

**TRUTZ HAASE - SOCIAL & ECONOMIC CONSULTANT**

---

**in association with Jonathan Pratschke**

# **Special Support Programme for Peace and Reconciliation**

## **An Estimate of Community Uptake**

**Trutz Haase**

**Jonathan Pratschke**

**June 2003**

## Table of Contents

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
<b>2</b>	<b>Aims of the Analysis.....</b>	<b>1</b>
<b>3</b>	<b>Methodological Considerations .....</b>	<b>2</b>
3.1	Postcodes as Proxies for Religion .....	2
3.2	Potential Sources of Error .....	2
3.3	Data Coverage .....	4
<b>4</b>	<b>Resource Distribution under the SSPPR.....</b>	<b>5</b>
4.1	Number of Applications, Funds Requested and Approved.....	5
4.2	Distribution by Sub-programme .....	6
4.3	Distribution by Funding Body .....	7
4.4	Geographical Spread of Projects .....	8
4.5	Estimated Shares in Community Uptake .....	10
4.6	Changes in Community Uptake over Time .....	11
4.7	Testing the Methodological Assumptions .....	12
<b>5</b>	<b>Accounting for Deprivation and Religion .....</b>	<b>13</b>
5.1	Indices of Deprivation.....	13
5.2	Resource Distribution by Deprivation Decile and Religious Community .....	16
<b>6</b>	<b>Explaining Funding Patterns .....</b>	<b>26</b>
6.1	Introduction to Path Analysis .....	26
6.2	The SSPPR Path Model.....	27
6.3	Model 1: Direct Effects only .....	28
6.4	Model 2: Direct and Indirect Effects .....	30
<b>7</b>	<b>Testing the Robustness of the Findings .....</b>	<b>32</b>
7.1	ED-level Models for Direct Effects: .....	32
7.2	ED-level Models for Direct and Indirect Effects: .....	33
7.3	Ward-level Models for Direct Effects:.....	34
7.4	Ward-level Models for Direct Effects:.....	35
7.5	Ward-level Models for Direct and Indirect Effects:.....	35
<b>8</b>	<b>Conclusions.....</b>	<b>37</b>
	<b>Appendix:.....</b>	<b>38</b>
	<b>Data for Robson Index, ED level (see Figures 5.4 to 5.9).....</b>	<b>38</b>
	<b>Data for Noble Index, ED level .....</b>	<b>39</b>
	<b>Data for Robson Index, Ward-level .....</b>	<b>40</b>
	<b>Data for Noble Index, Ward-level .....</b>	<b>42</b>

## Figures and Tables

Table 4.1	Projects Approved and Rejected.....	5
Table 4.2	Funding Approved.....	5
Table 4.3	Projects and Funding by Sub-programme .....	6
Table 4.4	Distribution of Projects and Funding by Sub-programme .....	6
Table 4.5	Projects and Funding by Funding Body .....	7
Table 4.6	Distribution of Projects and Funding by Funding Body .....	7
Figure 4.1	Geographical Distribution of Project Applications .....	8
Figure 4.2	Geographical Distribution of Approved Projects .....	8
Table 4.7	Average and Maximum Number of Applications per ED.....	9
Table 4.8	Outliers According to Funding Approved .....	9
Table 4.9	Projects Approved and Rejected by Religious Community.....	10
Table 4.10	Funding Requested and Approved by Religious Community .....	10
Table 4.11	Funding Approved by Religious Community and Time Period .....	11
Table 4.12	Community Uptake for Small and Large Projects .....	12
Figure 5.1	Robson Multiple Deprivation Measure for Northern Ireland.....	14
Figure 5.2	Noble Multiple Deprivation Measure for Northern Ireland.....	15
Table 5.1	Deprivation and Religious Community Background.....	16
Figure 5.3	Distribution of Population by Relative Affluence/Deprivation .....	17
Figure 5.4	Distribution of Applications by Relative Affluence/Deprivation.....	19
Figure 5.5	Distribution of Applications per 1,000 Inhabitants by Relative Affluence/Deprivation.....	20
Figure 5.6	Funding Requests by Relative Affluence/Deprivation.....	21
Figure 5.7	Approved Funding by Relative Affluence/Deprivation.....	22
Figure 5.8	Per Capita Approved Funding by Relative Affluence/Deprivation.....	24
Figure 5.9	Per Capita Requested and Approved Funding .....	25
Figure 6.1	Model 1C - Direct Effects only.....	29
Table 6.1:	Parameter Estimates for Direct Model .....	29
Figure 6.2	Model 2C - Direct and Indirect Effects .....	31
Table 6.2:	Parameter Estimates for Model of Direct and Indirect Effects .....	31
Table 7.1a:	Parameter Estimates for ED-level Model (Robson) .....	32
Table 7.1b:	Parameter Estimates for ED-level Model (Noble) .....	32
Table 7.2a:	Parameter Estimates for ED-level Model (Robson) .....	33
Table 7.2b:	Parameter Estimates for ED-level Model (Noble) .....	33
Table 7.3 WR:	Parameter Estimates for Ward-level Model (Robson).....	35
Table 7.3 WN:	Parameter Estimates for Ward-level Model (Noble).....	35
Table 7.4 WR:	Parameter Estimates for Ward-level Model (Robson).....	35
Table 7.4 WN:	Parameter Estimates for Ward-level Indirect Model (Noble).....	36

## Executive Summary

This report analyses the allocation of funding delivered in Northern Ireland under the Special Support Programme for Peace and Reconciliation (*SSPPR*). It addresses, in particular, the issue of religious community uptake of available funding and the complex relationship between religious community background, deprivation, funding applications and approved funding. The paper examines the number of project applications made and approved as well as their aggregate financial value, before going on to look at the religious community and relative deprivation profiles of the 1991 Census Enumeration Districts (EDs) in which these projects originated. The final part of the study reports on a statistical analysis of the effects of factors such as population size, religious community background, deprivation and the propensity to apply for funding on the distribution of funding.

### Background

The *SSPPR* was established by the European Union in 1995 following the cease-fires in Northern Ireland. Covering the period 1995-99, the Programme focused on Northern Ireland and the Border Counties of Ireland and was delivered through four different types of agency: Central Government or Statutory Bodies, Second Tier Bodies under Central Government, Intermediate Bodies (i.e. bodies independent of Government) and Partnerships in District Council areas. The Programme made available €503 million (£340 million) from EU Structural Funds to assist projects in Northern Ireland the Border Counties of Ireland. Some 80 per cent of this total was spent in Northern Ireland. By April 2002, some 30,000 applications for funding had been made. Of the 27,000 applications originating in Northern Ireland, half (50.2%) had received funding.

The *SSPPR* has been the subject of a number of independent reviews. One of these, commissioned by the three Northern Ireland MEPs, suggested that there had been a relatively low response to the Programme within the Protestant community. This prompted the Northern Ireland Statistics & Research Agency (NISRA) to commission Trutz Haase, an independent consultant, to undertake an analysis of the Programme database in 1998. The present report updates the findings of this earlier research.

### Methodology

The analysis presented in the report uses proxies in order to apportion project funding between the two main communities in Northern Ireland. Projects themselves are not explicitly associated with one or other community. However, the postal address of the project or project applicant associates the project with a particular postcode area, and postcode areas, in turn, may be linked to EDs. Census data at ED level can then be used to estimate community uptake, and to investigate the role of a range of factors that may have influenced the distribution of funding.

### Applications Made and Funds Received

On the basis of the analysis presented in this report, the Catholic community's share of *SSPPR* funding is estimated at just under 56 per cent. The corresponding Protestant community share is an estimated 44 per cent. The Catholic community accounts for around 43 per cent of the NI population<sup>1</sup>.

---

<sup>1</sup> Source: Author's estimate based on 1991 Census of Population.

## **Accounting for Deprivation**

The higher estimated Catholic share of *SSPPR* resources is in part explained by the correlation between disadvantage and religious community profile. The Robson Index of Relative Deprivation indicates that relatively affluent EDs tend to have Protestant majorities, and relatively deprived EDs, Catholic majorities. For example, the 10 per cent most affluent EDs are predominantly (78 per cent) Protestant whilst the 10 per cent most deprived EDs are 80 per cent Catholic. Given the *SSPPR*'s commitment to targeting social need, a disproportionate uptake in relatively disadvantaged areas where the Catholic community is in the majority might therefore be expected.

## **Community Differences in the Propensity to Apply**

In order to explore further the observed differences in the overall funding received by each ED, the statistical technique path analysis was employed. Path models estimate the extent to which each of a number of factors might have contributed to a particular outcome. The path analysis conducted for the present research assessed the effect on uptake of variables such as population size, deprivation, religious community profile and propensity to apply for funding. This analysis pointed to the influence of deprivation and religious community on the share of funding obtained by each ED, and identified an important intervening mechanism, namely the greater tendency of people living in areas with a Catholic majority to apply for funding. Predominantly Catholic areas initiated a larger number of applications and applied, on average, for larger amounts of programme funding.

## **Conclusions**

The Report concludes that the greater estimated uptake of funding by the Catholic community reflects both the higher levels of deprivation in Catholic areas and the greater tendency of people living in these areas to apply for funding.

The funding organisations had a positive effect on the targeting of Programme resources, helping to channel funds towards the most disadvantaged areas and achieving an impressive spatial coverage throughout Northern Ireland.

## 1 Introduction

The *Special Support Programme for Peace and Reconciliation (SSPPR)* reflects the European Union's intention to contribute to the prospects for peace in Northern Ireland. The Programme's aim was to foster peace, promote reconciliation and encourage positive growth in communities that are disadvantaged or that have been adversely affected by the conflict. The Programme covered the period 1995-99 and delivered €503 million (approximately £340 million) of Structural Funds assistance. Some 80 per cent of this total was spent in Northern Ireland and 20 per cent in the Border Counties of the Republic of Ireland.

The *SSPPR* is a complex funding programme delivered through four types of organisation: Central Government or Statutory Bodies, Second Tier Bodies under Central Government; Intermediate Bodies (i.e. bodies independent of Government) and Partnerships in District Council areas. By April 2002, more than 30,000 applications had been received. Of the 27,000 applications that originated in Northern Ireland, half (13,398) received funding.

## 2 Aims of the Analysis

The *SSPPR* has been the subject of a number of evaluations including: the Mid-Term Evaluation<sup>2</sup> commissioned by the Department of Finance and Personnel in Northern Ireland and the Department of Finance in the Republic of Ireland; a report commissioned by the Rowntree Charitable Trust<sup>3</sup>; an evaluation by the three Northern Ireland MEPs (1997); and the original version of the present community uptake analysis based on database information up to 1998<sup>4</sup>.

The evaluation by the three MEPs highlighted a perception that community organisations in Protestant areas were not availing of the *SSPPR* to the same extent as their Catholic counterparts. The original version of the present community uptake analysis, undertaken in 1999, examined this issue in some detail, providing a number of insights into the distribution of funds between the two main communities in Northern Ireland. However, this analysis was based on a relatively small proportion (one-quarter) of total funding. The principal aim of the present study is therefore to complete the work carried out in 1999 on the basis of a comprehensive analysis of total programme expenditure. Its key objectives are:

- To estimate the uptake of *SSPPR* resources by the two main communities in Northern Ireland (Protestant and Catholic), taking account of the nature of the Programme, its Sub-programmes and Measures;
- To carry out a community uptake analysis to determine the factors that influence uptake and assess whether there is evidence of disproportionate uptake favouring one of the two main communities in Northern Ireland;
- To undertake a comprehensive statistical analysis of *SSPPR* applications originating within Northern Ireland in order to identify:
  - the type of projects for which funding was sought and obtained;
  - the geographical spread of projects for which funding was sought and obtained;
  - the level of funding both sought and obtained.
- To provide any additional information that may help to describe the current programme and how it has developed since its inception.

---

<sup>2</sup> Coopers & Lybrand, 1997, *Mid-Term Evaluation Final Report*. Department of Finance and Personnel, Belfast. Department of Finance, Dublin.

<sup>3</sup> Harvey, B, 1997, *Report on Programme for Peace and Reconciliation*, Joseph Rowntree Trust.

<sup>4</sup> Haase T, & Pratschke, J, 1999, *European Union Special Support Programme for Peace and Reconciliation – analysis of Community Uptake*. NISRA Occasional Paper No. 11.

### 3 Methodological Considerations

#### 3.1 Postcodes as Proxies for Religion

Fundamental to the present estimate of community uptake is the use of proxies to apportion project funding between the two main religious communities in Northern Ireland. Projects themselves are not explicitly related to one or other community. However, the address of the project or project applicant provides a link between the project and a particular postcode area, and postcode areas can, in turn, be linked to Census Enumeration Districts (EDs). Census data at ED level, including data on religious community, enable both an estimate of community uptake and an investigation of the role of other factors that might have influenced the distribution of funding.

Where applicants failed to provide a postcode then, wherever possible, the address of the project or applicant has been used to assign a postcode or ED identifier. Project funding and a range of other information have then been aggregated to postcode level<sup>5 6</sup>. Once project funding has been attributed to EDs, requested and approved funding can then be apportioned between the two communities, Protestant and Catholic, in accordance with their respective share of the relevant ED population. This reliance on proxies at the ED level means that subsequent analyses (e.g. of the role of deprivation) must also be conducted at this level.

#### 3.2 Potential Sources of Error

It is important to note that the approach outlined above makes a number of assumptions that should be given careful consideration before interpreting the results of the analysis. Potential sources of error include:

1. *Timeliness*

The *SSPPR* database covers the period from the start of the Programme to its completion in April 2002. In terms of secondary data, however, many variables used in the analysis are taken from the 1991 Census of Population.

2. *Data quality*

The analysis identified certain inconsistencies in the *SSPPR* database, mainly attributable to the transfer of data from individual funding bodies to the central database. These problems have been addressed by applying complex validation procedures. Where significant errors were found, NISRA contacted the respective funding bodies to clarify these inconsistencies.

3. *Final beneficiary/spatial extent of benefits*

In general, the spatial impact of any project funding is assumed to be limited to the ED in which the project is situated. However, as noted in Section 4.4, three particular EDs showed exceptionally high numbers of applications due to the fact that the offices of organisations which sponsor a large number of projects throughout Northern Ireland are located in these EDs. Data for the EDs in question have therefore been excluded from the analysis. If the level of analysis is moved from ED to ward (Section 7), similar results are obtained. In terms of the religious community profile of the originating or “home” ED, there is no marked difference between large or small projects (Section 4.7).

---

<sup>5</sup> In matching project applications to postcodes and, ultimately, to Enumerative Districts (EDs), the authors were assisted by GAMMA Ltd., Dublin, and the School of Environmental Studies at the University of Ulster, Coleraine.

<sup>6</sup> Many postcode areas are located entirely within a single ED and present little problem for the present analysis. However, some postcode areas straddle more than one ED. Where this was the case, the relevant project level information was apportioned across the EDs in accordance with the percentage of the postcode area’s buildings situated in each ED.

#### 4. *Categorisation of religion*

The methodology adopted for this study assumes that the degree of association between a particular religious community and a project supported under the *SSPPR* can be inferred from postcode information since postcode data link projects to EDs for which the 1991 religious community profiles are known<sup>7</sup>. This approach assumes that postcode areas tend to follow the religious community profile of the relevant ED. However, given that there are around ten postcode areas in each ED and that there are often intra-ED differences in religious community profile, a particular postcode area might be more communally homogeneous than the ED as a whole. As a result, by establishing a community's association with a project on the basis of the ED profile, the present study may underestimate the extent of one community's overall share of *SSPPR* projects and funding. However, an analysis of data held by the then Department of Education for Northern Ireland offers some support for the postcode-to-ED approach. This analysis involved extracting a sample of around 4,000 people for whom both religious community background and residential postcode were known. The researchers used postcode data to estimate the religious community profile of the sample. Each postcode was attributed to an ED or group of EDs<sup>8</sup> and the religious community profile of the ED used to allocate each individual sample member to one of the two communities. The estimated religious community profile of the sample was found to be strongly similar to its actual profile.

