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SN 5806 - Congregational and Parochial Data for Economic Analysis of Denominational Behaviour in Nineteenth-century Scotland, 1843-1874

Sources of Quantitative Data for Studies in the Economic History of the Scottish Churches in the Mid-Nineteenth Century

SUMMARY INFORMATION

Project Title: An Economic Analysis of the Disruption, 1843.

Investigators: Dr Robert Mochrie, Department of Economics, Heriot-Watt University
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Project duration: 1 July 2006 – 31 October 2006

Funding body: British Academy (Small Grant SG44145)

Source material: Denominational church records held in the collection of New College Library, University of Edinburgh; Parliamentary papers, held in the collection of the University of Edinburgh

Database compiled by: Mr Alexander Naumov, Department of Economics, with Dr Robert Mochrie, Department of Economics, both Heriot-Watt University

Data collection: 1 July 2006 – 31 October 2006

Software used: Microsoft Excel 2000

Content of Database: Nine MS-Excel spreadsheets respectively 29 Tab-files collating data on parishes of the Church of Scotland in 1874, on congregations of the Free Church of Scotland in 1854, 1864 and 1874, on Presbyteries of the United Presbyterian Church of Scotland in 1858, 1864 and 1874, together with summary data from the Census of Population, 1851, Religion and Worship (Scotland).

Publications: A report on the data has been submitted for publication in the Records of the Scottish Church History Society.

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DENOMINATIONAL STRUCTURE OF SCOTTISH CHURCHES IN THE MID-NINETEENTH CENTURY.

The period of study begins in 1843, the year in which the Free Church of Scotland was formed as a result of schism (the Disruption) within the Established Church of Scotland. At its formation, it attracted 474 out of 1203 ministers of the Church of Scotland, and perhaps half of the existing Church of Scotland's members. As shown later, it achieved unprecedented success in acquiring endowments and funding. It ensured that it would be impossible for the Church of Scotland, or any competitor, to claim to be a truly national church, supported by a majority of church adherents. But on some measures, the Free Church appears always to have been the smaller of the two national churches. The Registrar General's analysis of marriages conducted by ministers of the various denomination show that from 1855 until 1874 Free Church ministers conducted about 22% of weddings, while the share of Church of Scotland ministers was typically 43 – 45% (Smout 1986).

The Free Church of Scotland was not the first denomination to challenge the National Church. Restricting attention to Presbyterian denominations, the remnant of the Covenanters formed the Reformed Presbyterian Church in 1690, believing the newly Presbyterian established church to be in partnership with a state that was not subservient to divine law. A further small secession, the formation of the first Associate Presbytery in 1733 created the first voluntarist Presbyterian denomination, which accepted viable congregations into membership wherever they might form, rejecting the desirability of any relationship with the state. Disputes within the Associate Synod led to repeated schism and reconciliation. By 1834, voluntarist Presbyterianism was represented by the United Secession Church and the Relief Church. Partly as a result of the Disruption these two denominations united to form the United Presbyterian Church in 1847. In addition, after many years discussion, the Reformed Presbyterian Church entered into union with the Free Church of Scotland in 1876.

Church of Scotland

Official data are often the best sources of information on the Church of Scotland during the period covered in this study. The most important are the reports of the Royal Commission on Religious Instruction, 1837 – 39, and the Census of Great Britain, 1851, which included the first, and until 2001 the only, attempt to measure religious affiliation. In addition, the radical MP Duncan McLaren secured orders in 1871 and 1874 requiring the Registrar General to enquire of Church of Scotland ministers the number of member in communication in their parishes, and their total stipends. These returns to the House of Commons list by County the number of male and female communicants on the roll of each charge, classifying charges as Parish Churches, Town Churches, Parishes *quoad sacra*, and Chapels of Ease. They also list, by county and parish, ministers' stipends derived from teinds, and other sources.

Free Church of Scotland

From 1844, at the end of its first year of operation, the General Assembly of the Free Church received and published a report on the public accounts for the year to 31st March. This included an abstract, reporting the income and expenditure of the central organisation of the church, but also a "tabular view of the local building, congregational, sustentation, missionary and educational schemes". This report disaggregated elements of the expenditure of each congregation into those components that were of service to the congregation (the first two) and the wider mission of the church (the last three).

From 1858, the Free Church issued a further "Statement shewing the Ordinary Collections and Seat Rents, Ministers Supplements, Etc. from the Congregations" along with the public accounts. These statements permit the construction of data series for the stipends of ministers of the Free Church, by

charge, as well as decomposing congregational income into admission fees, including seat rents, and Christian liberality.

The last series of reports that is of value in conducting quantitative analysis is found in the series "Proceedings and Debates of the General Assembly of the Free Church of Scotland" From 1872, included in the appendices, is a "Statement of Contributions received by the Treasurer for the Sustentation Fund of the Free Church." The value of this report is that as well as listing contributions to the Sustentation Fund by congregation, it also includes membership and adherence data.

United Presbyterian Church of Scotland

Formed from the union of two denominations, the United Secession Church and the Relief Church, which had never developed a tradition of collecting extensive congregational data, the Synod of the United Presbyterian Church first appointed its Committee on General Statistics in 1850. The Committee immediately began the practice of circulating a schedule of queries to ministers, but early reports to the Synod refer to reluctance on the part of many congregations to furnish full answers to many of the questions asked. In 1857, the committee reported that the response rate was so low that it wished to be discharged of its responsibilities, but the Synod took the decision to support the activities of the Committee. From 1858 onwards, its reports included an abstract of the returns disaggregated to Presbytery level.

The range of data collected by the committee on general statistics is actually wider than the equivalents in the Church of Scotland and the Free Church. It is straightforward to follow trends in membership, attendance, the number of ministers, elders, Sunday School students and the level of support for missionaries, as well as measures of financial performance including congregational income and ministerial stipends. Tables are included in the report allowing a year on year comparison, all disaggregated to Presbytery level.

Census of Population, 1851

Queries submitted to ministers asked them to state the number of seats available to the congregation, in order to investigate whether there was any need of accommodation, but also the number of people in attendance at services in the morning, afternoon and evening. Even at county level, the returns suggest that the excess of accommodation in the Church of Scotland was considerably greater than in the other denominations. However, excess capacity seems to have been typical of all denominations, suggesting that the Free Church, only eight years after its formation, had already over-invested in the plant required for the provision of religious services.

Similar queries were also addressed to the headmasters of schools. These returns are potentially even more important because they are the best measure that we have been able to find of the relative sizes of the church and parochial school sectors in Scotland.

Poor rates, etc (Scotland)

In Scotland in the mid-nineteenth century, the principal means of financing local services, such as poor relief and parochial schools, was through property taxes. From 1855, the Registrar General was required to collate an annual statement of rateable property valuations, disaggregated to parish level. The preparation of this return proved to be extremely time consuming, and so published data is available only on a septennial basis. The published returns provide us with an estimate of the total wealth of the parish population.

Structure of the Data

This data collection consists of nine Excel spreadsheets and 29 tab files, as described below.

- 1) church_of_scotland_stipend_membership_and_parochial_rating_1874_returns.xls and church_of_scotland_stipend_membership_and_parochial_rating_1874_returns.tab
 - i) This spreadsheet consists of a single worksheet, “CoS Parish data, 1874,” consisting of 1032 observations, with 17 data fields. Each observation records data for a single parish of the Church of Scotland.
 - ii) The fields are:
 - A. County (string): the name of the civil county in which the parish is located.
 - B. Parish (string): the short name of the religious parish.
 - C. Communicants’ roll (1873) (integer): the number of individuals residing in the parish and in full communication with the Church of Scotland in 1873.
 - D. Ministers stipends derived from teinds (integer): the total payments in pounds sterling made to the minister of the parish derived from rights to produce of land.
 - E. Ministers stipends derived from other local sources (integer): the total payments in pounds sterling made to the minister of the parish, derived from private sources other than the produce of land.
 - F. Ministers stipends derived from Exchequer payments (integer): the total payments in pounds sterling made to the minister of the parish, from government grants.
 - G. Total stipend (integer): the sum of the payments made under items D., E. and F.
 - H. Communion elements (integer): total payments in pounds sterling made to the parish minister by the congregation in respect of the provision of communion elements.
 - I. Manse (annual value) (integer): imputed rent in pounds sterling of the dwelling house provided to the minister of the parish by the congregation.
 - J. Glebe (annual value) (integer): imputed rent in pounds sterling of the agricultural land provided to the minister through parochial endowments for his own use.
 - K. Total living (integer): total value of payments and imputed rents made under items D., E. F., H, I. and J..
 - L. Valuation (gross rental) (integer): valuation in pounds sterling for rating purposes of all heritable property in the parish including property not liable to rates.
 - M. Valuation (annual value) (integer): valuation in pounds sterling for rating purpose of all heritable property in the parish liable to rates.
 - N. Rates (poor) (integer): charge in pence per pound of rateable value of property levied to fund parochial poor funds.
 - O. Rates (school) (integer): charge in pence per pound of rateable value of property levied to fund the parish school.
 - P. Rates (other) (integer): charge in pence per pound of rateable value of property levied to meet other charges on the parish including the provision of public health services.
- 2) census_of_population_1851_religious_worship.xls
 - i) This spreadsheet consist of 6 worksheets, each worksheet also was individually saved as a tab-file.

- A. Table 1; Summary of provision for and attendance at religious worship in Scotland: 5 observations with 12 data fields -
census_of_population_1851_religious_worship_summary_of_provision.tab
 - B. Suppl. 1: Supplement 1 to Tables A and B: 32 observations with 27 data fields -
census_of_population_1851_religious_worship_supplement_1.tab.
 - C. Suppl. 2: Supplement 2 to Table A: 41 observations with 14 data fields -
census_of_population_1851_religious_worship_supplement_2.tab
 - D. Table A: Summary of the whole of Scotland: 41 observations with 25 data fields -
census_of_population_1851_religious_worship_summary_scotland.tab.
 - E. Table B – Summary (ordered by county): 32 observations with 15 data fields -
census_of_population_1851_religious_worship_summary_county.tab.
 - F. Table B. Denominational Details of Places of Worship, Sittings and Attendants in Counties: 334 observations with 15 data fields -
census_of_population_1851_religious_worship_denominational_details.tab.
- ii) For Table 1; Summary of provision for and attendance at religious worship in Scotland, the fields are:
- A. Religious denomination (string): short name of denomination
 - B. Number of places of worship (integer): total number of places of worship to which the census enquiries were sent.
 - C. Number of sittings (integer): estimate, allowing for missing returns, of the total number of people that might be accommodated in the places of worship to which the census enquiries were sent.
 - D. Number of attendants at public worship on Sunday, March 30, 1851: Morning (integer): estimate, allowing for missing returns, of the total number of people that attended religious worship before midday in the places to which the census enquiries were sent.
 - E. Number of attendants at public worship on Sunday, March 30, 1851: Afternoon (integer): estimate, allowing for missing returns, of the total number of people that attended religious worship between midday and 6.00 p.m. in the places to which the census enquiries were sent.
 - F. Number of attendants at public worship on Sunday, March 30, 1851: Evening (integer): estimate, allowing for missing returns, of the total number of people that attended religious worship after 6.00 p.m. in the places to which the census enquiries were sent.
 - G. Proportion of attendants to population: Morning (integer): ratio of total population of Scotland estimated from census attending religious worship before midday in the places to which the census enquiries were sent.
 - H. Proportion of attendants to population: Afternoon (integer): ratio of total population of Scotland estimated from census attending religious worship between midday and 6.00 p.m. in the places to which the census enquiries were sent.
 - I. Proportion of attendants to population: Evening (integer): ratio of total population of Scotland estimated from census attending religious worship after 6.00 p.m. in the places to which the census enquiries were sent.
 - J. Proportion of attendants to sittings: Morning (integer): ratio of total sittings available used before midday in the places to which the census enquiries were sent.
 - K. Proportion of attendants to population: Afternoon (integer): ratio of total sittings available used between midday and 6.00 p.m. in the places to which the census enquiries were sent.

