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Statistics as a tool for mission and evidence-based policy within the Church of England:
What factors predicted differences in diocesan performance during the Decade of
Evangelism?

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Abstract

This study computed the percentage changes recorded on six separate performance indicators between 1991 and 2000 in order to calculate the effect of the Decade of Evangelism on the mainland dioceses of the Church of England. The performance indicators were usual Sunday attendance, Easter Sunday communicants, Christmas communicants, electoral roll membership, total baptism figures, and total confirmation figures. Statistical procedures (including cluster analysis, analysis of variance, canonical correlation analysis, and multiple regression) were then employed in order to identify from the range of variables routinely collected by the central church authorities policy-related factors associated with church growth (or at least reduced decline) over this period. These analyses identified four areas, concerned with expanding non-stipendiary ministry, with encouraging the ordination of women, with resisting church closure, and with promoting a financial policy that includes planned subscriptions and charitable giving. These conclusions are offered as an applied example of using statistics as a tool for mission and as the basis for evidence-based policy.

Keywords: church growth, church decline, Church of England, statistical modelling.

Introduction

The Church of England has had a long history of collating and compiling statistical data. Such data are collected from the parishes and aggregated within dioceses to provide a profile of changes and developments in the Church at the national level (the whole of England), at the provincial level (the two provinces of Canterbury and York), and at the diocesan level (all 42 separate mainland dioceses). As well as leading to regular statistical summaries published by the Church of England itself (see for example, Church of England, 1992, 2002), these statistics have been reprocessed to illuminate a number of specific issues relevant to areas of church life, including the health of the rural church (Francis, 1985), the diversity within the Church of England (Lankshear, 2001; Roberts, 2004), trends in confirmation (Lankshear, 2004), distinctiveness of the rural church (Roberts, 2003, 2005), the correlates of church closure (Roberts & Francis, 2006), the association between diocesan policies on the ordination and deployment of women priests and membership trends (Roberts, Francis, & Hills, 2006), and the association between the churchmanship of the bishop and diocesan growth or decline during the Decade of Evangelism (Francis & Roberts, 2009).

The importance both of gathering statistical data and of the appropriate analyses of these data for church policy was recognised by the report *Statistics: A tool for mission* (Church of England, 2000). As the outcome of the Statistics Review Group commissioned by the Archbishop of Canterbury under the chairmanship of the Right Reverend Nigel McCulloch, the recurrent theme of this report was the role of statistics in informing, affirming and challenging the Church. The report concluded with the following exhortation.

At the core of what is being proposed in the report is a change of attitude with the adoption of a more positive view of the use of statistics; not simply to analyse historical data, but to use information to plan for the future. (p39)

Against this background, the aim of the present study is to revisit the problem posed by the diverse performance of the dioceses of the Church of England during the Decade of Evangelism. The 1988 Lambeth Conference agreed that the closing years of the millennium should be a Decade of Evangelism. There was to be a renewed and united emphasis on making Christ known to the people of the world. This decision by the Anglican Bishops was echoed in decisions by all the mainline churches in the United Kingdom, together with 'new churches', independent churches and para-church organisations (Warren, 1996). The evangelistic drive extended throughout the world-wide church, and included not only the Anglican Church but also the Roman Catholic Church, the Lutheran Church, and the majority of Christian denominations (Green, 1992). Within the Church of England policies on both national and diocesan levels aimed, among other things, to help equip church people for evangelism. It is reasonable to hypothesise that, if successful, the Decade would have resulted in signs of church growth over that ten year period.

The statistics already clearly organised by Francis and Roberts (2009) presented the performance at the end of the Decade averaged over the two year period 1999- 2000 as a percentage of the performance at the beginning of the Decade averaged over the two year period 1990-1991. Decline in the usual Sunday attendance varied from 73% in Durham and Lincoln to 97% in Canterbury. Decline in infant baptism varied from 57% in Birmingham, Manchester and Rochester to 80% in Carlisle. Such variation in performance over a decade could be entirely random, it could be related to factors over which the Church of England has no control, or it could be related to variations in factors over which the Church of England has some control, that is factors related to aspects of diocesan status or strategy. The present study proposes to employ sophisticated statistical modelling to test the third of these possibilities, namely that differences in diocesan performance may reflect either differences in the resources available to individual dioceses or difference in the strategic deployment of

these resources by individual dioceses. In order to translate this broad ambition into a concrete research proposal three issues require detailed consideration. The first issue concerns the identification and definition of indicators available to assess changes in diocesan performance. The second issue concerns the identification and definition of indicators available to assess the differences in the resources available to dioceses that may influence differences in performance. The third issue concerns the selection of appropriate statistical techniques capable of modelling the association between differences in diocesan input and differences in diocesan output or performance. The constraint on all three issues is imposed by the nature and quality of the statistical data, routinely collected and published by the Church of England. All three issues will be addressed in turn.