#### 5. *Categorisation of affluence/deprivation*

The Robson Index (1994) was used to assess the extent to which the Programme targeted social need and to test whether deprivation had had an independent effect on community uptake. For comparison, results based on the Noble Index of Relative Deprivation (2001) are also included. The characteristics of these indices are discussed in Section 5.1.

#### 6. *Homogeneity of affluence/deprivation*

As all of the available deprivation indices for Northern Ireland are at least in part based on the Census of Population, the Enumeration District (ED) represents the level of greatest spatial disaggregation. It is therefore necessary to assume homogeneity of affluence /deprivation within each ED, thereby overlooking possible intra-ED disparities.

This final assumption of "homogeneity" has the greatest potential to influence the analysis of religious community uptake. With a mean ED population of 375, variation in affluence or deprivation is likely within at least some EDs. Not only are there often affluent individuals, households and neighbourhoods within otherwise disadvantaged EDs (and disadvantaged individuals, households and neighbourhoods within otherwise affluent EDs), but the geographical distribution of affluence and deprivation within a given ED may also be associated with religious community background. This needs to be kept in mind when interpreting the results of the analysis presented below.

The other sources of error listed above are unlikely to have affected the present analysis, which set out to examine the relationship between the religious community profile and other characteristics of local areas, on the one hand, and the funding requested and received by projects originating in those areas, on the other. Repeated analyses using sub-samples of the data and substituting the Robson Index with the Noble Index generated very similar outcomes suggesting that the findings noted here are robust.

---

<sup>7</sup> The religion question on the 1991 Census was optional. Seven per cent of respondents did not answer the religion question and four per cent stated that they had no religion. The present analysis excludes both categories of respondent.

<sup>8</sup> Where a postcode straddled more than one ED, the researchers quantified the number of buildings in the postcode area. The religious community profile of each ED was weighted by the proportion of buildings in each postcode area. These weighted profiles were combined to provide an estimate of the religious composition of the relevant postcode area.



### **3.3 Data Coverage**

This project is concerned exclusively with the analysis of the *SSPPR* applications database. However, because of the inclusion of unsuccessful applications in the database, it is possible to assess the overall impact of the funding bodies by comparing the distribution of requested and approved project funding (Section 4.3).

The *SSPPR* database has reached a satisfactory state of completion in relation to the coverage of applications received and processed. The data provided to the consultants in April 2002 include more than 30,000 project applications originating in Northern Ireland or in the Border Counties. This represents a considerable achievement, particularly since the previous community uptake analysis (undertaken at the end of 1998) was based on fewer than 17,000 applications.

Considerable efforts were made to geocode those addresses which were either incomplete or which contained postcodes introduced after 1991. A total of 24,213 project applications were successfully matched to an ED. This represents 90.7 per cent of the 26,963 applications that originated within Northern Ireland.

## 4 Resource Distribution under the SSPPR

### 4.1 Number of Applications, Funds Requested and Approved

The SSPPR is an extensive funding programme which has affected virtually every part of Northern Ireland. More than 30,000 applications were received by the 66 funding bodies responsible for its implementation, including approximately 27,000 applications from within Northern Ireland. The total amount of funds requested in Northern Ireland (£1,656m) was clearly in excess of the funds available under the Programme. Thus, one of the tasks of the funding bodies was to select the most appropriate projects and, in some cases, to scale down the expectations of the organisations concerned in order to take account of available resources. Nevertheless, just over half of all applicants (50.2%) received a grant, resulting in more than 13,000 approved projects within Northern Ireland alone.

**Table 4.1 Projects Approved and Rejected**

	Total (incl. Rol)	Total NI	Matched to NI EDs
<b>Projects approved</b>	15,670 (50.8%)	13,398 (50.2%)	12,226 (50.5%)
<b>Projects rejected</b>	15,196 (49.2%)	13,291 (49.8%)	11,987 (49.5%)
<b>Total applications</b>	<b>30,866 (100.0%)</b>	<b>26,689 (100.0%)</b>	<b>24,213 (100.0%)</b>

**Table 4.2 Funding Approved**

	Total (incl. Rol) £m	Total (NI only) £m	Matched to NI EDs £m
<b>Funding requested</b>	1,926	1,656	1,425
<b>Funding approved</b>	442 (22.9%)	360 (21.7%)	299 (21.0%)

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Attention is drawn to the final columns of Tables 4.1 and 4.2, which provide data on the number of projects approved and rejected and on the amount of funding requested and obtained by those Northern Ireland projects that could be matched to an ED. Matching as many projects as possible to an ED was fundamental to any estimate of the proportion of funds associated with each of the two religious communities in the region and was dependent upon the availability of sufficient address information to make the required project-to-ED link. In the event, it proved possible to establish such an association for 24,213 projects, representing 90.7 per cent of all Northern Ireland-based projects and 83.1 per cent of Northern Ireland-based funding<sup>9</sup>. The data summarised in the last column of Tables 4.1 and 4.2 provide the basis for the analysis presented in the remaining sections of this report.

<sup>9</sup> In the case of two funding bodies - the Department of Health and Social Services (DHSS) and the Training and Employment Agency (T&EA), relatively large amounts of funding could not be matched to a specific ED. In the case of DHSS, this reflected the regional rather than local focus of the projects in question.

## 4.2 Distribution by Sub-programme

The SSPPR comprised six Sub-programmes: Employment, Urban & Rural Regeneration; Cross-border Development; Social Inclusion; Productive Investment; and Partnership. The Social Inclusion Sub-programme was the largest of these, a prominence consistent with the Programme's underlying commitment to targeting social need as a means of promoting peace and reconciliation. In fact, this Sub-programme accounted for about one third of approved projects (32.7%) and just over one quarter (26.0%) of approved funding, with an average project size of slightly under £20,000. The second-largest Sub-programme comprised the 26 District Partnerships. It accounted for one quarter (25.5%) of approved projects and one fifth (22.1%) of funding, with an average project size similar to that for social inclusion. The Sub-programmes for Employment, Urban & Rural Regeneration, Cross-border Development and Productive Investment made up 16.8, 13.0, 13.4 and 8.8 per cent of total approved funding respectively. The largest projects (measured by average funding approved) are related to the Productive Investment Sub-programme; the average for these is three times larger than that for the Social Inclusion and Partnerships Sub-programmes. The smallest average project sizes are found in the context of Urban and Rural Regeneration.

**Table 4.3 Projects and Funding by Sub-programme**

Sub-programme	Applications	Approvals	Funds Requested	Funds Approved	Average funding per approved project
			£m	£m	£
Employment	1,390	907	112	44	48,725
Urban & Rural Regeneration	5,409	2,757	129	34	12,479
Cross-border Development	1,523	789	137	35	44,018
Social Inclusion	6,283	3,779	376	68	18,016
Productive Investment	617	374	35	23	61,806
Partnerships	6,482	2,951	239	58	19,491
<b>Total identified</b>	<b>21,704</b>	<b>11,557</b>	<b>1,028</b>	<b>262</b>	<b>22,670</b>
no sub-programme identified	2,509	669	397	37	55,497
<b>Total</b>	<b>24,213</b>	<b>12,226</b>	<b>1,425</b>	<b>299</b>	<b>24,472</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

**Table 4.4 Distribution of Projects and Funding by Sub-programme**

Sub-programme	Applications	Approvals	Funds Requested	Funds Approved
	%	%	%	%
Employment	6.4	7.8	10.9	16.8
Urban & Rural Regeneration	24.9	23.9	12.5	13.0
Cross-border Development	7.0	6.8	13.3	13.4
Social Inclusion	28.9	32.7	36.6	26.0
Productive Investment	2.8	3.2	3.4	8.8
Partnerships	29.9	25.5	23.2	22.1
<b>Total with SP identification</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Where column percentages fail to sum to 100, this is due to rounding within this table. The percentages shown for Partnerships in this table deviate slightly from those in Table 4.6, as the denominator on which the percentages are based excludes projects with no Sub-programme identification.

### 4.3 Distribution by Funding Body

The SSPPR relied heavily on the work of independent funding bodies, reflecting its community focus. Independent funding bodies financed nearly half (46.9 per cent) of all approved projects matched to Northern Ireland EDs and provided 38.8 per cent of funding. The community-oriented character of the Programme is further accentuated by the fact that an additional 24.2 per cent of projects were funded through the District Partnerships, accounting for 19.4 per cent of total funding. As already apparent from the analysis by Sub-programme presented above, community-based projects funded through independent funding bodies and District Partnerships had an average project size of about £20,000.

Projects funded directly by Government departments fell into three different categories: (i) Projects funded by the Department of Agriculture for Northern Ireland (DANI), accounting for a large proportion (17.0%) of approved projects but only 4.3 per cent of total funding (on average, projects funded directly by DANI received just over £6,000); (ii) Projects funded by other Government departments, some 12 per cent of all projects, representing more than one third of total funding. These were the largest projects in the Programme, about three times larger than those funded by the independent funding bodies and District Partnerships; (iii) Northern Ireland-based projects funded through intermediate bodies based in the Republic of Ireland.

**Table 4.5 Projects and Funding by Funding Body**

Funding Body	Applications	Approvals	Funds Requested	Funds Approved	Average funding per approved project
			£m	£m	£
District Partnerships	6,482	2,951	239	58	19,491
DANI	3,907	2,075	47	13	6,252
Government Departments	3,190	1,417	473	109	76,920
Independent Funding Bodies	10,526	5,722	651	116	20,331
Republic of Ireland	108	61	15	3	54,896
<b>Total</b>	<b>24,213</b>	<b>12,226</b>	<b>1,425</b>	<b>299</b>	<b>24,472</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

**Table 4.6 Distribution of Projects and Funding by Funding Body**

Funding Body	Applications	Approvals	Funds Requested	Funds Approved
	%	%	%	%
District Partnerships	26.8	24.2	16.8	19.4
DANI	16.1	17.0	3.3	4.3
Government Departments	13.2	11.6	33.2	36.5
Independent Funding Bodies	43.5	46.9	45.7	38.8
Republic of Ireland	0.4	0.5	1.1	1.0
<b>Total</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>	<b>100.0</b>

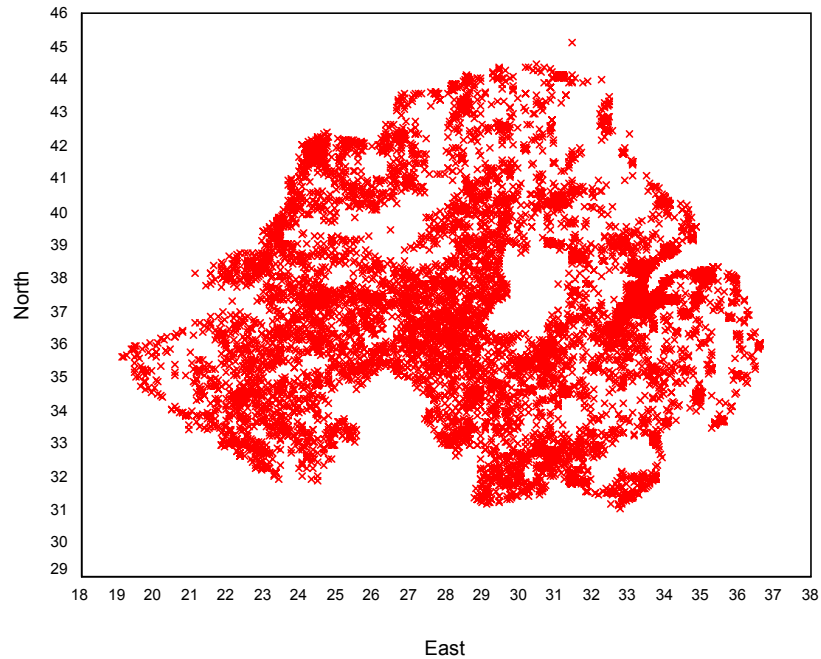
Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Where column percentages do not sum to 100, this is due to rounding within this table.

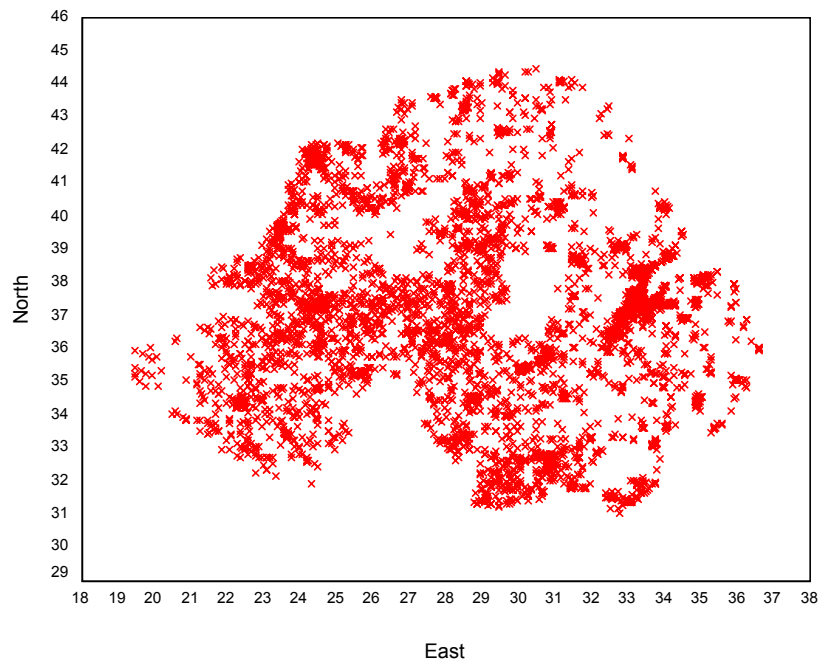
#### 4.4 Geographical Spread of Projects

The SSPPR has achieved a very impressive geographical coverage throughout Northern Ireland, and nearly all areas have benefited from Programme activities. Figures 4.1 and 4.2 show the location of each project application and approved project, based on the postcode of the project or, where this information was not available, of its principal applicant. Applications were received from 3,234 out of 3,729 EDs (86.7%) and 2,687 EDs (72.1%) benefited from funding.

**Figure 4.1 Geographical Distribution of Project Applications**



**Figure 4.2 Geographical Distribution of Approved Projects**



In terms of the distribution of applications and approved funding across Northern Ireland, the SSPPR database indicates that:

- **The geographical distribution of both project applications and approved projects closely follows the distribution of the population.**
- **The SSPPR has achieved an impressive coverage throughout Northern Ireland: applications for assistance originated in around 90 per cent of EDs and over 70 per cent benefited from funding.**

Table 4.7 provides further information on the geographical distribution of projects under the SSPPR.

**Table 4.7 Average and Maximum Number of Applications per ED**

	Number of EDs	Mean per ED	Maximum per ED	Total Applications
Approved	2,687	4.6	183	12,226
Rejected	2,950	4.1	165	11,987
<b>Total Applications</b>				<b>24,213</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

- For EDs from which applications were received, an average of 7.5 funding requests were submitted to the SSPPR, reaching a maximum of over 330.
- For EDs which benefited from SSPPR funding, the average number of approvals was 4.6, reaching a maximum of over 180.