- L. Proportion of attendants to population: Evening (integer): ratio of total sittings available used after 6.00 p.m. in the places to which the census enquiries were sent.
- iii) For Suppl. 1: Supplement 1 to Tables A and B: 32 observations with 27 data fields, the fields are lists for each denomination separately the number of returns sent to places of worship that were not returned; and the observations are civil counties.
- iv) For Suppl. 2: Supplement 2 to Table A: 41 observations with 14 data fields, the fields record for each denomination:
- A. Religious denomination (string): short name of denomination
 - B. Number of places of worship: separate buildings (integer): total number of places of worship from which answer to the census enquiries were received, used exclusively as places of worship.
 - C. Number of places of worship: separate buildings (integer): total number of places of worship from which answer to the census enquiries were received, used exclusively as places of worship.
 - D. Number of places of worship: total (integer): total number of places of worship from which answer to the census enquiries were received (sum of C. and D.).
 - E. Number of sittings: free (integer): total number of people that might be accommodated in the places of worship from which census returns were received, in unrented pews.
 - F. Number of sittings: appropriated (integer): total number of people that might be accommodated in the places of worship from which census returns were received, in rented pews.
 - G. Number of sittings: not distinguished (integer): total number of people that might be accommodated in the places of worship from which census returns were received, about which no information relating to seat rents was available.
 - H. Number of sittings: total (integer): total number of people that might be accommodated in the places of worship from which census returns were received (sum of E., F. and G.).
 - I. Number of attendants at public worship on Sunday, March 30, 1851: Morning (integer): total number of people that attended religious worship before midday in the places from which census returns were received.
 - J. Number of attendants at public worship on Sunday, March 30, 1851: Afternoon (integer): total number of people that attended religious worship between midday and 6.00 p.m. in the places from which census returns were received.
 - K. Number of attendants at public worship on Sunday, March 30, 1851: Evening (integer): total number of people that attended religious worship after 6.00 p.m. in the places from which census returns were received.
 - L. Number of Places open for Worship, on Sunday, March 30, 1851: morning (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place before 12 noon on the census date.
 - M. Number of Places open for Worship, on Sunday, March 30, 1851: afternoon (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
 - N. Number of Places open for Worship, on Sunday, March 30, 1851: evening (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.
 - O. Number of Sittings available, on Sunday, March 30, 1851: morning (integer): total number of people that might be accommodated in places of worship from which answer to the

- census enquiries were received and at which religious worship took place before 12 noon on the census date.
- P. Number of Sittings available, on Sunday, March 30, 1851: afternoon (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
- Q. Number of Sittings available open for Worship, on Sunday, March 30, 1851: evening (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.
- R. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: Before 1801 (integer): Total number of places of worship for which a census return was received in use as a place of worship since before 1801.
- S. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: Before 1801 (integer): Total number of places of worship for which a census return was received in use as a place of worship since before 1801.
- T. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: 1801 – 1811 (integer): Total number of places of worship for which a census return was received in use as a place of worship since the first decade of the nineteenth century.
- U. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: 1811 – 1821 (integer): Total number of places of worship for which a census return was received in use as a place of worship since the second decade of the nineteenth century.
- V. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: 1821 – 1831 (integer): Total number of places of worship for which a census return was received in use as a place of worship since the third decade of the nineteenth century.
- W. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: 1831 – 1841 (integer): Total number of places of worship for which a census return was received in use as a place of worship since the fourth decade of the nineteenth century.
- X. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: 1841 – 1851 (integer): Total number of places of worship for which a census return was received in use as a place of worship only during the fifth decade of the nineteenth century.
- Y. Periods during which the existing Places of Worship were erected or appropriated to Religious purposes: Date not stated (integer): Total number of places of worship for which a census return was received in use as a place of worship for an unknown period.
- v) For Table B – Summary (ordered by county): 32 observations with 15 data fields, the observations are civil counties, while the data fields are:
- A. County (string): name of civil county.
- B. Population (integer): total population of civil county.
- C. Number of places of worship (all denominations) (integer): total number of places of worship from which answer to the census enquiries were received.
- D. Number of sittings (all denominations) (integer): total number of people that might be accommodated in the places of worship from which census returns were received.

- E. Number of attendants at public worship on Sunday, March 30, 1851: Morning (integer): total number of people that attended religious worship before midday in the places from which census returns were received.
 - F. Number of attendants at public worship on Sunday, March 30, 1851: Afternoon (integer): total number of people that attended religious worship between midday and 6.00 p.m. in the places from which census returns were received.
 - G. Number of attendants at public worship on Sunday, March 30, 1851: Evening (integer): total number of people that attended religious worship after 6.00 p.m. in the places from which census returns were received.
 - H. Number of Places open for Worship, on Sunday, March 30, 1851: morning (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place before 12 noon on the census date.
 - I. Number of Places open for Worship, on Sunday, March 30, 1851: afternoon (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
 - J. Number of Places open for Worship, on Sunday, March 30, 1851: evening (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.
 - K. Number of Sittings available, on Sunday, March 30, 1851: morning (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place before 12 noon on the census date.
 - L. Number of Sittings available, on Sunday, March 30, 1851: afternoon (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
 - M. Number of Sittings available open for Worship, on Sunday, March 30, 1851: evening (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.
 - N. Number of Places of Worship, which made no Return as to Sittings: total number of returns received for which this enquiry was not answered.
 - O. Number of Places of Worship, which made no Return as to Sittings: total number of returns received for which this enquiry was not answered.
- vi) Table B. Denominational Details of Places of Worship, Sittings and Attendants in Counties: 334 observations with 15 data fields. The observations are for each denomination for which a census return was received from one or more congregations in a county (so there is no data entry for a denomination for which no congregation in a county made a return).
- A. County (string): name of civil county.
 - B. Denomination (string): short title of religious denomination.
 - C. Number of places of worship (integer): total number of places of worship from which answer to the census enquiries were received.
 - D. Number of sittings (integer): total number of people that might be accommodated in the places of worship from which census returns were received.

- E. Number of attendants at public worship on Sunday, March 30, 1851: Morning (integer): total number of people that attended religious worship before midday in the places from which census returns were received.
- F. Number of attendants at public worship on Sunday, March 30, 1851: Afternoon (integer): total number of people that attended religious worship between midday and 6.00 p.m. in the places from which census returns were received.
- G. Number of attendants at public worship on Sunday, March 30, 1851: Evening (integer): total number of people that attended religious worship after 6.00 p.m. in the places from which census returns were received.
- H. Number of Places open for Worship, on Sunday, March 30, 1851: morning (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place before 12 noon on the census date.
- I. Number of Places open for Worship, on Sunday, March 30, 1851: afternoon (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
- J. Number of Places open for Worship, on Sunday, March 30, 1851: evening (integer): total number of places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.
- K. Number of Sittings available, on Sunday, March 30, 1851: morning (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place before 12 noon on the census date.
- L. Number of Sittings available, on Sunday, March 30, 1851: afternoon (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place between 12 noon and 6.00 p.m. on the census date.
- M. Number of Sittings available open for Worship, on Sunday, March 30, 1851: evening (integer): total number of people that might be accommodated in places of worship from which answer to the census enquiries were received and at which religious worship took place after 6.00 p.m. on the census date.

3) census_of_population_1851_education.xls

- i) This spreadsheet consists of 10 worksheets, each worksheet also was individually saved as a tab-file:
 - A. Table A: Day Schools, Classified according to their Sources of Maintenance - Summary of Scotland: 40 observations, with 8 data fields - census_of_population_1851_education_day_schools.tab.
 - B. Table B. Sabbath Schools (Classified according to the Denominations which support them) - Summary of Scotland: 38 observations, with 12 data fields - census_of_population_1851_education_sabbath_school.tab.
 - C. Supplement II. To Table A. - Showing the total number of Schools supported in degree by Religious Bodies (Exclusive of Parochial and Burgh Schools): 9 observations with 8 data fields - census_of_population_1851_education_supplement_II.tab.
 - D. Table C. Income of Public Day Schools: 38 observations, 11 data fields - census_of_population_1851_education_income.tab.

- E. Table E. Number of Scholars instructed in various Branches of Learning - Summary of Scotland: 39 observations, 27 data fields -
census_of_population_1851_education_scholars_branches.tab.
 - F. Table F. Number of Teachers in Public Schools: 39 observations, 12 data fields -
census_of_population_1851_education_number_of_teachers.tab.
 - G. Table G. Remuneration of Teachers in Public Schools - Summary of Scotland: 28 observations, 13 data fields -
census_of_population_1851_education_remuneration_of_teachers.tab.
 - H. Table I. Dates at which existing Schools were established - Summary of Scotland: 39 observations, 20 data fields - census_of_population_1851_education_dates_schools.tab.
 - I. Table M. Sabbath Schools and Teachers (Classified according to the Denominations which support them) - Summary of Scotland: 38 observations, 14 data fields -
census_of_population_1851_education_sabbath_schools_and_teachers.tab.
 - J. Table N. Dates at which existing Sabbath Schools were established - Summary of Scotland: 38 observations, 9 data fields -
census_of_population_1851_education_dates_sabbath_schools.tab.
- ii) For Table A: Day Schools, Classified according to their Sources of Maintenance - Summary of Scotland: the 40 observations are of various types of school, depending on ownership structure; the 8 data fields are:
- A. Description of School (string): ownership classification of schools for which returns have been received.
 - B. Number of Schools (integer): total number of schools for which returns have been received.
 - C. Number of Scholars belonging to the Schools (both sexes) (integer): total number of pupils reported on returns as being enrolled at school.
 - D. Number of Scholars belonging to the Schools (males) (integer): total number of boys reported on returns as being enrolled at school.
 - E. Number of Scholars belonging to the Schools (females) (integer): total number of girls reported on returns as being enrolled at school.
 - F. Number of Scholars attending on the day of the Census (both sexes) (integer): total number of pupils reported on returns as present at school.
 - G. Number of Scholars attending on the day of the Census (males) (integer): total number of boys reported on returns as present at school.
 - H. Number of Scholars attending on the day of the Census (females) (integer): total number of girls reported on returns as present at school.
- iii) Table B. Sabbath Schools (Classified according to the Denominations which support them) - Summary of Scotland: 38 observations at denominational level, with 11 data fields.
- A. Religious denomination to which the School belongs (string): short title of denomination.
 - B. No. of schools (integer): total number of schools affiliated with the denomination.
 - C. Building in which the Instruction is carried on (separate building) (integer): total number of schools that operate from premises that are not part of a place of worship or private dwelling.
 - D. Building in which the Instruction is carried on (church or chapel) (integer): total number of schools that operate from premises that are part of a place of worship.
 - E. Building in which the Instruction is carried on (house) (integer): total number of schools that operate from premises that are part of a place of a private dwelling.

