as a proportion of income, rather than raw giving, to understand the impact of other factors on people's willingness to give. It is also important to examine the proportion of income people give to know what our starting point is in relation to the Mission90 goal of increasing tithing. Table 5 shows the results, which are sobering. Only 4 percent of the those respondents who report both their income and the amount they give are tithers in the traditional sense; that is, give 10 percent or more of their income to the church. Less than a quarter even reach the mark of 5 percent, and the median percentage of income given is 2.6 percent-about one-quarter of a tithe. For reasons discussed earlier, probably the actual percentage of income given by a typical ELCA member is even lower.

Since pledgers give more generously than those who do not pledge, one might conclude that getting more people to pledge is a basic precondition for better financial support of the church. Considering the results in relation to income and age, however, casts doubt on this idea. Whether one pledges is related to how much one gives, but

Table 5
Giving as a Percentage of Income

| Percentage of income given | Number | Percent |
|-----------------------------------|--------|---------|
| Less than 1.0 percent | 81 | 17.6% |
| 1.0 to 1.9 percent | 89 | 19.3 |
| 2.0 to 2.9 percent | 98 | 21.3 |
| 3.0 to 4.9 percent | 88 | 19.1 |
| 5.0 to 6.9 percent | 64 | 13.9 |
| 7.0 to 9.9 percent | 21 | 4.6 |
| 10 percent or more | 19 | 4.1 |
| Respondents with full information | 460 | 100.0 |

not to what percentage of one's income one gives. The reason is that more affluent members are more likely to pledge, but tend to give a lower percentage of their income. Furthermore, older members have lower incomes but are more likely to pledge, and actually give more to the church--even though their incomes are lower. To disentangle the influence of these various factors, an analysis controlling for income and age was performed. The results show that whether one pledges does not have a statistically significant effect, independent of income and age, on either the amount or the percentage one gives.² This analysis also provides estimates of the effects of each of the factors under consideration. It indicates that if we hold the other factors constant, for every \$10,000 increase in income, giving increases \$226; for every 10 years older, it increases \$117.

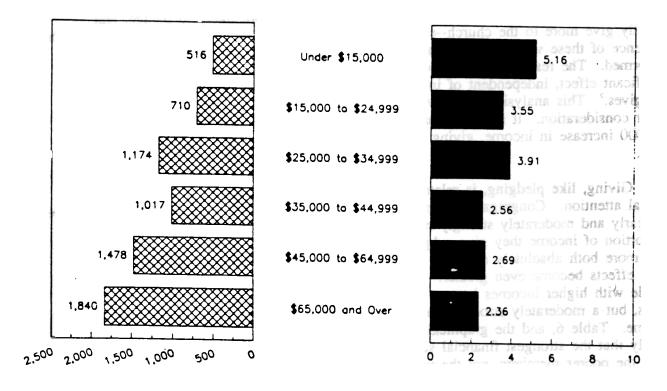
Giving, like pledging, is related to a variety of other factors; three of these deserve special attention. Congregational involvement--worship attendance, participation in groups-is clearly and moderately strongly related to both the amount people give and the proportion of income they give. Age also has a moderately strong effect; older members give more both absolutely and as a percentage of income; when income is held constant, these effects become even greater. Income, on the other hand, has two different effects: people with higher incomes have a strong tendency (r = .36) to give more in absolute terms, but a moderately strong tendency (r = .23) to give less as a percentage of their income. Table 6, and the graphical display of the same data which follows it, show clearly that the strongest financial support of the church in relation to ability to give comes from the poorer members, not the more affluent ones. This finding is parallel with that

This does not prove that whether one pledges is *not* a factor in determining how much one gives; rather, the situation is that given the number of respondents and how they responded, there is no *demonstrable* effect due to whether a person pledges or not, using the same criteria as we used in the rest of the analysis.

