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Special EU Programmes Body
Foras Um Chláir Speisialta An Ae



**EU Programme
for Peace and Reconciliation**



" COMMUNITY UPTAKE ANALYSIS OF PEACE II "

Special EU Programmes Body

A Study Undertaken for the Special European Union Programmes Body



EU Programme
for Peace and Reconciliation



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Foreword



Pat Colgan, Chief Executive

The Monitoring and Evaluation Working Group is a sub group of the Peace II Monitoring Committee. The Working Group has a pivotal role to play in ensuring that the Programme achieves its objectives by considering in detail the issues surrounding the monitoring and evaluation of the Peace II Programme.

As part of this role, the Working Group is charged with and takes a close interest in ensuring that Programme funds are distributed in an equitable manner. With a view to assessing progress on this matter Helm Consulting were commissioned to complete this report.

The report builds on a similar research exercise undertaken for the Special Support Programme for Peace and Reconciliation (SSPPR) in June 2003. The purpose of the report is to assess the extent to which the two main communities in Northern Ireland have engaged with and benefited from the programme and to identify factors likely to have influenced Programme accessibility and uptake.

The Special EU Programmes Body and the Monitoring and Evaluation Working Group welcome this research which contains a number of positive findings and indicates clearly the importance of the Programme to both the Protestant and Catholic community. Overall, it would appear that the PEACE II Programme has achieved greater recognition from within the Protestant community, when compared with PEACE I, and that Programme funding is more evenly distributed in this respect. Moreover the report shows that the degree of targeting seems to be consistent with the Programme's objective of targeting social need whilst achieving a broad coverage throughout Northern Ireland.

The report also presents a challenge to all those of us involved in the implementation and management of the Programme to continue to be vigilant to ensure that all eligible sections of our society benefit fairly and equitably from the Programme. This challenge is particularly important at this moment as we prepare to roll out the extension to the Peace Programme for 2005-2006. The SEUPB accepts this challenge and will work tirelessly to ensure that it is met.

A handwritten signature in black ink, appearing to read 'Pat Colgan', written over a horizontal line.

Pat Colgan,
Chief Executive

Executive Summary

EXECUTIVE SUMMARY

This report analyses the allocation of funding in Northern Ireland and the Border Counties under the European Union Programme for Peace and Reconciliation. It primarily addresses the issue of religious community uptake of available funding and the complex relationship between religious community background, deprivation, funding applications and approved funding within Northern Ireland. The authors begin by examining the number of project applications and approvals as well as their aggregate value, before looking at the religious community and relative deprivation profiles of the Census Output Areas (COAs) in which these projects originated. The final section of the study presents the results of a statistical analysis of the effects of factors such as population size, religious community background, deprivation and the propensity to apply on the distribution of funding.

BACKGROUND

The European Union Programme for Peace and Reconciliation in Northern Ireland and the Border Region 2000-2006 (PEACE II) represents a continuation of The Special Support Programme for Peace and Reconciliation 1995-1999 (PEACE I) and reflects the continued commitment of the European Union to enhance the prospects for peace in Northern Ireland. The aim of the Peace II Programme is to 'reinforce progress towards a peaceful and stable society and to promote reconciliation'. Since its extension in February 2005, the Programme now covers the period 2000-2006. To date, it has allocated roughly £551m, some 80 per cent of which was spent in Northern Ireland and 20 per cent in the Border Counties of the Republic of Ireland.

The PEACE II Programme is delivered through three different types of organisation in Northern Ireland: Central Government and statutory bodies, Intermediate Funding Bodies and Local Strategy Partnerships in District Council areas. By December 2004, almost 10,000 applications had been received, nearly 8,300 (85.8%) of which originated in Northern Ireland. Nearly 6,000 projects (61.0%) have received or are in receipt of funding.

HELM Corporation, in association with Trutz Haase and Jonathan Pratschke, was commissioned by the Special EU Programmes Body to undertake this study. The present study builds on the work carried out by the consultants at the conclusion of the PEACE I Programme.

METHODOLOGY

The analysis presented in this report uses 'proxies' in order to apportion project funding between the two main communities in Northern Ireland. Projects themselves are not explicitly associated with a specific religious community. However, the postal address of the project or project applicant enables us to associate the project with a particular postcode area, and postcode areas, in turn, may be linked to COAs. Census data at COA 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.

FUNDS RECEIVED BY THE TWO MAIN COMMUNITIES

The Catholic share of approved funding (excluding Technical Assistance) under PEACE II is estimated at 51.4 per cent of the total, compared with a Protestant share of 48.6 per cent. In comparison, Catholics make up 45.2 per cent of Northern Ireland's population, whilst Protestants represent 54.8 per cent.¹ The Catholic share of approved funding under PEACE I was estimated at 55.8 per cent, compared with a Protestant share of 44.2 per cent. At the time of PEACE I, Catholics made up 43.2 per cent of Northern Ireland's population, whilst Protestants represented 56.8 per cent.

The community uptake shares for PEACE II thus represent a shift of 4.4 percentage points towards the Protestant community in comparison with its share of uptake under the PEACE I Programme. This shift occurred within the context of an increase of 2 percentage points in the Catholic share of population between 1991 and 2001.²

¹ Source: Authors' estimate based on the 2001 Census of Population.

² These shares are calculated with respect to the sum of the Catholic and Protestant populations, omitting other communities.

Executive Summary

ACCOUNTING FOR DEPRIVATION

The higher estimated Catholic share of funding under the PEACE II Programme, in comparison with the Protestant share, may be explained, at least in part, by the correlation between disadvantage and religious community profile. The Noble Index of Relative Deprivation indicates that relatively affluent COAs tend to have Protestant majorities and that relatively deprived COAs are more strongly associated with the Catholic community. For example, the 10 per cent most affluent COAs are predominantly (80.5%) Protestant whilst the 10 per cent most deprived COAs are 72.4 per cent Catholic. Given the commitment of the PEACE II Programme to targeting social need, a disproportionate uptake in relatively disadvantaged areas - where the Catholic community is in the majority - would therefore be expected.

COMMUNITY DIFFERENCES IN THE PROPENSITY TO APPLY

In order to explore the differences that exist in the amount of funding received by each COA, the statistical technique of Path Analysis is employed. Path models estimate the extent to which each of a number of distinct factors might have contributed to a particular outcome. The models presented in this report assess the effect of variables such as population size, deprivation, religious community profile and the propensity to apply for funding on uptake. This analysis underlines the influence of deprivation and religious community on the share of funding obtained at local level and identifies an important intervening mechanism, namely the greater tendency for people living in areas with a Catholic majority to apply for funding.

CONCLUSIONS

The conclusion drawn is 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. Most importantly, there is no residual direct effect from the religious composition of an area to the amount of funding received, thus clearly showing that there is no bias in the distribution of funds. This is in line with the findings of the study undertaken at the conclusion of the PEACE I Programme.

At the same time, the new programme appears to have achieved greater cross-community support than its predecessor. This is reflected in both a larger share of applications originating within the Protestant community and an increase in the Protestant community's share of funding, from 44.2 at the conclusion of PEACE I to 48.6 at the end of 2004, an increase that is even more noteworthy when one considers that the Catholic population increased its share of population by 2 percentage points between 1991 and 2001. Further reductions in the Catholic share of funding would not be desirable, in the consultants' view, as this would most likely be accompanied by a reduction in the programme's capacity to effectively target the most deprived areas throughout Northern Ireland.

1: Introduction

The European Union Programme for Peace and Reconciliation in Northern Ireland and the Border Region 2000-2006 (PEACE II) represents a continuation of The Special Support Programme for Peace and Reconciliation 1995-1999 (PEACE I) and reflects the continued commitment of the European Union to enhance the prospects for peace in Northern Ireland.³ The aim of the PEACE II Programme is to 'reinforce progress towards a peaceful and stable society and to promote reconciliation'. Since its extension in February 2005, the Programme covers the period 2000-2006. To date, it has distributed roughly £551m, some 80 per cent of which was spent in Northern Ireland and 20 per cent in the Border Counties of the Republic of Ireland.

The PEACE II Programme is delivered through three types of organisation in Northern Ireland: Central Government or statutory bodies, Intermediate Funding Bodies and Local Strategy Partnerships in District Council areas. By December 2004, almost 10,000 applications had been received, nearly 8,300 (85.8%) of which originated in Northern Ireland. Nearly 6,000 projects (61.0%) either received, or are in receipt of funding.

³ The original PEACE II Programme was designed to run from 2000 - 2004. The Programme was extended in February 2005 to continue running until the end of 2006.

2: Aims of the Analysis

As outlined in the Terms of Reference, the key objectives of the study are as follows:

- (i) to estimate the extent to which the two main communities in Northern Ireland have engaged with and benefited from the Programme;
- (ii) to identify factors likely to have influenced Programme accessibility and uptake; and
- (iii) to make recommendations relevant to the implementation of the extension of the PEACE II Programme to 2006.

The present study addresses these aims whilst also facilitating comparisons with the community uptake analysis undertaken at the conclusion of the PEACE I programme.⁴

⁴ T.Haase and J.Pratschke (2003) *European Union Special Support Programme for Peace and Reconciliation - An Estimate of Community Uptake*, NISRA Research Paper No.1.

3: Methodological Considerations

This section provides an overview of the methodological approach adopted in relation to each of the key elements of the study.

3.1 POSTCODES AS PROXIES FOR RELIGION

The use of 'proxies' to apportion project funding between the two main religious communities in Northern Ireland is essential to the estimates of community uptake presented in this report. Projects themselves are not explicitly related to a specific religious community. However, the address of the project or project applicant establishes a link between the project and a particular postcode area; postcode areas can, in turn, be linked to Census Output Areas (COAs) or Census Enumeration Districts (EDs). Census data at COA level, including data on religious community, enable us to estimate community uptake and to investigate the role of other factors that might have influenced the distribution of funding.

Where applicants failed to provide a postcode for their project, the address of the applicant themselves is used to assign a postcode or higher-level location identifier to the project. Once project funding has been attributed to a given spatial area, approved funding is then apportioned between the two main communities - Protestant and Catholic - in accordance with their respective share of the relevant population. The use of proxies at the COA level enables us to undertake all statistical analyses at this level.

3.2 POTENTIAL SOURCES OF ERROR

It is important to note that this approach to the identification of community uptake shares relies on a number of assumptions that should be given careful consideration when interpreting the results of the analysis. Potential sources of error include:

- Final beneficiary/spatial extent of benefits*
Average project size under PEACE II is approximately four times that of PEACE I, with thirteen Northern Ireland-based projects receiving in excess of £2.5m and another 207 projects receiving between £250,000 and £2.5m. It is therefore important to take the spatial remit of larger projects into account by relating these to the religious composition of their respective catchment areas. For all projects under £250,000, the effective catchment area is assumed to be the COA. By contrast, projects in excess of £250,000 are allocated to Wards or Local Government Districts, or indeed to Northern Ireland as a whole, depending on the amount of funding they received and the nature of the projects involved.
- Categorisation of religion*
The methodology applied in this study assumes that the degree of association between a particular religious community and a project supported under the PEACE II Programme can be inferred from postcode information: postcode data enable us to link projects to COAs, for which we have information on religious composition in 2001. This approach assumes that postcode areas tend to follow the religious community profile of the relevant COA. However, given that there are roughly ten postcode areas in each COA and that there are often local differences in religious community profile, a particular postcode area may be more homogeneous with respect to religious community than the COA as a whole. As a result, by establishing religious community shares on the basis of the composition of the COA, we may risk underestimating the funding share of a given community.

3: Methodological Considerations

A test study was undertaken at the time of the first Community Uptake Study of the PEACE I Programme using data held by the then Department of Education for Northern Ireland. This study provided strong support for the postcode-to-ED approach. Further support is provided in the Appendix to this study, which includes an analysis of the Monitoring Forms returned during the PEACE II Programme.