- F. Number of Scholars on the Books of the School (both sexes) (integer): total number of pupils registered with the school.
 - G. Number of Scholars on the Books of the School (males) (integer): total number of boys registered with the school.
 - H. Number of Scholars on the Books of the School (females) (integer): total number of girls registered with the school.
 - I. At the School and actually receiving instruction at one time, on Sunday, March 30, 1851 (both sexes) (integer): total number of pupils attending school on the census date.
 - J. At the School and actually receiving instruction at one time, on Sunday, March 30, 1851 (males) (integer): total number of boys attending school on the census date.
 - K. At the School and actually receiving instruction at one time, on Sunday, March 30, 1851 (females) (integer): total number of girls attending school on the census date.
- iv) Supplement II. To Table A. - Showing the total number of Schools supported in degree by Religious Bodies (Exclusive of Parochial and Burgh Schools): 9 sets of summary statistic for the largest denominations with 8 data fields, identical to those in Table A, but omitting categories C., D. and E. relating to the premises used.
- v) Table C. Income of Public Day Schools: the 38 observations are of various types of school, depending on ownership structure; the 11 data fields are:
- A. Description of School (string): ownership classification of schools for which returns have been received.
 - B. Number of Schools (integer): total number of schools for which returns have been received.
 - C. Number of Scholars (integer): total number of pupils returned as being registered as pupils.
 - D. Number of Schools from which Returns of Income were received (integer): total number of each class of school including responding to enquiries about income.
 - E. Number of Scholars (integer): total number of pupils registered at schools responding to enquiries about income.
 - F. Income for the Year 1850: Permanent Endowments (integer): total income derived from returns on investment held in trust for schools.
 - G. Income for the Year 1850: Voluntary Contributions (integer): total income derived from private donations during the year.
 - H. Income for the Year 1850: Grants from Government (integer): total income derived grants made by central government.
 - I. Income for the Year 1850: Payments by scholars (integer): total income derived from tuition fees charged.
 - J. Income for the Year 1850: Other sources (integer): total income derived all other sources, including local taxation.
 - K. Income for the Year 1850: Total (integer): total income derived from all sources (sum of items F. – K.).
- vi) For Table E. Number of Scholars instructed in various Branches of Learning - Summary of Scotland, the 39 observations relate to the various classes of school, and the 27 data fields relate to the number of pupils (totals for boys and girls listed separately) recorded as studying specific subjects:
- A. Description of School (string): ownership classification of schools for which returns have been received.

B. For Boys' Schools:

- (1) Number of Scholars (integer): total number of boys returned as being registered as pupils.
- (2) Number of Scholars for whom information is given (integer): total number of boys for whom information on subjects studied is available.
- (3) Number of Scholars instructed in each of the under-mentioned branches of education (all integers): total number of boys studying:
 - (a) Reading
 - (b) Writing
 - (c) Arithmetic
 - (d) English grammar
 - (e) Geography
 - (f) Modern languages
 - (g) Ancient languages
 - (h) Mathematics
 - (i) Drawing
 - (j) Music
 - (k) Industrial occupations.

C. For Girls' Schools, the same classification is used.

vii) Table F. Number of Teachers in Public Schools: with 39 observations on classes of schools, and 12 data fields:

- A. Description of School (string): ownership classification of schools for which returns have been received.
- B. Number of Schools for which information as to Teachers was given (integer): total number of schools responding to the enquiries in the Census.
- C. Number of Scholars for whom information is given (integer):
 - (1) Boys: total number of boys registered as pupils at schools for which information on teachers is available.
 - (2) Girls: total number of girls registered as pupils at schools for which information on teachers is available.
- D. Number of teachers (integer): total number of teachers in each of these classes:
 - (1) Male teachers classified as
 - (a) Paid masters
 - (b) Paid monitors and pupil teachers
 - (c) Unpaid teachers
 - (d) Total in all groups
 - (2) Female teachers similarly classified.

viii) Table G. Remuneration of Teachers in Public Schools - Summary of Scotland: 28 observations on various classes of school, with 13 data fields:

- A. Description of School (string): ownership classification of schools for which returns have been received.
 - B. Remuneration of masters (integers)
 - (1) Number of masters to whom the figures apply: total number of School masters for whom returns of teaching remuneration have been made in the census.
 - (2) Aggregate remuneration: total of all payments made to these masters divided into
 - (a) Salary
 - (b) Tuition fees received.
 - (3) Average remuneration per master: total of all payments made to masters (2) divided by the number of masters (1)
 - (4) Number of masters who are allowed a residence: total number of masters who receive remuneration in kind by being provided with a school house.
 - C. Remuneration of mistresses (integers): the same structure is followed as for masters in B.
- ix) Table I. Dates at which existing Schools were established - Summary of Scotland: Data relates to 39 observations on different classes of school, with 20 data fields.
- A. Description of School (string): ownership classification of schools for which returns have been received.
 - B. Total number of existing Schools (integer): total number of schools that responded to the census enquiries on this matter.
 - C. Dates at which existing Schools were established (integer): classification in the periods
 - (1) Before 1801
 - (2) 1801 – 1810
 - (3) 1811 – 1820
 - (4) 1821 – 1830
 - (5) 1831 – 1840
 - (6) In each year since 1840, up until the first three months of 1851.
 - (7) At no specified date
- x) Table M. Sabbath Schools and Teachers (Classified according to the Denominations which support them) - Summary of Scotland: 38 observations on religious denominations, with 14 data fields.
- A. Religious Denomination to which the School belongs (string): short title of denomination.
 - B. Number of Schools and Scholars (integer):
 - (1) Schools: total number of schools making returns
 - (2) Scholars: total number of pupils school claims to have registered
 - (a) Males: total number of boys registered as pupils
 - (b) Females: total number of girls registered as pupils
 - C. Number of Teachers (integer): total number of teachers recorded as taking classes in schools.
 - (1) Total, with sub-totals of male and female teachers.
 - (2) Paid teachers, with sub-totals of male and female teachers

(3) Unpaid teachers, with sub-totals of male and female teachers.

xi) Table N. Dates at which existing Sabbath Schools were established - Summary of Scotland: 38 observations at denominational level, with 9 data fields:

A. Religious Denomination to which the School belongs (string): short title of denomination.

B. Periods during which Schools were established (integer): total number of schools established in each of the following periods:

(1) Before 1801

(2) 1801 – 1810

(3) 1811 – 1820

(4) 1821 – 1830

(5) 1831 – 1840

(6) 1841 – 1851.

(7) At no specified date

4) free_church_of_scotland_congregational_income_1853 -54.xls -
free_church_of_scotland_congregational_income_1853 -54.tab

i) This spreadsheet consists of a single spreadsheet “FC 1854” and consists of 856 observations on congregations of the Free Church of Scotland in 1854, with 25 data fields.

ii) The fields are:

A. Synod (string): The geographical region of Scotland in which the congregation’s place of worship was situated; and the intermediate church court that had jurisdiction over the congregation’s activities.

B. Presbytery (string): A smaller geographical unit within a Synod, and the church court with immediate oversight of the congregation.

C. Congregational reference number (integer): A dummy used in the Free Church’s financial records to identify each congregation.

D. Place (string): The short name of the congregation, generally the settlement in which the congregation’s place of worship was located.

E. Members or adherents (integer): The number of people with a formal association with the congregation. (This data field has been left blank for 1854 data because the records consulted did not include it.)

F. Local building (integer, and decimal): The amount contributed by the congregation to funds to erect or improve its place of worship. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.

G. Congregational and miscellaneous (integer and decimal): The amount contributed by the congregation used to finance its ongoing activities. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.

H. Sustentation: (integer and decimal): The amount remitted by the Congregation to the central offices of the Free Church of Scotland as a contribution to the Sustentation Fund, which was distributed to ministers as part of their remuneration. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.

- I. Total Missionary and Educational (integer and decimal): The amount remitted by the Congregation to the central offices of the Free Church of Scotland to support the Church's centrally managed projects. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.
 - J. Gross Total (integer and decimal): The total amount of expenditure of the congregation (the sum of F., G., H. and I). Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.
- 5) free_church_of_scotland_congregational_income_1863_4.xls - free_church_of_scotland_congregational_income_1863_4.tab
- i) This spreadsheet consists of a single spreadsheet "FC 1864" and consists of 903 observations on congregations of the Free Church of Scotland in 1864, with 25 data fields.
 - ii) The fields are exactly the same as in 1854. Again, the available data did not include information on members or adherents.
- 6) free_church_of_scotland_congregational_income_1873_4.xls - free_church_of_scotland_congregational_income_1873_4.tab
- i) This spreadsheet consists of a single spreadsheet "FC 1874" and consists of 962 observations on congregations of the Free Church of Scotland in 1874, with 25 data fields.
 - ii) The fields are exactly the same as in 1854, except that the available data includes the number of members or adherents for each congregation.
- 7) united_presbyterian_church_general_statistics_1858.xls - united_presbyterian_church_general_statistics_1858.tab
- i) This spreadsheet consists of a single worksheet, "General Stat" and consists of summary data for 31 Presbyteries, with 42 data fields.
 - ii) The data fields are:
 - A. Name of Presbytery (string): the lower church court that supervised the activities of congregations whose place of worship lay within its bounds.
 - B. Congregations (integer): the number of congregations worshipping within the Presbytery.
 - C. Returns (integer): the number of returns received from congregations within the Presbytery.
 - D. Baptisms (integer): the total number of baptisms taking place within congregations.
 - E. Members (integer): the total number of members of the United Presbyterian Church.
 - F. Congregational ordinary income (integer and decimal): The total amount contributed by members of congregations to support its ongoing activities. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.
 - G. Collected for missionary and benevolent purposes (integer and decimal): The total amount contributed by members of congregations to support the wider schemes of the United Presbyterian Church. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.
 - H. Total (integer and decimal): The total amount contributed by members of congregations across each Presbytery and used within activities of the United Presbyterian Church. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.
 - I. Average per congregation (integer and decimal): The average amount contributed by members of congregations within a Presbytery and used within activities of the United

Presbyterian Church. Contributions are recorded as stated in church records in units of pounds, shillings and pence, and also in decimal form, in pounds.