Table 6 Giving Levels by Income

| Income Range | | Average | Average Percent | |
|---------------|-----------|-----------|-----------------|-----------------|
| Bottom | Top | "Center"* | Giving | of Income Given |
| (under) | \$15,000 | \$10,000 | \$ 516 | 5.16% |
| \$15,000 | 24,999 | 20,000 | 710 | 3.55 |
| 25,000 | 34,999 | 30,000 | 1,174 | 3.91 |
| 35,000 | 44,999 | 40,000 | 1,017 | 2.56 |
| 45,000 | 64,999 | 55,000 | 1,478 | 2.69 |
| 65,000 | (or more) | 78,000 | 1,840 | 2.36 |

^{*} This is the income figure used for people in this range, in computing the percent of income they give.



Average Giving in Dollars Average Percent of Income Given

reached in many studies of financial support in mainline Protestant denominations, so it is no fluke. It presents an important challenge to our efforts to encourage financial support: how are the more affluent to be encouraged to bring their giving levels, as a proportion income, up to those already achieved by the less affluent?

Predecessor church is weakly related to absolute levels of giving (the average level is \$1,187 for the LCA, \$1,177 for the AELC, and \$943 for the ALC), but not to giving in relation to income. Among those who pledge, the decision making patterns shown in Table 3 are fairly strongly related to both absolute and relative giving. (Remember that these are patterns of behavior, not measures of whether people know concepts.) On the average, proportionate pledgers give \$1,872 per year and growth pledgers \$1,345, compared with \$1,147 for nonproportionate pledgers and \$902 for those who pledge but do not know what percentage of income they are pledging. The average percentage of income given is 5.1 for proportionate pledgers and 4.1 for growth pledgers, versus 3.2 for nonproportionate pledgers and 2.6 for those who pledge but do not know what percentage of income they give. The average in the highest group, in other words, is almost double that in the lowest one.

III Giving to Other Organizations

In addition to questions about giving to the church, respondents were asked about whether they give to other organizations and, if so, whether this reduces giving to the congregation. The vast majority of the respondents--79 percent--do make contributions elsewhere, but only 14 percent say that this has a negative effect on giving to the congregation. This corresponds to learnings from other research, and suggests that the "pie" of donatable income out of which people allocate money to the church is not of fixed size, and that contributions of different kinds may encourage and complement each other more than competing. The respondents' report that congregational giving is not adversely affected by giving to other organizations is supported by the fact that the respondents who give to other organizations tend, in fact, to be more likely to pledge, to pledge more, and to give more both absolutely and in relationship to income, than the respondents who do not give to other organizations. The fact that this association holds (although it is not very strong; r = .11) even for giving as a percentage of income is particularly striking. If it did not, one might be tempted to say that people with more resources can afford to be generous both to the church and to other organizations. Given this association, however, the more plausible explanation is that when people make contributions a high priority for the use of their financial resources, they are likely to give generously in a variety of contexts; it may even be that this kind of predisposition has as much to do with whether people give generously to the church as do specifically religious commitments. (Note that contributions to organizations other than the congregation may in many cases be to church related or religious organizations.)

IV Methods of Making Financial Appeals

Two other questions asked respondents about nine different ways in which congregations ask for contributions. For each, respondents were asked to say whether this kind of approach would make them more or less likely to contribute, or make no difference either way, and whether they had ever experienced an approach of this kind. Table 7 shows the evaluations of the different approaches, in order from those seen most positively to those seen most negatively (as measured by the percentage saying it would make them more likely to contribute minus the percentage saying less likely). It also shows what proportion of the respondents have experienced each approach, and the association between seeing the approach positively and having experienced it. (In the table, the approaches are summarized in a few words; the full wordings can be found in Appendix A.)