As noted, a large number of organisations which sponsor multiple projects across Northern Ireland have administrative offices in a few central urban locations. Three particular EDs located in the wards St. Anne's and Shaftesbury (Belfast) and The Diamond (Derry), contain the home addresses of over 350 organisations which together made 900 funding applications (Table 4.8). Nearly half of these (412 or 46 per cent) were accounted for by 47 organisations which each made five or more project applications. The three EDs also account for almost 10 per cent of Programme spending. There appears to be a natural break between these three cases and the remaining EDs. In terms of the overall distribution of funds, these cases must therefore be considered extreme outliers and excluded from the statistical models presented later in this report.

**Table 4.8 Outliers According to Funding Approved**

ED	Ward	District	Proportion Catholic	Funding Requested (£m)	Funding Approved (£m)	Number of Applications
74001	St. Anne's	Belfast	0.51	39.4	14.8	334
73807	Shaftesbury	Belfast	0.17	24.4	8.0	247
132801	The Diamond	Derry	0.80	34.7	5.1	319
70709	Beechmount	Belfast	0.99	8.5	4.2	49
73403	New Lodge	Belfast	0.76	8.0	4.0	69
100501	Central	Coleraine	0.17	6.2	3.3	15
72010	Duncairn	Belfast	0.08	4.4	3.1	59

Note: EDs sorted in descending order of Funding Approved

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

## 4.5 Estimated Shares in Community Uptake

This section estimates the uptake of SSPPR funding by the two main religious communities in Northern Ireland, using postcodes as proxies for religion, as outlined previously. Tables 4.9 and 4.10 provide estimates of the number of applications (by application status) and the amount of funding requested and obtained by the two communities.

**Table 4.9 Projects Approved and Rejected by Religious Community**

	Catholic	Protestant	Matched to NI EDs
<b>Projects approved</b>	6,934 (56.7%)	5,292 (43.3%)	12,226 (78.0%)
<b>Projects rejected</b>	6,442 (53.7%)	5,545 (46.3%)	11,987 (78.9%)
<b>Total</b>	<b>13,376 (55.2%)</b>	<b>10,837 (44.8%)</b>	<b>24,213 (78.4%)</b>
<b>Percentage Approved</b>	51.8%	48.8%	50.5%

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: The estimated number of Catholic and Protestant projects do not represent whole projects but the aggregation of community shares. The percentages reported in the final column relate to the totals for all Northern Ireland EDs.

**Table 4.10 Funding Requested and Approved by Religious Community**

	Catholic £m	Protestant £m	Matched to NI EDs £m
<b>Funding requested</b>	742.1 (52.1%)	682.9 (47.9%)	1,425.0 (86.1%)
<b>Funding approved</b>	167.1 (55.8%)	132.1 (44.2%)	299.2 (83.1%)
<b>Percentage Approved</b>	22.5%	19.3%	21.0%

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: The percentages reported in the final column relate to the totals for all Northern Ireland EDs.

These tables indicate that:

- The Catholic share of applications accounted for 55.2 per cent of the total, and the Protestant share for 44.8 per cent.
- The Catholic share of project approvals was 56.7 per cent; the Protestant share, 43.3 per cent.
- The Catholic share of funding requested was 52.1 per cent. The corresponding Protestant share was 47.9 per cent.
- The Catholic share of approved funding was 55.8 per cent, compared with a Protestant share of 44.2 per cent.

In comparison, Catholics make up 43.2 per cent of Northern Ireland's population, whilst Protestants represent 56.8 per cent<sup>10</sup>.

<sup>10</sup> Source: Authors' estimate based on 1991 Census of Population.

## 4.6 Changes in Community Uptake over Time

In part, the original community uptake analysis was undertaken in response to concerns about a potentially disproportionate rate of uptake by one community. The findings of the 1999 version of the present analysis were therefore in line with a prevalent view that the Catholic community's share of Programme funding was considerably larger than its population share. At the same time, the report demonstrated that this disparity was not due to institutional bias but to the higher propensity of individuals and organisations in Catholic areas to apply for funding as well as the greater disadvantage of these areas.

It is therefore of some value to examine whether any changes occurred in relation to Protestant uptake during the second half of the Programme. To facilitate comparison with the 1999 results, the following two time periods have been selected for analysis:

- applications approved prior to October 1998;
- applications approved from October 1998 onwards.

**Table 4.11 Funding Approved by Religious Community and Time Period**

Period	Group	Funding Approved (£m)	Per Cent
Prior to Oct 1998	Catholic	101.4	56.1
	Protestant	79.2	43.9
	Total	180.6	60.4
Oct 1998 onwards	Catholic	65.6	55.5
	Protestant	52.7	44.5
	Total	118.3	39.6

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: The sum of these two groups of projects is slightly lower than that in Table 4.10 and earlier tables, as not all projects have valid information on the date of application or approval.

Three-fifths of the Programme's resources were allocated prior to 1 October 1998, and two-fifths on or after this date. During the first half of the Programme, the Catholic share of approved funding was 56.1 per cent, whilst over the second half of the Programme this share declined to 55.5 per cent. Therefore:

- **Estimated uptake by the Protestant community increased slightly during the second half of the Programme, from 43.9 per cent to 44.5 per cent.**



## 4.7 Testing the Methodological Assumptions

The mid-term analysis of community uptake included a brief discussion of the validity of using postcodes as proxies for religious community profile. This discussion concentrated on the margin of error created by the ‘homogeneity assumption’, which arises from the fact that, when using Census data, there is no way of knowing who, within each ED, might be the final beneficiary of a given project. An analysis of school attendance data from the then DENI suggested that the margin for error arising from this assumption is on average less than two percentage points thereby supporting the accuracy of the 1999 analysis.

A further assumption is that all impacts are local (i.e. restricted to a project’s ‘home’ ED). The validity of this assumption has implications for the overall approach adopted in this report. If most impacts can be reasonably assumed to be confined to the home ED, the religious community profile of that ED is clearly an accurate guide to community uptake. One way of testing this involves moving the level of analysis from ED to ward level to establish whether there is any marked change in the results obtained. The analysis presented in Section 7 indicates that there is no such change. This suggests that, even if a project’s benefits extend beyond the ‘home’ ED, the assumed pattern of religious community benefit remains similar.

Projects can be categorised into two groups - projects that received less than £250,000 and projects that received £250,000 or more. The latter account for approximately one quarter (26.7%) of total funding. If the ‘home’ EDs of these larger, more costly projects were to differ in their religious community profile from those containing smaller, less costly projects, this, too, might affect the validity of the overall analysis.

**Table 4.12 Community Uptake for Small and Large Projects**

Approved Funding	Catholic Share		Protestant Share		Matched to NI EDs	
Less than £250,000	123.0	(55.9%)	96.5	(44.1%)	219.4	(73.3%)
More than or equal to £250,000	44.1	(55.5%)	35.6	(44.5%)	79.7	(26.7%)
<b>Total</b>	<b>167.1</b>	<b>(55.8%)</b>	<b>132.1</b>	<b>(44.2%)</b>	<b>299.2</b>	<b>(100.0%)</b>

Note: Estimates are based on 24,213 applications matched to EDs. Where column percentages do not sum to 100, this is due to rounding within this table.

Table 4.12 helps to diminish such concerns. The difference in the religious profile of funding between the two categories of projects is just 0.4 percentage points, suggesting that the aggregate analysis has not been unduly influenced by contingent factors related to the ED location of large projects.

## 5 Accounting for Deprivation and Religion

This section looks at the distribution of applications and funding in relation to the geographical distribution of the population of Northern Ireland, controlling for the religious composition of local areas as well as their underlying affluence/disadvantage. Factors likely to have influenced funding outcomes will be examined using a series of graphs which will become progressively more focused as the discussion proceeds.

### 5.1 Indices of Deprivation

In the last ten years, two major indices of relative deprivation in Northern Ireland have been produced: the Robson Index<sup>11</sup> and the Noble Index<sup>12</sup>. Following its publication in 1994, the Robson Index became a benchmark for the measurement of relative deprivation in Northern Ireland. However, since this index relies on data from the 1991 Census of Population, demand for a more up-to-date measure led to the commissioning of the Noble Index in 2000. The Noble Index draws data primarily from administrative databases. This should be borne in mind when comparing Figures 5.1 and 5.2. As these diagrams show, the two indices differ somewhat in terms of the picture they provide of the spatial distribution of relative affluence and deprivation. The correlation between the two indices at ED level is 0.63, meaning that two-fifths of the variance of the Robson Index is explained by the Noble Index and vice versa.

#### The Robson Index<sup>13</sup>

The Robson Index uses nine variables which are grouped into a number of key domains that are believed to reflect relative social and economic deprivation. The methodology employs a signed chi-square transformation, designed to overcome some of the alleged shortcomings inherent in the more common factor analytical approach to index construction.

#### The Noble Index<sup>14</sup>

The Noble Index adopts a novel approach in the sense that it draws on a considerable quantity of information from administrative databases. The index thus responds to the frequent request for the inclusion of more up-to-date administrative and other survey data in order to avoid relying exclusively on Census data that may be more than ten years old.

As the Robson Index was the only measure available to the implementing agencies at the time of the Programme, this index has been used for the purposes of the present analysis. However, the modelling section contains a detailed discussion of the influence of different indices on the substantive findings of the study.

---

<sup>11</sup> Robson, B., Bradford, M. and Deas, I (1994) *Relative Deprivation in Northern Ireland*, Policy Planning and Research Unit, Occasional Paper No 28.

<sup>12</sup> Social Disadvantage Research Centre (2001) *Measures of Deprivation in Northern Ireland*, Northern Ireland Statistics and Research Agency (NISRA), Belfast.

<sup>13</sup> For a detailed discussion of the Robson Index by the authors of this report see Coopers & Lybrand (1997) *Robson Revisited: A review of measures of relative deprivation in Northern Ireland*. Report prepared for Banbridge District Council, Carrickfergus Borough Council and Moyle District Council.

<sup>14</sup> For a broader discussion of the underlying methodological assumptions implicit in various indices, including Noble, see Pratschke, J. (2001) *Mapping the Dynamics of Social Disadvantage in the Republic of Ireland*. Essex: MA dissertation (Social Science Data Analysis, University of Essex).

Figure 5.1 Robson Multiple Deprivation Measure for Northern Ireland

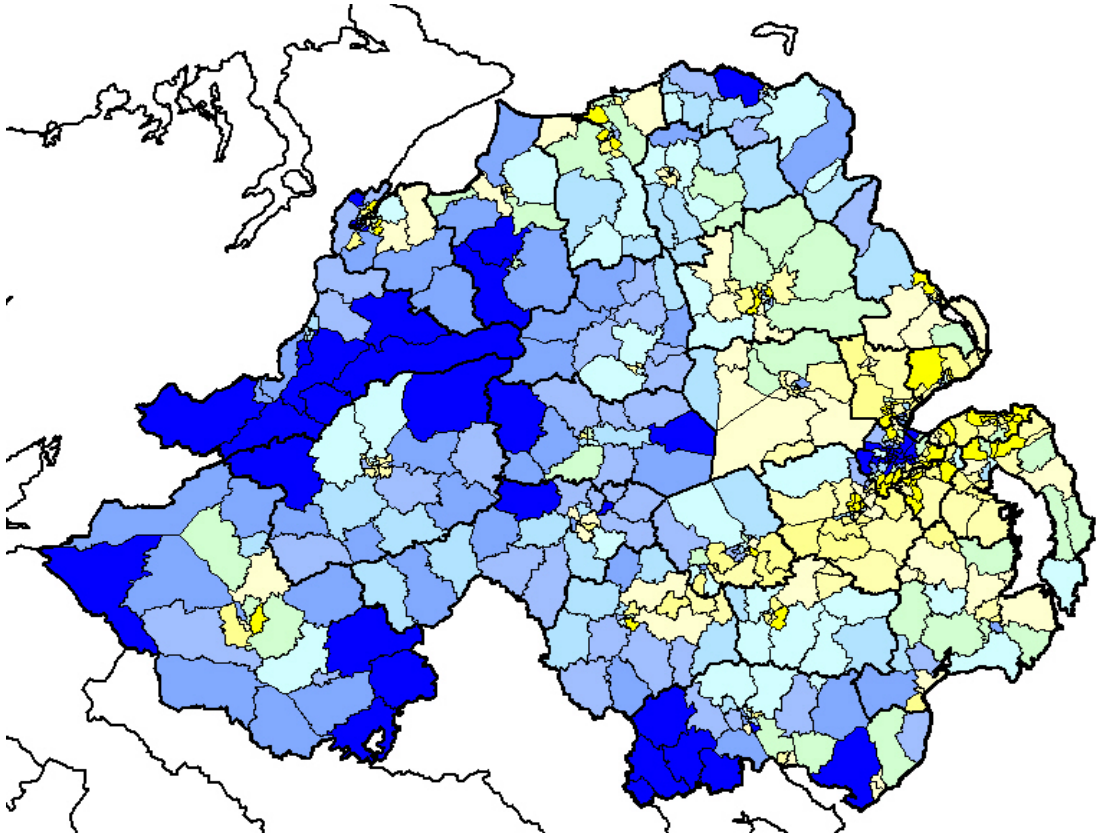
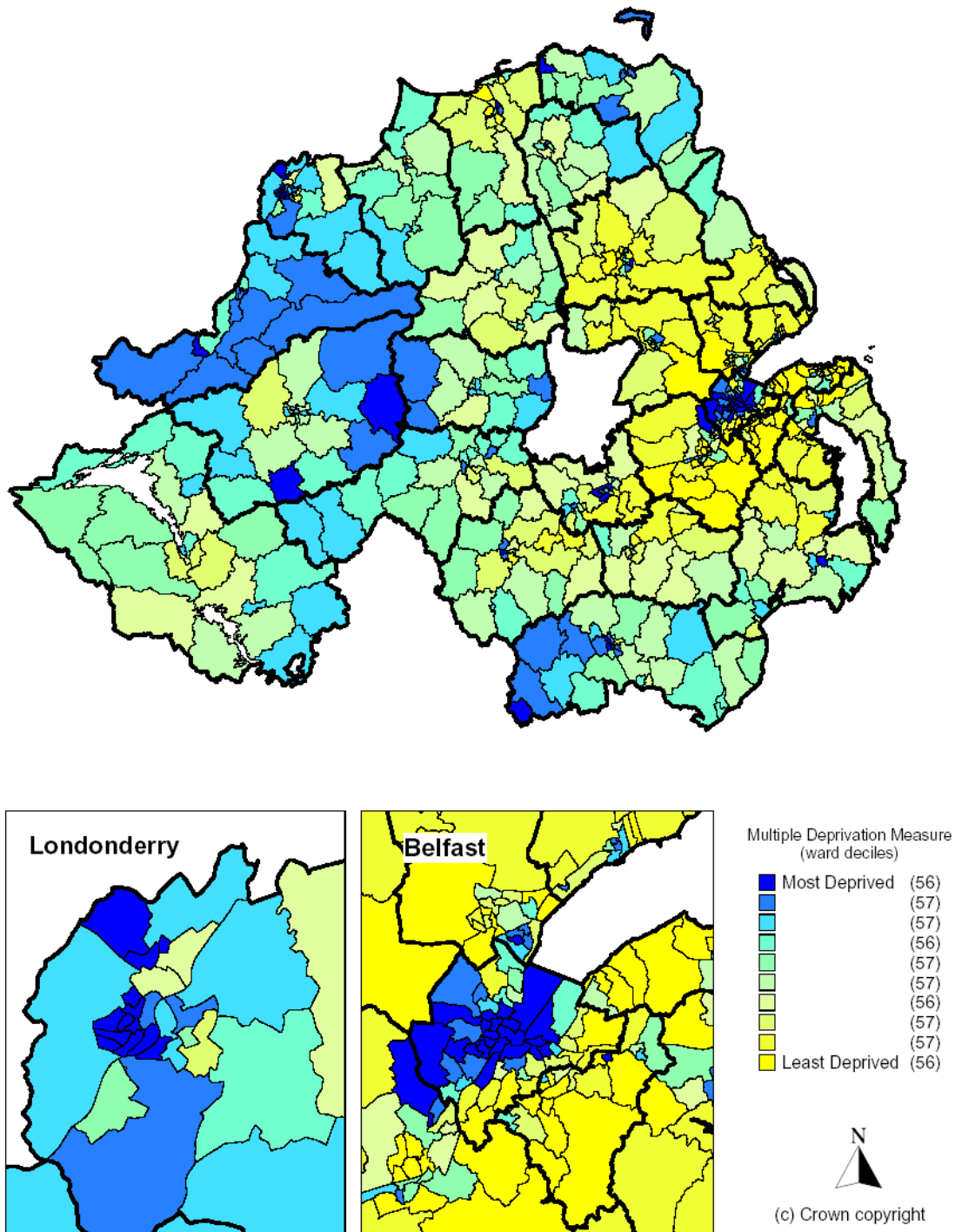


Figure 5.2 Noble Multiple Deprivation Measure for Northern Ireland



Permit number: 30143

## 5.2 Resource Distribution by Deprivation Decile and Religious Community

One of the key aims of the SSPPR is to target social need. The successful channelling of funds towards disadvantaged areas is seen as representing an important contribution towards peace and reconciliation. Northern Ireland data relevant to deprivation reveal, inter alia, disproportionate levels of unemployment, long-term unemployment and benefit dependence within the Catholic community. A relatively higher Catholic share of SSPPR funding was therefore to be expected. However, there has been some discussion as to what might represent an equitable communal share in this context. This section begins by looking at the number of applications, the number of successful projects and the distribution of funds according to relative affluence and deprivation, before moving on to investigate the distribution of the two religious communities across each decile of deprivation scores (a "decile" contains ten per cent of cases, in this case 373 EDs).