- J. Average for each Member: Ordinary income (integer and decimal): The contribution per member supporting ongoing congregational activities, equal to the congregation ordinary income (F.) divided by the members (E.).
- K. Average for each Member: Missionary and Benevolent (integer and decimal): The contribution per member supporting the wider schemes of the Church, equal to the total missionary and benevolent income (G.) divided by the members (E.).
- L. Average for each Member: Total (integer and decimal): The contribution per member supporting the activities of the Church, equal to the total missionary and benevolent income (G.) divided by the members (E.).
- M. Instruction of the young: Sabbath Schools (integer): number of Sabbath Schools in each Presbytery
- N. Instruction of the young: Number of teachers (integer): number of teachers in Sabbath Schools in each Presbytery
- O. Instruction of the young: Attendance (integer): number of children attending Sabbath Schools in each Presbytery
- P. Instruction of the young: Advanced Classes (integer): number of advanced classes running in Sabbath Schools in each Presbytery
- Q. Instruction of the young: Attendance at Advanced Classes (integer): number of people reported as attending advanced classes in Sabbath Schools in each Presbytery
- R. Instruction of the young: Other Schools (integer): number of other schools offering operated by the United Presbyterian Church in each Presbytery
- S. Libraries (integer): Number of libraries operated by congregations in the Presbytery.
- T. No. of volumes (integer): Total number of books owned by the congregational libraries in the Presbytery.
- U. Prayer meetings (integer): Number of regular prayer meetings held within the Presbytery.
- V. Attendance (integer): Estimate of total attendance at these prayer meetings.

8) united_presbyterian_church_general_statistics_1864.xls

- i) This spreadsheet consists of four worksheets, each worksheet also was individually saved as a tab-file:
 - A. General Stat, which is similar in form to the equivalent worksheet from 1858 and consists of summary data for 31 Presbyteries, with 48 data fields -
united_presbyterian_church_general_statistics_1864_general_statistics.tab.
 - B. Comp. Stat, which is a table of summary data for the denomination for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1864_comparative_table.tab.
 - C. Contr. per member, which is a table of summary data showing the growth of contributions per member in each Presbytery for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1864_contr_per_member.tab.
 - D. Comp. table of stipends, which is a table of summary data showing the growth of total stipends (payments to ministers) in the United Presbyterian Church for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1864_comp_stipends.tab.

- ii) For General Stat, the data fields are the same as for the 1858 table, except for the new categories:
 - A. Elders (integer): the total number of ordained elders associated with congregations within the Presbytery.
 - B. Average attendance (integer): the estimated average attendance at religious worship on a Sunday in 1864 in congregations across the Presbytery.
 - C. Average per congregation (integer and decimal): This measure in the 1858 table is no longer included in 1864.
 - D. Stipend payments (integer and decimal): The total remuneration of ordained ministers in the Presbytery.
 - E. Sacramental and travelling expenses (integer): The total payments (in pounds) made to ministers in recompense for expenses incurred during professional activities.
 - F. Annual value of manses: The total imputed rent (in pounds) of the houses provided for ministers in the Presbytery.
 - G. Debt liquidated (integer): The total payments made to reduce outstanding congregational debts for the erection of buildings.
 - H. Instruction of the young: Sabbath Schools (integer): This variable is dropped.
 - I. Instruction of the young: Advanced Classes (integer): These are renamed Ministers' and Elders' Classes.
 - J. Instruction of the young: Attendance (integer): number of people reported as attending ministers' and elders' classes in Sabbath Schools in each Presbytery
 - K. Instruction of the young: Other Schools (integer): This variable is dropped.
 - L. Prayer meetings (integer): This variable is dropped.
 - M. Attendance at weekly prayer meetings (integer): Estimate of total attendance at these prayer meetings.
 - N. Attendance at fortnightly prayer meetings (integer): Estimate of total attendance at these prayer meetings.
 - O. Attendance at monthly prayer meetings (integer): Estimate of total attendance at these prayer meetings.
 - P. Attendance at prayer meetings (integer): Estimate of total attendance at these prayer meetings (sum of M., N. and P).
- iii) Comparative Table of Statistics for Seven Years: This reports the aggregate totals for each of the categories in the General Statistics worksheet for each year from 1858 until 1864.
- iv) Average Contribution per Member for All Purposes: This reports the average contribution per member to church funds in each Presbytery for each of the years between 1858 and 1864.
- v) Comparative Table of Stipends for Seven Years:
 - A. Congregational: Total congregational contributions to stipends (ministerial salaries).
 - B. Sacramental and Travelling Expenses: Total recompense for professional expenses incurred by ministers.
 - C. Supplements: Additional payments made from central funds to support ministers of congregations receiving small stipends.
 - D. Total: Total ministerial remuneration (equal to sum of A., B. and C.).
 - E. Average per member: Total remuneration divided by total membership.

F. Average per congregation: Total remuneration divided by the number of congregations.

9) united_presbyterian_church_general_statistics_1874.xls

- i) This spreadsheet consists of four worksheets, each worksheet also was individually saved as a tab-file:
 - A. General Stat, which is very similar in form to the equivalent worksheet from 1864 and consists of summary data for 31 Presbyteries, with 55 data fields -
united_presbyterian_church_general_statistics_1874_general_statistics.tab.
 - B. Comp. Stat, which is a table of summary data for the denomination for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1874_comparative_table.tab.
 - C. Contr. per member, which is a table of summary data showing the growth of contributions per member in each Presbytery for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1874_contr_per_member.tab.
 - D. Comp. table of stipends, which is a table of summary data showing the growth of total stipends (payments to ministers) in the United Presbyterian Church for the seven years between 1858 and 1864 -
united_presbyterian_church_general_statistics_1874_comp_stipends.tab.
- ii) For General Stat, the data fields have exactly the same structure as for the 1864 table except for the addition of the new field :
 - A. Stations with religious services conducted by ministers: the total number of locations in which religious worship was conducted regularly.
- iii) Comparative Table of Statistics for Seven Years: This has the same form as the report for 1864.
- iv) Average Contribution per Member for All Purposes: This has the same form as the report for 1864.
- v) Comparative Table of Stipends for Seven Years: This has the same form as the report for 1864.

A bibliography of sources of quantitative data for studies in the economic history of the Scottish churches in the mid-nineteenth century

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Abstract: A brief survey of the economic analysis of religion precedes an account of the development of religious institutions in Scotland in the nineteenth century. Sources of data for cliometric analysis of religious behaviour are then considered for the period 1837 – 1874. The existence of rich data allows an institutional economic account of the interactions between denominations, and throws up a number of research questions to which the available data might well be usefully applied.

1. Introduction

This paper complements McCaffrey, 1989, which surveys the wide range of text-based primary and secondary sources useful in social, political and church history of religious behaviour in nineteenth century Scotland. Some commentators, such as Fry, 1987, have argued that there is a need for analysis grounded in economic history, but without explaining how this might augment the existing modes of analysis. The current survey reports on the most readily available quantitative data sources, and shows the scope for cliometric analysis, which is the application of economic theory and statistical inference to historical data, to describe and explain the processes of church growth and inter-denominational interaction between the Ten Years' Conflict, 1834 – 1843, and the start of the Disestablishment Campaign, 1873 – 1885. To give context to the review of data sources, the paper begins with a brief account of the application of industrial organisation theory to the provision of religious services and characterises changes in the nature of such provision over time as economic processes. This leads into the review of the nature of denominational and official data sources that are available, and how these might be used in statistical analysis. An appendix describes the datasets fully.

The standard definition of the nature and scope of economic analysis is still that of Robbins, 1932: 15, “the science which studies human behaviour as a relationship between ends and scarce means which have alternative uses.” Note that this does not restrict attention to the standard objects of economic analysis, such as companies, but allows for the economic analysis of the behaviour of all entities, so long as they encounter limitations on the resources available. Hence there are well established economic theories of the provision of public goods, private clubs and an emerging interest in the study of social capital, the intangible wealth created through social interactions. (See for example, Bergstrom, 2002, Prescott & Townsend, 2006, Durlauf & Fafchamps, 2004, Glaeser *et al*, 2002, Sobel, 2002)

It is useful to distinguish between institutionalist approaches, in which the environment facing economic actors shapes their actions, in many ways the traditional approach of economic history, and the still emerging field of the economics of religion (e.g. Fogel, 2000, Mokyr, 2002, North, 2005, Iannaccone, 1998, Oslington, 2003). In this latter approach, participation in religious activity may be treated as if it were a purely economic phenomenon, with individuals seeking to maximise their well-being, and churches concerned about generating sufficient surplus to achieve objectives such as membership growth. While informed by these more recent developments, this paper emerges from the largely institutionalist analysis of the denominational behaviour of Scottish churches in the mid-nineteenth century in Mochrie *et al*, 2007a.

Drawing on the structure – conduct – performance paradigm of Bain, 1956, designed to analyse how the economic environment facing an industry determines the behaviour of firms engaged in it, and the resulting outcomes in terms of, for example, profitability and growth, this approach presumes that it is fruitful to treat the provision of the ordinances of religion as the output of an industry, in which each denomination is a separate firm, or company, and adherents, or members, consume these services. We quickly slip past the problems that these assumptions might pose, such as specifying exactly what replaces the assumption of profit maximising behaviour

among firms, the complexities inherent in services being provided through local congregations effectively to themselves, and the nature of governance structures, control rights and ownership in various denominations. Adopting the instrumentalism of Friedman, 1953, the test, “By their fruits you shall know them,” (Matt 7: 16) is appropriate. That is, the justification of this approach, operationalised through the specific assumptions discussed more fully below, is not that the assumptions are true in the sense of being accurate descriptions of the structure of denominational churches, but simply that they allow useful insights into their behaviour. Theory is simply a vehicle for predicting regularities in outcomes, and theory is validated if prediction is frequently accurate.

2. Modelling churches as economic entities.

In Scotland in the mid-nineteenth century, provision of the ordinances of religion, by which we mean collective, corporate, public Christian worship and associated pastoral services, was typically undertaken by denominationally distinct churches that were Calvinist in doctrine, and Presbyterian in governance. Data about the largest of these churches – the Church of Scotland, the United Secession Church, the Relief Church, the Free Church of Scotland, and, for much of this period, the United Presbyterian Church – is readily available. Smaller Presbyterian denominations, such as the Reformed Presbyterian Church, and the Original Secession Church may be regarded as forming a ‘competitive fringe’ of dissenting churches, alongside other denominations, such as Baptist and Congregational Unions, the Methodist Church in Scotland, the Scottish Episcopal Church and the Roman Catholic Church.¹ In this survey we restrict attention to the Presbyterian denominations with the largest share of the market for religious services. We now present assumptions about the structure of both demand and supply in this market.

The first assumption is that demand for religious services comes from individuals, or, alternatively, from households. The personal services provided by a church (e.g. public worship, teaching, catechisation, the sacraments, the celebration of marriage, funerals) can be received only through attendance at a church building, or from household visitation. The second assumption is that worship and other services, specifically the Ministry of Word and Sacrament, are provided to the whole congregation. There is a public good element to the provision of these services, in that the church offers them to all who are willing to receive them, without charging at the point of consumption. Excludability from, and rivalry in, consumption – typical characteristics of private goods traded in markets – are largely absent from markets for religious services. Consequently, churches have to devise financing mechanisms that ensure their sustainability.² The third assumption is that demand is necessarily personal, so there cannot be remote delivery of services. This leads to denominations forming local congregations of adherents, and providing services through these units. Congregations of all denominations enjoyed a certain measure of autonomy, and so it seems reasonable to treat denominations as networks of affiliated congregations,

¹ Numerically the strength of the Roman Catholic Church grew rapidly during the period of our study from a very low base which was geographically highly concentrated. Throughout the period the Episcopal Church of Scotland had a greater number of places of worship and fuller national coverage.