There are six main variables generally collected and collated by the Church of England that provide an overview of general performance and that may be particularly relevant to assessing the objectives of the Decade for Evangelism.

Usual Sunday attendance provides an indication of the number of seats occupied in churches on a normal Sunday. The usefulness of these figures is qualified by recognition that in one sense routinely occupied seats may overestimate the number of people attending church, in that some individuals may attend (and therefore be counted) more than once on a given Sunday. On the other hand, counting occupied seats on a given Sunday may underestimate the number of people attending church, in that some 'regular' attenders may attend, say, every other Sunday rather than each Sunday.

Easter Sunday communicants provide a classic definition of Anglican membership according to the rubric of 1662 *Book of Common Prayer* (Church of England, 1662) that recommends receiving communion at this festival. The usefulness of this figure is qualified by recognition that some people who receive communion at Easter do so within the Easter season rather than on Easter Sunday (say, the housebound).

Christmas communicants provide an indicator of the number of people who participate in church services at the time of a major Christian festival of wide public and social appeal. The usefulness of this figure is qualified by recognition of the number of people who attend non-Eucharistic services at Christmas or who attend Eucharistic services and do not receive communion.

Electoral rolls provide an indication of the number of individuals who respond to the invitation to complete the registration form for inclusion on the parish church roll. Such registration provides the platform for the synodical structure of the Church of England and is kept roughly up-to-date by the requirement to reconstitute the roll at six yearly intervals. The usefulness of this figure is qualified by recognition of the variety of ways in which the roll is utilised and managed from one situation to another.

Baptism figures provide an indication of the rate of initiation into the Church of England. As currently collected, baptism figures distinguish between those baptised under one year of age, those baptised between the ages of one and twelve years, and those baptised over the age of twelve years. Given the relatively small numbers in the latter two categories, the most useful figures for detailed statistical modelling are provided by the aggregation of all three age categories. It needs to be recognised, however, that a wide range of motivation may underpin the request for baptism (especially infant baptism) and hence make the precise meaning of the statistics difficult to interpret.

Confirmation figures provide an indication of the number of people who ratify their baptism at a service presided over by a bishop. Traditionally, confirmation in the Anglican Church marked the gateway to communion. Increasingly, however, the significance of confirmation has been eroded by renewed emphasis on baptism as the complete sacrament of initiation, by the admission of children to communion prior to confirmation, and by the

extension of communicant status in the Church of England to communicant members of other denominations.

The first question to be addressed by statistical procedures is to display and to assess the statistical change that occurred during the Decade of Evangelism on these six indicators considered separately. The second question to be addressed by statistical procedures is whether or not these six distinctive and highly disparate indicators of diocesan performance function in similar or different ways to distinguish between the dioceses of the Church of England in respect of the changes experienced over the Decade of Evangelism.

Alongside these six main variables that provide an overview of general performance, the Church of England also routinely collects a range of information on factors that provide an indication of the resources available to dioceses and that may reflect differences in diocesan status or strategy. These factors embrace three main themes. The first theme concerns the availability of clergy and reflects differing policies on the ordination of women and the development of non-stipendiary forms of ministry. The second theme concerns the provision of church buildings and reflects differing policies on church closure. The third theme concerns finance and reflects differing policies on financial management. What distinguishes these factors from the six selected performance indicators is that the individual dioceses have some significant impact over how these factors are managed. The availability of female candidates for ordination and the availability of male and female candidates for non-stipendiary ministry reflect diverse diocesan policies on these issues (Roberts, Robbins, Francis, & Hills, 2006). The rate of church closures varies from one area to another reflecting diverse diocesan policies on this issue (Roberts & Francis, 2006). Percentage changes in the level of income across dioceses appear to reflect the importance and priority given to financial goals and to financial management.