The analysis presented here is based primarily on the Robson Index of Relative Deprivation. However, in order to facilitate comparisons with the more recent Noble Index, Table 5.1 and Figure 5.3 provide results for both indices. Figure 5.3 (a) shows the population distribution in Northern Ireland by degree of relative affluence and deprivation using a decile ranking. The first decile includes the 373 (10 per cent) most affluent EDs, the second decile the next 10 per cent of EDs; finally, the tenth decile comprises the most disadvantaged 10 per cent of EDs.

Figure 5.3 (a) reveals a very clear U-shaped curve, indicating that there are more people living in the most affluent and most deprived areas. This is partly attributable to the fact that rural areas tend to contain a mixture of affluent and poorer residents, whilst relatively populous urban areas are characterised by a more marked social segregation.

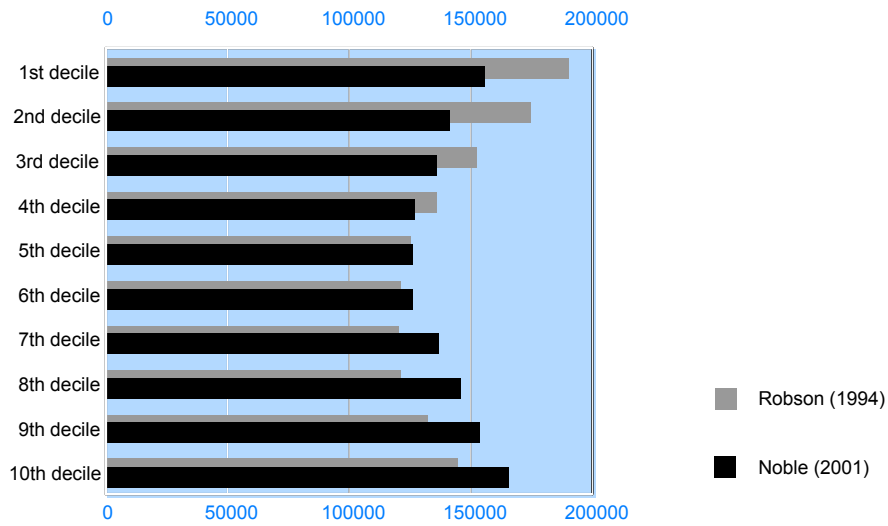
**Table 5.1 Deprivation and Religious Community Background**

	Robson		Noble	
	Catholic Population	Protestant Population	Catholic Population	Protestant Population
	%	%	%	%
<b>1st decile (least deprived)</b>	22.3	77.7	15.0	85.0
<b>2nd decile</b>	35.5	64.5	18.7	81.3
<b>3rd decile</b>	29.6	70.4	29.6	70.4
<b>4th decile</b>	31.4	68.6	36.7	63.3
<b>5th decile</b>	34.7	65.3	42.4	57.6
<b>6th decile</b>	41.3	58.7	49.7	50.3
<b>7th decile</b>	50.4	49.6	50.2	49.8
<b>8th decile</b>	52.6	47.4	55.3	44.7
<b>9th decile</b>	65.6	34.4	59.4	40.6
<b>10th decile (most deprived)</b>	79.5	20.5	70.3	29.7
<b>Total</b>	<b>43.2</b>	<b>56.8</b>	<b>43.2</b>	<b>56.8</b>

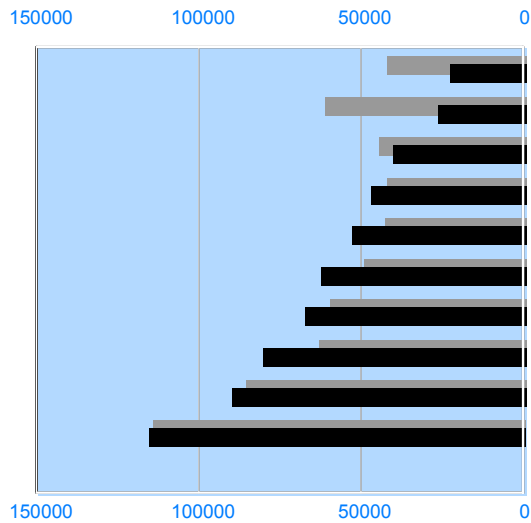
Table 5.1 and Figures 5.3 (b) and (c) illustrate the relationship between deprivation and religious community background in Northern Ireland. Based on the Robson Index, 78 per cent of the population of the most affluent decile of EDs are Protestant and only 22 per cent are Catholic. The corresponding proportions based on the Noble Index are 85 per cent Protestant and 15 per cent Catholic. For each subsequent decile - i.e. as the level of deprivation increases - the Catholic share of population tends to increase until, in decile 10 - the most deprived 373 EDs in Northern Ireland - Catholics account for 80 per cent of the population according to the Robson Index and 70 per cent according to the Noble Index.

**Figure 5.3 Distribution of Population by Relative Affluence/Deprivation**

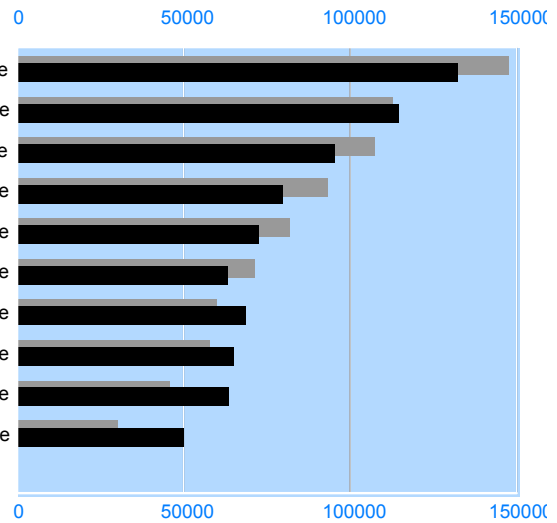
**a. Total Catholic and Protestant Population**



**b. Catholic Population**



**c. Protestant Population**



Source:  
1991 Census of Population  
Robson Index of Relative Deprivation, 1994  
Noble Index of Relative Deprivation, 2001

**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**

Figure 5.4 illustrates the distribution of applications by disadvantage category and religious community. It indicates that:

- **The number of applications made reflects, above all, the degree of affluence or deprivation of the ED concerned. The most disadvantaged 10 per cent of EDs account for nearly 4,000 applications, compared with 800 in the most affluent decile of EDs.**
- **When applications are analysed by religious community, the number of Protestant applications is much more uniform across the various deciles of relative affluence/deprivation. In contrast, relatively deprived Catholic areas appear to have generated many more applications than relatively affluent areas.**

Although the data in Figure 5.4 are informative, the distribution of the Catholic and Protestant populations between the various deciles needs to be taken into account. The greater concentration of Catholic applications in disadvantaged areas may, at least in part, reflect the larger number of Catholics residing within these areas. Similarly, the relatively large proportion of Protestant applications in more affluent areas may be due to the predominance of Protestants in such areas. Figure 5.5 therefore examines the distribution of applications per 1000 inhabitants by disadvantage category and religious community and indicates that:

- **The number of applications made reflects, above all, the degree of affluence or deprivation of the ED concerned; in the most disadvantaged 10 per cent of EDs more than 25 applications have been made per 1,000 population. This compares with just under five per thousand in the most affluent decile.**
- **When applications per thousand population are analysed by religious community, both communities show a similar pattern - the more disadvantaged areas generate more applications per thousand population.**

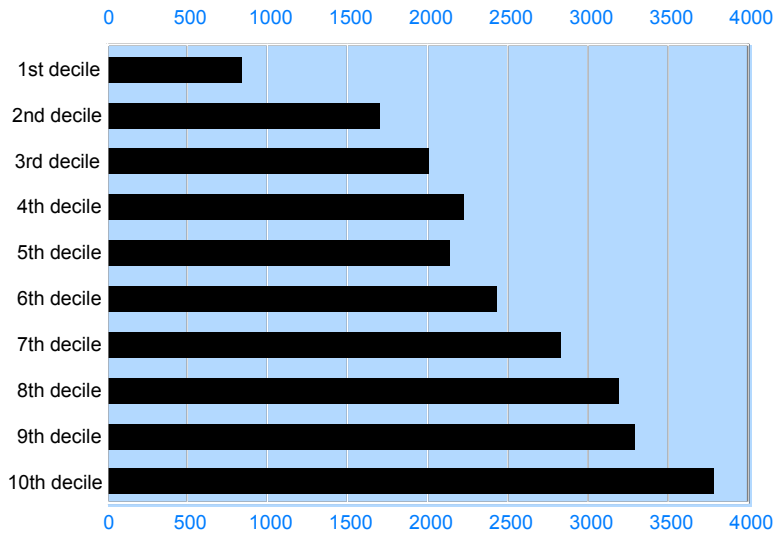
Figure 5.6a shows the distribution of requested funding by the degree of disadvantage of the ED in which these requests originate. As before, the graph showing the total value of applications is also presented in terms of its Catholic (Figure 5.6b) and Protestant (Figure 5.6c) shares using the methodology already described.

- **These graphs follow the pattern observed in relation to the number of applications. The funding requests attributed to the Catholic community are concentrated in the most disadvantaged areas, Protestant requests are less so.**

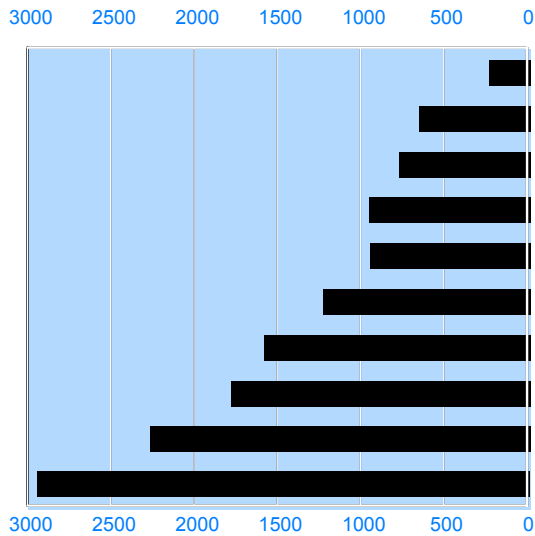
The distribution of approved funding appears to be more focused on the most disadvantaged areas (Figure 5.7). This suggests that the allocation mechanisms of the *SSPPR* have successfully targeted funds on disadvantaged areas, an assessment which holds true for both Catholic and Protestant funding.

**Figure 5.4 Distribution of Applications by Relative Affluence/Deprivation**

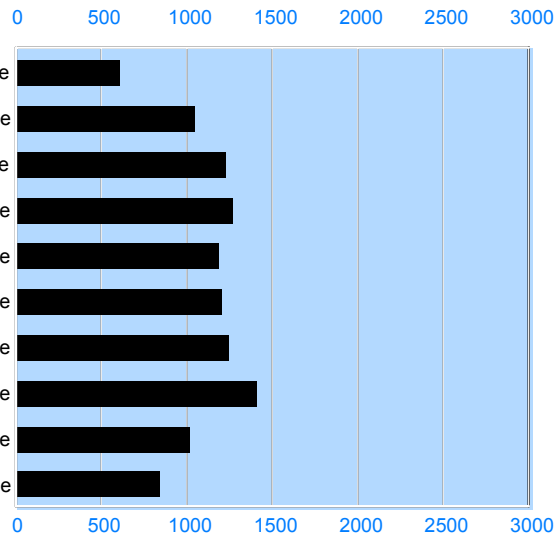
**a. Total Number of Applications**



**b. Catholic Applications**



**c. Protestant Applications**



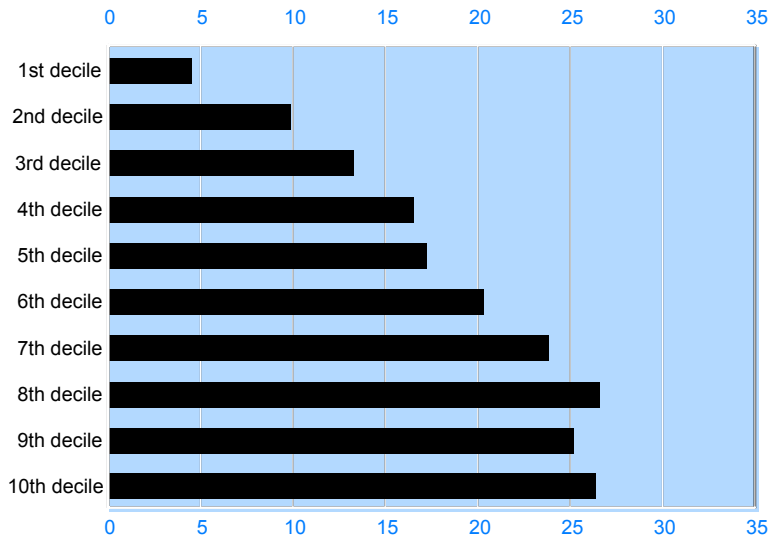
Source:  
SSPPR Database, April 2002  
Robson Index of Relative Deprivation, 1994