3. *Categorisation of affluence/deprivation*

The PEACE II Community Uptake Analysis utilises the 1999 Noble Index of Relative Deprivation⁵ to assess the extent to which the Programme targets social need and to test whether deprivation has an independent effect on community uptake. This was the only index available to selection panels when decisions about project funding were taken. It is therefore appropriate that this index should also be used to evaluate the role of deprivation in relation to the distribution of funds.

Weighted averages were used to harmonise the spatial scale of the 1999 deprivation data (which is reported at ED level) and the 2001 census-based information on religious composition (which is reported at the level of the COA).

4. *Homogeneity of affluence/deprivation*

The Census Output Area (CAO) represents the finest level of spatial disaggregation at which data on religious composition are available, whilst the Enumeration District (ED) represents the finest level of spatial disaggregation for the 1999 Noble deprivation measures. It is therefore necessary to assume homogeneity of affluence/deprivation within each ED and homogeneity of religious composition within each COA, thereby ignoring potential intra-ED/COA disparities.

This final assumption of spatial ‘homogeneity’ within small geographical areas has the greatest potential to influence the analysis of religious community uptake. With a mean COA population of about 300 (and about 375 per ED), at least some variation in affluence and deprivation is likely within certain COAs. Not only are there often affluent individuals, households and neighbourhoods within otherwise disadvantaged COAs (and disadvantaged individuals, households and neighbourhoods within otherwise affluent COAs), but the geographical distribution of affluence and deprivation within a given COA/ED may also be associated with religious community background. This needs to be kept in mind when interpreting the results of the analysis.

As far as timeliness is concerned, most of the secondary data used in this analysis derive from the 2001 Census of Population or 1999 administrative data, and this does not therefore constitute a problem. Moreover, the quality and accuracy of the PEACE II central applications database has improved considerably vis-à-vis its predecessor and the consultants are satisfied that the administrative data upon which this study is based are of high quality.

Taken together, and based upon the consultants’ previous experience, the errors that may result from the assumptions discussed above are small and unlikely to bias the analysis of the relationship between the characteristics of local areas and the funding received by projects originating within them. We therefore believe that the analysis presented in this report provides a robust estimate of community uptake for the two major religious communities in Northern Ireland under the PEACE II Programme.

⁵ Social Disadvantage Research Centre (2001) *Measures of deprivation in Northern Ireland*, Northern Ireland Statistics and Research Agency (NISRA), Belfast. The analysis presented by Noble et al. in this report is based on the Enumeration District, ward and Local Government District boundaries which were in place at the time of the 1991 Census. As far as possible, the indicators use data from 1999. We therefore refer to the index as the 1999 Noble Index of Relative Deprivation.

4: Resource Distribution Under PEACE II

4.1 STATUS OF APPLICATIONS

The PEACE II Programme is an extensive funding programme which, like its predecessor, has affected virtually every part of Northern Ireland and the Border Region.

Nearly 10,000 applications were received by the 56 funding bodies responsible for its implementation, including nearly 8,300 applications from within Northern Ireland. Table 4.1 reports the application status of these projects in December 2004.

Table 4.1 Project Status

	NI		RoI		TOTAL	
	Number	%	Number	%	Number	%
1 Completed	222	2.7	163	11.9	385	4.0
2 LoO Accepted	3,920	47.3	621	45.4	4,541	47.1
3 LoO Issued	139	1.7	15	1.1	154	1.6
5 Part B Received	601	7.3	209	15.3	810	8.4
6 Rejected	2,934	35.4	228	16.7	3,162	32.8
7 Removed	86	1.0	12	.9	98	1.0
8 Withdrawn	378	4.6	121	8.8	499	5.2
TOTAL	8,280	100.0	1,369	100.0	9,649	100.0

Source: PEACE II Central Applications Database - December 2004.

4.2 ALLOCATIONS

The PEACE II Programme was extended in February 2005 and will continue until the end of 2006. Hence, further applications will be accepted for the remaining two years of its duration. In fact, not all of the applications received under the original terms of the Programme have been assessed and in certain cases projects which have been awarded funding have yet to draw down their allocation. Depending on their current application status, we can therefore distinguish between two groups of projects. The first comprises those projects which have either been awarded funding ('completed' and 'Letter of Offer

Accepted') or which are still under consideration ('Part B Received' and 'Letter of Offer Issued'). The second category contains projects which have been rejected or removed from the database or which have withdrawn their application, and which will therefore not receive any funding.

In total, 5,890 out of a total of 9,649 projects (61%) have either been awarded funds or are under consideration, whilst 3,759 (39%) have either been rejected or removed or have withdrawn their application. 5,103 projects have been awarded funds, which implies that a further 787 projects were still under consideration at the time of the study.

4: Resource Distribution Under PEACE II

Table 4.2 Funding Awarded by Funding Body

	£ Awarded	Projects Awarded	App Stat 1,2,3,5	App Stat 6,7,8	Total
NI Government Departments	304,202,301	1,460	1,684	1,286	2,970
NI Independent Funding Bodies	94,917,860	1,420	1,576	1,268	2,844
NI Local Strategy Partnerships	71,740,266	1,399	1,611	836	2,447
NI Subtotal	470,860,427	4,279	4,871	3,390	8,261
Rol County Council Task Forces	13,418,828	349	512	59	571
Rol Government Departments	66,990,084	475	507	310	817
Rol Subtotal	80,408,912	824	1,019	369	1,388
TOTAL	551,269,338	5,103	5,890	3,759	9,649

Source: PEACE II Central Applications Database - December 2004.

Note: SEUPB included in NI Government Departments; ADM included in Rol Government Departments

The total funding available under the original spending programme (2000 - 2004) was £613m (€ 950m), comprising £531m (€ 823m) under the PEACE II Programme and a further £82m (€127m) added by the Northern Ireland Government arising from the N+2 spending requirement. To date, £551m (€950m) have been awarded, representing nearly 90 per cent of the funding available up to December 2004. Of this amount, £470m (85%) have been awarded to projects located in Northern Ireland and £80m (15%) to projects located in the Border Counties.⁶

4.3 DISTRIBUTION BY PRIORITY

The PEACE II Programme comprises six Sub-programmes or Spending Priorities: (i) Economic Renewal, (ii) Social Integration, Inclusion and Reconciliation, (iii) Locally-based Regeneration and Development Strategies, (iv) Outward and Forward-looking Region, (v) Cross Border Co-operation, and (vi) Technical Assistance.

The **Economic Renewal** Priority is by far the largest of the six, partly as a result of the additional funding provided for this Priority (see above). In fact, this Priority accounted for one quarter of all approved projects (26.0%) and just over two fifths (41.5%) of approved funding, with an average project size of over £170,000.

The second-largest Priority comprises **Social Integration, Inclusion and Reconciliation** and accounts for nearly one third (31.9%) of all approved projects. This makes it the largest Priority in terms of the number of projects

supported, although its share of Programme funding was somewhat lower (21.7%), with an average project size of £73,500.

The Priorities for **Locally-based Regeneration and Development Strategies, Outward and Forward-looking Region and Cross Border Co-operation** make up 13.5, 4.1 and 11.9 per cent of total approved funding respectively. **Technical Assistance** accounts for 7.3 per cent of total programme expenditure.

The largest projects (measured by average funding approved) relate to the Economic Renewal Priority; the average for these projects is more than twice that for the Social Integration, Inclusion and Reconciliation Priority and almost four times that of Locally-based Regeneration and Development Strategies, the Priority with the smallest average project size.

⁶ It should also be noted that some of the Northern Ireland-based funding bodies support a small number of projects in the Republic of Ireland and vice versa. The total expenditure for Northern Ireland and the Republic of Ireland shown in Table 4.2 may therefore differ slightly from that shown in Table 4.3. This is because our main interest in this report relates to project location: all calculations presented in the remainder of this report are based on project location rather than on the location of the funding agent.

4: Resource Distribution Under PEACE II

Table 4.3 Distribution of Funds by Priority

	£ Awarded	Projects	Average award (£)	Awarded (%)
Northern Ireland				
1 Economic Renewal	216,198,587	1,217	177,649	46.1
2 Social Integration, Inclusion and Reconciliation	100,633,809	1,438	69,982	21.5
3 Locally-based Regeneration and Dev. Strategies	61,471,277	1,235	49,774	13.1
4 Outward and Forward-looking Region	21,381,743	166	128,806	4.6
5 Cross Border Co-operation	38,025,552	191	199,087	8.1
6 Technical Assistance	30,927,326	56	552,274	6.6
Total NI	468,638,294	4,303	108,910	100.0
Republic of Ireland				
1 Economic Renewal	12,478,140	109	114,478	15.1
2 Social Integration, Inclusion and Reconciliation	19,100,559	191	100,003	23.1
3 Locally-based Regeneration and Dev. Strategies	12,790,915	319	40,097	15.5
4 Outward and Forward-looking Region	1,205,019	36	33,473	1.5
5 Cross Border Co-operation	27,819,941	136	204,558	33.7
6 Technical Assistance	9,236,470	9	1,026,274	11.2
Total RoI	82,631,044	800	103,289	100.0
Total Programme				
1 Economic Renewal	228,676,727	1,326	172,456	41.5
2 Social Integration, Inclusion and Reconciliation	119,734,368	1,629	73,502	21.7
3 Locally-based Regeneration and Dev. Strategies	74,262,192	1,554	47,788	13.5
4 Outward and Forward-looking Region	22,586,763	202	111,816	4.1
5 Cross Border Co-operation	65,845,493	327	201,362	11.9
6 Technical Assistance	40,163,796	65	617,905	7.3
TOTAL	551,269,338	5,103	108,028	100.0

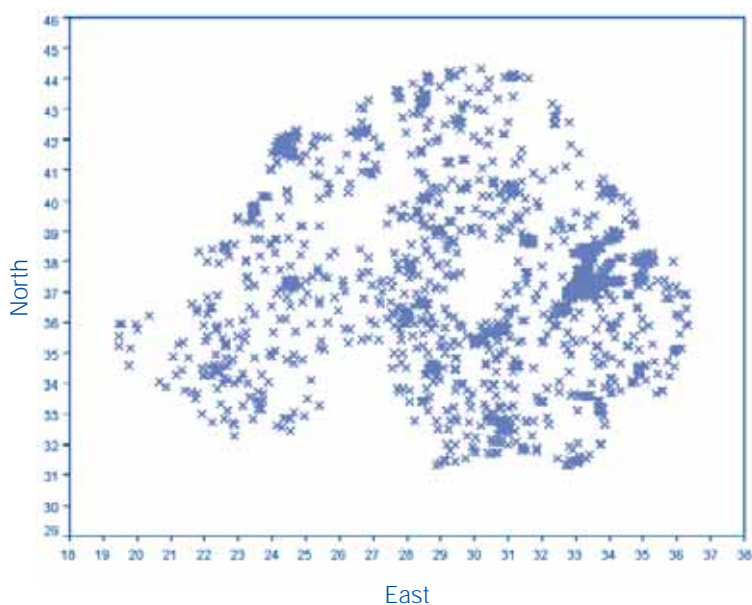
Source: PEACE II Central Applications Database - December 2004.