² In Sawkins and Mochrie, 2007, we show the importance of the design of effective financing mechanisms in explaining the behaviour of the Presbyterian denominations in the nineteenth century.

although the nature of the networks varied considerably, even across the larger Presbyterian denominations.

As explained below, it is of great assistance to cliometric analysis that the civil parish was the primary unit of civil administration throughout the nineteenth century for the whole of Scotland except those urban areas that formed Royal or Parliamentary Burghs. Since the boundaries of civil and religious parishes were largely co-terminous, much official data is available at this level of disaggregation, which, since the parish was typically defined as being an area small enough to support a single congregation, means that it is necessary to consider whether it is reasonable to treat individual parishes as separate markets. In ongoing empirical research, (Mochrie *et al*, 2007a, b) the claim of *Distribution and Statistics of the Churches*, 1886 is accepted. That is, except in burghs, the extent of variety of provision of religious services within parishes and the costs of travel to an adjacent parish to partake of the ordinances of religion were generally sufficient to curtail competition across parish boundaries.

Given the concentration on Presbyterian churches, it is appropriate and convenient to assume that there are no substantial differences in the means of providing the ordinances of religion across denominations. Denominational congregations can then be treated as largely self-managed associations of ministers and adherents. Presbyteries can likewise be treated as local ministerial associations, and church courts, providing supervision to ministers and congregations. Each denomination allowed for the appointment of a minister to a congregation or to a parish. Ministers were required to have completed a period of training, typically provided by the denomination, and to have been licensed by the Presbytery with oversight of that congregation.

Ministers were holders of an office, rather than employees of the church, and hence their emoluments took the form of a stipend, rather than a salary, and typically the provision of a house or manse. Especially in the Church of Scotland, other rights, such as the provision of a glebe, augmented the stipend. This may seem to be quite a minor distinction, but it helps to explain the concern of some denominations that ministries should be endowed, so that stipend was paid from the return on investments, or derived from property rights, without clear scope for monitoring of performance except by fellow ministers.

Collective worship required the erection of a church building. For the established Church of Scotland, funding for new building and maintenance often came from heritable endowments, or government support, but in the other denominations, there was simple reliance on donations.

Thus shearing away a wide range of detail, we may summarise the production of religious services at congregational level as requiring a capital input in the form of the church and manse buildings, and a labour input in the form of ministerial services. Assuming that parishes are a useful unit of organisation, competition between suppliers only takes place between, rather than within, denominations at that level. Such competition is analysed in Mochrie *et al* 2007b.

2.1 Developments in church organisation in nineteenth century Scotland

This note does not add substantially to the extensive historical accounts of nineteenth century church behaviour (e.g. Fleming, 1927, Burleigh, 1960, Drummond & Bulloch, 1973, 1975, 1978, Cheyne, 1999) but shows how an economic understanding casts new light on the evolution of church institutions. Throughout the nineteenth century, Scottish society changed substantially, and religious behaviour, and its organisation, adapted to, but also influenced, these wider changes. These changes can be seen especially clearly in the organisation of the Church of Scotland, which throughout the period of study enjoyed established status, and preferential treatment by the British state. Until the General Assembly of 1834, the Church of Scotland did not address fully the impact of urbanisation on its traditional form of organisation, behaving in many ways as if Scotland remained a largely agrarian economy. Its main source of funding was its heritable endowments, based on rights over the produce of, or rental value of, land.³ The parish retained a role as the primary unit of government, so that, for example, the Church provided much education and poor relief. The Kirk Session, the parochial church court, could still assert a right to discipline the population of the parish.

From 1834, the Church sought additional public endowments for a substantial church extension programme. This campaign was led by the most prominent minister within its evangelical party, Thomas Chalmers, who was Convener of the Church of Scotland's Committee on Church Extension from 1835 until 1842.⁴ In addition to soliciting previously unprecedented private contributions for endowments of church building, the committee sought substantial public funding for the endowment of stipends. For Chalmers, the church, with its ministers visiting every parishioner, and knowing the moral state of every household, was an indispensable partner to the state, guiding the behaviour of all its members. Given these objectives, he believed in the superiority of an established, over a voluntary, church, and in a parochial organisation of spiritual oversight.⁵ He also believed that the Church of Scotland was hampered in carrying out this role because its capacity for spiritual oversight had fallen as the population of Scotland had increased, with many changes in its distribution. Chalmers sought the facts necessary to establish the existence of such a deficiency, the better to argue for a substantial public subsidy (perhaps £500,000) for the endowment of new charges. The reports of the Extension Committee to the General Assembly represent the Church of Scotland case for such support.⁶

³ Arrangements were somewhat different in urban parishes. For example, in Edinburgh, ministers' stipends were funded from the produce of local taxation.

⁴ We evaluate the political economy of Thomas Chalmers in Mochrie, 2008. Brown, 1982, is the standard biography, but the essays in Cheyne, 1985, emphasise the width of his interests and his influence on church policy.

⁵ Chalmers wrote extensively on political economy. The arguments in favour of a Christian polity are made most cogently in Chalmers, 1825, 1832.

⁶ The first of the Reports, Chalmers, 1835, sets out clearly the objectives of the Committee. "What we aim at is not accommodation only, but cheap accommodation – so cheap as to congregate the lower orders in the house of God, not by individuals only, but to congregate them in families. . . . We shall never be able to achieve this while the produce of seat-rents forms the only fund out of which to fund the clergyman." (p5). Recognising that the efforts of the church and its members would not be enough, he continued, "We look to the more powerful hand of a Christian and paternal government," (p6) in order to ensure a sufficient endowment of ministerial stipends.

At the same time as it was seeking financial support from government, the Church adopted other measures, principally the Veto Act, 1834, and the Chapels Act, 1834, that were to lead to a substantial deterioration in the relationship between the Scottish church and the British state. Through these Acts of its General Assembly, the Church of Scotland granted the right to its congregations to refuse a local patron's nomination to a charge, and also asserted its right to form parishes *quoad sacra* without Parliamentary approval, with the ministers of these charges becoming members of church courts, including the General Assembly. It seems reasonable to characterise these Acts as attempts by the Church, along with its campaign for further endowments, to respond to changes in the socio-economic situation of Scotland. By increasing its provision of religious services, the Church hoped to limit the opportunities for entry by other denominations.⁷

The sequel to these decisions, the Ten Years' Conflict, has been the subject of much scholarly analysis. As well as standard church histories, such as Burleigh 1960 and Drummond and Bulloch, 1975, the impact of the events leading up to the Disruption on Scottish society was such that it receives extensive treatment in more general studies, such as Devine, 1999, Smout, 1986, and Fry, 1987. In addition, Brown & Fry, 1992, is a very useful collection of essays on this period. The conflict arose over questions relating to the limits of ecclesiastical authority. Although the Church of

The report also comments on efforts that had been made to inform Scottish MPs of the need for an effective Established Church for the achievement of social objectives, and notes that although all parish ministers had been requested to assist the committee by responding to enquiries, only about 300 returns had been received, and so no statistical information was provided on the need for accommodation.

The second report, Chalmers, 1836, is quite different in tone. By this time, the government had appointed a Royal Commission to enquire into the need for additional church buildings in Scotland. The Committee had therefore prepared detailed submissions for Glasgow, under the direction of William Collins, and for Edinburgh, under the direction of Chalmers himself, but the Commission did not appear to be in any hurry to publish interim reports based on this evidence. Donations to the Church had also declined markedly with the appointment of the Commission, and so Chalmers enjoined the Church to encourage additional giving to the Church's General Fund, securing the right to hold a special collection that year, and to begin a campaign of public meetings.

An appendix to the report contains an account of the construction and endowment of a new parish church in Rothsay, the total cost to the benefactor, the Marquis of Bute, being £6596. Of this, nearly £4,300 was paid into an endowment fund from which a stipend of £150 per year would be funded from fixed interest investments paying 3½% per annum. This suggests firstly that a public endowment of £500,000 would be sufficient to fund the stipends of one hundred ministers, and secondly that private donations of about half that amount would be required to fund the associated church building programme.

For our purposes, in some ways the most important commentary begins in Chalmers, 1838, where an appendix is included showing the donations to the schemes of the Church of Scotland by congregation. So far as we are aware, this is the only example of the systematic collation of financial data relating to Church of Scotland congregation before the Disruption and will be an important set of benchmark data for studies of changes in congregational activity.

⁷ It could also be argued that the legislation constituted an attempt to construct a Church that was more attuned to the aspirations of the evangelical party, since the majority of ministers admitted to church courts through the Chapels Act were considered to adhere to such a theology. Without evangelicals predominating in the Church's supreme court throughout the Ten Years Conflict, it is unlikely that it would have concluded with schism.

Scotland had sought opinions from the Lord Advocate, Francis Jeffrey, as to the validity of the legislation before it was enacted, a sequence of judgements in the civil courts from 1838 onwards held that the Church's Acts were inconsistent with the Parliamentary legislation establishing it, and so were unlawful. The Church ultimately entered into the Claim of Right, 1842, asserting in terms of the Act of Union, 1707, that its absolute sovereignty in spiritual matters was inalienable (Brown & Fry, 1993: 32). Thus in seeking to improve its own management, the Church ended up in a constitutional conflict with the British State, confronting first the judiciary, and ultimately the executive and legislative branches of government.

In the name of the Crown, the Home Secretary, Sir James Graham, rejected the Claim of Right in January 1843. On 20th January, 1843, the House of Lords struck down the Chapels Act, 1834. Secession within the Church of Scotland followed, an event for which the evangelical party had already been planning, with a convocation in Edinburgh in November 1842 drawing in more than three hundred ministers to consult over the practicalities of such a project (Brown & Fry, 1993: 19). The progenitors of the project appear to have believed that the new church would attract such a large proportion of the adherents of the Church of Scotland that the government would be compelled to negotiate with the new body, conceding the freedoms that had been sought in the Ten Years conflict. Fleming, 1927 and Brown, 1982, summarise these events very clearly.

The Free Church of Scotland, which emerged from the subsequent Disruption, came close to achieving its objective. At its formation, it attracted 474 out of 1203 ministers of the Church of Scotland, and perhaps half of the Auld Kirk's membership.⁸ As shown later, it achieved unprecedented success in acquiring endowments and funding. It ensured that it would be impossible for the Church of Scotland, or any competitor, to claim to be the only truly national church, supported by a majority of church adherents. But on some measures, the Free Church appears always to have been the smaller of the two. The Registrar General's analysis of marriages conducted by ministers of the various denominations show that from 1855 until 1874 Free Church ministers conducted about 22% of weddings, while the share of Church of Scotland ministers was typically 43 – 45% (Smout 1986). In terms of economic analysis, as discussed in Sawkins and Mochrie, 2007, the limited penetration of the market for religious services of such a well financed denomination reflects the extent of the barriers to entry enjoyed by the Church of Scotland during this period.