Table 7
Methods of Approach for Financial Support

| Method of Approach | Evalumore Likely (Percent) | Wouldn't Matter (Percent) | ethod Less Likely (Percent) | Have Experienced Method (Percent) | Correlation Experience/ Evaluation (Pearson r) |
|--------------------|----------------------------|-----------------------------|--------------------------------------|-----------------------------------|---|
| Sermon | 39.6 | 45.7 | 14.7 | 81.3 | 0.19 |
| Asked-friend | 33.9 | 53.9 | 12.2 | 48.6 | 0.19 |
| Asked-pastor | 35.2 | 50.6 | 14.2 | 31.4 | 0.19 |
| Bulletin insert | 31.3 | 54.5 | 14.2 | 81.0 | 0.24 |
| Small church mtg. | 22.6 | 57.4 | 20.0 | 36.2 | 0.18 |
| Mailing | 25.2 | 52.2 | 22.6 | 79.3 | 0.16 |
| Home visit | 24.6 | 45.0 | 30.4 | 47.6 | 0.16 |
| Small home mtg. | 17.9 | 55.7 | 26.4 | 23.5 | 0.20 |
| Phone call | 12.9 | 50.2 | 36.9 | 28.9 | 0.15 |

Basically, the first four approaches are seen favorably, the next two elicit approximately equal positive and negative reactions, and the last three--especially an approach by phone (presumably not from a friend or a pastor, since those were asked about earlier in the question)--are seen more negatively than positively. In the case of all nine approaches, however, the most frequent view is that such an approach would make no difference, and so one should not overestimate our capacity to affect giving outcomes by

the methods we use. The distinction between those seen favorably and unfavorably is not totally clear. However, the ones seen unfavorably have a somewhat more intrusive quality: a phone call, home visit, or small group meeting in a home.

Experience of these methods is also variable. About four-fifths of the respondents have experienced financial appeals in the form of sermons on stewardship, bulletin inserts, and mailings, while less than half have experienced any of the other six methods listed. Getting a phone call and small group meetings held in a member's home are the least used methods, having been experienced by only about one quarter of the respondents. In the case of every one of the nine methods, experience appears to breed acceptance: evaluations are significantly more positive from those who have experienced the method. When we consider only the evaluations of those who have experienced the method, receiving a phone call is the only method which still receives more negative than positive ratings.

Given the finding that respondents tend to prefer those approaches they have experienced, pastors and congregational leaders may want to innovate with caution, but can take comfort in the probability that ultimately they will get more positive responses than they may get initially to a new method of financial appeal. Given the finding that certain methods of appeal--apparently ones with a relatively intrusive quality--are seen less favorably than others by ELCA members, leaders may want to use such methods with care and discrimination.

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July, 1990

Appendix A: Wording of Questions on Financial Support

(The first four pages of the questionnaire dealt with church and society issues)

| | 1 No - Skip to Question 8 |
|---|--|
| | 2 Not sure - Skip to Question 8 |
| | 3 Yes - Please answer the questions in the box below |
| | Was there more than one pledge from your household for 1988? |
| | 1 Yes - How many? |
| | No D mode substration vot that a seem of soil of being substitute and the second upon |
| | What was the total amount pledged for 1988 by you and all family members living in your household? |
| | \$ per: |
| | When you made your pledge for 1988, did you know what percentage of your income you were pledging? |
| | ☐: I didn't pledge for 1988 - Skip to Question 8 |
| | 2 No - Skip to Question 8 |
| | Yes domn'o acti ta blasi galizam quang liana A |
| | Which of the following statements is more correct? |
| | ☐: I decided to give a larger percentage of my income than I gave in 1987. |
| | I decided on a definite percentage of my income to pledge, calculating the dollar amount of my pledge based on this percentage. |
| 1 | I made my decision about how much to pledge for 1988 without taking into account what percentage of my income it would amount to. |
| | None of the above; what I did was: |