4: Resource Distribution Under PEACE II

4.4 THE GEOGRAPHICAL SPREAD OF PROJECTS

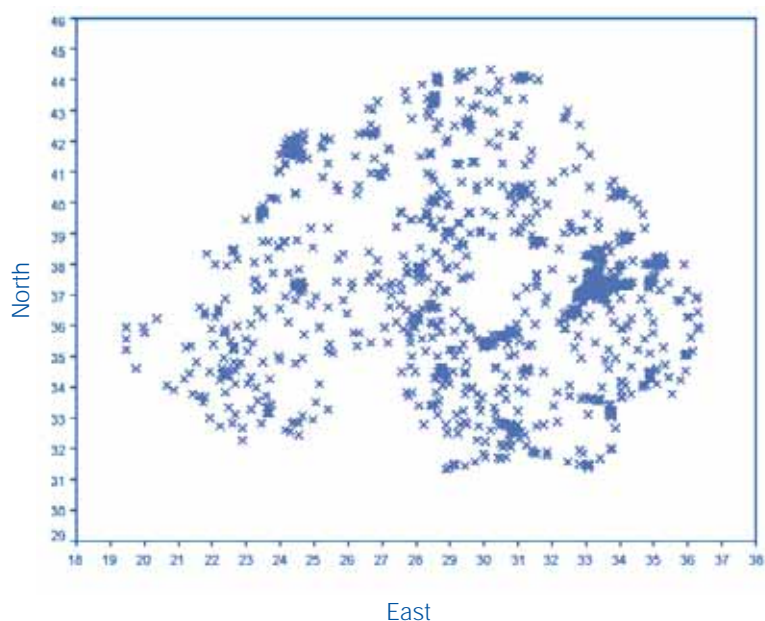
The PEACE II Programme has achieved a broad geographical coverage throughout Northern Ireland. In total, 1,867 out of 5,022 (37.2%) COAs made at least one project application, whilst 1,325 COAs (26.4%) benefited from at least one approved project. Moreover, these percentages underestimate the actual degree of geographical coverage, as over 200 projects, accounting for almost half of total funding, have a project remit much wider than the COA.

Figure 4.1 Geographical Distribution of Project Applications



4: Resource Distribution Under PEACE II

Figure 4.2 Geographical Distribution of Approved Projects



4.5 THE GEOGRAPHICAL REMIT OF PROJECTS

Table 4.3 showed the average funds approved per project for each of the priorities as well as for Northern Ireland, Ireland and the PEACE II Programme as a whole. The average project funding approved for Northern Ireland-based projects is £108,910, more than four times the equivalent average project funding under PEACE I (£24,472). Consideration must therefore be given to the spatial remit of each project, or in other words to the extent to which it benefits a wider or more narrowly-defined geographical area. Clearly, one cannot assume that the entire impact of a multi-million pound project is concentrated within the area immediately surrounding the project office and that it benefits only the residents of this Census Output Area (with an average population of just over 300).

For this reason, we consider any project with approved project funding in excess of £250,000 to have a spatial extension that is potentially larger than the COA. A total of 220 projects fall within this category and 13 projects have approved funding in excess of £2.5m. Following careful inspection of the relevant project descriptions, it was possible to develop a matrix of decision rules by which each project is assigned a remit at the level of the COA, the Ward, the Local Government District or Northern Ireland as a whole. Table 4.4 illustrates the different kinds of projects that we allocated to each of these categories. As far as the estimation of community uptake shares is concerned, these are based on the religious composition of the relevant geographical area for each project with a spatial remit that goes beyond the COA.

4: Resource Distribution Under PEACE II

Table 4.4 Definition of Geographical Remit

Area Level	Assumptions / Examples
Northern Ireland	Examples include:
	- back-to-work schemes implemented through the local job centres
	- programmes targeted at a specific group (e.g. disabled) throughout NI
	- cross-border initiatives where the spatial remit is larger than a LGD (e.g. all Border counties)
	- where a Province-wide focus is mentioned in the project description
Local Government District (LGD)	These projects aim to benefit the area in question by giving it a competitive advantage over others. The LGDs have an average population of approximately 60,000.
	Examples include:
	- 'centres of excellence', developing R&D facilities
	- development of an industrial park or industrial unit
	- improvements in the physical infrastructure (road/rail/bus)
	- where an LGD focus is explicitly mentioned in the project description (e.g. strategy for the District Council area)
	- supporting Secondary schools
Ward	These projects have a relatively narrow remit, benefiting areas with a population of approximately 2,500
	Examples include:
	- employing a development officer in a local community project
	- a Ward focus is specified in the project description (e.g. 'will benefit local business base within the Shankill and Springfield area')
	- Local development groups delivering a small, targeted educational programme in its own locality
	- supporting primary schools
COA	Projects with a very local remit, benefiting approximately 300 people.

4.6 PROJECT APPLICATIONS AND APPROVALS

In this section, we will consider the division of the Northern Ireland-based projects and funding between funding bodies and Priorities as well as studying the spatial level at which projects are implemented. We will exclude Technical

Assistance from this analysis, as we are primarily interested in exploring how the Programme was structured with respect to each of the aforementioned dimensions.

4: Resource Distribution Under PEACE II

Table 4.5 Project Applications and Approvals by Funding Body

Funding Body	Project Applications	Projects Approved	Total Funds £m	Share %
NI Government Departments	2,821	1,370	257.43	58.8
NI Intermediary Funding Bodies	2,814	1,400	91.50	20.9
NI Local Strategy Partnerships	2,444	1,396	71.60	16.4
Rol County Council Task Forces	1	1	0.01	0.0
Rol Government Departments	134	80	17.18	3.9
TOTAL NI (excl. TA)	8,214	4,247	437.71	100.0

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

Note 1: SEUPB included in NI Government Departments, ADM included in Rol Government Departments.

The projects are evenly distributed amongst Government Departments, Intermediate Funding Bodies and Local Strategy Partnerships, each accounting for almost exactly one third of the total number of approved projects.

However, projects funded by Government Departments account for a much larger share of project funding (58.8%), reflecting their larger average funding size.

Table 4.6 Project Applications and Approvals by Priority

Priority	Project Applications	Projects Approved	Total Funds £m	Share %
Economic Renewal	2,480	1,217	216.20	49.4
Social Integration, Inclusion and Reconciliation	2,811	1,438	100.63	23.0
Locally-based Regeneration and Development	2,215	1,235	61.47	14.0
Outward and Forward-looking Region	294	166	21.38	4.9
Cross Border Cooperation	414	191	38.03	8.7
TOTAL NI (excl. TA)	8,214	4,247	437.71	100.0

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

Unlike the PEACE I Programme, where the Social Inclusion Priority accounted for the largest proportion of spending (26.0%), Economic Renewal has become by far the largest Priority under PEACE II (49.4%). However, it would be wrong to conclude from this that PEACE II has a stronger economic orientation than its predecessor. The Economic Renewal Priority contains major human resource development categories (e.g. New Skills and New Opportunities (11.6%), Promoting Entrepreneurship

(0.6%), Positive Action for Women (2.1%) and Training for Farmers (4.8%). Thus, the economic categories, strictly speaking, are Measure 1.1 (Business Competitiveness and Development, 11.7%) and Measure 1.8 (Support for the Knowledge-based Economy, 12.2%). Together, these two Measures account for 23.9% of fund allocation, just marginally below the comparable figure under PEACE I.

4: Resource Distribution Under PEACE II

Table 4.7 Project Applications and Approvals by Ascribed Spatial Remit

Spatial Level	Project Applications	Projects Approved	Total Funds £m	Share %
COA	8,001	4,034	211.71	48.4
Ward	60	60	36.64	8.4
LGD	92	92	115.70	26.4
NI	61	61	73.65	16.8
TOTAL NI (excl. TA)	8,214	4,247	437.71	100.0

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

In the previous section, we introduced the notion of the 'spatial remit' of projects, which is closely linked with both the fund size and the nature of the intervention. Table 4.7 shows the resulting spread of projects and funding across the four categories that we used in this analysis. The overwhelming majority of projects (8,001) are considered to have a predominantly local effect and may therefore be associated with the religious community shares of the COA in which they are located. However, whilst accounting for 97.4 per cent of all those which were awarded funding, these projects account for just under half (48.8%) of total funding. The remaining 213⁷ projects all have allocations in excess of £250,000 and, taken together, absorb the remaining 51.6 per cent of total funding.

A number of important considerations flow from this distribution of projects and funding. As the aim of this study is to estimate the overall share of funds taken up by the two main religious communities in Northern Ireland under the PEACE II Programme, the question of spatial remit is of key importance. Clearly, if one were to treat the funding allocated to each of the 213 'large' projects (with funding greater than £250,000) as having a very limited spatial impact, calculating community shares on the basis of the religious composition of the Census Output Areas in which they are situated, this could lead to a significant bias in the overall estimate. It is therefore preferable to associate larger projects with the religious shares of the larger areas across which these projects are deemed to have an effect.

Secondly, we must interpret the spatial distribution shown in Table 4.7 in the light of the effective targeting of the Programme. As was the case with PEACE I, one of the Horizontal Principles of the PEACE II Programme

is to promote reconciliation by targeting social need (TSN). This can be achieved in two ways: by targeting specific individuals or groups of people or by targeting specific geographic areas. These two approaches are complementary, and the Programme clearly relies on both forms of targeting. This study, however, is only concerned with measuring the degree of spatial targeting implicit in the Programme. In Chapter 5, we will look at the distribution of projects and funding across the ten deciles of COAs (each 'decile' contains ten per cent of COAs) in accordance with their degree of relative affluence and deprivation. In order to undertake the analysis presented in Chapter 5, we must choose the most appropriate spatial level, which in this case is the Census Output Area, as it enables us to maximise the amount of information available for each project. This means that although the analysis includes the vast majority of projects (97.4%), it is nevertheless confined to only half (48.4%) of project funding.

Many of the large projects (greater than £250,000) supported by the PEACE II Programme have a Local Government District or even a Northern Ireland-wide spatial remit and thus do not involve a significant degree of geographical targeting. At the same time, some of the very large projects - such as setting up a large number of unemployment centres - are strongly targeted at individuals or groups at risk of poverty. The overall targeting of the Programme cannot be evaluated in relation to either spatial or group targeting in isolation, but requires that both elements be given due consideration. Such an evaluation is beyond the scope of the current study, which focuses exclusively on measuring the extent of geographical targeting.

⁷ It is worth noting that seven of the large projects (with project funding above £250,000) fall under the Technical Assistance Sub-programme.

4: Resource Distribution Under PEACE II

4.7 ESTIMATED SHARES OF COMMUNITY UPTAKE

After taking the considerations outlined in the previous section into account, and using the methodology that we described earlier, community uptake for the two main religious communities in Northern Ireland is as follows:

The Catholic share of approved funding (excluding Technical Assistance) under PEACE II accounts for an estimated 51.4 per cent of the total, compared to a Protestant share of 48.6 per cent. In comparison, Catholics make up 45.2 per cent of the population of Northern Ireland, whilst Protestants comprise 54.8 per cent.⁸

The Catholic share of approved funding under PEACE I was estimated at 55.8 per cent, compared with a Protestant share of 44.2 per cent. At the time of PEACE I, Catholics made up 43.2 per cent of Northern Ireland's population and Protestants represented 56.8 per cent.

The current shares of community uptake thus represent a shift of 4.4 percentage points towards the Protestant community when compared with those observed under the PEACE I Programme, against the backdrop of an increase in the percentage of Catholics of two percentage points between 1991 and 2001.

Table 4.8 Community Shares by Funding Body

Funding Body	'Catholic' Funding £m	'Protestant' Funding £m	'Catholic' Share %	'Protestant' Share %
NI Government Departments	122.96	134.47	47.8	52.2
NI Intermediary Funding Bodies	51.95	39.55	56.8	43.2
NI Local Strategy Partnerships	39.84	31.76	55.6	44.4
Rol Implementing Bodies	10.42	6.76	60.7	39.3
TOTAL NI (excl. TA)	225.18	212.53	51.4	48.6

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

Note 1: SEUPB included in NI Government Departments.

Note 2: Rol Implementing Bodies includes Rol Government Departments, ADM and County Council Task Forces.

Note 3: The estimated shares of Catholic and Protestant funding shown in Tables 4.8 to 4.10 do not represent aggregations of whole projects, but the aggregation of their respective community shares.

The Catholic and Protestant shares of funding vary considerably between the different funding bodies. The Catholic share is lowest for projects funded by Government Departments. However, as we demonstrated in the previous section, this category includes a significant number of large

and very large projects which have a wider spatial remit. Inevitably, the wider the spatial remit, the more the community share (based on geographical targeting) will tend towards the population shares for Northern Ireland.