For economic analysis, it is important to remember that while it immediately became the largest competitor to the Church of Scotland in the market for religious services, the Free Church of Scotland was not the first denomination to challenge the National Church. Continuing to restrict attention to Presbyterian denominations, the remnant of the Covenanters formed the Reformed Presbyterian Church in 1690, believing the newly Presbyterian established church to be in partnership with a state that was not subservient to divine law. A further small secession, the formation of the first Associate Presbytery in 1733 created the first voluntarist Presbyterian denomination, which accepted viable congregations into membership wherever they might form, rejecting the desirability of any relationship with the state. Disputes within the

⁸ This now seemingly standard formula seems first to have been used in Fleming, 1927.

Associate Synod led to repeated schism and reconciliation. By 1834, voluntarist Presbyterianism was represented by the United Secession Church and the Relief Church. Partly as a result of the Disruption these two denominations united to form the United Presbyterian Church in 1847. In addition, after many years discussion, the largest part of the Reformed Presbyterian Church entered into union with the Free Church of Scotland in 1876. For economic analysis, during the greater part of the period of study the market for religious services was characterised by a high degree of concentration with strategic interactions arising amongst the three largest denominations as they sought to extend market share. This understanding informs the analysis of Mochrie *et al* 2007b.

3. Denominational data

There is substantial variation in the practices of denominations relating to the collection of quantitative data that might be useful in economic analysis. While many explanations might be given for these differences, the collection and centralised publication of data involves considerable time and expense, and so denominations had to have some reason for wishing to engage in such activity. Towards the end of the period of study, debate about the extent of market penetration of each of the denominations increased substantially (see Church of Scotland, 1874, Cumming, 1871, Johnston, 1870, 1874, Society for the Liberation of Patronage from State Control, 1870). In this context, the systematic ingathering of data on some measures of membership, participation and giving became highly desirable for all denominations. From 1881 until 1929, the publishing company McNiven and Wallace issued the “Scottish Church and University Almanac,” which collated denominational data disaggregated to congregational level. Given the easy availability of this data, this paper concentrates on the more disparate, earlier sources that allow research to extend to the earliest years of the Victorian period.

The data published by Church of Scotland throughout this period was very limited. There is some information available in the series of “Reports of the Schemes of the Church of Scotland,” mainly found in the series of Reports of the Committee on Life and Work, from 1868 onwards. However, these are generally summary statistics for the country and so of limited value for empirical research. In contrast, from its founding, the Free Church of Scotland, which had a highly centralised finance function, undertook the regular publication of extensive data, especially on income and expenditure, disaggregated to congregational level from 1844. The United Presbyterian Church collated congregational returns on membership, activity, and giving from 1850, and began the publication of summaries of these returns disaggregated to Presbytery level in 1858. It is to these data sources that we now turn.

3.1 Free Church of Scotland: Sustentation Fund and Public Accounts .

Lacking access to the endowments of the Church of Scotland, but aspiring to be a national church, the Free Church of Scotland at its formation faced an immediate problem of attracting sufficient funding to establish a network of congregations, erect buildings and fund ministerial stipends. As well as establishing national and local (congregational) building funds, which were most active in 1843 – 1844, it relied on a

centralised Sustentation Fund to fund ministerial stipends. In economic terms, the Fund enabled the cross-subsidy of congregations in a deficit position, drawing on the considerable financial resources of the emerging, urban middle classes. This new method of appropriating a share of the wealth created by economic growth and industrialisation was a substantial financial innovation within the context of the provision of religious services in Great Britain. It also required extensive management, supported by the collation of detailed financial statistics on congregations.

The origin, design and operation of the Sustentation Fund are fully described in Buchanan, 1870. This paper, prepared by the then Convenor of the Committee, is supplemented by aggregated time series data on giving within the Free Church. Using anachronistic terminology, this paper outlines the design of the Fund, and the powers of the Sustentation Fund committee to exert pressure on the managers of a congregation to improve financial performance and operational efficiency in providing gospel ordinances.

From 1844, at the end of its first year of operation, the General Assembly of the Free Church received and published a report on the public accounts for the year to 31st March. This included an abstract, reporting the income and expenditure of the central organisation of the church, but also a “tabular view of the local building, congregational, sustentation, missionary and educational schemes”. This report disaggregated elements of the expenditure of each congregation into those components that were of service to the congregation (the first two) and the wider mission of the church (the last three).

From 1858, the Free Church issued a further “Statement shewing the Ordinary Collections and Seat Rents, Ministers Supplements, Etc. from the Congregations” along with the public accounts. These statements permit the construction of data series for the stipends of ministers of the Free Church, by charge, as well as decomposing congregational income into admission fees, including seat rents, and Christian liberality.

The last series of reports that is of value in conducting quantitative analysis is found in the series “Proceedings and Debates of the General Assembly of the Free Church of Scotland” From 1872, included in the appendices, is a “Statement of Contributions received by the Treasurer for the Sustentation Fund of the Free Church.” The value of this report is that as well as listing contributions to the Sustentation Fund by congregation, it also includes membership and adherence data. Similar disaggregated data has not been found for earlier years. For this reason, we believe that the best measure of participation for analytical purposes is likely to be obtained from statistics such as the giving per member of the congregation. This approach is viable because data series on a particular measure of wealth, disaggregated to parish level, exists in the official papers reviewed in Section 4.

3.2 United Presbyterian Church: The Committee on General Statistics

Formed from the union of two denominations, the United Secession Church and the Relief Church, which had never developed a tradition of collecting extensive

congregational data, the Synod of the United Presbyterian Church first appointed its Committee on General Statistics in 1850. The Committee immediately began the practice of circulating a schedule of queries to ministers, but early reports to the Synod refer to reluctance on the part of many congregations to furnish full answers to many of the questions asked. In 1857, the committee reported that the response rate was so low that it wished to be discharged of its responsibilities, but the Synod took the decision to support the activities of the Committee. From 1858 onwards, its reports included an abstract of the returns disaggregated to Presbytery level.

The range of data collected by the committee on general statistics is actually wider than the equivalents in the Church of Scotland and the Free Church. It is straightforward to follow trends in membership, attendance, the number of ministers, elders, Sunday School students and the level of support for missionaries, as well as measures of financial performance including congregational income and ministerial stipends. Tables are included in the report allowing a year on year comparison, all disaggregated to Presbytery level. For the purposes of conducting quantitative analysis, this is probably the minimum required. Obtaining the original returns, on which the published abstracts are based, would be very helpful. However, it is not clear whether any or all of these exist in individual Presbytery records, central records seemingly not being available. Were they to hand, it would be straightforward to undertake a comparative analysis of the economic behaviour of Free Church and United Presbyterian congregations, since Free Church congregations reported on non-financial performance to committees other than the Sustentation Fund Committee.

3.3 The Church of Scotland: 1843 – 1874.

As noted above, such data on the Church of Scotland as appears to be available for the period of the Ten Years' Conflict emerges from the work of the Church Extension Committee. Throughout the period of this study, the best published data relating to the Church of Scotland is found in occasional official papers. The absence of denominational data perhaps reflects the denomination's organisational structure. As the established church, it had access to extensive statutory funding through teinds and levies on heritors, together with an obligation to provide a place of worship and support a public ministry in every parish. The devolution of management to parish level meant that there was no need for the collection of financial data centrally, while the presumption that the Church was a provider of last resort meant that there was less interest in husbanding resources or demonstrating the achievement of market share. To use rather more traditional language, the ecclesiology of the Church of Scotland differed from that of the dissenting churches, and its understanding of membership seems to have been much more inclusive. Certainly, in the debates on disestablishment, a central claim of the dissenters, especially Johnston, 1874, was that the Church of Scotland counted many hundred thousand members who did not participate in the life of the church at all. Add the demoralising effect of the large scale defection to the Free Church at the Disruption in 1843, and there is no shortage of reasons for the Church of Scotland being slow to collect statistical information on the behaviour of congregations.

An important external driver for change was the coalescing from the late 1860s onwards of voluntarist groups into a united campaign for disestablishment. The Church had rebuffed similar efforts in the past, during the Ten Years' Conflict, for

example. An early salvo was Society for the Liberation of Patronage from State Control, 1870, a prize essay that claimed Establishment to be entirely foreign to the history of the Scottish church, and which estimated the number of adherents of the Church of Scotland to be 1.05m. In response, Cumming, 1871, provides an estimate of 1.4m. More importantly, from its formation in 1869, the Reports of the Committee on Life and Work of the Church of Scotland include a series of estimates, based returns to a series of questionnaires, answered by over 700 ministers. The committee's estimate is similar to Cumming's.

While Johnston, 1874, seemingly using the 1872 committee estimates seeks to cast doubt on some of the published figures and establish the lower estimate of 1.05m., claiming to use data collected privately, it appears that that data was never published or deposited in any public record, and so it is impossible to evaluate the method used. Given its broad comparability with the records of the share of marriages conducted by ministers of the Church of Scotland, the final report in 1874 of the Committee on Life and Work into this matter seems to have been conclusive, confirming that the Church of Scotland still had more members and adherents than its two largest rivals combined.⁹ Again, it has not yet been possible to establish the existence of the original returns made by parish ministers to the Committee on Life and Work.

The role of the Committee on Life and Work is important because during this period, as well as establishing the number of adherents of the Church of Scotland, it investigated church life more generally. The queries to ministers sought narrative information about, for example, the state of congregations, the activities in which members engaged, and congregations' public ministry. In addition, the establishment of the Committee on Christian Liberality in 1871, whose members secured the Baird bequest of £500,000 in 1872, is a further indication of the Church of Scotland adapting the financial innovations pioneered by the Free Church nearly thirty years earlier. Add to this the continued work of the Committee on Endowments, and it was possible for Principal Tulloch, in co-ordinating the Church of Scotland response to the Disestablishment campaign, confidently to restate Chalmers' claims about the impossibility of any dissenting denomination being able to minister to the whole population of a city, rather than simply to its members (Cheyne, 1999). By the end of the period of this study, the Church of Scotland, realising the need to counter the claims of the Disestablishment campaign, was beginning to embark on the systematic collection and publication of data on its activities. Similar data to that available in the reports of other denominations was collected together into the relatively accessible form of *The Church of Scotland Yearbook*, published from 1886 onwards, and designed in part to show the relative strength of the Church.

4. Official data

⁹ The debate over the membership of the Church of Scotland also related to its access to statutory funding through teinds and levies on heritors. One of the claims made in the disestablishment campaign was that the Church did not use all of the revenue it received from teinds. Were adherence to the Church of Scotland at the lower level, this would have demonstrated (to the satisfaction of the campaigners) its ministers' lassitude and ineffectiveness, and the desirability of granting other denominations access to these funds, the better to evangelise the country. As well as its grounding in theological concerns, the campaign emphasised the role of the design of financing mechanisms in promoting efficient outcomes in the market for religious services.