The third question to be addressed by statistical procedures is whether these variables, individually and cumulatively, predict a significant component of the variance within the changes in diocesan performance during the Decade of Evangelism. Given the small number of units available for analysis (N=42 dioceses) and the constraints on analysing data not provided within the context of controlled experiments, multiple regression is clearly not capable of providing an appropriate statistical tool for this purpose.

Such a statistical question, however, has to be aware of the potential distortion introduced by other key extraneous factors and has to take steps to control for such influences. One key contaminant likely to distort the analyses concerns changes in population within the area served by the individual dioceses. This factor can be conveniently calculated as the percentage change in the population of each diocese between 1991 and 2001. A second measure of changes in the population can be calculated as percentage change in the population density of each diocese between 1991 and 2000. These two constructed variables can be entered into the statistical model as control variables.

Before constructing the statistical model, one further issue has to be taken into consideration, and this concerns the precise dioceses that should be employed to test the model. Overall there are 42 mainland dioceses within the Church of England. The one diocese that stands out as being very different in view of its size, culture and location is London. Although the statistics are collated for the Diocese of London as a single unit, the Diocese is in fact organised as a set of discrete Episcopal areas under the jurisdiction of area bishops. This makes treating the Diocese of London as a single unit problematic. This diocese will not be included. The remaining 41 dioceses are more homogenous and deserve inclusion within the one basic model. A further caution needs to be expressed regarding the comparability of Lichfield and Worcester over the Decade of Evangelism. In October 1993 the Hinley Deaconry was transferred from Lichfield to Worcester. The consequent reduction

in the size of Lichfield and the increase in the size of Worcester can be taken into account in the mathematical model through the inclusion of the control variables related to changes in the population and in the population density between 1991 and 2000.

Method

A dataset was created from statistics published centrally by the Church of England in the relevant edition of the Church Statistics publications (Church of England, 1992, 1993, 2001, 2002) in order to profile for each diocese usual Sunday attendance, Easter Sunday communicant numbers, Christmas eve or day communicant numbers, electoral roll membership, total number of baptism candidates, total number of confirmation candidates, population, population density, number of parochial stipendiary clergy, number of clergymen, number of clergywomen, number of churches, total income from all sources, and number of planned subscribers. These data were sufficient to construct all the variables required to address the specified research questions. In order to calculate change during the Decade of Evangelism, allowing for chance fluctuations from year to year the figures for the beginning of the Decade were calculated as the average for the two years 1990 and 1991; the figures for the end of the Decade were calculated as the average for the two years 1999 and 2000.

Results

The first question to be addressed by the present study concerned displaying and assessing the statistical changes that occurred during the Decade of Evangelism on the six performance indicators across the 41 mainland dioceses of the Church of England (excluding the Diocese of London). These percentage changes are tabulated in Table 1. As the data have been presented on a common scale of 'percentage change' it is sensible to calculate a mean change, and the 41 dioceses have been ordered on this mean value in Table 1. A histogram of the pooled 246 percentage change values for the 41 dioceses presents a classic unimodal shape with minor deviation [Skewness -0.52, Kurtosis 0.21] from a normal distribution curve.

The 41 dioceses have overall mean percentage change which ranges from -12% for Salisbury to -30% for Durham, a ratio of nearly three times, suggesting that there is scope here for studying similarities, differences and correlations between and among these performance indicators with respect to other variables, such as those determining diocesan structures, resources, or policies.

- Insert Table 1 about here -

The second question to be addressed by the present study concerned testing whether or not these six distinctive and highly disparate indicators of diocesan performance function in similar or different ways to distinguish between the dioceses of the Church of England in respect of the changes experienced over the Decade of Evangelism. Although the 41 dioceses represent our whole (and small) population under study, for significance tests and the like we will appeal to the usual statistical concept (see for example Hartley & Sielken, 1975) of an hypothetical 'super population' with the same characteristics and from which our dioceses are drawn.