**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**



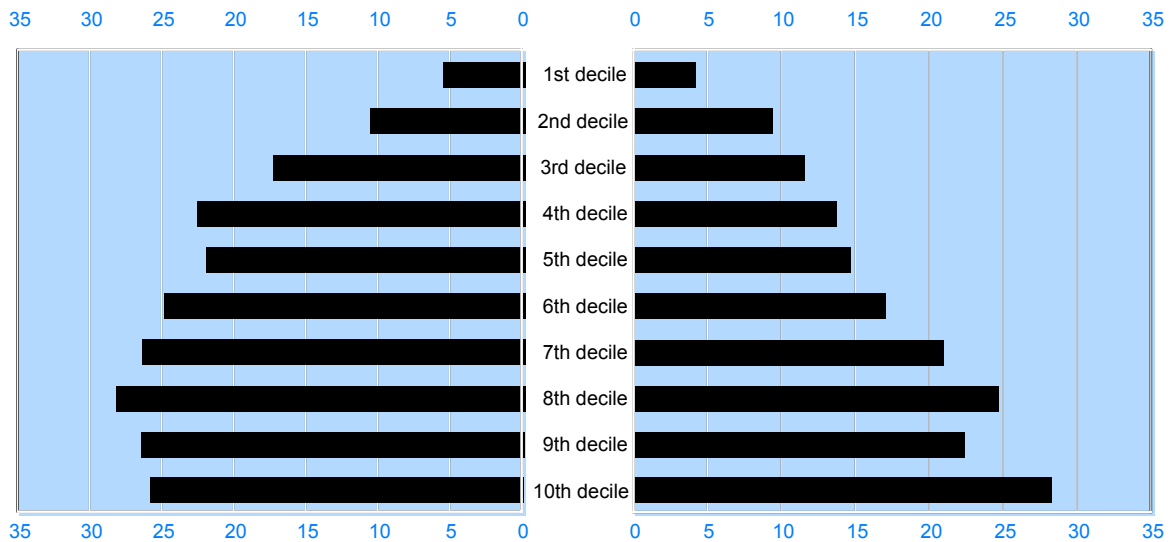
**Figure 5.5 Distribution of Applications per 1,000 Inhabitants by Relative Affluence/Deprivation**

**a. Total Number of Applications per 1,000 Capita**



**b. Catholic Applications per 1,000 Capita**

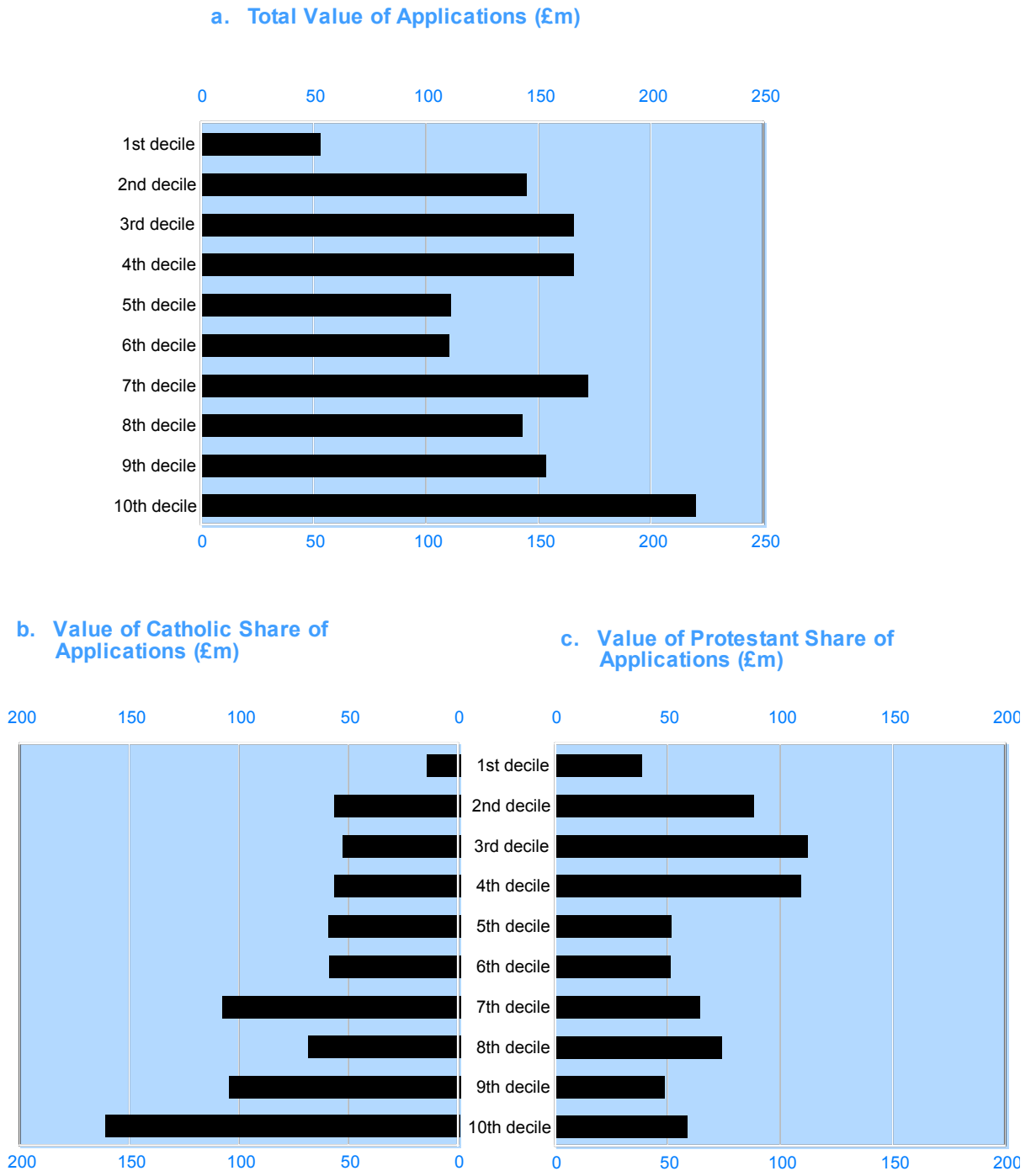
**c. Protestant Applications per 1,000 Capita**



Source:  
SSPPR Database, April 2002  
Robson Index of Relative Deprivation, 1994

**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**

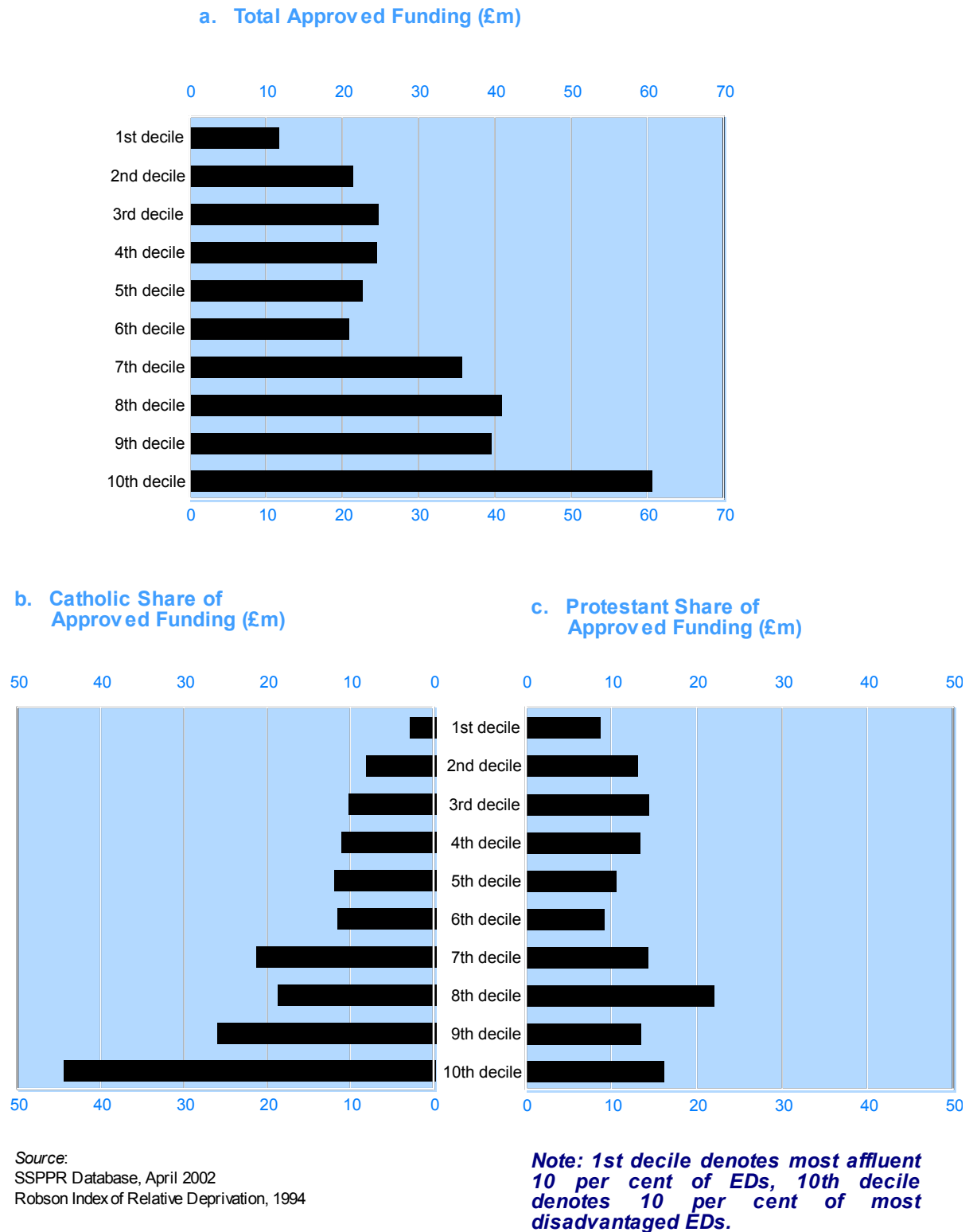
**Figure 5.6 Funding Requests by Relative Affluence/Deprivation**



Source:  
SSPPR Database, April 2002  
Robson Index of Relative Deprivation, 1994

**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**

Figure 5.7 Approved Funding by Relative Affluence/Deprivation



Again, it is important to take account of differences in the population distribution of the two communities, since the relatively greater concentration of Catholic funds in disadvantaged areas might simply reflect the greater numbers of Catholics living in these areas. Figure 5.8 therefore considers the distribution of funding after adjusting for the number of Catholics and Protestants in each decile by means of a per capita analysis. This analysis indicates that:

- **Overall, the distribution of approved funding clearly reflects a degree of targeting on the basis of deprivation. Per capita funding is at least three times higher in the three most disadvantaged deciles of EDs than in the three most affluent deciles, whilst per capita funding in the most disadvantaged decile of EDs is seven times higher than in the most affluent ten per cent of EDs.**
- **The degree of targeting thus seems to be consistent with the Programme's objective of targeting social need whilst achieving a broad coverage throughout Northern Ireland.**
- **Approximately half of the skew in estimated Catholic funding in disadvantaged areas is explained by the greater concentration of Catholics in these areas. But even after controlling for different ED populations, estimated Catholic per capita funding in the most disadvantaged decile is more than five times greater than in the most affluent decile.**
- **By contrast, the distribution of estimated Protestant funding, which previously seemed rather undifferentiated, appears to be much more targeted when population size is taken into account. Estimated per capita funding to the Protestant community in the most deprived EDs is nearly ten times greater than per capita funding to projects located in the most affluent decile of EDs, suggesting a strong targeting of resources.**

In short, a comparison of per capita funding for each community in the context of relative affluence and deprivation reveals a similar pattern. For both communities, per capita funding increases in line with relative deprivation. However, Catholic per capita funding is higher than Protestant per capita funding in eight out of the ten deciles, reflecting the higher Catholic share of approved funding.

The final set of graphs (Figure 5.9) compares per capita funding requested with per capita approved funding, again by relative deprivation and religious community. The following observations may be made on the basis of these graphs:

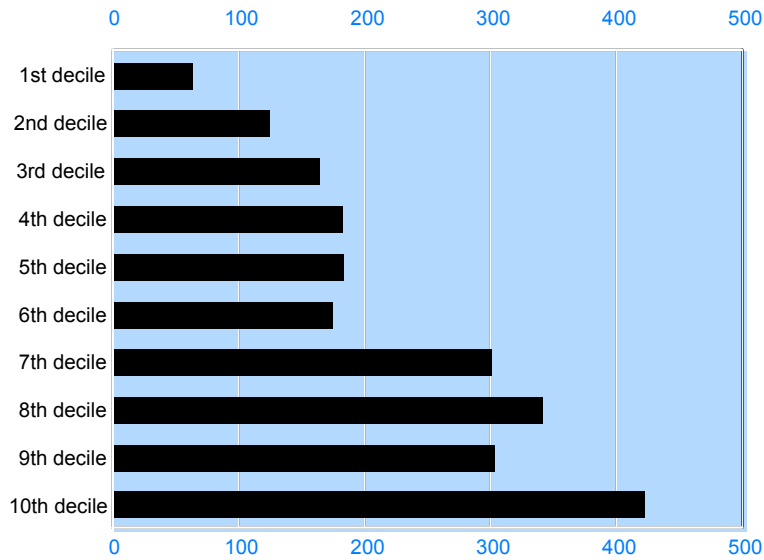
- **Approved funding per capita is more strongly targeted towards the most deprived areas than requested funding per capita, reflecting both the Programme's strategic focus and the targeting role of the funding bodies.**
- **Funding allocations are predominantly reactive - they tend to follow the distribution of funding *applications*, regardless of the level of deprivation. (This relationship will be explored in some detail in the next section of the report).**

In order to test whether any of the findings of this section are dependent upon characteristics specific to the Robson Index, the entire analysis was re-performed using the Noble Index of Deprivation. This analysis established that all substantive findings were very similar regardless of which index was used, underlining the robustness of the analysis. The figures used to construct Figures 5.4 to 5.9 are provided in the Appendix for both the Robson and Noble indices.

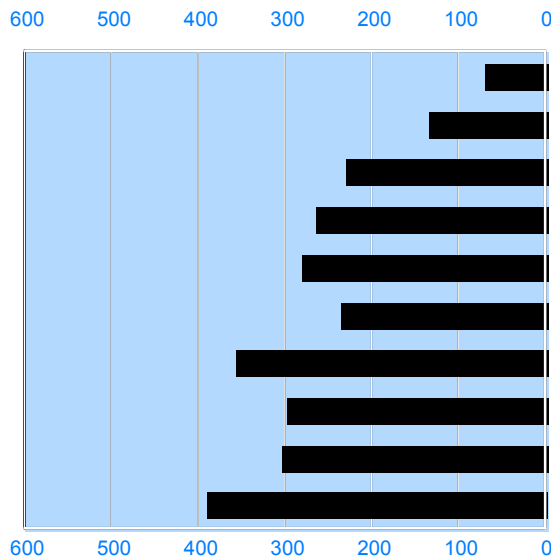
The next section will use sophisticated statistical techniques to explore the relationship between the religious community profile of EDs and other ED features including, their population size, deprivation score, propensity to apply for funding and the overall funding received under the *SSPPR*. The results of the statistical models will also help to explain further the patterns described above.