Official data are often the best sources of information on the Church of Scotland during the period covered in this study. The most important are the reports of the Royal Commission on Religious Instruction, 1837 – 39, and the Census of Great Britain, 1851, which included the first, and until 2001 the only, attempt to measure religious affiliation. In addition, the radical MP Duncan McLaren secured orders in 1871 and 1874 requiring the Registrar General to enquire of Church of Scotland ministers the number of member in communication in their parishes, and their total stipends.

Much relevant official data do not relate directly to the activities of the churches, but is important for quantitative analysis of religious behaviour. As well as being a unit of church organisation, the parish was the primary unit of civil administration. Hence many official publications record data disaggregated to parish level. This is very useful because it enables investigation of relationships between the degree of religious affiliation and, for example, economic performance.

4.1 The Royal Commission on Religious Instruction etc. 1837 – 1839.

The Royal Commission on Religious Instruction etc. sat between 1837 and 1839, and was appointed, as noted above, in response to the request by the Church of Scotland, through its Church Extension Committee, for grants of £500,000 to support the erection of new parishes. Unconvinced of the need for such support, the government appointed the Royal Commission to determine whether or not there was a substantial lack of accommodation in church buildings across Scotland. Given its terms of reference, and the decision of the government not to provide such an endowment after the Commission had published only the first three volumes of its reports, the nine volumes are not quite comprehensive. The commissioners were not required to visit those few parishes where the minister reported that there was sufficient accommodation. But in the parishes that were visited, the commissioners sought evidence not just from parish ministers, but from the managers or clergy of all other denominations. Their reports therefore provide data on many of the congregations in Scotland during this period.

The first two volumes of the reports are the most detailed. The first covers enquiries in Edinburgh and Leith, while the second covers those in Glasgow. The narrative of the reports is quite brief, but includes summaries of income, expenditure and seating for the cities. Appendices contain the very detailed responses of individual ministers and managers to written queries, as well as the verbatim record of evidence taken at hearings. Returns from other Presbyteries in Scotland are analysed in volumes 4 – 8. These contain summary tables, but not verbatim records of evidence. However, queries invited responses relating to revenue and its use, ministerial emoluments and the costs of provision of religious instruction, often only stated in narrative form. Hence there is a mass of both qualitative and quantitative data available, which appears not to have been explored systematically.

The third report analyses the teinds of the Church of Scotland, the heritable endowments over rights to the value of specific quantities of agricultural produce from certain property owners, established in the law of property. While the report itself concentrates upon the nature of these endowments, and the ways in which these

rights can be held, once again there is an extensive appendix recording at parish level the gross amounts of royal and other teinds, the manner in which these are held and disposed of, including application to ministerial stipends and appropriations, by, for example, the heritors of the parish, or other parishes. Other appendices to this report analyse the extent to which royal teinds, payable to the Commissioner for Teinds, appear to be unappropriated or not collected. The value of this report is that it states teinds in terms of the quantities of agricultural produce, rather than as a monetary amount. In principle, by collating the prices of agricultural produce set by Fiars' Courts throughout the nineteenth century, this would allow analysis over time of the main source of public support for the Church of Scotland and variation in parochial stipends.¹⁰ The ninth (last) volume of the report is little more than a statistical abstract, containing tables listing by parish the stipends paid to ministers and other emoluments, seat rents and collections.

The importance of these reports lies in their accumulation of both quantitative and qualitative data collected on a remarkably uniform basis. For the cities of Edinburgh and Glasgow, there are generally competing estimates of adherence to individual congregations (one from the minister of the Established Church of the Parish, and one from the managers of dissenting congregations). For every congregation that completed a return, there is a detailed account of congregational activity. Such data might usefully be combined with data extracted from "The New Statistical Account", 1834 – 1845, which includes extensive narrative accounts of the state of Scottish society, as well as the churches, disaggregated to the level of the parish.

4.2 *The Census of Great Britain, 1851*

The proposal that questions about participation in religious activity should be included in the Census of 1851 caused considerable political controversy, both in England and Scotland. Sensitive to the threat of disestablishment, the Church of Scotland was very reluctant to permit any questions to be put – or at least any responses to be published – that would enable the Free Church and United Presbyterians to claim that public endowment of the Church of Scotland could not be justified. So close to the Disruption, morale in the Church of Scotland remained very low, and there seems to be little doubt from the available data that its concerns were reasonable.

The Church of Scotland managed to obtain the following concessions. Firstly, in Scotland, ministers or managers of congregations would be asked to complete a voluntary return recording attendance at church services on Sunday 31st March, 1851. That is, unlike the main return, failure to complete a return was not an offence in law. Secondly, publication of data was to be limited to returns consolidated to county level, rather than individual parishes. As a result, the response rate was about 75%, and so the Census reports include estimates that attempt to compensate for the missing data.

The queries submitted to ministers asked them to state the number of seats available to the congregation, once again allowing investigation of need for accommodation,

¹⁰ The existence of substantial unappropriated teinds was very helpful to the government, since it did not wish to make any grant to the Church of Scotland. The Royal Commission's conclusions were inconclusive, and the third report (on teinds) could be used to demonstrate that it was possible for the Church manage its existing endowments more effectively.

and also the number of people in attendance at services in the morning, afternoon and evening. Even at county level, the returns suggest that the excess of accommodation in the Church of Scotland was considerably greater than in the other denominations. However, excess capacity seems to have been typical of all denominations, suggesting that the Free Church, only eight years after its formation, had already over-invested in the 'plant' i.e. number of buildings, required for the provision of religious services.

Similar queries were also addressed to the headmasters of schools. These returns are potentially even more important because they are the best measure that we have been able to find of the relative sizes of the church and parochial school sectors in Scotland. They demonstrate clearly that the Free Church of Scotland, in seeking to mimic the behaviour of the established church, had not simply erected several hundred places of worship, but was also undertaking the education of nearly as many children as the Church of Scotland. Withrington, 1993, notes that in many cases, the Free Church appears to have taken over the management of many existing private schools. The queries to school masters included questions on the income and expenditure of schools, the number and quality of the teaching staff, and the range and depth of the subjects for study, and so there is again very rich data here. Data extracted from the Royal Commission and the New Statistical Account therefore enable a quantitative analysis of the evolution of church involvement in education across the 1840s.

4.3 *The McLaren questions*

These returns to the House of Commons list by County the number of male and female communicants on the roll of each charge, classifying charges as Parish Churches, Town Churches, Parishes *quoad sacra*, and Chapels of Ease. They also list, by county and parish, ministers' stipends derived from teinds, and other sources. McLaren, as a long-standing supporter of disestablishment, had his own purposes in seeking this information. One claim of the disestablishment campaign was that the Church of Scotland lacked the vitality to use its endowments effectively, and so these should be available to all churches. The relatively small number of communicant members of the establishment could then be used to demonstrate that the Church of Scotland had no valid claim to be the national church.

4.4 *Other public records*

It has been possible to obtain some useful public records collated at parish level during this period. Firstly, the published records of the Censuses of Population are disaggregated to parish level. This allows the calculation of population growth over the period 1801 – 1881 in quantitative analysis. With the population of Scotland increasing from 1.8m to 3.7m over this time, but with largely agricultural counties' populations remaining constant, the population distribution changed considerably, and this is likely to have considerable explanatory power in explaining the economic behaviour of churches at parish level throughout the nineteenth century.

Secondly, the principal means of financing local services, such as poor relief and parochial schools, was through property taxes. From 1855, the Registrar General was required to collate an annual statement of rateable property valuations, disaggregated to parish level. The preparation of this return proved to be extremely time consuming,

and so published data is available only on a septennial basis. Nonetheless, these returns provide us with an estimate of the total wealth of the parish population, or, perhaps more usefully, estimates of wealth per capita. If contribution per member is taken to be a measure of the extent of participation in congregational life, parochial wealth may usefully explain some of variation in the observed data.

Lastly, the Registrar General was also required to conduct an annual analysis of marriages conducted by ministers of the various denominations. While the published data relates to the total number of marriages conducted in Scotland, this series is already widely recognised as a useful measure of changes in the pattern of religious affiliation of the whole population.

7. An economic approach to data analysis

Simplifying somewhat, the emerging field of the economic analysis of religion may be characterised by the single hypothesis that participation in religious activity increases with competition in the supply of religious services. It is perhaps not surprising that this field has emerged largely in North America, where participation in religious activity continues at levels that are very high in comparison to those found in most of Western Europe. However, it may be that there are substantial differences in the understanding of the role of the church in society between North American and European scholars. The North American literature frequently includes a subsidiary claim, often supposed to be rooted in Smith, 1776, that a 'state' church, which may be defined in such a way as to include any established church that has preferential access to certain statutory sources of funding, tends to exert less effort in providing religious services, and so is both wasteful and ineffective. It is not clear from the data sources available that this characterisation is helpful in understand the market for religious services in nineteenth century Scotland.

The period 1834 – 1874 began with the near-collapse of the relationship between the established church and the state. The formation of the Free Church and the United Presbyterian Church represented entry on a scale sufficient to challenge the claim of the Church of Scotland to be the only national church. This led to the emergence of an oligopolistic market for religious services in Scotland throughout the remainder of the nineteenth century, possibly with extensive competition for market share throughout the period of study. The failure of the Free Church to obtain its objective of becoming a truly national church, and the apparent resurgence of the Church of Scotland as it began to adopt some of the innovations of its competitor, indicate just how complicated the relation between incumbent and entrants might be. In this period, a natural experiment in the operation of national and local religious markets takes place. The quality of the data available as a result of that experiment is exceptionally high. The apparent outcomes run counter to existing theory, and so deserve further scrutiny.

Initial research (Mochrie *et al*, 2007a, b, Sawkins & Mochrie 2007) suggests that there is no strong evidence for increased competition leading to increased religious participation in Scotland. There seems to be no evidence of the Church of Scotland using its public funding to deter the entry of competitors. It was unwilling to relinquish its network of parish buildings even in those areas of Scotland where

ministers and the vast bulk of the population 'went out' in the Disruption. Its unwillingness to negotiate away its existing privileges was amplified by Parliamentary legislation passed after 1843 that enabled it to respond more rapidly to the need for the erection of new religious parishes in response to population change. Where the Church of Scotland did not face local competition at parish level, the population density (and hence the number of potential dissenters) was sufficiently low that it was not possible to sustain a second congregation. One possible conclusion is that the Church of Scotland used its public funding largely to maintain a public service obligation and ensure the availability of the ordinances of religion across the whole country.

7.1 Social capital theory

Beyond the economics of religion, there are many interesting questions about the role of institutions in economic development. The interest in the development of 'civil society' is the equivalent in sociology. These two approaches are brought together in the literature on social capital, and the well-known claim of Putnam, 2001, that about half of the social capital in the USA is generated within churches and faith-based organisations. There are many difficulties with social capital theory, not the least of which is the problem of definition. The term emerges from the Beckerian approach to individual decision making (Becker, 1996), and in that tradition can be understood as a correlate of human capital, where there are spillover effects from capital formation. Within churches, such activities as teaching on giving, homelessness charities, and mission can all be seen to develop social capital.