Use of the factor analysis procedures available in the statistical programming package SPSS (SPSS Inc., 2008) showed just one factor with an eigenvalue above one (the usual cut-off criterion). This factor had an eigenvalue of 2.513, and its loadings on the variates were all very similar, producing a correlation for its scores vector of 0.969 ($p < 0.01$) with the overall data mean vector (or equivalently, the overall sum-of-scores vector). Use of the two-step cluster procedures available in SPSS also suggested that these 41 dioceses could be divided into three distinct groups on the basis of their percentage changes in these six performance indicators over the decade of evangelism. Table 1 presents this clustering into three groups. A multivariate analysis of variance statistic (Wilk's Lambda, $p < 0.01\%$) demonstrated the clear statistical separation of these three groups on the set of six performance indicators, supported in turn by the six separate univariate analyses of variance presented in Table 2. As can be

seen from Table 1, these groups are almost synonymous with a simple grouping of their scores on the overall mean percentage change (which we have already shown can be identified with the first and dominant factor in factor analysis). This suggests identifying group 1 as a 'Top' or 'Best performing' cluster, group 2 as a 'Middle' cluster and group 3 as a 'Bottom' or 'Worst performing' cluster. But this labelling will only prove useful for diagnostic purposes if we can subsequently find significant correlations with other variables, such as those determining diocesan structures, resources, or policies.

- Insert Table 2 about here -

The third question to be addressed by the present study concerned whether the broad range of data routinely collected by the Church of England (on issues like clergy, churches and finance) that may reflect differences in diocesan policies predict (individually or cumulatively) a significant component of the variance within the changes in diocesan performance during the Decade of Evangelism. These data facilitated the construction of 62 variables concerned with aspects of diocesan resources and extraneous factors for each of the 41 dioceses included in the model. This range of variables embraced information expressed in slightly different ways and supplied as values both at the beginning and the end of the Decade of Evangelism. Where possible they were then also re-expressed onto the common scale of 'percentage change over the decade' as computed for the performance indicators.

Since this number (62) of potential predictor variables exceeds the number of dioceses (41 cases), multiple regression techniques are of course initially completely unsuitable, in fact impossible given the resultant negative degrees of freedom for the residual variance. Simple linear regressions of each predictor on each performance variates are equivalent to examining the bivariate correlations, so the 62 variables were cross-correlated with the six performance indicators. There were 47 correlations (out of the $6 \times 62 = 372$ calculated) which were statistically significant at 5%, compared with the expected value of 19 such significances

under a purely random hypothesis of no correlations. Resource factors having correlations with the six performance indicators of at least two significances of 5%, or else at least one at 1%, were considered as potential members of a predictor subset for closer statistical consideration. The same 62 resource variables were also examined using analysis of variance methods for their use as predictors for diocesan membership of the three performance groups. Eliminating common, or virtually common, variables between these two described selection mechanisms resulted in a final, more focused subset of six resource factors plus one extraneous factor chosen from the original 62 variables. For confirmation that we had something worth examining in this pair of multivariate data sets, results of a canonical correlation analysis (using a macro supplied with SPSS) between the six performance indicators and the set of seven selected predictors demonstrated that there is at least one highly significant ($p < 0.001$) linear relationship between the two data sets. Also it is useful to note that all the individual bivariate correlations were either positive, or where negative, not significantly different from zero, and hence aligned in a uniformly 'sensible' direction. A multivariate analysis of variance statistic (Wilk's Lambda, $p < 0.02$) demonstrated the clear statistical separation of the three diocesan performance groups on this set of seven predictors, supported by the separate univariate analyses of variance presented in Table 3. The individual results vary and are commented on where appropriate, below. Note that the degrees of freedom for the residual variance in these analyses are always a comfortably high 41, as opposed to the negative value, described earlier, that we would have uncovered had we attempted multiple regression analysis at the beginning.

- Insert Table 3 about here -

The mean values within the three performance groups for the seven selected indicators are listed in Table 4. It is immediately noticeable that the mean values for each resource, and the extraneous factor, in this table consistently decrease as the group indicator

goes from the top group, through the middle group and on to the bottom group. So effort put into the six resources did, at least on the average, appear to produce a positive result over the decade. Although this could perhaps be better phrased as ‘least negative’ rather than ‘positive’, given the reality of almost uniform decline in church performance statistics over this Decade of Evangelism.

- Insert Table 4 about here -

One of the seven is the extraneous variable, the percentage change in the population density of each diocese from 1991 to 2000. This measure is the single most influential factor affecting the performance measure calculated as the average percentage change across the six performance indicators. This is a factor over which diocesan policies have no control, although it is a factor that may affect some diocesan policies (say concerning clergy deployment).