⁸ Source: Authors' estimate based on the 2001 Census of population.

4: Resource Distribution Under PEACE II

Table 4.9 Community Shares by Priority

Funding Body	'Catholic' Funding £m	'Protestant' Funding £m	'Catholic' Share %	'Protestant' Share %
Economic Renewal	104.94	111.26	48.5	51.5
Social Integration, Inclusion and Reconciliation	54.49	46.14	54.1	45.9
Locally-based Regeneration and Development	33.77	27.70	54.9	45.1
Outward and Forward-looking Region	10.65	10.74	49.8	50.2
Cross Border Cooperation	21.34	16.69	56.1	43.9
TOTAL NI (excl. TA)	225.18	212.53	51.4	48.6

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

When we consider the differences in community shares across the different Priorities, an interesting picture emerges. The Catholic share is comparatively low in the Economic Renewal Priority (48.5%), but is six to eight percentage points higher in the more socially-oriented or community-based priorities. In fact, there is a particularly high Catholic uptake of PEACE II funding in the latter priorities, which are highly visible and may therefore encourage a perception that the Catholic community has benefited disproportionately from the Programme.

In contrast, the Protestant community appears to have drawn comparatively greater benefit from the Economic Renewal Priority. This is by far the largest Priority, but its

impact is less visible due to the geographical dispersion of the projects involved and because they tend to be less directly linked with specific individuals, groups or narrowly-defined localities.

The persistence of this imbalance in itself does not come as a surprise, as we already argued in the community uptake analysis of PEACE I that the single most important factor in explaining the greater uptake by the Catholic community is the higher level of community-based activities within that community. Thus, whilst the overall funding disparities under PEACE II have been reduced, a residual imbalance remains at the Priority level.

Table 4.10 Community Shares by Spatial Level

Funding Body	'Catholic' Funding £m	'Protestant' Funding £m	'Catholic' Share %	'Protestant' Share %
COA	119.55	92.17	56.5	43.5
Ward	19.35	17.29	52.8	47.2
LGD	53.73	61.97	46.4	53.6
NI	32.55	41.10	44.2	55.8
TOTAL NI (excl. TA)	225.18	212.53	51.4	48.6

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

4: Resource Distribution Under PEACE II

The differences in uptake between the Economic Renewal Priority, on the one hand, and the directly socially-oriented priorities, on the other, become apparent when we examine the differences that exist in community shares at various levels of spatial remit. Projects under the Economic Renewal Priority, tend to be larger and spatially less specific. This applies both to the narrowly-defined economic projects under Measures 1.1 and 1.8, as well as the remaining human resources development measures under the first Priority. In contrast, projects under the other priorities tend to be more local, thus resulting in a proportionately higher Catholic share in the latter. Here, the Catholic share is 56.5 per cent, compared to 51.4 per cent overall.

By definition, the larger the effective catchment area of a project, the more the community shares will tend to gravitate towards the Northern Ireland population shares and the larger the benefit accruing to the Protestant community will be.

At this juncture, it is worthwhile returning to our earlier discussion of potential sources of error in our estimates of community uptake. As we noted at the outset, our estimates are based on the 'homogeneity assumption', i.e. the assumption that the benefits of a project accrue equally to all residents of the effective catchment area under consideration. Two examples may help to illustrate this.

Firstly, we consider an infrastructural project such as the construction of a small town bypass. It can reasonably be argued that all residents in and around the town itself will benefit from this expenditure due to improved traffic flow, lower levels of noise pollution, higher amenity values and development potential. If this hypothetical project were to receive funding in excess of £250,000, we would set its spatial remit at the Local Government District level and our assumption that religious community shares at this level are indicative of the final beneficiaries of the project seem to be perfectly reasonable.

Our second example involves two large-scale projects, one involving the setting up of thirty unemployment centres, and the other establishing thirty industrial units throughout Northern Ireland. Recent figures from the Equality Commission show a "continuing progress towards a more equitable distribution of employment" and the composition of the monitored Northern Ireland workforce for 2003 was 58.3% Protestant and 41.7% Catholic.⁹ It is not possible at this stage to determine the precise religious composition of the final beneficiaries in cases such as these, not least because of the length of time required before the projects concerned become fully operational and monitoring forms which might provide more accurate estimates are therefore not yet available. As both projects involve projects in each of the Local Government Districts and the workforce closely resembles the overall population shares, it thus again seems to be reasonable to apply the Northern Ireland-wide community shares to derive uptake estimates.

⁹ Equality Commission 920040 Fourteenth Annual Fair Employment Monitoring report, December 2004.

4: Resource Distribution Under PEACE II

Before formulating any conclusions, it is necessary to consider the important question of how one should define the notion of a 'fair' community share. The common assumption that a fair share would reflect the overall population share of the two main religious communities. This, however, would fail to take into account that Targeting Social Need remains an important Horizontal Principle under the PEACE II Programme. There is a strong correlation between the degree of deprivation in areas and the proportion of Catholics living within those areas (see Figure 5.2). It is therefore both predictable and desirable that the Catholic share of funding should be greater than the Catholic share of population. The key point is that this higher share should reflect the degree of deprivation of the areas from which project proposals originate and not merely their religious composition. This question is the subject of the statistical model presented in Chapter 6 of this report. Further reductions in the Catholic share of funding are likely to be at the cost of effectively targeting social need.

It is possible to draw the following conclusions:

- **The Catholic share of approved funding (excluding Technical Assistance) under PEACE II is estimated at 51.4 per cent, compared with a Protestant share of 48.6 per cent.** In comparison, Catholics make up 45.2 per cent of Northern Ireland's population, whilst Protestants represent 54.8 per cent.
- **The Catholic share of approved funding under PEACE I was estimated at 55.8 per cent compared with a Protestant share of 44.2 per cent.** At that time, Catholics made up 43.2 per cent of Northern Ireland's population, whilst Protestants represented 56.8 per cent.
- **The estimated shares of community uptake therefore represent a shift of 4.4 percentage points towards the Protestant community when compared with the estimates for the PEACE I Programme.** At the same time, the Catholic community increased its share of total population by 2 percentage points between 1991 and 2001.
- **There are stronger differences in community uptake at the Priority level.** The Catholic share is comparatively low in the Economic Renewal Priority (48.5%), but is six to eight percentage points higher in the more socially-oriented and community-based priorities.
- **The consultants believe that any further reduction in the Catholic share of funding is likely to be at the expense of effectively targeting social need.**

5: Accounting for Deprivation and Religion

This section explores 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. The factors that are likely to have influenced funding outcomes are examined using a series of graphs which become progressively more focused as the discussion proceeds.

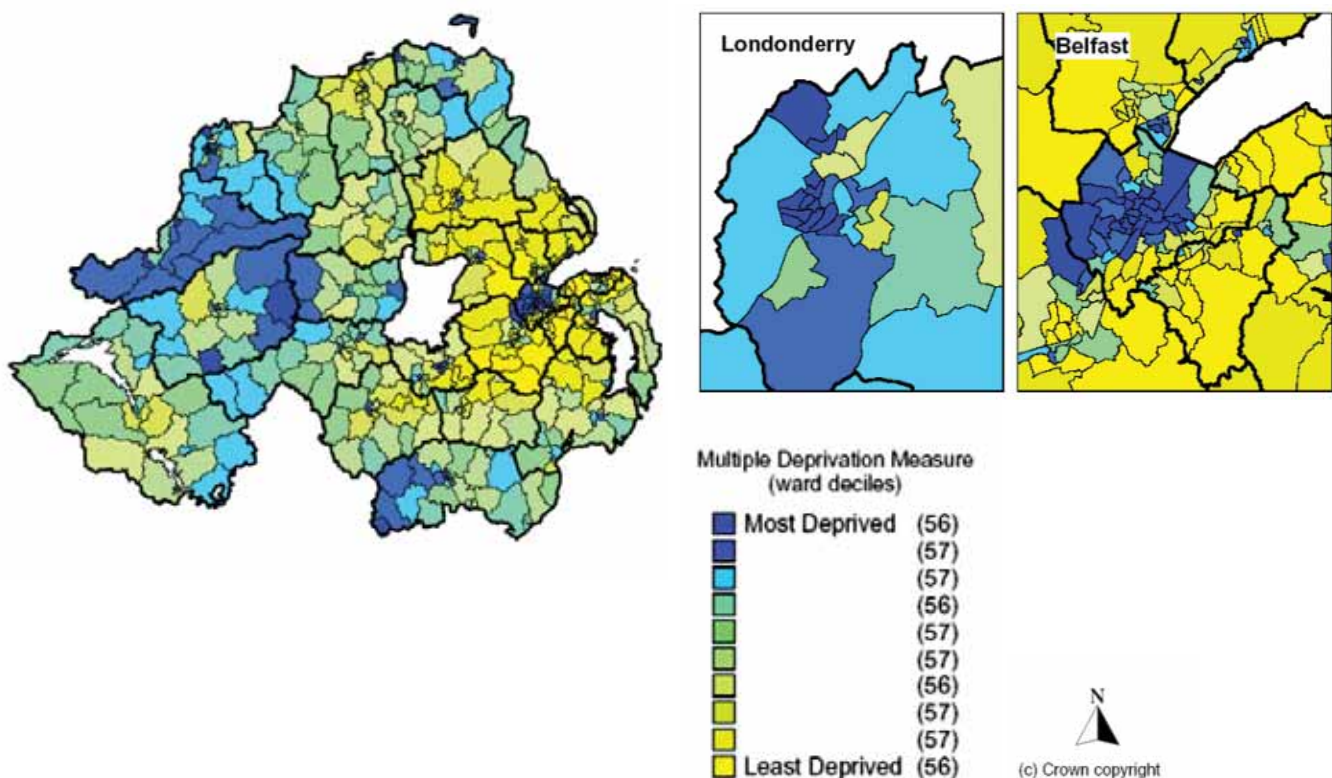
5.1 THE NOBLE INDEX OF DEPRIVATION

Over the last ten years, two major indices of relative deprivation in Northern Ireland have been published: the Robson Index¹⁰ and the Noble Index.¹¹ Following its publication in 1994, the Robson Index became a benchmark for the measurement of relative deprivation in Northern Ireland and this index was used in the

community uptake analysis of the PEACE I Programme. However, since this index relies on data from the 1991 Census of Population, the need for a more up-to-date measure led to the commissioning of the Noble Index in 2000.

The Noble Index adopts a novel approach to the measurement of deprivation, as it draws considerably on administrative databases. The index thus addresses repeated requests for including more up-to-date administrative and survey data in order to avoid relying exclusively on Census data that may be more than ten years old. In its present format, the Noble Index uses administrative data up to 1999. The lowest geographical level at which the index is available is that of Enumerative Districts (EDs). A new index is expected in due course which will provide up to date information at the level of Census Output Areas (COAs).

Figure 5.1 Noble Multiple Deprivation Measure for Northern Ireland



¹⁰ Robson, B., Bradford, M and Deas., I (1994) *Relative Deprivation in Northern Ireland*, Policy Planning and research Unit, occasional Paper No 28.

¹¹ Social Disadvantage Research Centre (2001) *Measures of Deprivation in Northern Ireland*, Northern Ireland Statistics and Research Agency (NISRA), Belfast.

5: Accounting for Deprivation and Religion

5.2 RESOURCE DISTRIBUTION BY DEPRIVATION DECILE AND RELIGIOUS COMMUNITY

One of the Horizontal Principles of the PEACE II Programme is to target social need. The successful channelling of funds towards disadvantaged areas is seen as making 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 funding is therefore to be expected. In harmony with the analysis undertaken at the conclusion of the PEACE I Programme, 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 502 COAs).