An alternative definition builds on network theory, following Granovetter (Granovetter and Swedberg, 1992) in distinguishing between the impacts of strong and weak ties. For Putnam, these become bonding and bridging social capital, where bonding capital strengthens within group linkages, and bridging capital makes it easier for group members to engage in relationships with people who are not members. In economic terms, bonding capital is likely to increase transactions costs, support rent-seeking activity, and limit economic growth, while bridging capital would lower transactions costs, support market-oriented activity, and foster economic growth. There is an argument that Scotland only managed to embark on sustained economic growth in the eighteenth century when the churches came to view their role as being less to ensure conformity and provide social control, and more to promote the moral growth of their adherents. Viner, 1978, makes this argument in the context of the activity of the Church throughout Western Europe.

An established church, especially as conceived by Chalmers, 1825, as a religious magistracy, is structured to foster the development of social capital through parish visitation, catechisation, general education, study of the Scriptures, family devotions, and poor relief. The existence of official data disaggregated to parish level across a range of possible input and outcome variables may allow us to explore in detail the relationship between social capital formation of different types and measures of economic and social well-being. For example, it should be possible to estimate the relation between particular forms of social capital formation and economic growth, using variation in capital formation rates across Scottish parishes. We believe that such analysis will be necessary in developing a comprehensive economic history of the Disruption.

8. Conclusions

The churches in Scotland faced in the mid-nineteenth century faced the challenge of responding to large scale social change. During the course of the period of study, the public role of the Church of Scotland was considerably diminished as secular institutions took on many of its traditional roles. The Free Church of Scotland, formed with the intention of restoring many of the privileges of the Church of Scotland probably accelerated that process, and, in spite of its unprecedented use of cross-subsidy to finance stipends, was never able to become a fully national church. By the early 1870s, the majority of Free Church members seem to have accepted the argument for Church disestablishment. An interesting question is whether the strategy of the Free Church immediately after its formation, especially its commitment to provide education in every parish, led to excessive diversion of resources from the provision of the ordinances of religion throughout Scotland.

Churches in the nineteenth century had to struggle with the problems of expansion, rather than, as now, with contracting markets. From an economic perspective, it is perhaps surprising that the Church of Scotland was able to resist the challenge to its market leadership so effectively. This suggests that there were very considerable barriers to entry in many local markets, seen through investment in excess physical capacity, the training of more ministers than was required, and the reputational advantages of being the universal service provider. Allied with a willingness to adopt some of the methods of the dissenting churches and it seems that the Church of Scotland was able to recover market leadership by the early 1850s.

Perhaps this revitalisation is best seen in the developments of the last quarter of the nineteenth century, when the dissenting churches co-ordinated a campaign for the Disestablishment of the Church of Scotland. The Established Church defended its privileges in a quite unprecedented way, (see Cheyne, 1999) with work undertaken by the Committee on Christian Life and Work, and the Committee on Christian Liberty in the 1870s being undertaken in anticipation of criticism of the Church of Scotland during the public debates of the 1880s. Regular collection and publication of data relating to membership and giving, disaggregated to parish level, was an important defence of its position simply because it confirmed its market leadership.

Appendix 1

Quantitative and qualitative data sources for study of religious activity in Scotland, 1843 - 1874.

1. Church of Scotland.

A. *Parliamentary Returns*

Communicants 1874 (239) LI.117 and 1874 (239 – 1.) LI.145

Lists by County number of male and female communicants on the roll of each charge, classifying charges as Parish Churches, Town Churches, Parishes *quoad sacra*, and Chapels of Ease. Includes abstract giving county totals and table of *errata*.

Ministers' Stipends 1874 (401.) LI.871 and 1875 (437.) LVII.469

Lists by county and parish ministers stipends derived from teinds, and other sources.

B. *Church Reports*

Church of Scotland. 1874. "Reports on the Schemes of the Church of Scotland for the year 1874." Edinburgh. William Blackwood and Sons.

"Report of Committee on Christian Life and Work:" Contains useful data on attendance rates for Church and narrative on ministers' responses to queries on the need for church extension.

Committee on Christian Life and Work. 1886 *et seq.*. "Year-Book of the Church of Scotland with Almanac." Edinburgh. Church of Scotland.

Listing of Parishes, incumbents, date of ordination, communicants, Christian Liberty, and parish population. Fiars Prices. Data on communicants from Report of the Committee on Presbyterial Superintendance. Data on Christian Liberty from General Assembly's committee.

2. Free Church of Scotland

General Assembly of the Free Church of Scotland. 1854 *et seq.* "Eleventh Report on the Public Accounts of the Free Church of Scotland for the year ended 31st March 1854." Edinburgh. J.A. Ballantyne.

Abstract of public accounts and tabular view of the local building, congregational, sustentation, missionary and educational schemes from 31st March, 1853 to 31st March, 1854.

General Assembly of the Free Church of Scotland. 1864 *et seq.* "Twenty-first Report on the Public Accounts of the Free Church of Scotland for the year ended 31st March 1864." Edinburgh. Ballantyne and Co.

Includes Statement shewing the Ordinary collections and seat rents, ministers supplements, etc. from the Congregations (etc.)

General Assembly of the Free Church of Scotland. 1872 *et seq.* "Proceedings and Debates of the General Assembly of the Free Church of Scotland." Edinburgh. Ballantyne & Co.

"Appendix I-E: Statement of Contributions received by the Treasurer for the Sustentation Fund of the Free Church."

A listing of contributions to the Sustentation Fund by parish and includes membership and adherence data.

3. United Presbyterian Church

United Presbyterian Church. 1858 *et seq.* "Proceedings of the Synod of the United Presbyterian Church volume second, 1857 – 63." Glasgow. Dunn & Wright

Appendix X – Report on Statistics

Analysis of the financial position of the Synod, disaggregated to Presbytery level. The most useful tables show membership and income received for all purposes and an Abstract by Presbytery of congregational activity.

4. All denominations combined.

A. *Reports of the Royal Commission on Religious Instruction*

First Report (Edinburgh) 1837 [31.] XXI.9

Second Report (Glasgow) 1837 – 38 [109.] XXXII.1;

Third Report (Teinds) 1837 – 38 [113.] XXXIII.1;

Fourth Report (North West Scotland) 1837 – 38 [122.] XXXIII.273

Fifth Report 1839 [152.] XXIII.1;

Sixth Report 1839 [153.] XXIV.1;

Seventh Report 1839 [154.] XXV.1;

Eighth Report (West of Scotland) 1839 [162.] XXVI.1;

Ninth Report (Stipends) 1839 [164.] XXVI.607

First and Second reports: Extended narrative including 31 tables. Include summaries of income, expenditure, and seating. Disaggregated to level of parish and dissenting congregations.

Appendix 1 – Schedule of queries

Appendix 2 – Digest of evidence (by parish and congregation)

Appendix 3 – Verbatim record of evidence obtained at hearings.

Third report: Report includes definition of teinds and the ways in which rights to these can be held.

Appendix 1: gross amount of royal and other teinds, with manner in which these are held and disposed of, including application to stipends and appropriations.

Other appendices are of royal teinds that appear to be unappropriated or not collected.

Fourth through Eighth reports.

Report (approx 15. pp). Summary of findings incl. 2 tables. Table 2 is very useful with most of the quantitative information collated from queries. Appendix 1: Digest of evidence by parish or dissenting congregation. Summary statements on revenues (Q7), applications (Q8 – generally text response only), emoluments (Q9) and religious instruction (Q10, largely concerned with capital costs).

Appendix 2: Payments from Royal Bounty in support of ministry etc.

Ninth report (Endowments and stipends)

Report (4 pp)

Appendix 1: Queries to parochial clergy

Appendix 2: Listing by parish of stipends and other emoluments; seat rents and collections.

B. *Census of Population, 1851.*

House of Commons. 1854. Religious Worship and Education (Scotland) Report and Tables. 1854[1764.]LIX.301.

Report (8 pages) and 18 tables.

1. Religion

Tables A and B. Data at county and denominational level. Religious data includes buildings and sittings, attendants (on 30.3.1851), places open and sittings available, period building erected. Approximately 25% of returns are missing or defective. Estimates made for national coverage rectifying this.

Education data includes much detail on the extent of church involvement with secular education, and also Sabbath Schools. Data includes numbers of schools, scholars and teachers disaggregated by branch of learning and age distribution of scholars, total remuneration of teachers, age and income of establishments.

Supplement I states number of places of worship known to exist, for which no return was made.

Supplement II states the estimates (including defective and missing returns) of total places of worship, sittings and attenders.

2. Education

Tables B, M, N and O relate to Sabbath Schools.

Tables A, D, E, F, G, I relate to various classes of day schools, classified by ownership, and so permit an estimate of the role of the churches in education.

Tables O and P relate to schools by county of both types.

Data coverage includes summaries of number of schools, scholars registered and attending, pupils and teachers in various disciplines, teachers' remuneration, date of establishment of institution and age distribution of scholars.

By county, there are summary statistics of income of schools.

C. *Other sources*

(No author). 1886. "The Scottish Church and University Almanac." Edinburgh. MacNiven and Wallace.

Summary statistics for the largest denominations, 1885. By congregation, list incumbents, date of ordination, members (incl. adherents for Free Church), stipend (for Free Church and United Presbyterian Church) and income.

(No author) 1886. "The Distribution and Statistics of the Scottish Churches." Edinburgh. MacNiven and Wallace.

Listing by Church of Scotland parish and burghs of population, Church of Scotland, Free Church, UP and Episcopal congregations, members, adherents and contributions, together with numbers of Roman Catholic, Congregationalist, EU, Baptist, Reformed Presbyterian, Methodist, and Original Seceder congregations.

5. Population

House of Commons, 1882. Ninth Decennial Census of the Population of Scotland (etc). vol 1. 1882[c.3320] LXXVI.1

Population Table VIII. Population of Scotland according to Registration Counties and Registration Districts showing the number of families, houses, population etc. in 1881. Includes summary of each District and particulars including allocation of population to civil parishes within Districts, and comparison of 1881 and 1871 data.

House of Commons, 1883. Population (Scotland) – Return showing the Number of the Population of Scotland at each Decennial Period from 1801 to 1881 inclusive, etc. 1883(161.) LIV.315.

Listing by Parish of population change 1801 – 1881.

6. Valuations

House of Commons. 1874. Return relating to School Boards in Scotland. 1871(403.) 1874(403.) LI.759.

Rentals assessments for education by Parish.

House of Commons. 1874. Valuations (Scotland) – Return of the valuation of the several Parishes etc. in Scotland, etc. Edinburgh. Crown Office. 1874 (42.) LVI.1121.

Lists total property valuation for each parish in 1855, 1861, 1867 and 1872.

House of Commons. 1874. Poor Rate etc. (Scotland) 1874(400) LVI.1083.

Return of various rates, including valuation of the several Parishes etc.

House of Commons, 1885, Poor Rate etc. (Scotland) Edinburgh. Crown
Office. 1884 - 85(316) LXVII.709.
Continuation of above.

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