ABSTRACT

The districts of Northern Ireland are well defined in identifying where people live according to their religious affiliation. Patterns emerge which enable generalizations to be made about where people reside depending upon whether they are classified as Protestant or Catholic. The purpose of this research is to ascertain how terrorist incidents are associated with population distribution by religious affiliation for the past two decades on a district by district basis.

It is the general contention that terrorist activity occurs where there is a mixture of Catholics and Protestants. Shifts in population distribution correspond to changes in the spatial distribution of terrorist activities. Results indicate that terrorist activities, like the Catholic distribution, has shifted to the rural border areas of Northern Ireland. Associating the variables of population distribution and religious preference to terrorist activity demonstrates that human patterns can be classified and predicted even though the spatial behavior is not totally understood.

KEY WORDS: Catholics, Protestants, terrorist activity, Northern Ireland.

INTRODUCTION

The problem of Northern Ireland has gained the attention of the world within the past 20 years. Terrorist bombings, hunger strikes, and protests have been newsworthy items in more recent times. By identifying the geographical location and patterns of these incidents, insight is provided to the conflict which exists in Northern Ireland. The purpose of this study is to spatially examine terrorist activities and to correlate them to the population distribution by religious affiliation for the 20 year period of 1969–1988.

Several studies have indirectly linked the Northern Ireland population distribution to terrorist activities for the past 20 years. Compton’s Census Atlas (1978) is one of the most reliable sources outside of the actual census tracts for analyzing the religious population of Northern Ireland. Compton (1982, 1974) discusses the demographic characteris-
Figure 1. Districts of Northern Ireland.
tics of the Catholics and Protestants and the spatial division which has resulted between these two groups. The variables and causes associated with the problems in Northern Ireland are found in Douglas and Boal (1982), Hoare (1982), Doherty (1982), Boal (1982), and Poole (1982). Relevant sources identifying Northern Ireland's division include Hickey (1984), Mitchell (1979), Darby (1976) and Jackson (1971). A comparative study relating the conflict to racism in the southeastern United States is found in Wright (1988). Murray (1982) examines where terrorist incidents occur for 1969-1978 and discusses the characteristics of the violence. However, few studies examine the spatial aspect of religion with the terrorist activities.

METHODOLOGY

Collection of the data entailed several steps. Information regarding religious composition for the years 1971 and 1981 were collected from census tracts. The Northern Ireland census divides religion into six general categories; Roman Catholic, Presbyterian, Church of Ireland, Methodist, Other Category, and non-response. The Other Category, only 7% of the entire population, constituted well over 50 different religious groups ranging from Jews to Moslems and was not included in our analysis. The rate for the non-response category was high in 1981 (18%), almost twice as high as 1971, and yet not included as viable data, hence a statistical error may be more likely to occur. A study using regression techniques to help solve the non-response rate can be found in Compton and Power (1986). Thus, the religion composition that this study analyzes is the Roman Catholics as one control group and a combination of the other three major religious groups as one Protestant group. The percentage of distribution will be compared on a district by district basis.

Figure 2. Roman Catholic population percent of total, 1971 (Northern Ireland Registrars Office, 1971).
for each of the 26 districts of Northern Ireland (Fig. 1).

Data on terrorist activities in general, regardless of religious affiliation, were collected and tabulated for each of Northern Ireland’s 26 districts. Information on different possible terrorist activities was gathered for the years 1969–1988 from Facts on File publication. The year 1969 was chosen as the starting point since most of the major terrorist activities began at that time. It was speculated most of the incidents would occur in Belfast and Londonderry districts, the two predominantly urban districts. To be defined as an incident of terrorist activity, violence or death must have occurred. Death is easy to ascertain, but violence is a harder item to measure. Activities were included as terrorist actions if the news summary included the words death, violence or injury. All bombings, regardless of damage or injury, were also included. If the incident did not meet the above qualifications, it was subsequently disregarded. The most important characteristic that had to be included was the location of each incident. If no location was given, the incident was disregarded. “Armagh near the border” was the only example where a location was not specifically given and these incidents were proportioned between Armagh, and Newry and Mourne, the two districts which are located adjacent to the border in County Armagh.