| | me? (Please include only your regular giving, not one-time gip \$ per: | | | _ | _ | | 75 -7 |
|-----|--|----------------|--------------------------|-----------------------|------------------------------|-----------|----------------------------|
| | \$ per: | 3 ئـــا | week | L., | don't l | cnow | |
| 10. | Some of the ways congregations ask for contributions are li approached in that way would make you more or less lik compare the various methods listed below, but just to describe if you have ever been approached in that way. | elv t | o contri | bute. | (We are no | ot askino | VOU to |
| | | | Effect More Likely | Less Likely (2) | ributing Wouldn't Matter (3) | | been oached No (2) |
| | Being asked to give by someone from your congregation whyou know well | om | | | | | |
| | Being asked to give by your pastor | | | | | | |
| | Receiving a mailing from your congregation | | | | | | |
| | Getting a phone call from someone in your congregation | | | | | | |
| | Someone from the congregation coming to your home | | | | | | |
| | A small group meeting held in a member's home | | | | | | |
| | A small group meeting held at the church | | | | | | |
| | A sermon on stewardship | | | | | | |
| | A Sunday bulletin insert on stewardship | | | | | | |
| | The concept of proportionate giving refers to deciding how a some percentage of your income. Have you heard about this | nuch ide | to give a before | to you ? | r congregat | ion base | d upon |
| | ☐ 1 I never heard of this idea | | | | | | |
| | 2 I heard of it, but I don't really know what it mean | ıs | | | | | |
| | ☐ 3 I heard about it and know what it means | | | | | | |
| 12. | Another concept sometimes used in planning financial contril This idea involves starting with whatever percentage of inco- increasing that percentage over a period of years. Have you | me o | me is cu | irrently | giving, an | growth a | giving . ssively |
| | ☐ 1 I never heard of this idea | | | | | | |
| | 2 I heard of it, but I don't really know what it mean | ıs | | | | | |
| | 1 I heard about it and know what it means | | | | | | |

(Questions from Lutherans Say ... # 2, Fall 1988)

Appendix B: Statistical Terms and Techniques

Correlation coefficients (reported in the form r = .xx, where .xx is the coefficient) are a measure of the extent to which two variables, each of which is assumed to be a scale (like income or temperature) tend to vary together; that is, of the extent to which a person who is higher on the first variable is likely to be higher on the second. These coefficients can vary from +1.00 to -1.00. The sign shows the direction of the relationship, and the magnitude shows its strength. For instance, if the correlation is -.55, there is a very strong tendency for those who score higher on the first variable to score lower on the second; if it is +.55, the tendency is for those who score high on one to also score high on the other.* When social scientists analyze relationships involving attitudes, correlation coefficients tend to be low-seldom more than .30, and usually quite a bit lower.

The analysis for this report usually took the form of relating a financial support variable (how much one gives or pledges, for instance) to other such variables or to "background" variables such as age, sex, or worship attendance. In many cases, we examined crosstabulations showing relationships among variables, and we also calculated correlation coefficients where both variables could reasonably well be considered as scales. Where one of the variables was a typology rather than a scale--with categories in no particular order (for instance, marital status)--we examined the relationship using an analysis of variance.

An analysis of variance involves comparing means across groups: for instance, how average levels of giving differ among the married, divorced, and widowed. In essence, the analysis divides the total variability in the sample into one part representing the heterogeneity within each of the groups being compared, and another part representing the differences between groups. The bigger the second part is compared with the first, the stronger the relationship between the two.

For both correlation coefficients and analyses of variance, there are standard statistical techniques by which to assess significance. In essence, those techniques tell us how likely it is, given the sample size and the way it was drawn, that a relationship as strong as we observed could have occurred by chance, if in fact there were no relationship between the variables within the population (ELCA members 13 years old or more). One should keep in mind the difference between statistical and substantive significance. With a large sample, differences of no practical importance can often be statistically significant. With a small sample (or when comparing the responses of small subgroups) we may observe differences in the data which would matter but are not statistically significant and therefore should not be relied on.

^{*} In the report, instead of showing the sign of correlation coefficients, we have usually indicated verbally the direction of the relationship.

To look at the impact of several variables at once--for instance, the joint impact on giving of age, worship attendance, income, and whether one pledges--we used a technique called *multiple regression analysis*. This technique manipulates correlation coefficients to simulate a situation in which only one factor varies at a time, with the others held constant. It tells us, for instance, how much giving increases for each year of increased age, if income, worship attendance, and whether one pledges are held constant. This allows us to disentangle the effects of several related variables.