The first of the resource measures concerns the development of non-stipendiary ministry. The figures in table 5 demonstrate that the percentage of non-stipendiary ministers as a proportion of all clergy serving in the diocese show the following effect. Each 2% increase (else decrease) in the percentage of non-stipendiary ministers correlates on average with slightly over 1% increase (else decrease) in group mean diocesan performance.

The second of the resource measures concerns the percentage change in the number of churches in the diocese from 1991 to 2000. While this factor has significant correlations with two of the individual performance indicators (namely, the percentage changes in Electoral Roll and Baptisms) – hence its inclusion within the selected set – it is not significantly different in its mean values between the three groups, as can be seen from the analysis of variance in Table 3. However, individual regression analyses show that each one percentage decrease in the number of churches in a diocese produced on the average ($p < 0.05$) a 1.5

(else 1.3) percentage decrease in the Electoral Roll count (else Baptisms count) over the decade.

The third of the resource measures concerns the percentage of female clergy in 2001 as a proportion of all clergy. The conclusion is that, on the average, the better performing dioceses had the highest proportions of female clergy. From Table 4 we see that the average percentage change in the performance indicators over the decade increases from -23% for the bottom group to -15% for the top group, whilst the proportions of female clergy increase correspondingly from 14% to 21%. So, we can roughly say that each 1% increase (else decrease) in the percentage of female clergy correlates on the average with a 1% increase (else decrease) in group mean diocesan performance.

The remaining three resource variables are all finance measures. These are the amount of money given per subscriber in 2000, the percentage change in the number of planned subscribers between 1991 and 2000, and the percentage change in charitable giving as a proportion of expenditure between 1991 and 2000. While the first two of these three finance measures have significant correlations with one or more of the individual performance indicators – hence their inclusion within the selected set – they are not individually significantly different in their mean values between the three groups, as can be seen from the analysis of variance in Table 3.

Discussion and Conclusion

The present paper set out to address three important statistical questions regarding the differences in the performance of the individual dioceses of the Church of England during the Decade of Evangelism in order to test the extent to which data routinely collected by the central church administration could be re-analysed as an effective tool for mission and for evidence-based policy.

The first question prepared the ground by identifying six distinctive and highly disparate indicators of diocesan performance and calculating the percentage change that occurred in these indicators during the Decade of Evangelism. The indicators were: usual Sunday attendance, Easter Sunday communicants, Christmas communicants, electoral rolls, baptism figures, and confirmation figures. Each of these indicators demonstrated considerable variation among the dioceses.

The second question employed cluster procedure to examine whether these disparate indicators discriminated between the dioceses in a consistent manner. On the basis of these procedures, the data enabled three clear clusters of dioceses to be identified which we characterised as the top or best performing cluster, the middle cluster, and the bottom or worst performing cluster. This terminology simply refers to the comparative performance of the dioceses on the chosen indicators. At first glance each of the three groups appears to contain quite a diversity of dioceses. For example, the best performing cluster included new foundations like Guildford and old foundations like Ely, Salisbury and Worcester from the southern province and Southwell and Wakefield from the northern province. The middle cluster included both Canterbury and York. The worst performing cluster included Newcastle and Carlisle in the north and Norwich and Truro in the south.

The third research question is the most interesting of all. This question generated 62 'predictor' indicators from the range of information routinely collected by the Church of England to test whether there were identifiable factors that might be associated with the assignment of dioceses to the three clusters. Canonical correlation analysis identified seven variables that provided significant predictive power. One of these variables was change in the population density of the diocese. This is a factor over which the individual dioceses have no control. The other six factors, however, are much more interesting in the sense that they may reflect differences in diocesan policy (intended or unintended) and as such may draw

attention to how policies are empirically related to performance. If this is so, then close attention to these six factors may illuminate ways in which statistics can lead to evidence-based policy and function as a significant tool for mission.

The first policy area concerns the recruitment, ordination and deployment of *non-stipendiary clergy*. While non-stipendiary clergy may be costly to train, after initial training they may be quite cheap to maintain. While the present analysis is unable to take into account the variety of ways in which dioceses recruit, train and deploy non-stipendiary clergy, it does demonstrate a direct link between the numbers of non-stipendiary clergy supported by dioceses and positive diocesan performance. If fostering unpaid ordained ministry has a positive effect on slowing church decline (promoting church growth) there is a good case for dioceses scrutinising their policy and practice in their area.