The analysis presented here is based on the Noble Index of Relative Deprivation, which was published in 2001 and which relies primarily on data from 1999. This choice is particularly appropriate, as the Noble Index was used by the funding bodies to inform their decisions. Figure 5.2 (a) overleaf shows the population distribution in Northern Ireland by degree of relative affluence and deprivation using a decile ranking. The first decile includes the 502 (10%) most affluent COAs, the second decile the next 10 per cent of COAs and so on until the tenth decile, which comprises the most disadvantaged 10 per cent of COAs.

As mentioned previously, the Noble Index of Relative Deprivation is reported at the ED level, whilst the 2001 Census data on the religious composition of the Northern Ireland population are reported at the COA level. As the COA now represents the most relevant unit of spatial analysis, we mapped the Noble ED-based measures to COAs by using weighted averages of postcode areas, which can be linked with both sets of identifiers.

Table 5.1 Deprivation and Religious Community Background

Census Output Areas (COAs)	Noble 2001 Catholic Population %	Protestant Population %
1st decile (most affluent)	19.5	80.5
2nd decile	23.4	76.6
3rd decile	32.2	67.8
4th decile	38.2	61.8
5th decile	45.8	54.2
6th decile	51.1	48.9
7th decile	54.5	45.5
8th decile	54.4	45.6
9th decile	62.9	37.1
10th decile (most disadvantaged)	72.4	27.6
TOTAL	45.2	54.8

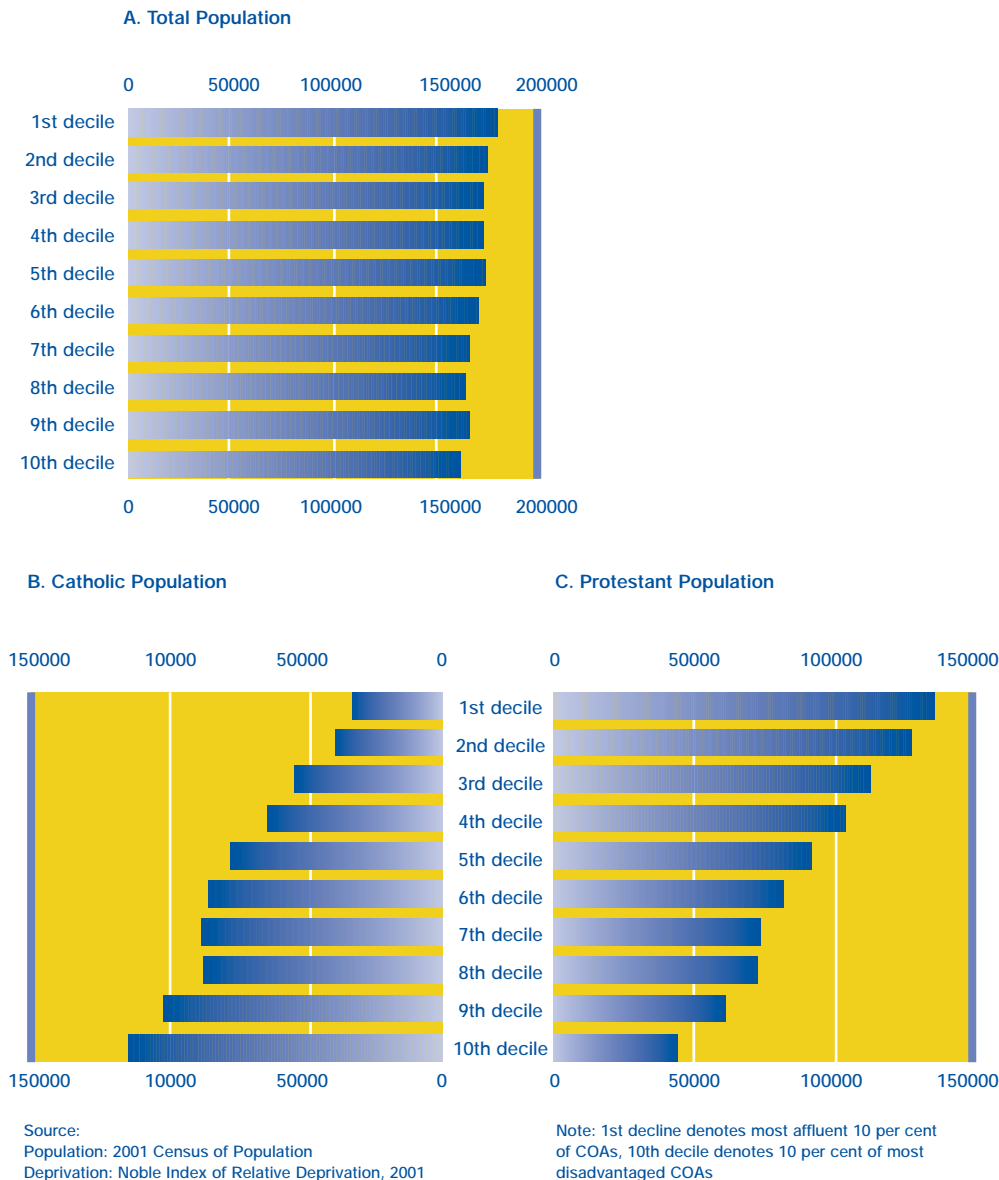
Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

5: Accounting for Deprivation and Religion

Table 5.1 and Figures 5.2 (b) and (c) illustrate the relationship between deprivation and religious community background in Northern Ireland. Based on the Noble Index, 80.5 per cent of the population of the most affluent decile of COAs are Protestant and only 19.5 per cent are 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 disadvantaged 502 COAs in Northern Ireland - Catholics account for 72.4 per cent of the population and Protestants account for 27.6 per cent.

Figure 5.2 Distribution of Population by Relative Affluence/Deprivation



5: Accounting for Deprivation and Religion

Figure 5.3 illustrates the distribution of applications by disadvantage category and religious community and reveals that:

- The number of applications made reflects, above all, the degree of affluence or deprivation of the local area concerned. The most disadvantaged 10 per cent of COAs account for over 1,600 applications, compared to about 250 in the most affluent decile of COAs.
- 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.

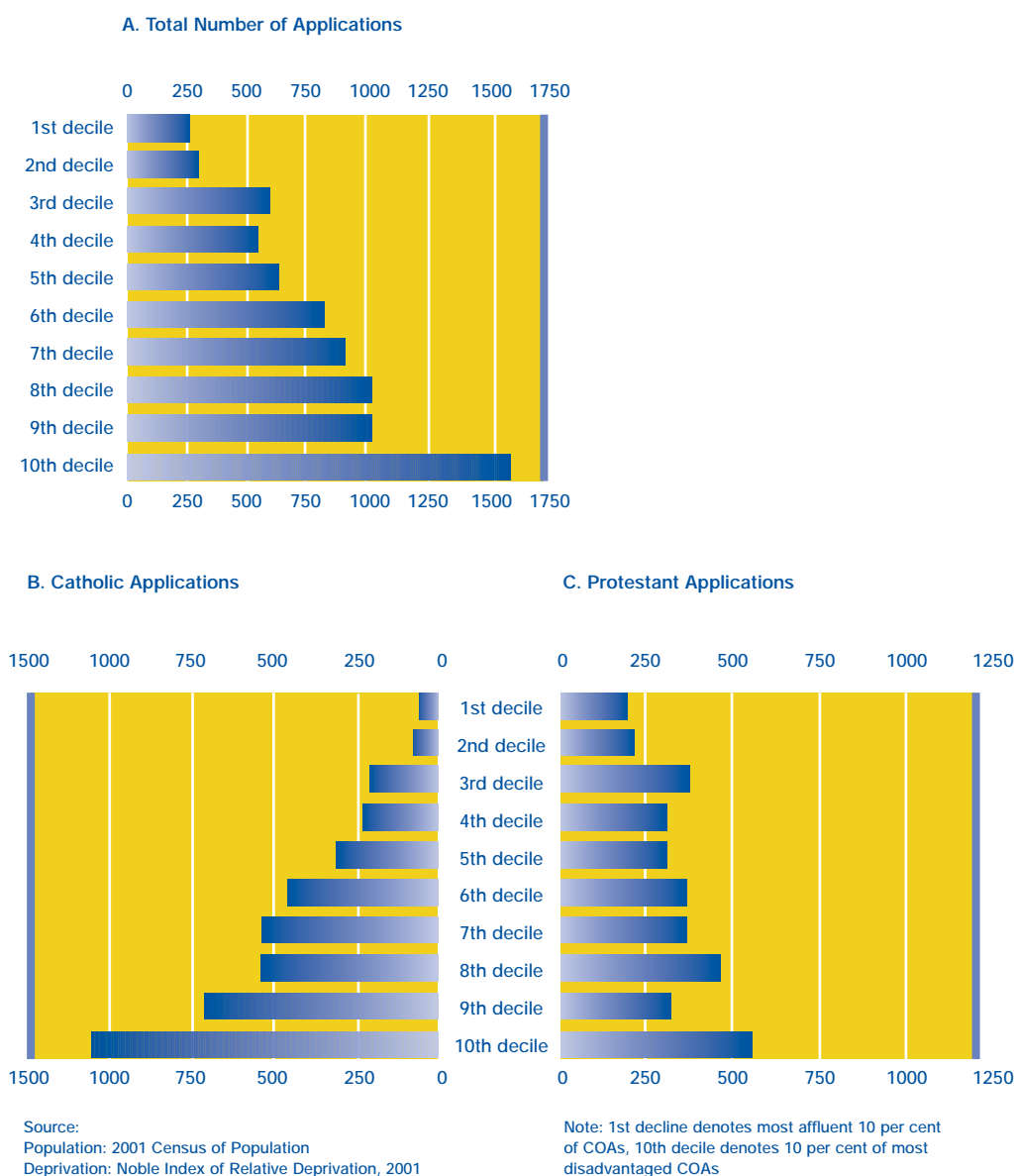
Although the data in Figure 5.3 are informative, the distribution of the Catholic and Protestant populations between the various deciles needs to be taken into account. The greater concentration of Catholic applications in disadvantaged areas may, at least in part, reflect the larger number of Catholics 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 5.4 therefore examines the distribution of applications per 1000 inhabitants by disadvantage category and religious community and shows that:

- The number of applications made reflects, above all, the degree of affluence or deprivation of the local area concerned; in the most disadvantaged 10 per cent of COAs just over 10 applications were made per 1,000 population. This compares with 1.5 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 5.5 shows the distribution of approved funding by the degree of disadvantage of the COA in which these projects originate. When compared to the distribution of Applications (Figure 5.3), the distribution appears to be slightly more focused on the most disadvantaged areas, particularly the most disadvantaged decile. This suggests that the allocation mechanisms of the PEACE II Programme have successfully targeted funds at disadvantaged areas, an assessment which holds true for both Catholic and Protestant funding.