**Figure 5.8 Per Capita Approved Funding by Relative Affluence/Deprivation**

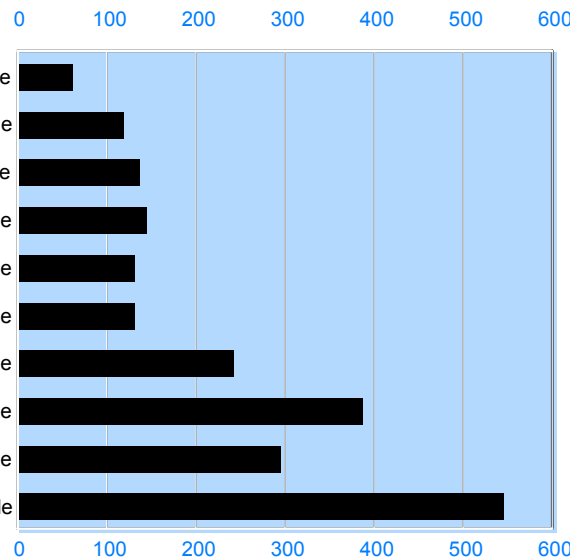
**a. Per Capita Approved Funding**



**b. Catholic Per Capita Approved Funding**



**c. Protestant Per Capita Approved Funding**

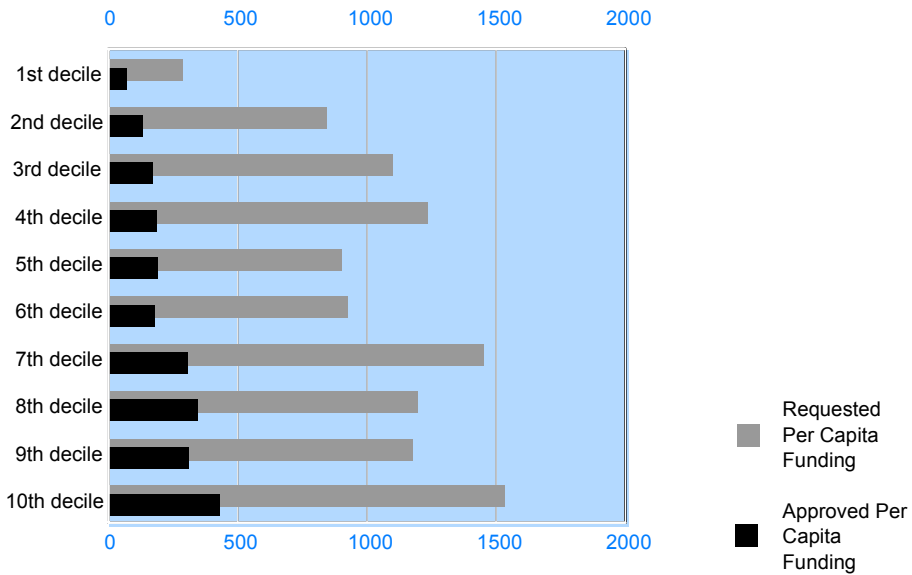


Source:  
SSPPR Database, April 2002  
Robson Index of Relative Deprivation, 1994

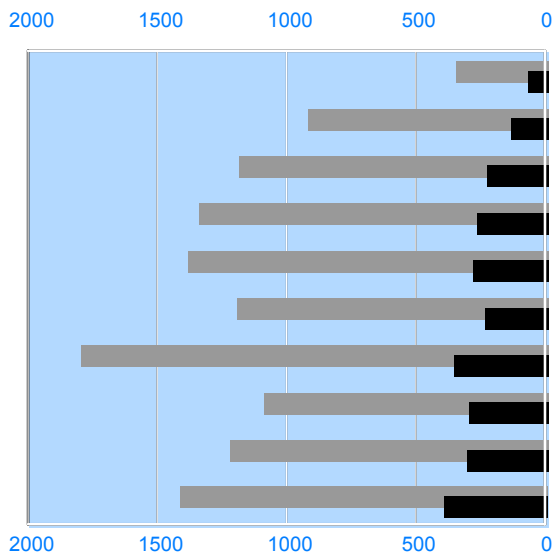
**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**

**Figure 5.9 Per Capita Requested and Approved Funding**

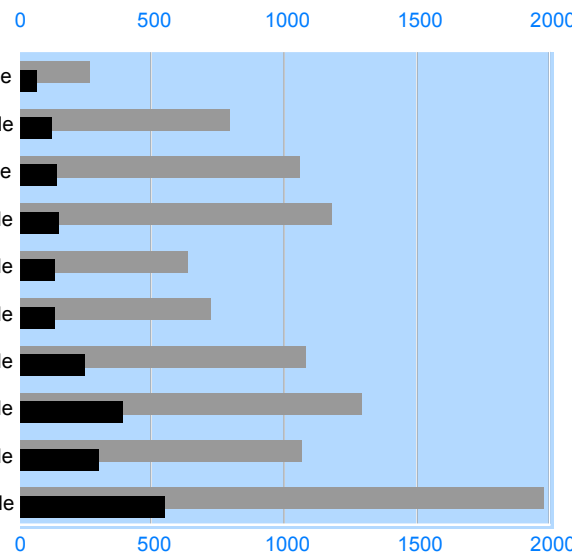
**a. Per Capita Requested and Approved Funding**



**b. Catholic Per Capita Requested and Approved Funding**



**c. Protestant Per Capita Requested and Approved Funding**



Source:  
SSPPR Database, April 2002  
Robson Index of Relative Deprivation, 1994

**Note: 1st decile denotes most affluent 10 per cent of EDs, 10th decile denotes 10 per cent of most disadvantaged EDs.**

## 6 Explaining Funding Patterns

### 6.1 Introduction to Path Analysis

Path Models form part of a general class of simultaneous equation models, whereby the relationships between a number of observed variables are estimated simultaneously by means of a set of equations, one for each dependent variable in the model. Dependent variables receive causal influences from one or more independent variables, and a residual or error term indicates that the dependent variables are not determined completely by the independent variables. Thus, the residuals may be said to express the combined effect of all omitted variables in addition to the random factors which influence the dependent variable.

Whilst Path Models essentially comprise a series of regression equations, they are more sophisticated than the Classical Linear Regression Model (CLRM) due to their scope, flexibility and less restrictive assumptions<sup>15</sup>. In fact, where a complex network of relationships exists between the variables of interest, with the dependent variable in one equation becoming an independent variable in another, it is no longer possible to rely on regression analysis. This is because regression analysis provides no way of controlling for the effects of indirect causation (**a** causes **b**, and **b** causes **c**) or spurious correlation (**a** only appears to cause **c** because both **a** and **c** are caused by **b**).

Like all statistical models, the validity of the results of a Path Model depends on a number of assumptions. Whereas the CLRM is frequently used as a predictive tool – with the result that model specification is secondary to predictive power – Path Models are typically used to highlight causal relationships. Thus, in addition to the assumptions implicit in the CLRM<sup>16</sup>, Path Models also assume that the structure of the relationships posited by the model is approximately correct. In fact, the greater power of Path Models derives from the fact that they encode qualitative information regarding causal relationships, which may be based on time ordering, common-sense ideas or previous research findings.

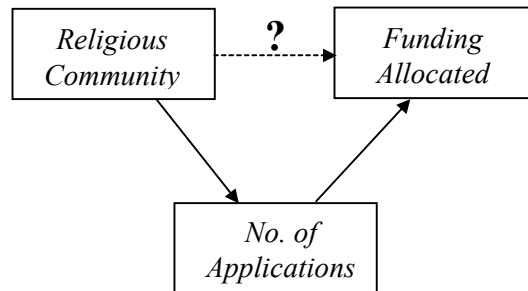
The interpretation of Path Models is assisted by the use of a Path Diagram, by means of which variables and the relationships between them are displayed in graphical form. In this diagram, a causal effect is represented as a directed arrow from an independent variable to a dependent variable, or in other words from cause to effect. All observed variables are indicated by a rectangle containing the name of the variable. Correlations are indicated by two-headed arrows connecting the related variables, and imply that the values of these variables tend to covary systematically, perhaps due to one or more shared (but unmeasured) causes.

---

<sup>15</sup> Bentler, P., 1995, EQS – Structural Equations Program Manual; Bollen, K., 1989, Structural Equation Modelling; Loehlin, J., 1992, Latent Variable Models: An Introduction to Factor, Path and Structural Analysis.

<sup>16</sup> The most important assumptions of the CLRM are (1) linearity; (2) additivity; (3) asymptotic multivariate normality; (4) inclusion of all relevant variables and exclusion of all irrelevant ones; (5) no serial correlation; (6) no multicollinearity; (6) homoscedasticity of residuals. See Fox, J., 1991, Regression Diagnostics. Newbury Park, CA: Sage.

Before looking at the model results, a simplified example may help to clarify the procedure of path analysis. This example illustrates the basic form of the model of indirect causality:



The dotted line and question mark linking Religious Community Profile and Funding Allocated indicates that the hypothesised relationship between these variables may be *indirect* rather than direct in nature. Thus, where areas with differing proportions of Catholics and Protestants receive different financial allocations, this covariation may be due to differences in the number of applications generated by each community. In this situation, religious community profile has some relationship to the pattern of funding allocations, but this does not amount to bias because the causal link is mediated by the number of applications, a legitimate channel of influence.

## 6.2 The SSPPR Path Model

The evaluation of community uptake in relation to the SSPPR is well-suited to a Path Analysis, since some of the factors that influence the process of application and approval, including deprivation, awareness of funding opportunities and attitude towards the programme as a whole, might reasonably be assumed to vary according to religious community background. Path Analysis provides a reliable means of modelling the indirect effect of religious community on funding outcomes via mediating factors such as these.

Three variables have been identified to measure the characteristics of EDs in Northern Ireland:

- Total population – all persons normally residing in the ED at the time of the Census of Population (1991)
- Robson Deprivation Score – the raw scores resulting from the application of Robson's Index of Deprivation, with higher values representing greater disadvantage
- Proportion Catholic – this is the proportion of people in the ED who described themselves as Catholic at the time of the 1991 Census of Population.

Two-headed arrows connect these three variables in the graphs below, indicating that some degree of correlation is to be expected. There is a moderate negative correlation (-.38) between Total Population and the Robson Deprivation Score and a slightly larger correlation (.41) between the Robson Deprivation Score and the Proportion Catholic in the ED, confirming the observation that predominantly Catholic areas are, in general, more deprived than predominantly Protestant ones (see Figures 5.3 (b) and (c)). Finally, the correlation between Total Population and the Proportion Catholic is practically zero (.02), indicating that predominantly Catholic EDs are not, in general, more populous than Protestant ones.

In the first model, which is equivalent to a Multiple Regression model, the three independent variables are conceptualised as having a causal effect on the following variable:

- Funding Approved – the total value of the funding approved for projects originating in the ED (SSPPR database)



These direct causal effects are represented in the graph below by the arrows connecting Total Population, Robson Deprivation Score and Proportion Catholic to Funding Approved.

In the second model, the outcome variable Funding Approved depends not only on the three background variables, but also on two intervening variables:

- Number of Applications – the number of applications to the SSPPR for projects situated in the ED (SSPPR database)
- Average Grant Requested – the mean value of funding requested by all projects originating, at least in part, in the ED (SSPPR database)

In other words, in addition to their direct effects, the variables Total Population, Robson Deprivation Score and Proportion Catholic are hypothesised as having an indirect effect on the variable Funding Approved, mediated by the Number of Applications and the Average Grant Requested.

### 6.3 Model 1: Direct Effects only

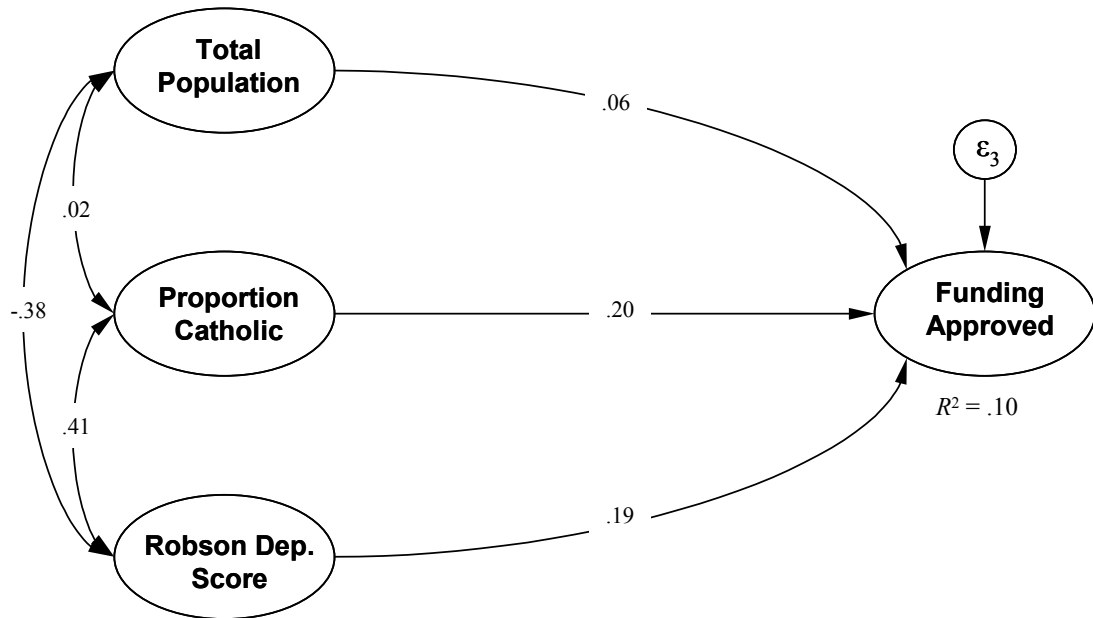
The first model presents the results of a Path Analysis with three independent variables (those situated to the extreme left of the graph) and a single dependent variable (to the right), with its associated residual variable. The estimates shown in the Path Diagram are standardised partial regression coefficients, or path coefficients, meaning that they indicate to what extent a change in the independent variable is transmitted to the dependent variable (the size of this "change" is measured in standard deviation units), with all other independent variables in the equation in question held constant.

Table 6.1 shows the parameter estimates obtained when all cases are included (Model 1A), when the three most extreme outliers are excluded (Model 1B) and a final model (Model 1C; presented also in graphical form) in which the variable Approved Funding is transformed using the natural logarithm function. In order to control for the possible effects of other forms of "non-normality" on estimates of statistical significance, the Satorra-Bentler formula for "robust" standard errors (Bentler, 1995) has been used. The authors believe that the estimates for Model 1C are the most accurate, as they incorporate a control for the highly "skewed" nature of Approved Funding. Model 1C produces marginally higher effects for all three independent variables, but the effects remain small and the overall variance explained by the model still amounts to just 10 per cent.

The effect of deprivation, as measured by the Robson Deprivation Score, on Approved Funding appears quite small at .07 to .19, depending on the model that is consulted. The effect of religious community profile, as measured by the Proportion Catholic, is almost identical to that of deprivation, ranging from .06 to .20.

In conclusion, the first model suggests that the proportion of Catholics in an ED and its relative deprivation have a fairly small but statistically significant effect on the amount of funding received by that ED. The effect of the population of the ED is even smaller, reaching statistical significance in just two of the models. No more than 10 per cent of the variation in Funding Approved is explained by this model, and it must therefore be considered **an incomplete explanation** of the distribution of approved funds.

**Figure 6.1 Model 1C - Direct Effects only**  
**Path Model of the Relationship between ED Characteristics and Approved Funding (3 outliers removed – funding variable transformed using natural logarithm function)**



**Table 6.1: Parameter Estimates for Direct Model**

Parameter	Model 1A	Model 1B	Model 1C
Total Population → Funding Approved	.03	.08*	.06*
Proportion Catholic → Funding Approved	.06*	.09*	.20*
Robson Deprivation Score → Funding Approved	.07*	.08*	.19*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.01</b>	<b>.02</b>	<b>.10</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

Model A: All EDs

Model B: 3 Outliers removed (EDs: 74001, 73807, 132801)

Model C: 3 Outliers removed and dependent variables transformed (natural log) (Figure 6.1)

## 6.4 Model 2: Direct and Indirect Effects

As explained, the second model introduces two new variables, situated between the three original independent variables and the dependent variable Funding Approved.

The standardised coefficients in Figure 6.2 and Table 6.2, show two clear differences compared with the previous model: (i) the second set of models explain a much larger proportion of the variation in Funding Approved ( $R^2$  ranges between 49% and 65%, compared with a maximum of 10% for the first models) and (ii) this is largely driven by the variable Number of Applications.

Regardless of which of the second set of models is chosen, the variable Number of Applications has a very strong impact on the amount of funding approved (path coefficients ranging from .70 to .82), with the size of the variable Average Grant Requested having only a minor influence (the path coefficients here are between .03 and .09).