The second policy area concerns the recruitment, ordination and deployment of *clergywomen* in the Church of England. Although women priests have been an accepted feature of the Church of England since 1994 (see Francis & Robbins, 1999), the proportions of clergywomen continue to vary greatly from diocese to diocese (Roberts, Francis, & Hills, 2006). While the present analysis is unable to take into account the nuances of theological opinion on the ordination of women within the dioceses, it does demonstrate a direct link between the numbers of clergywomen supported by dioceses and positive diocesan performance. If fostering the ordination and deployment of clergywomen has a positive effect on slowing church decline (promoting church growth) there is a good case for dioceses scrutinising their policy and practice in this area.

The third policy area concerns attitude toward *church buildings*. Overall decline in church attendance and the movements in population confront the Church of England with pressing questions regarding the maintenance of church buildings, and the opportunity to ‘decommission’ plant in one way or another. The considerable variation in the number of

churches closed in different dioceses, even serving comparable environments (Roberts & Francis, 2006), suggests that there may be policy issues involved. While the present study is unable to take into account the factors associated with the closure of individual churches, it does demonstrate a direct inverse link between the numbers of churches closed and positive diocesan performance. If closing churches has a detrimental effect by promoting church decline (say when individuals fail to transfer their attendance from the closed church to an open church), there is a good case for dioceses taking the evidence of this study into account when assessing the case for church closure.

The fourth policy area concerns *finance*. The variable of most interest in this area concerns the number of *planned subscribers*. The considerable variation in the rate of change in the number of planned subscribers across dioceses suggests that this may reflect different financial policies within different dioceses. While the present study is unable to take into account ways in which promoting planned giving may differ, it does demonstrate a direct link between growth in the number of planned subscribers and positive diocesan performance. If encouraging commitment to planned giving enhances broader commitment to the local church (as experienced in the performance indicators employed in this statistical model), there is a good case for dioceses assessing the emphasis placed on this aspect of financial management.

One of the other two financial indicators identified by the statistical model was the total diocesan income for the year 2000. While the present study is unable to take into account the inevitable range of income generation potential from one diocese to another, it does demonstrate the direct link between overall income and positive diocesan performance. Viewed crudely, greater disposable income may be able to purchase better resources for mission and for ministry. If overall income enhances performance and slows church decline (promotes church growth), there is a good case for dioceses assessing their overall income

generation strategies and ensuring that such areas of diocesan life are resourced to provide efficient and effective functioning.

The other financial indicator identified by the statistical model was the percentage change between 1991 and 2000 in *charitable giving* as a proportion of total expenditure. This may prove to be a predictor variable worthy of further scrutiny for two reasons. First, a pragmatic view might suggest that decline in charitable giving functions merely as an indicator (efficient as it is) of overall financial decline. In this sense, churches that possess lower levels of disposable income may choose to reduce areas of their budget that do not seem to have immediate detriment to their activities (like reduced staff and reduced heating). Second, an ideological view might suggest that decline in charitable giving functions as an indicator of loss of commitment to the core mission of the local church. In this sense, churches that choose to reduce charitable giving may be losing sight of a core component of the gospel imperative. If reducing charitable giving is indicative of losing sight of core gospel values and is associated with accelerated church decline, there is a good case for dioceses reconsidering the emphasis given to teaching concerned with Christian altruism and the place of charitable giving within the life of the local church community.

Taking the Decade of Evangelism as period of potential key importance within the life of the Church of England, the present study interrogated available statistical data routinely collected by central church administration in the search for empirical evidence regarding those factors most clearly predictive of church growth (or at least slower decline) during that decade. Using statistics in this way as a tool for mission and for evidence-based policy identified four key areas of policy associated with enhancing recognised performance indicators. These areas concerned expanding non-stipendiary ministry, encouraging the ordination of women, resisting church closure, and promoting a financial policy that includes planned subscriptions and charitable giving. These key policy areas have been identified by

the exploratory statistical techniques exploring changes recorded on specified performance indicators over the decade 1991-2000. The next stage in establishing the validity of these areas as predictors of church growth (or at least slower decline) requires the application of confirmatory statistical techniques exploring the effect of these variables on the same performance indicators over the next decade 2001-2010.