5: Accounting for Deprivation and Religion

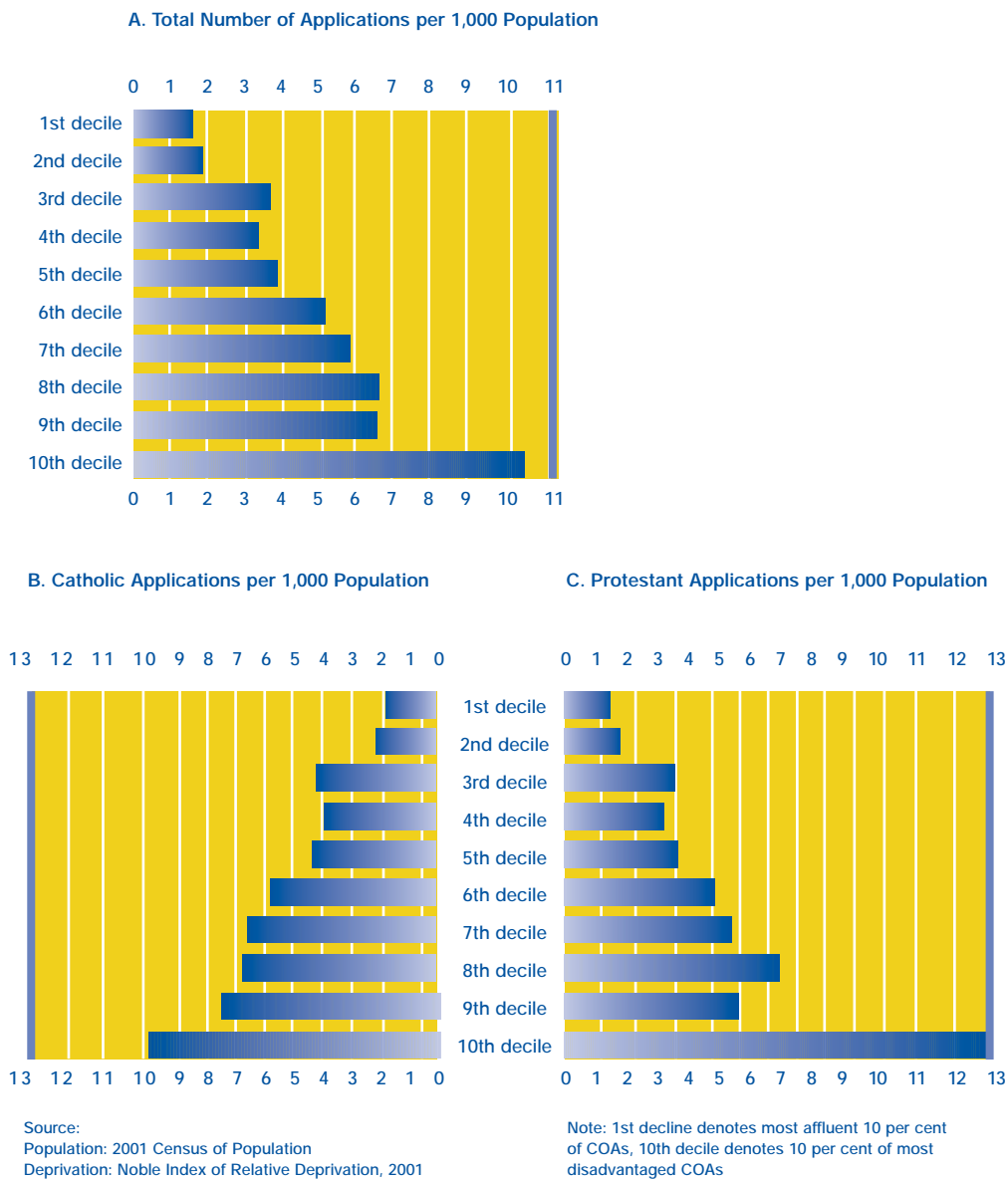
Figure 5.3 Distribution of Applications by Relative Affluence/Deprivation



Note: The estimated number of Catholic and Protestant applications do not represent aggregations of whole projects but the aggregation of their respective community shares.

5: Accounting for Deprivation and Religion

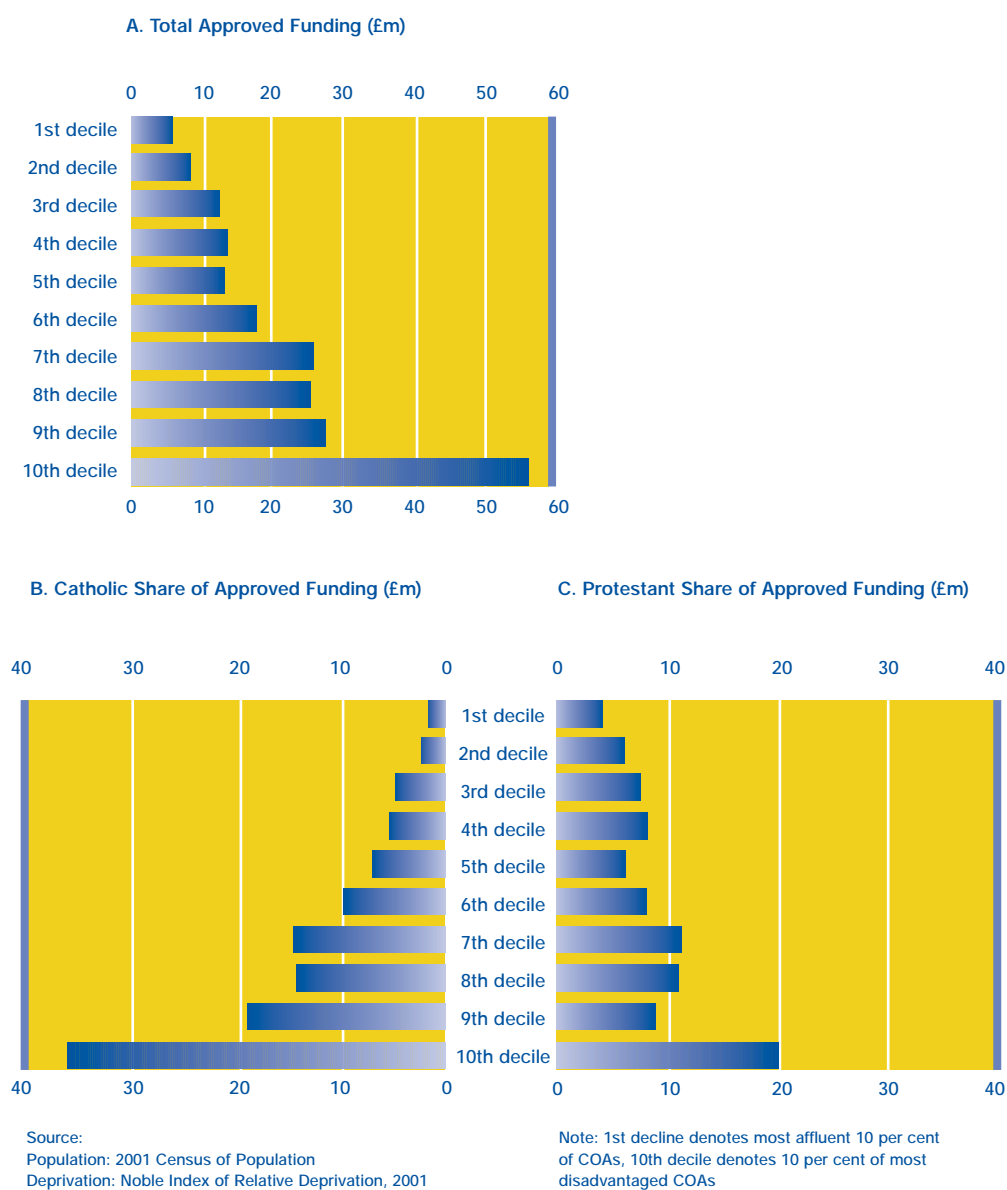
Figure 5.4 Distribution of Applications per 1,000 Population by Relative Affluence/Deprivation



Note: The estimated number of Catholic and Protestant applications per 1,000 population do not represent aggregations of whole projects but the aggregation of their respective community shares.

5: Accounting for Deprivation and Religion

Figure 5.5 Approved Funding by Relative Affluence/Deprivation



Note: The estimated shares of Catholic and Protestant funding do not represent aggregations of whole projects but the aggregation of their respective community shares.

5: Accounting for Deprivation and Religion

Again, it is important to take into account the differences that exist 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 5.6 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 reflects a degree of targeting on the basis of deprivation. Per capita funding is over four times higher in the three most disadvantaged deciles of COAs than in the three most affluent deciles, whilst per capita funding in the most disadvantaged decile of COAs is about ten times higher than in the most affluent ten per cent of COAs.
- 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 COA populations, estimated Catholic per capita funding in the most disadvantaged decile is over five times greater than in the most affluent decile.
- By contrast, the distribution of estimated Protestant funding, which previously appeared rather undifferentiated, is much more targeted when population size is taken into account. Estimated per capita funding to the Protestant community in the most deprived COAs is sixteen times greater than per capita funding to projects located in the most affluent decile of COAs, suggesting a strong targeting of resources.

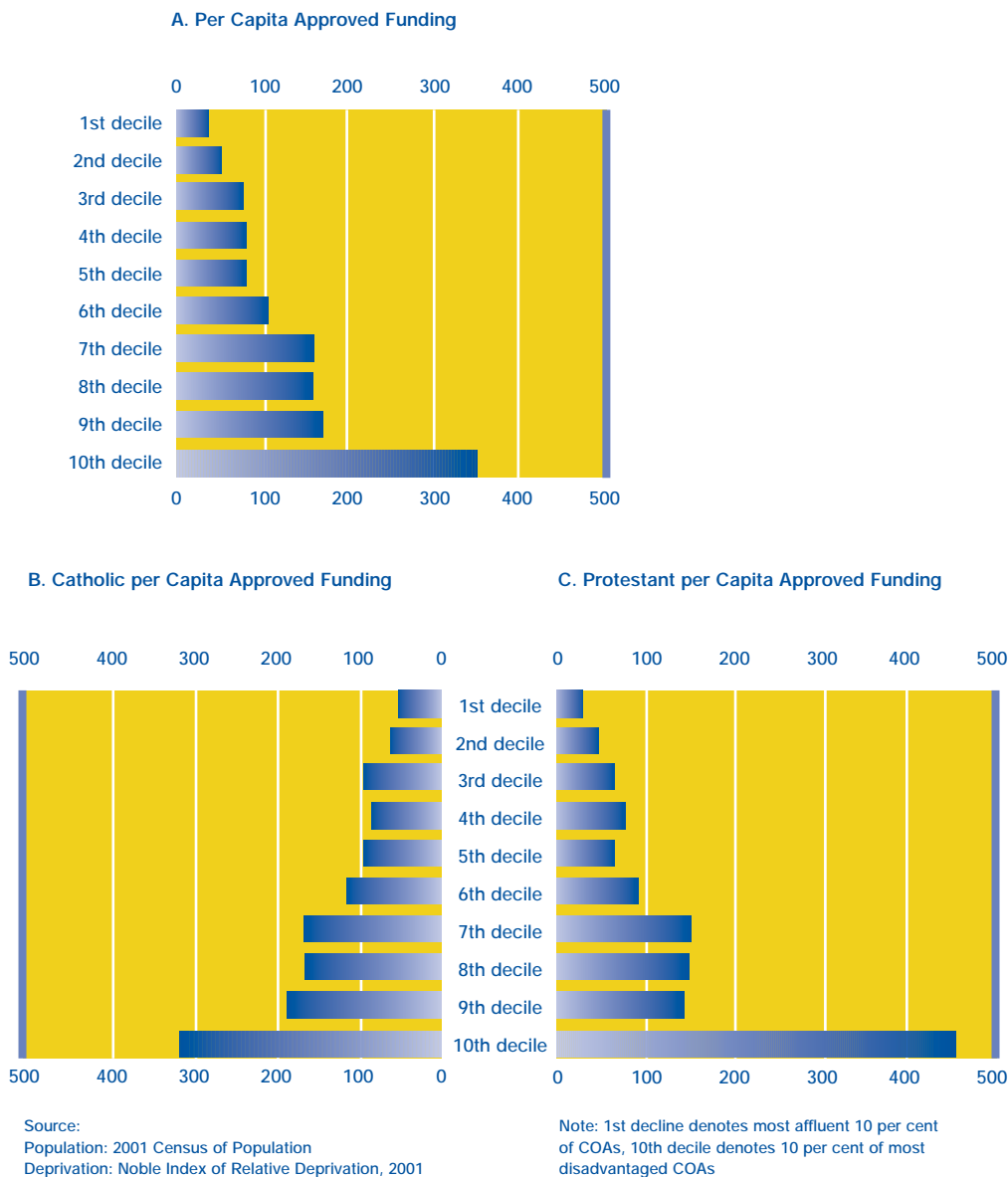
5: Accounting for Deprivation and Religion

In short, a comparison of per capita applications and funding for each community in the context of relative affluence and deprivation reveals a similar pattern. For both communities, per capita applications and funding increase in line with relative deprivation. However, Catholic per capita applications are higher than Protestant per capita applications in eight out of the ten deciles, and Catholic per capita funding is higher than Protestant per capita funding in nine out of the ten deciles. The figures used to construct Figures 5.2 to 5.6 are provided in the Appendix.