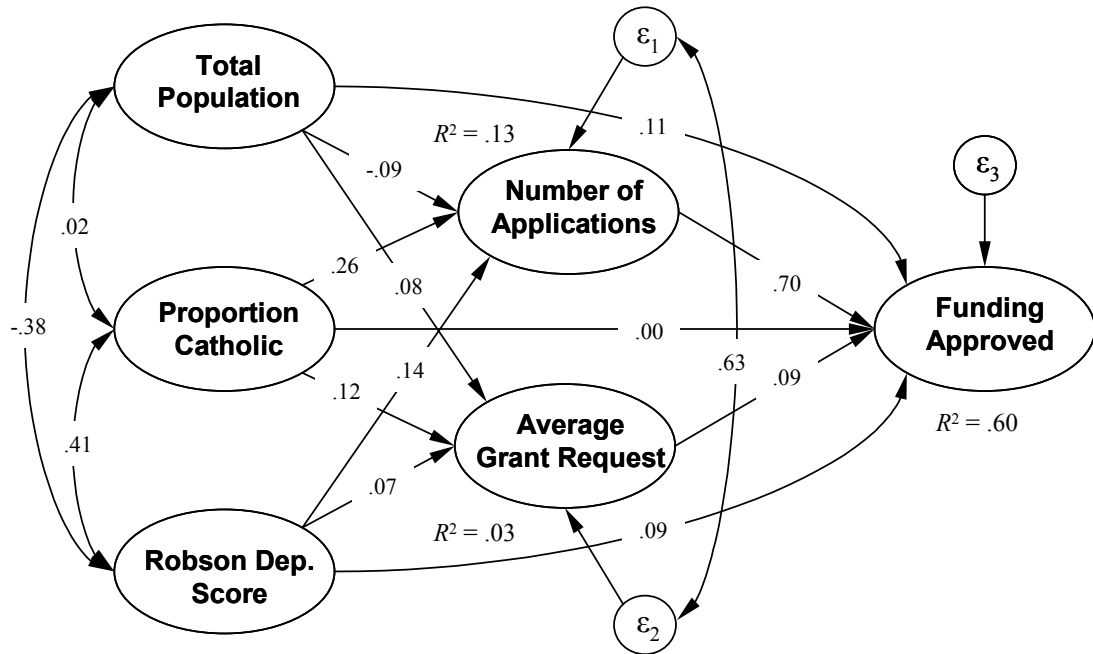
It is also possible to assess, once the number of applications and the average size of funding requests have been controlled for, whether the *direct* effects of population size, deprivation and religious community profile remain the same as in the first model. The path from Total Population to Funding Approved is now between .04 and .11; i.e. marginally higher than in the previous model. The path from the Robson Deprivation Score to Funding Approved has decreased slightly, ranging now between -.02 and .09. Finally, and most importantly, the path from *Proportion Catholic* to *Funding Approved* has reversed its sign and now ranges between .00 and -.07.

Thus, when interpreting the influence of religious community profile on approved funding, it is important to note that the influence of this variable is essentially mediated by the Number of Applications. Of the three original independent variables, the Proportion Catholic exerts the greatest influence on the Number of Applications which, in turn, has a determining effect on Funding Approved. Thus:

- **The disproportionate share of funding to the Catholic community is primarily due to the greater propensity of people living in predominantly Catholic areas to apply for funding in the first instance.**

It is rather encouraging to observe the similarities between these results and those presented in the previous, mid-term Community Uptake Analysis, despite the fact that the overall funding considered here is almost four times larger than in the previous analysis.

**Figure 6.2 Model 2C - Direct and Indirect Effects**  
**Path Model of the Relationship between ED Characteristics, Funding Applications and Approved Funding (three outliers removed – dependent variables transformed using natural logarithm function)**



**Table 6.2: Parameter Estimates for Model of Direct and Indirect Effects**

Parameter	Model 2A	Model 2B	Model 2C
Total Population → Number of Applications	-.02	.01	-.09*
Proportion Catholic → Number of Applications	.15*	.20*	.26*
Robson Deprivation Score → Number of Applications	.10*	.12*	.14*
Total Population → Avg. Grant Requested	.04*	.04*	.08*
Proportion Catholic → Avg. Grant Requested	-.03	-.03	.12*
Robson Deprivation Score → Avg. Grant Requested	.02	.02	.07*
Total Population → Funding Approved	.04*	.08*	.11*
Proportion Catholic → Funding Approved	-.07*	-.05*	.00
Robson Deprivation Score → Funding Approved	-.02	-.00	.09*
Number of Applications → Funding Approved	.82*	.71*	.70*
Average Grant Requested → Funding Approved	.03	.05	.09*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.65</b>	<b>.49</b>	<b>.60</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects which are statistically significant at the .05 level are marked by an asterisk in the table above.

Note: Models A, B and C are as described at the bottom of Table 6.1

## 7 Testing the Robustness of the Findings

The previous Chapter demonstrated how path modelling can take into account complex, real world structural relationships. The first set of models presented in the chapter is equivalent to standard multiple regression models in that, first, they explain only direct effects on the dependent variable and, second, all independent variables are correlated<sup>17</sup>. At best, these models are able to explain just 10 per cent of the variation in Approved Funding. Furthermore, due to their specification, the models overestimate the influence of deprivation and religious community profile on the distribution of funding.

In contrast, the second set of models, are true path models and take into account the mediating effect of differences between the two communities in terms of their respective propensity to apply for funding on the actual distribution of funding. Not only are these models far superior in terms of the variation in approved funding that they can explain (between 49% and 65%), they also show that when differential propensity to apply is taken into account, religious community profile has no direct influence on the distribution of approved funding. This is the single most important question which the study set out to investigate and one which cannot be answered effectively using standard Multiple Regression analysis.

This chapter provides further evidence of the robustness of the findings outlined in Chapters 5 and 6. First, it investigates whether the results would have been different had the Noble Index of Deprivation been used and, second, whether a different level of spatial aggregation (i.e. a ward rather than ED-level analysis) would have led to different conclusions. As before, the results for the direct effects models are presented first followed by the results for the models that incorporate indirect effects.

### 7.1 ED-level Models for Direct Effects:

**Table 7.1a: Parameter Estimates for ED-level Model (Robson)**

Parameter	Model ER 1A	Model ER 1B	Model ER 1C
Total Population → Funding Approved	.03	.08*	.06*
Proportion Catholic → Funding Approved	.06*	.09*	.20*
Robson Deprivation Score → Funding Approved	.07*	.08*	.19*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.01</b>	<b>.02</b>	<b>.10</b>

**Table 7.1b: Parameter Estimates for ED-level Model (Noble)**

Parameter	Model EN 1A	Model EN 1B	Model EN 1C
Total Population → Funding Approved	-.01	.03*	-.04*
Proportion Catholic → Funding Approved	.01	.05*	.19*
Noble Deprivation Score → Funding Approved	.18*	.19*	.23*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.03</b>	<b>.05</b>	<b>.12</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

Model A: All EDs

Model B: 3 Outliers removed (EDs: 74001, 73807, 132801)

Model C: 3 Outliers removed and dependent variables transformed (natural log)

<sup>17</sup> An ordinary multiple regression analysis results in identical parameters, and the standardised coefficients shown in the path model are identical to the standardised beta coefficients in the multiple regression analysis.

From Tables 7.1a and 7.1b, it is clear that using the Noble Index results in relatively small changes in the first two models, with a slight increase in the effect of the variable Relative Deprivation on Funding Approved. However, the results for Models 1C, where the dependent variables are transformed using the natural log function, indicate that the parameters are very similar and the overall explanatory power of the two models is very similar.

## 7.2 ED-level Models for Direct and Indirect Effects:

**Table 7.2a: Parameter Estimates for ED-level Model (Robson)**

Parameter	Model ER 2A	Model ER 2B	Model ER 2C
Total Population → Number of Applications	-.02	.01	-.09*
Proportion Catholic → Number of Applications	.15*	.20*	.26*
Robson Deprivation Score → Number of Applications	.10*	.12*	.14*
Total Population → Avg. Grant Requested	.04*	.04*	.08*
Proportion Catholic → Avg. Grant Requested	-.03	-.03	.12*
Robson Deprivation Score → Avg. Grant Requested	.02	.02	.07*
Total Population → Funding Approved	.04*	.08*	.11*
Proportion Catholic → Funding Approved	-.07*	-.05*	.00
Robson Deprivation Score → Funding Approved	-.02	-.00	.09*
Number of Applications → Funding Approved	.82*	.71*	.70*
Average Grant Requested → Funding Approved	.03	.05	.09*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.65</b>	<b>.49</b>	<b>.60</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

**Table 7.2b: Parameter Estimates for ED-level Model (Noble)**

Parameter	Model EN 2A	Model EN 2B	Model EN 2C
Total Population → Number of Applications	-.07*	-.06*	-.15*
Proportion Catholic → Number of Applications	.11*	.17*	.27*
Noble Deprivation Score → Number of Applications	.20*	.20*	.12*
Total Population → Avg. Grant Requested	.03*	.03*	.04*
Proportion Catholic → Avg. Grant Requested	-.04	-.04	.12*
Noble Deprivation Score → Avg. Grant Requested	.05	.05	.09*
Total Population → Funding Approved	.05*	.07*	.06*
Proportion Catholic → Funding Approved	-.08*	-.07*	-.01
Noble Deprivation Score → Funding Approved	.02	.06*	.14*
Number of Applications → Funding Approved	.82*	.70*	.69*
Average Grant Requested → Funding Approved	.03	.05	.09*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.65</b>	<b>.49</b>	<b>.61</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

Model A: All EDs

Model B: 3 Outliers removed (EDs: 74001, 73807, 132801)

Model C: 3 Outliers removed and dependent variables transformed (natural log)

The findings for the ED-level models of direct and indirect effects summarised above (Tables 7.2a and 7.2b) are more sophisticated than those presented at Table 7.1. This is because the models on which Tables 7.2a and 7.2b are based use a plausible structural model which includes the mediating effect of differential propensity to apply for funding on the distribution of approved funding.

The model results shown in Tables 7.2a and 7.2b provide a strong confirmation of the robustness of the analysis:

- **Regardless of whether the Robson or Noble Index is used, much the same results are obtained. This is particularly true of Model 2C. The single most important path in the analysis - the path which captures the greater propensity of Catholic areas to apply for funding (.26 and .27) and the influence of the number of applications on approved funding (.70 and .69) - is clearly stable across the 7.2a and 7.2b versions of the model. Both versions confirm that religious community profile does not have a statistically significant direct effect on approved funding (.00 and -.01). The two versions of the model explain, respectively, 60 per cent and 61 per cent of the variation in approved funding.**

### 7.3 Ward-level Models for Direct Effects:

The remaining sections of this chapter test whether the findings of Chapters 5 and 6 are influenced by the level of spatial aggregation at which the analysis is carried out. As outlined in the earlier section on methodological considerations, the ED-level analysis assumes that all effects are local in extent; i.e. that the benefits of expenditure by projects located within a particular spatial unit accrue to all of its residents but do not extend to people living outside it. Clearly, the real world is more complex than this, and the "local effects" assumption must therefore be considered a simplifying assumption that should be considered carefully before any conclusions are drawn from the analysis.

First, the fact that the real world departs from the strict, "local impacts" assumption does not necessarily invalidate the results of the statistical models. The more important question is whether deviations from this assumption are themselves likely to be biased with respect to the two religious communities. In fact, the "local impacts" assumptions can be modified somewhat to an assumption that those who *actually* benefit from a given project should, on average, show the same religious community profile as those who live within the ED in which the project is located.

Section 4.7 provided an assessment of the potential bias created by large projects and noted that almost three quarters (73.3%) of all approved funding involved amounts under £250,000. Arguably, it is reasonable to assume that this will have little effect beyond the "home" ED. For this reason it was suggested that an ED-level analysis was preferable to a ward-level analysis. Nevertheless, more than a quarter (26.7%) of all funding involved amounts in excess of £250,000. Conceivably, awards of this size are more likely to have an impact beyond the "home" ED. This raises the question of whether an analysis carried out at ward level would yield different results.

As can be seen from both the direct and indirect models reported below, the ward-level analyses generally result in slightly higher coefficients. This is because some of the "noise" or random variation between EDs cancels out when data are aggregated to ward level. This phenomenon is well-known in applied statistical analysis and is commonly referred to as the Modifiable Areal Unit Problem (MAUP). However, the fact that the coefficients are larger in the ward-level model does not imply that these are more powerful or preferable, as some of the ED-level variation that is "smoothed out" during the aggregation relates to important and relevant differences between EDs. Thus, the increase in the effect size associated with population size in the ward-level models should be treated with caution. However, the key finding of both sets of models for direct and indirect effects at ward level - that religious community profile has no statistically significant direct effect on the distribution of approved funding - is in accord with the results of the ED-level analysis.

## 7.4 Ward-level Models for Direct Effects:

**Table 7.3 WR: Parameter Estimates for Ward-level Model (Robson)**

Parameter	Model WR 1A	Model WR 1C
Total Population → Funding Approved	.36*	.31*
Proportion Catholic → Funding Approved	.00	.20*
Robson Deprivation Score → Funding Approved	.34*	.36*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.20</b>	<b>.30</b>

**Table 7.3 WN: Parameter Estimates for Ward-level Model (Noble)**

Parameter	Model WN 1A	Model WN 1C
Total Population → Funding Approved	.29*	.24*
Proportion Catholic → Funding Approved	.07	.23*
Noble Deprivation Score → Funding Approved	.23*	.34*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.16</b>	<b>.30</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

Model A: All cases

Model C: All cases and dependent variables transformed (natural log)

## 7.5 Ward-level Models for Direct and Indirect Effects:

**Table 7.4 WR: Parameter Estimates for Ward-level Model (Robson)**

Parameter	Model WR 2A	Model WR 2C
Total Population → Number of Applications	.31*	.27*
Proportion Catholic → Number of Applications	.13*	.28*
Robson Deprivation Score → Number of Applications	.40*	.37*
Total Population → Avg. Grant Requested	.06*	.29*
Proportion Catholic → Avg. Grant Requested	-.08	.04
Robson Deprivation Score → Avg. Grant Requested	.03	-.03
Total Population → Funding Approved	.09*	.06*
Proportion Catholic → Funding Approved	-.11*	-.02
Robson Deprivation Score → Funding Approved	.02	.09*
Number of Applications → Funding Approved	.87*	.74*
Average Grant Requested → Funding Approved	.02	.19*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.74</b>	<b>.70</b>



**Table 7.4 WN: Parameter Estimates for Ward-level Indirect Model (Noble)**

Parameter	Model WN 2A	Model WN 2C
Total Population → Number of Applications	.23*	.19*
Proportion Catholic → Number of Applications	.23*	.38*
Noble Deprivation Score → Number of Applications	.22*	.22*
Total Population → Avg. Grant Requested	.06*	.30*
Proportion Catholic → Avg. Grant Requested	-.09	.03
Noble Deprivation Score → Avg. Grant Requested	.05	.13*
Total Population → Funding Approved	.10*	.05*
Proportion Catholic → Funding Approved	-.13*	-.04
Noble Deprivation Score → Funding Approved	.05*	.16*
Number of Applications → Funding Approved	.86*	.74*
Average Grant Requested → Funding Approved	.02	.17*
<b>Percentage of Variance Explained in Funding Approved (R<sup>2</sup>)</b>	<b>.75</b>	<b>.71</b>

Source: SSPPR database - based on 24,213 applications matched to EDs - April 2002.

Note: Effects that are statistically significant at the .05 level are marked by an asterisk in the table above.