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Table 1

Percentage differences over Decade of Evangelism for six performance indicators over the 41 dioceses

Diocese	group	mean	usa	easter	xmas	eroll	totbapt	confirm
Salisbury	1	-11.69	-8.68	-4.64	-16.61	2.77	-16.64	-26.36
Worcester	1	-12.88	-8.78	-9.13	-16.54	9.11	-13.70	-38.21
Oxford	1	-14.56	-9.60	-10.06	-13.64	5.31	-23.30	-36.08
Wakefield	1	-14.83	-16.18	-8.03	-15.64	0.20	-17.42	-31.93
St Albans	1	-15.44	-13.77	-9.57	-13.75	-1.74	-16.13	-37.70
Hereford	1	-15.72	-13.42	-11.17	-11.01	0.75	-23.49	-35.96
Southwell	1	-15.91	-12.47	-10.05	-14.06	-1.11	-20.59	-37.17
Guildford	1	-16.34	-14.83	-7.05	-17.74	-4.71	-20.52	-33.17
Ely	1	-16.48	-12.43	-5.65	-13.94	-9.56	-20.47	-36.84
Chelmsford	2	-16.05	-16.12	-15.86	-20.62	1.21	-15.00	-29.94
Canterbury	2	-17.10	-3.23	-16.10	-22.49	5.39	-29.90	-36.28
Southwark	2	-18.21	-14.91	-13.68	-18.38	-7.42	-21.88	-33.00
Coventry	2	-18.44	-2.06	-17.89	-25.05	-8.31	-16.78	-40.56
Winchester	2	-18.70	-17.94	-13.16	-15.13	-1.66	-30.34	-33.99
Birmingham	2	-18.74	-18.73	-15.21	-16.38	-3.94	-32.99	-25.18
Leicester	2	-18.76	-13.10	-14.61	-18.91	-13.33	-19.84	-32.78
Gloucester	2	-18.76	-17.53	-9.11	-14.16	-5.91	-22.11	-43.75
Peterborough	2	-18.85	-11.81	-14.40	-15.51	-9.17	-26.62	-35.58
Chichester	2	-18.89	-13.55	-10.67	-17.04	-4.16	-25.15	-42.80
Chester	2	-18.99	-14.07	-18.25	-19.71	2.51	-29.77	-34.66
St Eds and Ips	2	-19.26	-13.08	-8.21	-19.95	-4.58	-25.95	-43.80
Portsmouth	2	-19.28	-15.67	-15.52	-19.37	0.51	-23.11	-42.54
Derby	2	-20.85	-7.16	-10.81	-19.14	-8.73	-32.92	-46.35
York	2	-20.86	-21.01	-19.19	-17.25	-2.91	-26.45	-38.33
Bradford	2	-21.02	-13.90	-13.68	-15.82	-12.00	-26.30	-44.44
Manchester	2	-21.84	-16.60	-20.30	-21.65	-1.49	-35.48	-35.55
Blackburn	3	-20.22	-18.02	-20.11	-19.85	-17.90	-29.77	-15.69
Sheffield	3	-21.29	-20.96	-16.12	-24.75	-9.83	-14.16	-41.95
Liverpool	3	-21.71	-19.38	-21.15	-21.76	-10.74	-28.19	-29.01
Norwich	3	-22.09	-19.02	-14.57	-14.55	-14.81	-24.27	-45.32
Truro	3	-22.22	-15.53	-17.46	-15.29	-17.20	-24.29	-43.57
Exeter	3	-22.26	-16.19	-18.42	-21.09	-9.77	-29.55	-38.56
Rochester	3	-22.28	-18.64	-13.68	-21.40	-5.68	-32.20	-42.08
Lincoln	3	-22.33	-27.02	-15.92	-20.00	-12.62	-16.74	-41.69
Ripon and Leeds	3	-22.94	-14.20	-17.97	-21.97	-22.16	-25.29	-36.05
Bristol	3	-22.97	-20.10	-16.75	-17.36	-10.75	-27.64	-45.21
Carlisle	3	-23.54	-26.16	-22.63	-28.67	-5.09	-16.41	-42.30
Bath and Wells	3	-23.75	-22.57	-16.84	-19.02	-9.61	-24.52	-49.93
Lichfield	3	-24.03	-17.16	-21.74	-23.08	-6.45	-28.54	-47.22
Newcastle	3	-24.27	-17.36	-16.48	-22.03	-6.58	-30.53	-52.64
Durham	3	-30.26	-26.80	-27.24	-30.11	-11.43	-31.35	-54.65

Note: **usa**=usual Sunday attendance; **easter**=Easter Sunday communicants; **xmas**=Christmas communicants; **eroll**=electoral roll membership; **totbapt**=total baptism figures; **confirm**=total confirmation figures; **mean**=average of these six indicators.