In the next section, we will use sophisticated statistical techniques to explore the relationship between the religious community profile of COAs and other features including their population size, deprivation score, propensity to apply for funding and overall funding received under the PEACE II Programme. The results of the statistical models shed considerable light on the patterns described above.

5: Accounting for Deprivation and Religion

Figure 5.6 Per Capita Approved Funding by Relative Affluence/Deprivation



Note: The estimated shares of Catholic and Protestant per capita funding do not represent aggregations of whole projects but the aggregation of their respective community shares.

6: Explaining Funding Patterns

6.1 INTRODUCTION TO PATH ANALYSIS

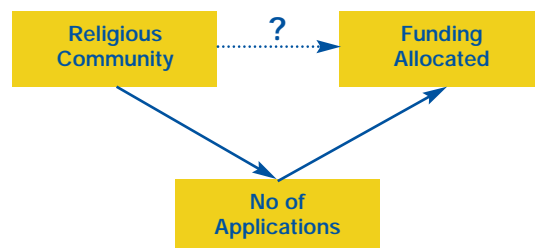
Path Models form part of a general class of statistical models which estimate the relationship between a number of observed variables by means of a set of equations, one for each dependent variable in the model. 'Dependent' variables receive influences from one or more 'independent' variables, and the residual or 'error' term associated with each dependent variable indicates the extent to which their variation can be explained by the independent variables. Thus, the residuals may be said to express the combined effect of omitted variables and the random variance which may influence the values of the dependent variables.

Whilst Path Models contain 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. In fact, where a complex network of relationships exists between the variables of interest, the Classical Linear Regression Model is no longer sufficient, as it cannot accommodate 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 Classical Linear Regression Model is frequently used as a predictive tool - with the result that model specification is treated as being secondary to predictive power - Path Models are typically used to investigate causal relationships. Thus, in addition to the assumptions implicit in the CLRM, Path Models also assume that the structure of the relationships posited by a 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, which provides a graphical representation of the relationship between a set of variables. In this diagram, a causal effect is represented as a directed arrow leading from an independent variable to a dependent variable (from 'cause' to 'effect'). 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 vary systematically, perhaps due to one or more shared (but unmeasured) causes.

Before looking at the model results, a simplified example may help to clarify the nature of this statistical technique. 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 indicate that the hypothesised relationship between these variables may be indirect rather than direct in nature. In the current example, where areas with differing proportions of Catholics and Protestants receive different financial allocations, this may be due to differences in the number of applications generated by each community. Religious community profile therefore has a complex relationship to the pattern of funding allocation and the latter may be explained by the mediating variable measuring the propensity to apply.

6: Explaining Funding Patterns

6.2 THE PEACE II PATH MODEL

The evaluation of community uptake in relation to the PEACE II Programme is well-suited to Path Analysis because some of the factors that influence the process of application and approval (including deprivation, awareness of funding opportunities and attitudes 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 direct and indirect effects of these influences on funding outcomes.

In the statistical models presented in this chapter, three variables are used to measure the background characteristics of Census Output Areas (COAs) in Northern Ireland:

- Total population - all persons normally residing in the COA at the time of the Census of Population (2001)
- Noble ED-level Deprivation Score - the scores resulting from the Noble Index of Deprivation for 1999, with higher values representing greater disadvantage
- Proportion Catholic - this is the proportion of people in the COA who described themselves as Catholic at the time of the 2001 Census of Population, as a proportion of those who described themselves as either Catholic or Protestant.

In the path diagrams presented below, these three variables are connected by two-headed arrows, indicating that they are correlated. There is a small negative correlation (-.14) between Total Population and the Noble Deprivation Score and a moderate positive correlation between the ED-based Noble Score and the Proportion Catholic for the COA (.37), indicating that predominantly Catholic areas are, in general, more deprived than predominantly Protestant ones. The correlation between Total Population and the Proportion Catholic is surprisingly high (.36), indicating that predominantly Catholic COAs are, in general, more populous than Protestant ones. As this correlation differs substantially from that observed at ED level using 1991 Census of Population data, it may reflect the effects of the rezoning of urban areas, in particular, during the preparation of the COA-level cartography.

At COA level, the variable which records the total population has a rather non-normal distribution,¹² which violates the distributional assumptions of the path model and may therefore interfere with parameter estimation. We therefore take the natural log of this variable (adding .01 to avoid numerical problems), which improves its distributional characteristics considerably.¹³ In order to assess the sensitivity of the modelling results to this transformation, we will report the estimates obtained when using the original variables as well as the transformed values.

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

- Funding Approved - the total value of funding approved for projects originating in the COA, omitting those with a wider spatial remit (PEACE II Central Applications Database - December 2004 - NI-based projects only)

¹² The value for 'skewness (the extent to which the distribution is skewed towards higher or lower values) is rather high at 6.5, whilst the 'kurtosis' (which measures the extent to which the distribution is concentrated around a single value) is very high at 138.3.

¹³ Following transformation, the skewness drops to .06 and the kurtosis to 4.2.

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This variable, like that for total population, has a highly non-normal distribution,¹⁴ necessitating transformation using the natural log function. In fact, following transformation the distribution of Funding Approved improves considerably, as measured by summary statistics (the skewness drops to 1.1 and the kurtosis to -0.7).

The direct effects of Total Population, Deprivation Score and Proportion Catholic on Funding Approved are shown in the first graph.

In the second model, the outcome variable Funding Approved is conceptualised as being influenced not only by the three background variables described above, but also by an intervening variable which measures the number of applications generated by a given COA. In other words, in addition to their direct effects, the variables Total Population, Deprivation Score and Proportion Catholic are hypothesised as having an indirect effect on Funding Approved, mediated by the number of applications:

- Number of Applications - the number of applications for funding under the PEACE II Programme by projects situated within the COA (PEACE II Central Applications Database - December 2004 - NI-based projects only)¹⁵

We will now discuss the results of these two models, using the two sets of estimates that illustrate the impact of the transformations mentioned above (i.e. before and after applying the natural log transformation). This will enable us to assess the robustness of the results to the specific operational decisions implemented during the course of the analysis.

6.3 MODEL 1: DIRECT EFFECTS ONLY

The first model presents the results of a Path Model with three independent variables (those situated to the left of the graph) and a single dependent variable (to the right), which is associated with a 'residual' variable that expresses the variance that is not explained by the background variables. The estimates shown in the Path Diagram are standardised partial regression coefficients, and they indicate the extent to which a change in the independent variable is transmitted to the dependent variable (the size of this effect being measured in standard deviation units), holding constant all other independent variables in the equation.

Table 6.1 reports the parameter estimates obtained before (Model 1A) and after (Model 1B) applying the natural logarithm transformation to the three variables identified earlier as having non-normal distributions. The coefficients shown in the graph relate to the second of the two models, as the consultants believe that this provides the most accurate estimates. In order to control for the effects of remaining forms of 'non-normality', we use the Satorra-Bentler formula for 'robust' standard errors (Bentler, 1995) in order to obtain reliable estimates of statistical significance. With the partial exception of the direct effect of the Proportion Catholic on funding approved (Model 1) and the direct effect of the Proportion Catholic on applications (Model 2), the impact of the log transformation is small and does not alter the interpretation of the results.

The direct effect of deprivation, as measured by the Noble Deprivation Score, on Approved Funding is quite small (but statistically significant) at .14 for Model 1A and .12 for Model B. The effect of religious community profile, as measured by Proportion Catholic, is .05 for Model 1A and .12 for Model 1B. In the latter case, therefore, Deprivation Score and Proportion Catholic have an identical influence on Funding Approved.

The first model suggests that the proportion of Catholics in a Census Output Area and its relative deprivation have a relatively small but statistically significant effect on the amount of funding received by that COA. The effect of the overall population of the COA is smaller, reaching statistical significance only in Model 1A. **No more than 5 per cent of the variation in Funding Approved is explained by models 1A (3%) and 1B (4%) and these must therefore be judged to provide an incomplete explanation of the distribution of approved funding.**

¹⁴ The value for 'skewness' is 13.9 and for 'Kurtosis' 311.4 (see note above.)

¹⁵ Once again, we encounter non-normality (skewness 10.7, kurtosis 193.8), necessitating transformation. After applying the natural log function, the skewness drops to 0.7 and the kurtosis to -1.3.

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Figure 6.1 Model 1B - Direct Effects only

Path Model of the Relationship between COA Characteristics and Approved Funding
(Total Population and Funding Approved transformed using natural logarithm function)

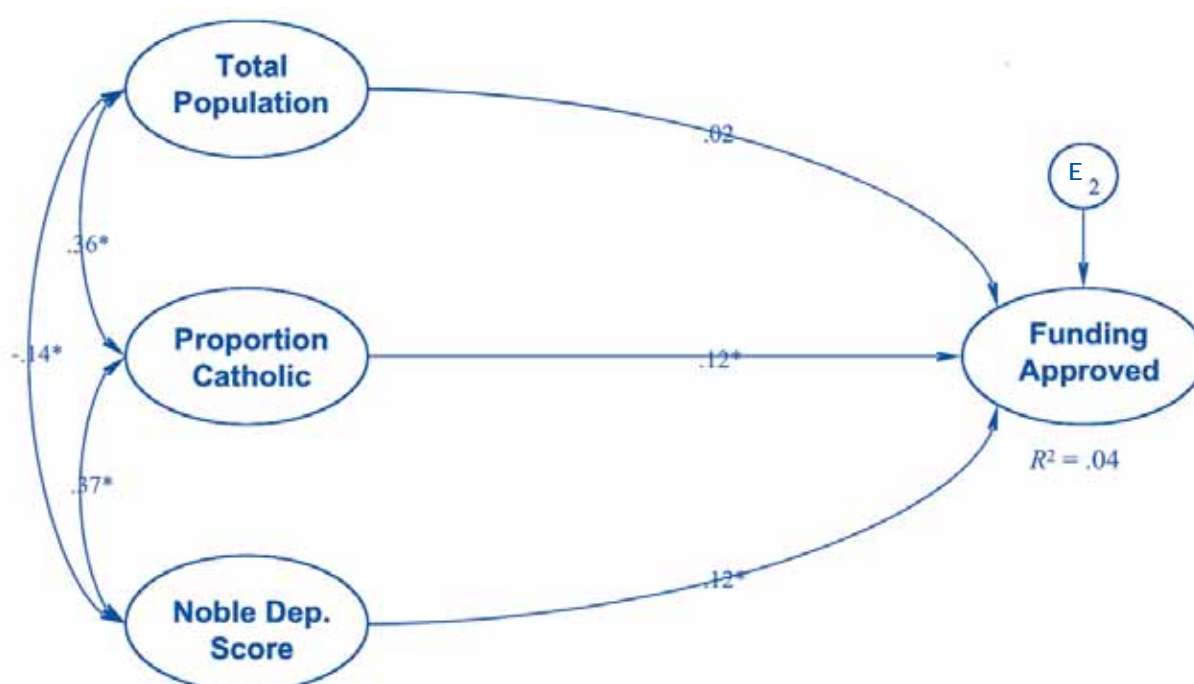


Table 6.1 Parameter Estimates for Models 1A and 1B of Direct Effects

Parameter	Model 1A	Model 1B
Total Population → Funding Approved	-.04*	.02
Proportion Catholic → Funding Approved	.05*	.12*
Noble Deprivation Score → Funding Approved	.14*	.12*
Percentage of Variance Explained in Funding Approved (R ²)	.03	.04

Source: PEACE II Central Applications Database - December 2004.