Two different time periods for terrorist activity were chosen so that comparisons can be made with the population distribution by religious affiliation. The first time period was 1969–1978 which would be compared to the 1971 population data while the second one is 1979–1988 which would be analyzed with the 1981 census tract information. Each of these incidents, including the relative change between them, was mapped. Finally, a Spearman’s Rank Correlation test
was run to see if there was correlation between the terrorist activity and the population distribution by religion.

RESULTS

Figures 2, 3, and 4 show population distribution by Catholic denomination. Lough Neagh, the largest lake in Northern Ireland, is located in the middle of Northern Ireland and is left blank. Since maps showing Protestant denomination would be the opposite of these, they were deleted. Overall, the entire Catholic population for the country was 37 percent for 1971 and 38 percent for 1981 making it a minority to the Protestant groups, which make up well over 55 percent of the entire population. Districts with a high percentage of Catholics (50 percent plus) are not common and are mainly found within the border regions.

From Figures 2 and 3, it can be seen that there are two areas of strong Catholic majority concentrations. The first is in the far west region which includes the border districts of Londonderry, Strabane, Omagh, and Fermanagh. A second area of high concentration is in the southeast, especially the districts of Newry and Mourne, and Down. Figure 4 illustrates the distribution change for the ten year period and the map produces some conclusions. The areas that have registered the most profound increase are the border areas with a high Catholic concentration. Areas of strong Protestant concentrations lost Catholic population with the districts north of Belfast losing the most. As can be seen from the figures, Catholics generally moved away from the eastern areas and migrated toward the periphery. Another major pattern of interest is the actual increase in Catholic percentage for the district of

Figure 4. Relative change in Roman Catholic population in Northern Ireland (Northern Ireland Registrars Office, 1971, 1981).
Belfast. This observation must be interpreted with caution, however, because Belfast had a tremendous loss in population over the last ten years due to heavy out-migration.

Figure 5, 6 and 7 reveal the terrorist activity for each of the 26 districts. The first major characteristic is in the number of incidents. The overall number of incidents for all districts recorded a significant decrease of 42 percent for the two time periods.

Two distinct patterns can be seen in examining Figures 5 and 6. First, the original phenomenon that cities would be the main areas of activity is holding true: Belfast and Londonderry districts accounted for 75 percent of all incidents in 1969-1978. Secondly is the tremendous drop in the number of incidents which occurred in these two districts during the 1979-1988 time period. The percentage of total incidents for Londonderry and Belfast decreased 30 percent from the earlier time period. The incidents in Belfast alone dropped 23 percent.

Generally, these incidents are decreasing in the urban areas and shifting to areas of Catholic concentration along the borders. The border districts; Londonderry, Strabane, Omagh, Fermanagh, Dungannon, Armagh, Newry and Mourne, and Down, constituted 33 percent of the terrorist activities in 1969-1978 and 43 percent in 1979-1988. Some border districts, especially urban Londonderry and Dungannon decreased in number of incidents. Comparing the remaining border districts, 16 percent of all incidents occurred in 1969-1978 and 39 percent of all terrorist activity occurred in 1979-1988, an increase of 23 percent. These six districts constitute the major increase in the terrorist activity.

Spearman's Rank Correlation technique is used to compare the following: 1) the 1971 census tract data with the 1969-1978 terrorist incident data; and 2) the 1981 census data with the 1979-1988
terrorist activity. Both relative changes are also analyzed. For this approach, the Catholic distribution was ranked from low to high and compared with the terrorist activity, which was subsequently ranked the same way. The sum of the squared differences of the ranks, \( \Sigma d^2 \), is then found and used in the following equation to find \( r \):

\[
    r = 1 - \frac{6(\Sigma d^2)}{n(n^2 - 1)}
\]