Model A: All cases

Model C: All cases and dependent variables transformed (natural log)

## 8 Conclusions

Based on an analysis of almost 27,000 Northern Ireland-based applications to the SSPPR, the following conclusions may be drawn:

- 8.1 The Catholic share of project funding accounts for 56 per cent of approved funds, whereas Protestant project funding accounts for 44 per cent.
- 8.2 There has been a slightly greater uptake amongst the Protestant Community during the second half of the Programme.
- 8.3 Both Catholic and Protestant per capita funding increases in line with disadvantage at broadly similar rates. However, when compared at equal levels of affluence and deprivation, Catholic per capita funding is higher in eight out of ten deciles, reflecting the higher Catholic share of approved funding.
- 8.4 The greater Catholic share of total funding is partially explained by the disproportionate number of Catholics living in disadvantaged areas. However, the main factor accounting for the larger Catholic share of approved funding is the greater propensity of people in predominantly Catholic areas to apply for funding.
- 8.5 The funding bodies appear to have had a small but positive influence on the distribution of funds in that they improved targeting towards the most disadvantaged areas. This applies equally to both Catholic and Protestant funding. However, the funding bodies had little effect on the distribution of funds *between* the two communities.
- 8.6 The above findings are independent of whether the Robson or Noble Index is used to measure relative affluence/deprivation, and of the level of spatial aggregation (ED or ward) employed during the analysis.

## Appendix:

### Data for Robson Index, ED level (see Figures 5.4 to 5.9)

Robson	Catholic Approved Projects	Protestant Approved Projects	Catholic Rejected Projects	Protestant Rejected Projects	Catholic All Projects	Protestant All Projects
1	86	227	148	356	234	583
2	313	429	340	593	653	1,023
3	376	509	400	697	776	1,206
4	493	624	463	622	955	1,247
5	445	558	501	608	946	1,166
6	622	561	609	620	1,230	1,181
7	820	619	766	603	1,587	1,222
8	932	730	849	657	1,781	1,387
9	1,234	571	1,038	423	2,272	994
10	1,613	462	1,328	366	2,941	828
<b>Total</b>	<b>6,934</b>	<b>5,290</b>	<b>6,442</b>	<b>5,545</b>	<b>13,375</b>	<b>10,837</b>

Robson	All Projects	Catholic Population	Protestant Population	Total Population (Catholics + Protestants)	Catholic Population Share	Protestant Population Share
1	818	42,106	146,727	188,833	22.3%	77.7%
2	1,676	61,414	111,329	172,743	35.6%	64.4%
3	1,982	44,682	106,445	151,127	29.6%	70.4%
4	2,202	42,226	92,473	134,699	31.3%	68.7%
5	2,113	43,001	80,765	123,766	34.7%	65.3%
6	2,411	49,411	70,238	119,649	41.3%	58.7%
7	2,809	59,928	58,864	118,792	50.4%	49.6%
8	3,167	63,049	56,745	119,794	52.6%	47.4%
9	3,266	85,781	44,921	130,702	65.6%	34.4%
10	3,769	114,131	29,404	143,535	79.5%	20.5%
<b>Total</b>	<b>24,213</b>	<b>605,729</b>	<b>797,911</b>	<b>1,403,640</b>	<b>43.2%</b>	<b>56.8%</b>

Robson	Catholic Requested Funding (£m)	Protestant Requested Funding (£m)	Requested Funding (£m)	Catholic Approved Funding (£m)	Protestant Approved Funding (£m)	Approved Funding (£m)
1	14.6	37.2	51.8	3.0	8.4	11.4
2	56.6	86.7	143.3	8.3	12.8	21.0
3	53.1	110.9	164.1	10.3	14.1	24.4
4	56.7	107.6	164.3	11.2	13.0	24.2
5	59.6	50.1	109.7	12.1	10.3	22.3
6	59.0	49.8	108.8	11.7	8.9	20.5
7	107.8	62.8	170.6	21.4	14.0	35.3
8	68.8	72.6	141.4	18.8	21.7	40.5
9	104.8	47.3	152.0	26.1	13.1	39.2
10	161.0	57.9	218.9	44.4	15.9	60.4
<b>Total</b>	<b>742.1</b>	<b>682.9</b>	<b>1,425.0</b>	<b>167.1</b>	<b>132.1</b>	<b>299.2</b>

Robson	Catholic Requested Per Capita Funding	Protestant Requested Per Capita Funding	Requested Per Capita Funding	Catholic Approved Per Capita Funding	Protestant Approved Per Capita Funding	Approved Per Capita Funding
1	348	253	274	71	57	60
2	922	779	830	135	115	122
3	1,189	1,042	1,086	230	132	161
4	1,343	1,164	1,220	265	140	179
5	1,386	621	886	281	127	180
6	1,194	709	909	236	126	172
7	1,799	1,068	1,437	356	238	298
8	1,092	1,280	1,181	298	382	338
9	1,222	1,052	1,163	304	291	300
10	1,411	1,968	1,525	389	542	421
<b>Total</b>	<b>1,225</b>	<b>856</b>	<b>1,015</b>	<b>276</b>	<b>166</b>	<b>213</b>

**Data for Noble Index, ED level**

Noble	Catholic Approved Projects	Protestant Approved Projects	Catholic Rejected Projects	Protestant Rejected Projects	Catholic All Projects	Protestant All Projects
1	53	316	90	489	144	805
2	100	327	151	484	251	811
3	227	457	267	582	494	1,039
4	403	520	471	677	874	1,197
5	552	521	629	581	1,180	1,102
6	737	474	742	528	1,479	1,002
7	825	558	780	526	1,605	1,084
8	1,051	755	959	668	2,010	1,423
9	1,066	607	813	421	1,879	1,029
10	1,920	758	1,539	589	3,459	1,347
<b>Total</b>	<b>6,934</b>	<b>5,293</b>	<b>6,441</b>	<b>5,545</b>	<b>13,375</b>	<b>10,839</b>

Noble	All Projects	Catholic Population	Protestant Population	Total Population (Catholics + Protestants)	Catholic Population Share	Protestant Population Share
1	949	23,183	131,675	154,858	15.0%	85.0%
2	1,062	26,119	113,676	139,795	18.7%	81.3%
3	1,533	39,897	94,773	134,670	29.6%	70.4%
4	2,071	46,084	79,375	125,459	36.7%	63.3%
5	2,282	52,770	71,638	124,408	42.4%	57.6%
6	2,481	62,188	62,853	125,041	49.7%	50.3%
7	2,689	68,731	68,205	136,936	50.2%	49.8%
8	3,433	79,834	64,403	144,237	55.3%	44.7%
9	2,907	91,609	62,603	154,212	59.4%	40.6%
10	4,806	115,314	48,710	164,024	70.3%	29.7%
<b>Total</b>	<b>24,213</b>	<b>605,729</b>	<b>797,911</b>	<b>1,403,640</b>	<b>43.2%</b>	<b>56.8%</b>

Noble	Catholic Requested Funding (£m)	Protestant Requested Funding (£m)	Requested Funding (£m)	Catholic Approved Funding (£m)	Protestant Approved Funding (£m)	Approved Funding (£m)
1	9.1	48.6	57.7	2.3	8.8	11.1
2	12.9	39.8	52.7	2.3	7.7	10.0
3	35.3	102.7	138.0	5.7	10.7	16.4
4	39.9	44.9	84.8	6.6	9.6	16.2
5	49.8	40.7	90.5	7.5	6.5	14.0
6	69.8	44.4	114.3	13.7	9.9	23.6
7	101.1	102.4	203.5	15.1	10.2	25.3
8	87.7	96.1	183.8	20.8	22.1	42.9
9	101.4	67.9	169.3	29.5	17.0	46.6
10	235.0	95.5	330.5	63.6	29.5	93.0
<b>Total</b>	<b>742.1</b>	<b>682.9</b>	<b>1,425.0</b>	<b>167.1</b>	<b>132.1</b>	<b>299.2</b>

Noble	Catholic Requested Per Capita Funding	Protestant Requested Per Capita Funding	Requested Per Capita Funding	Catholic Approved Per Capita Funding	Protestant Approved Per Capita Funding	Approved Per Capita Funding
1	393	369	372	100	67	72
2	496	350	377	89	68	72
3	885	1,084	1,025	143	113	122
4	866	566	676	143	121	129
5	944	568	727	142	91	113
6	1,123	707	914	220	158	189
7	1,470	1,502	1,486	220	150	185
8	1,099	1,492	1,274	260	344	298
9	1,107	1,085	1,098	322	272	302
10	2,038	1,960	2,015	551	605	567
<b>Total</b>	<b>1,225</b>	<b>856</b>	<b>1,015</b>	<b>276</b>	<b>166</b>	<b>213</b>

**Data for Robson Index, Ward-level**

Robson	Catholic Approved Projects	Protestant Approved Projects	Catholic Rejected Projects	Protestant Rejected Projects	Catholic All Projects	Protestant All Projects
1	109	277	148	398	257	675
2	194	474	226	656	419	1,130
3	181	418	234	548	415	965
4	337	525	322	592	659	1,118
5	393	473	393	530	786	1,003
6	484	583	470	561	955	1,144
7	679	406	605	371	1,283	777
8	1,076	511	933	508	2,009	1,020
9	1,645	535	1,600	527	3,245	1,062
10	1,824	1,104	1,540	825	3,364	1,929
<b>Total</b>	<b>6,922</b>	<b>5,306</b>	<b>6,471</b>	<b>5,516</b>	<b>13,392</b>	<b>10,823</b>

Robson	All Projects	Catholic Population	Protestant Population	Total Population (Catholics + Protestants)	Catholic Population Share	Protestant Population Share
1	932	40,505	140,681	181,186	22.4%	77.6%
2	1,549	31,993	123,190	155,183	20.6%	79.4%
3	1,380	30,083	106,034	136,117	22.1%	77.9%
4	1,776	40,879	86,516	127,395	32.1%	67.9%
5	1,789	55,457	84,971	140,428	39.5%	60.5%
6	2,098	50,298	67,988	118,286	42.5%	57.5%
7	2,060	63,112	50,214	113,326	55.7%	44.3%
8	3,029	92,825	48,103	140,928	65.9%	34.1%
9	4,307	92,200	31,202	123,402	74.7%	25.3%
10	5,293	108,377	59,012	167,389	64.7%	35.3%
<b>Total</b>	<b>24,213</b>	<b>605,729</b>	<b>797,911</b>	<b>1,403,640</b>	<b>43.2%</b>	<b>56.8%</b>

Robson	Catholic Requested Funding (£m)	Protestant Requested Funding (£m)	Requested Funding (£m)	Catholic Approved Funding (£m)	Protestant Approved Funding (£m)	Approved Funding (£m)
1	17.0	49.5	66.5	3.4	9.1	12.5
2	30.1	68.0	98.1	5.0	11.9	16.9
3	31.3	56.4	87.7	5.7	9.5	15.2
4	65.9	77.6	143.4	9.2	13.0	22.1
5	69.4	103.2	172.6	7.7	9.3	17.0
6	42.5	57.3	99.8	9.3	12.4	21.7
7	58.2	37.5	95.7	15.4	8.1	23.5
8	99.3	36.1	135.4	23.4	8.0	31.4
9	172.3	48.8	221.1	37.6	11.3	48.9
10	173.4	131.3	304.7	49.7	40.2	89.9
<b>Total</b>	<b>759.4</b>	<b>665.6</b>	<b>1,425.0</b>	<b>166.4</b>	<b>132.8</b>	<b>299.2</b>

Robson	Catholic Requested Per Capita Funding	Protestant Requested Per Capita Funding	Requested Per Capita Funding	Catholic Approved Per Capita Funding	Protestant Approved Per Capita Funding	Approved Per Capita Funding
1	420	352	367	85	65	69
2	941	552	632	157	97	109
3	1,041	532	644	190	89	112
4	1,611	896	1,126	224	150	174
5	1,251	1,215	1,229	140	109	121
6	845	842	844	185	182	183
7	923	747	845	244	161	207
8	1,070	750	961	252	167	223
9	1,869	1,564	1,792	408	362	396
10	1,600	2,225	1,820	458	682	537
<b>Total</b>	<b>1,254</b>	<b>834</b>	<b>1,015</b>	<b>275</b>	<b>166</b>	<b>213</b>

**Data for Noble Index, Ward-level**

Noble	Catholic Approved Projects	Protestant Approved Projects	Catholic Rejected Projects	Protestant Rejected Projects	Catholic All Projects	Protestant All Projects
1	45	276	71	459	116	735
2	118	407	160	570	278	977
3	443	476	513	534	956	1,010
4	490	584	564	631	1,054	1,215
5	446	466	470	575	916	1,041
6	769	496	739	556	1,509	1,051
7	696	512	681	483	1,377	995
8	776	501	663	460	1,439	960
9	743	575	613	459	1,355	1,034
10	2,394	1,013	1,995	790	4,389	1,804
<b>Total</b>	<b>6,920</b>	<b>5,306</b>	<b>6,469</b>	<b>5,517</b>	<b>13,389</b>	<b>10,822</b>

Noble	All Projects	Catholic Population	Protestant Population	Total Population (Catholics + Protestants)	Catholic Population Share	Protestant Population Share
1	852	21,455	129,000	150,455	14.3%	85.7%
2	1,255	31,602	119,396	150,998	20.9%	79.1%
3	1,967	46,672	76,107	122,779	38.0%	62.0%
4	2,269	47,368	83,464	130,832	36.2%	63.8%
5	1,957	44,881	79,350	124,231	36.1%	63.9%
6	2,560	58,193	57,248	115,441	50.4%	49.6%
7	2,373	62,629	69,122	131,751	47.5%	52.5%
8	2,399	79,826	65,781	145,607	54.8%	45.2%
9	2,390	69,053	70,332	139,385	49.5%	50.5%
10	6,193	144,050	48,111	192,161	75.0%	25.0%
<b>Total</b>	<b>24,215</b>	<b>605,729</b>	<b>797,911</b>	<b>1,403,640</b>	<b>43.2%</b>	<b>56.8%</b>

Noble	Catholic Requested Funding (£m)	Protestant Requested Funding (£m)	Requested Funding (£m)	Catholic Approved Funding (£m)	Protestant Approved Funding (£m)	Approved Funding (£m)
1	5.6	35.3	40.9	1.5	6.4	7.9
2	11.0	43.3	54.3	2.5	9.3	11.8
3	30.7	38.4	69.1	5.0	6.2	11.2
4	57.2	76.3	133.5	10.0	12.6	22.6
5	29.2	51.0	80.2	5.8	9.4	15.2
6	91.6	80.3	171.9	11.8	10.2	22.0
7	55.9	50.6	106.5	11.5	10.6	22.1
8	63.2	92.5	155.7	18.3	11.3	29.6
9	60.2	53.2	113.4	15.1	13.8	28.8
10	354.8	144.7	499.5	84.9	43.1	128.0
<b>Total</b>	<b>759.4</b>	<b>665.6</b>	<b>1,425.0</b>	<b>166.4</b>	<b>132.8</b>	<b>299.2</b>

<b>Noble</b>	<b>Catholic Requested Per Capita Funding</b>	<b>Protestant Requested Per Capita Funding</b>	<b>Requested Per Capita Funding</b>	<b>Catholic Approved Per Capita Funding</b>	<b>Protestant Approved Per Capita Funding</b>	<b>Approved Per Capita Funding</b>
1	260	274	272	70	49	52
2	347	363	360	79	78	78
3	658	504	563	108	82	92
4	1,208	914	1,020	210	151	172
5	650	643	645	130	118	122
6	1,573	1,403	1,489	203	178	191
7	893	732	809	183	154	168
8	792	1,406	1,069	229	171	203
9	872	756	814	218	196	207
10	2,463	3,008	2,599	589	895	666
<b>Total</b>	<b>1,254</b>	<b>834</b>	<b>1,015</b>	<b>275</b>	<b>166</b>	<b>213</b>