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

Model A: No transformation.

Model B: Total Population and Funding Approved transformed using the natural log function (see also Figure 6.1).

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6.4 MODEL 2: DIRECT AND INDIRECT EFFECTS

The second set of models, as explained above, introduce a new variable, which is situated between the three background variables (Total Population, Deprivation Score and Proportion Catholic) and the 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 .68 and .80, compared to a maximum of .04 for the first set of models) and (ii) this is largely driven by the Number of Applications. Regardless of which of the second set of models is chosen, the Number of Applications has a very strong impact on Funding Approved (path coefficients ranging from .82 to .89).

It is also interesting to compare the direct effects of Total Population, Deprivation Score and Proportion Catholic in the second set of models with those estimated in the first set. For example, the path from Deprivation Score to Funding Approved decreases, ranging now between .01 (not statistically significant) and .03. More importantly, the path from Proportion Catholic to Funding Approved drops to practically zero and is no longer statistically significant (-.01 in Model 2A and .00 in Model 2B).

Thus, when interpreting the influence of both Proportion Catholic and Deprivation Score on Approved Funding, we may conclude that the influence of these background variables is almost entirely mediated by the Number of Applications presented under the Programme. Of the three background variables, Proportion Catholic exerts the greatest influence on the Number of Applications, which, in turn, has a determining impact on Funding Approved. Thus:

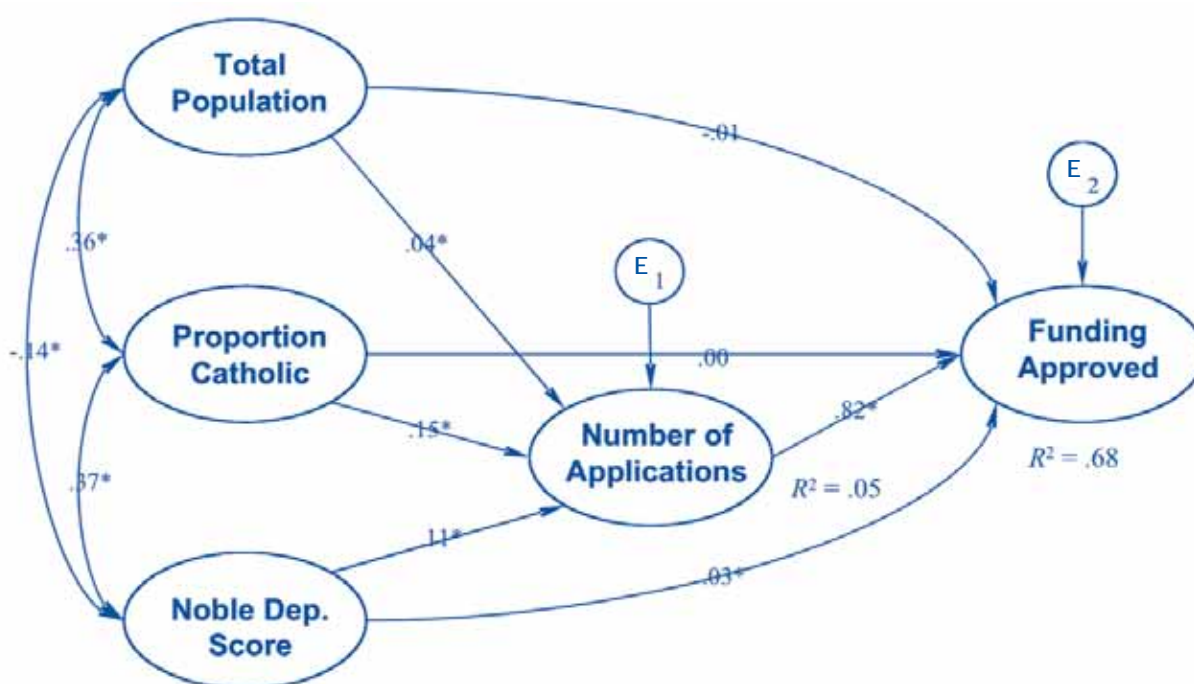
- **The higher share of funding received by the Catholic community is primarily due to the greater propensity of people living in predominantly Catholic and in deprived areas to apply for funding.**

It is encouraging to observe the similarities between these results and those presented in the previous Community Uptake Analysis of the PEACE I Programme, as this testifies to the robustness of the methodological techniques utilised. Overall, the differences between the two analyses are small, particularly in the context of the changes noted earlier in relation to the size of funding granted to individual projects and the use of a different spatial scale for the model.

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Figure 6.2 Model 2B - Direct and Indirect Effects

Path Model of the Relationship between COA Characteristics, Number of Applications and Funding Approved (Total Population, Number of Applications and Funding Approved transformed using natural logarithm function)



However, the estimates for the influence of Proportion Catholic and Noble Deprivation Score on the Number of Applications differ markedly between the two analyses. In the PEACE I uptake analysis, the standardised coefficients for these two effects were estimated at .26 and .14 respectively. In other words, the influence of Proportion Catholic on Number of Funding Applications was almost twice as strong as the influence of the area's relative affluence or deprivation. It would be misleading to compare these estimates directly with those produced by the current model, as the current model utilises a different spatial unit of

analysis (COAs rather than EDs) and a different deprivation index (Noble 1999 rather than Robson 1991). It is nevertheless evident that the results of the current model, as summarised in Figure 6.2 (.15 for Proportion Catholic and .11 for Noble Deprivation Score) are much more symmetrical in this respect. **This lends further support to the assertion that the PEACE II Programme has gained greater cross-community support and that the propensity of the two religious communities to apply is now less differentiated than under the PEACE I Programme.**

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Table 6.2 Parameter Estimates for Model of Direct and Indirect Effects

Parameter	Model 2A	Model 2B
Total Population → Number of Applications	-.02	.04*
Proportion Catholic → Number of Applications	.07*	.15*
Noble Deprivation Score → Number of Applications	.15*	.11*
Percentage of Variance Explained in Number of Applications (R²)	.03	.05
Total Population → Funding Approved	.02*	-.01
Proportion Catholic → Funding Approved	-.01	.00
Noble Deprivation Score → Funding Approved	.01	.03*
Number of Applications → Funding Approved	.89*	.82*
Percentage of Variance Explained in Funding Approved (R²)	.80	.68

Source: PEACE II Central Applications Database - December 2004 - NI-based projects only.

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

Model A: No transformation.

Model B: Total Population, Number of Applications and Funding Approved transformed using the natural log function (see also Figure 6.2).

Appendix

Data for Figures 5.1 to 5.6, COA level

COA Decile Noble 2001	Total Population (Catholics + Protestants)	Catholic Population	Protestant Population	Catholic Population %	Protestant Population %
1	167,083	32,539	134,544	19.5	80.5
2	165,215	38,621	126,594	23.4	76.6
3	164,828	53,108	111,720	32.2	67.8
4	166,047	63,434	102,613	38.2	61.8
5	167,526	76,648	90,878	45.8	54.2
6	165,288	84,381	80,907	51.1	48.9
7	160,234	87,400	72,834	54.5	45.5
8	158,287	86,178	72,109	54.4	45.6
9	160,883	101,14	259,741	62.9	37.1
10	157,382	113,94	743,435	72.4	27.6
TOTAL	1,632,773	737,398	895,375	45.2	54.8

COA Decile Noble 2001	All Applications	Catholic Applications	Protestant Applications	All Applications per 1,000 Capita	Catholic Applications per 1,000 Capita	Protestant Applications per 1,000 Capita
1	253	63	190	1.5	1.9	1.4
2	297	82	215	1.8	2.1	1.7
3	589	210	379	3.6	4.0	3.4
4	543	236	307	3.3	3.7	3.0
5	625	316	309	3.7	4.1	3.4
6	822	458	364	5.0	5.4	4.5
7	904	535	369	5.6	6.1	5.1
8	1,014	547	467	6.4	6.3	6.5
9	1,020	705	315	6.3	7.0	5.3
10	1,604	1,041	563	10.2	9.1	13.0
TOTAL	7,671	4,193	3,478	4.7	5.7	3.9

Appendix

COA Decile Noble 2001	Total Approved Funding (£m)	Catholic Approved Funding (£m)	Protestant Approved Funding (£m)	Total Approved per Capita Funding	Catholic Approved per Capita Funding	Protestant Approved per Capita Funding
1	5.67	1.81	3.86	34	56	29
2	8.42	2.51	5.91	51	65	47
3	12.57	5.25	7.33	76	99	66
4	13.44	5.52	7.93	81	87	77
5	13.17	7.24	5.93	79	94	65
6	17.67	9.94	7.73	107	118	96
7	25.67	14.60	11.07	160	167	152
8	25.30	14.40	10.90	160	167	151
9	27.73	19.06	8.66	172	188	145
10	55.88	35.83	20.06	355	314	462
TOTAL	205.52	116.15	89.37	126	158	100

Testing the Methodological Assumptions

The terms of reference required the consultants to use information from the SEUPB Monitoring Forms to test the robustness of their analysis. To this end we carried out a separate analysis of community background as stated on the Monitoring Forms available in December 2004.

Religious Community Background, all Religions

	Frequency	Per cent	Valid Per cent
Protestant	8,252	37.2	38.0
Catholic	11,947	53.8	55.0
Neither	1,515	6.8	7.0
Sub-total	21,714	97.9	100.0
Not Stated	475	2.1	
TOTAL	22,189	100.0	

Source: Monitoring Form Returns, December 2004.

Appendix

In total, 22,189 Monitoring Forms were returned by December 2004. Of these, 475 (2.1%) did not provide any indication of community background and of the remaining returns, 1,515 (7.0%) responded “neither Protestant nor Catholic”, roughly twice the percentage of people who fall within this category on the basis of the 2001 Census of Population for Northern Ireland (3.1%).

Considering only the two main communities, the Monitoring Forms therefore suggest a share of 59.1 per cent for Catholics and 40.9 per cent for Protestants. This, however, includes all projects in the Border Counties as well

as in Northern Ireland. Furthermore, the returns relate to only 684 (13.6%) out of a total of over 5,000 projects.

The next step is to merge the data derived from the Monitoring Forms with the Central Applications Database to establish the actual location of the projects concerned, confining our interest to Northern Ireland-based projects.¹⁶ This reveals that the Monitoring Forms cover 560 (13.1%) of the 4,247 projects based in Northern Ireland, and the community shares for these Forms are 51.2 per cent for Catholics and 48.8 per cent for Protestants.

Religious Community Background, Major Communities only

	All Projects		Northern Ireland based projects only		Northern Ireland based projects only	
	Frequency	%	Frequency	%	Award (£m)	%
Protestant	8,252	40.9	7,106	48.8	34.8	47.7
Catholic	11,947	59.1	7,449	51.2	38.2	52.3
Total	20,199	100.0	14,555	100.0	73.0	100.0
Projects covered	684	13.6	560	13.1	73.0	16.7
TOTAL PROJECTS	5,038		4,247		437.7	

Source: Monitoring Form Returns, and Central Applications Database, December 2004.

We can now compare the shares based on stated community background (Monitoring Forms) with the estimated community shares resulting from our analysis (using the postcode methodology adopted in this study). The projects covered by the Monitoring Forms represent an aggregate funding of £73m, or 16.7 per cent of the total. Our estimated community shares for these projects are 52.3 per cent for Catholics and 47.7 per cent for

Protestants, thus falling within 1 percentage point of the shares indicated on the Monitoring Forms. This supplementary analysis therefore provides strong support for the approach adopted in this study. It should be noted that the Monitoring Forms cover only a relatively small proportion of projects (13%) and funding (17%).

¹⁶ Note: This distinction cannot be based on the ‘member state’ field in the monitoring forms, as this is based on the location of the funding body and not on the actual project location (see Footnote 5).

Notes

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