The \( r \) values can then be transferred to z scores to find a level of probability of significant correlation. To find the z scores, the following equation is used:

\[
    z = r \sqrt{n - 1}
\]

One major problem that may arise in running these correlations is in the type of population data that is used. First, two of the districts listed, Belfast and Londonderry, are urban districts. The district of Belfast constitutes basically the city itself and although Londonderry district is much more rural, 98 percent of all incidents from 1969–1978 and 100 percent of all incidents from 1979–1988 in that district occurred in Londonderry town according to Facts on File data. To account for this cultural dimension, a separate correlation run was used which did not include these two districts. For this reason, two correlations were made resulting with the following \( r \) values (Table 1). In Table 1, Cath71 refers to percentage of Catholics for 1971; Cath81 the percentage of Catholics for 1981; Cathch the relative change in Catholic distribution; Terr71 the terrorist activity for 1969–1978; Terr81 the terrorist activity for 1979–1988; and Terrch refers to the relative change in terrorist activity.

To fully understand if a correlation exists, probability levels are calculated. To do this, z scores from the above val-
Figure 7. Relative change in terrorist activity (Facts on File Inc. 1969–1988).

TABLE 1
Correlation Matrix of R Values:
Catholic Distribution vs. Terrorist Activity

<table>
<thead>
<tr>
<th>Using all districts:</th>
<th>Terr71</th>
<th>Terr81</th>
<th>Terrch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cath71</td>
<td>.589</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cath81</td>
<td></td>
<td>.758</td>
<td></td>
</tr>
<tr>
<td>Cathch</td>
<td></td>
<td></td>
<td>.274</td>
</tr>
</tbody>
</table>

<p>| Using all districts except urban Belfast and Londonderry: |</p>
<table>
<thead>
<tr>
<th>Terr71</th>
<th>Terr81</th>
<th>Terrch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cath71</td>
<td>.498</td>
<td></td>
</tr>
<tr>
<td>Cath81</td>
<td></td>
<td>.771</td>
</tr>
<tr>
<td>Cathch</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
TABLE 2
Probability Values of the Correlation Matrix:
Catholic Distribution vs. Terrorist Activity

<table>
<thead>
<tr>
<th>Using all districts:</th>
<th>Terr71</th>
<th>Terr81</th>
<th>Terrch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cath71</td>
<td>.997</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cath81</td>
<td>-</td>
<td>.999</td>
<td>-</td>
</tr>
<tr>
<td>Cathch</td>
<td>-</td>
<td>-</td>
<td>.829</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Using all districts except urban Belfast and Londonderry:</th>
<th>Terr71</th>
<th>Terr81</th>
<th>Terrch</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cath71</td>
<td>.983</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Cath81</td>
<td>-</td>
<td>.999</td>
<td>-</td>
</tr>
<tr>
<td>Cathch</td>
<td>-</td>
<td>-</td>
<td>.970</td>
</tr>
</tbody>
</table>

ues are taken and then converted to probabilities (Table 2).

As determined from the table, there is strong support that terrorist activity is correlated with the population distribution by religious affiliation. When all the districts are included for correlation, there is an 83 percent chance that correlation exists between the change in the Catholic population and the change in terrorist activity. However when investigating only the rural counties, the probability becomes even higher, 97 percent. This suggests changes in activity are occurring. Along with changes in population distribution by religious affiliation, terrorist activity is migrating towards the border districts and away from the strong Protestant areas.

CONCLUSIONS

The problem of Northern Ireland in relation to the population distribution is a basic issue that takes on a new meaning when looking at it in a geographic framework. Strong correlations were shown when comparing the population distribution by religion to the terrorist activities. This paper relates the two variables in a spatial concept by demonstrating that terrorist activity has shifted away from the two major urban districts and has moved to the Catholic concentrated areas along the border.

REFERENCES


Compton, P. A. 1982. The Demographic Dimension of Integration and Division in Northern Ireland. In: Integration and Division: Geographical Perspectives on the Northern Ireland Problem. (ed. by Boal F.