Table 2

Analyses of variance for the six performance indicators over the three groups for the 41 dioceses

Source	Dependent Variable (as percentage change over decade)	Type III Sum of Squares	df	Mean Square	F ratio
groups	usual Sunday attendance	455.084	2	227.542	12.146***
	Easter Sunday communicants	573.891	2	286.945	27.138***
	Christmas communicants	247.751	2	123.876	11.196***
	electoral roll membership	815.679	2	407.840	15.579***
	total baptism figures	307.902	2	153.951	5.508**
	total confirmation figures	290.708	2	145.354	2.819 ^w
Error	usual Sunday attendance	711.887	38	18.734	
	Easter Sunday communicants	401.800	38	10.574	
	Christmas communicants	420.450	38	11.064	
	electoral roll membership	994.805	38	26.179	
	total baptism figures	1062.191	38	27.952	
	total confirmation figures	1959.297	38	51.560	
Total (inc constant)	usual Sunday attendance	11149.514	41		
	Easter Sunday communicants	9728.073	41		
	Christmas communicants	15145.321	41		
	electoral roll membership	3257.872	41		
	total baptism figures	25577.988	41		
	total confirmation figures	63047.096	41		

Note: *** = (P < 0.1%); ** = (P < 1%); ^w = (P < 10%)

Table 3

Analyses of variance of performance mean percentage change for seven predictors over the three performance groups

Source	Dependent Variable (changes are over decade)	Type III Sum of Squares	df	Mean Square	F ratio
group	number of churches, change%	3.109	2	1.555	.664 ^{NS}
	population density, change%	190.494	2	95.247	7.155**
	percentage non-stipendiary ministers	937.284	2	468.642	7.434**
	percentage female ministers	277.872	2	138.936	4.893*
	Subscribers, change%	348.742	2	174.371	1.699 ^{NS}
	Giving per subscriber	16186.583	2	8093.291	2.019 ^{NS}
	charitable giving as a proportion of expenditure, change%	687.150	2	343.575	2.925 ^W
Error	number of churches, change%	88.976	38	2.341	
	population density, change%	505.818	38	13.311	
	percentage non-stipendiary ministers	2395.453	38	63.038	
	percentage female ministers	1078.983	38	28.394	
	Subscribers, change%	3900.580	38	102.647	
	Giving per subscriber	152320.863	38	4008.444	
	charitable giving as a proportion of expenditure, change%	4464.210	38	117.479	
Total (inc constant)	number of churches, change%	107.039	41		
	population density, change%	1415.223	41		
	percentage non-stipendiary ministers	23771.596	41		
	percentage female ministers	12458.002	41		
	Subscribers, change%	7587.244	41		
	Giving per subscriber	3150941.243	41		
	charitable giving as a proportion of expenditure, change%	24780.971	41		
Note: ^{NS} = non-significant, but such predictors have significant correlations elsewhere. See text					
*** = (P < 0.1%); ** = (P < 1%); * = (P < 5%); ^W = (P < 10%)					

Table 4

Performance groups: means for all variables

	group		
	1: top	2: middle	3: bottom
	Mean	Mean	Mean
Performance variables as percentage change over decade			
Overall performance_mean	-14.87	-19.10	-23.08
usual Sunday attendance	-12.24	-13.56	-19.94
Easter Sunday communicants	-8.37	-14.51	-18.47
Christmas communicants	-14.77	-18.62	-21.40
electoral roll membership	.11	-4.35	-11.38
total baptism figures	-19.14	-25.92	-25.56
total confirmation figures	-34.82	-37.62	-41.72
Predictor variables(changes are over decade)...			
number of churches, change%	-.16	-.57	-.90
population density, change%	8.07	3.78	2.32
percentage non-stipendiary ministers	30.26	22.52	17.36
percentage female ministers	21.23	15.76	14.38
Subscribers, change%	-5.31	-7.78	-12.66
Giving per subscriber	285.27	284.55	243.55
charitable giving as a proportion of expenditure, change%	-16.65	-20.15	-26.98