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Internal migration in Northern Ireland: Are people becoming more stuck in place?

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Abstract

The analysis uses the Northern Ireland Longitudinal Study to explore migration trends from 2001 to 2015. Its contributions are to extend this analysis to the period after the 2011 Census, to use administrative data to measure migration not as a transition between places but as (potentially) multiple events over the full 2001–2015 period over different distance bands, to add to the UK evidence base on internal migration trends, and to show how long-term trends appear to override economic cyclical effects. The results show that internal migration rates over all distance bands fell from 2001 onward, continuing a decline in migration between Super Output Areas recorded since 1981, the first date for which there are data. This indicates that Northern Ireland, despite its unique political and social history, has not been immune to the long-term migration decline observed elsewhere in Great Britain and other countries such as the United States. The only caveat to this is that when moves from Northern Ireland to other places are included in the long-distance band of 50 km or more then long-distance migration returns to near its 2001–2003 level by 2013. The analysis also shows that the same personal characteristics as elsewhere are related to different frequencies and distances of moving.

KEYWORDS

internal migration, longitudinal analysis, migration, migration decline, distances

1 | INTRODUCTION

There is growing empirical evidence that internal migration rates have been falling in many high-income countries in different world areas (Champion, Cooke, & Shuttleworth, 2018). This decline has also been documented in England and Wales (Shuttleworth, Cooke, & Champion, 2018) and Scotland (McCullum, Ernssten, Feng, & Everington, 2020). It has also proved possible to take a UK-wide overview using aggregate data (Lomax & Stillwell, 2018), but so far there has been no analysis specifically on Northern Ireland (NI) using micro-data that complements the previous work using the Scottish Longitudinal Study and the Office for National Statistics Longitudinal Study

just noted. The aim of this paper is to fill this gap by describing and analysing internal migration trends in NI, considering the Northern Irish experience in the context of falling internal migration in many countries, and to explore how far post-2001 annual migration levels have continued to fall and whether the 2008 Great Recession has reinforced this trend. For this, the Northern Ireland Longitudinal Study (NILS) is used. As a data resource that links census and administrative data, it has the merits of permitting individual-level analysis of migratory behaviour and migration trends.

Besides extending the UK evidence base, NI is of interest for other reasons. It is unique in many respects given its history of civil and residential conflict from 1969 in The Troubles and its diverging

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trajectory within an increasingly devolved United Kingdom, which has seen the decentralisation of some powers. However, at the same time, it shares many features in common with other advanced economies such as counterurbanisation, deindustrialisation, occupational shifts, ageing, and growing levels of education, all of which influence migration rates (Green, 2018) over longer-term periods of 30 or 40 years. This combination of uniqueness and shared common factors makes NI an interesting case study to examine how general the decline in internal migration might be. There is also considerable interest in understanding how mobile the country's population is against the background of changing levels of residential segregation and in meeting the aspirations for a society that is more mixed in religious as well as on other social and economic dimensions than it is currently (Northern Ireland Executive, 2013).

The paper builds on previous work on migration rates in NI, which examined trends in people's propensity to move between decennial censuses over the period 1981–2011 (Campbell, 2018). It traces migration events taking place between April 2001 and October 2015, using administrative data from the healthcare system that provides details of people's addresses at six-monthly intervals, which are linked to data on people's characteristics drawn from the 2011 Census to see if the migration decline noted after 1981 continued after 2011 and whether economic and political shocks after 2001 influenced migration levels. It explores the correlates of moves over different distance bands and with different frequencies, and finally, it offers a direct comparison to the Scottish analysis of McCollum et al. (2020), which employs similar data and methods. Before the results are presented, they are contextualised by the next sections, which introduce the NI background, present the expectations from previous literature, describe the NILS data, and outline the methods used. The paper concludes with a discussion of its findings and their implications.

2 | NORTHERN IRELAND: UNIQUE OR NOT?

As just mentioned, it is tempting to view NI as being unique, at least in postwar Europe, because of its troubled political history, social divisions, and legacy of religion-based residential segregation (Shirlow & Murtagh, 2006; Shuttleworth & Lloyd, 2009). As its foundation during the partition of Ireland was based in large part on demographic considerations to ensure a Protestant majority, it is no surprise that population has become a highly political issue whether in terms of total numbers or geographical distribution (Anderson & Shuttleworth, 1998). Religion is a marker of British and Irish national identities in a geographical arena where neither British nor Irish state building has been wholly complete or successful. Three decades of civil conflict in the so-called Troubles from 1969 also set NI apart, as also do its current governmental arrangements based on the assumption of two voting blocks, British Unionists and Irish Nationalists.

This background, including the transition since the 1990s from explicit violence, cannot fail to have influenced internal migration rates over the long term, given the role of political violence and

intimidation in forcing people to change address as The Troubles developed in the early 1970s (Darby & Morris, 1974). It sets the scene for the decrease in migration observed between 1981 and 2011 presumably from higher levels of movement in the politically and economically turbulent 1970s, which in turn is the context for our post-2001 analysis. Other available indirect evidence suggests that migration rates were high in the later 1960s and early 1970s, with substantial local demographic changes occurring as a result (CRC 1971; Gregory, Cunningham, Ell, Lloyd, & Shuttleworth, 2013). A similar inference can be made from considering residential segregation rates, which, for example, increased markedly between 1971 and 1991 as the two communities drew apart but then remained steady between 1991 and 2001, with some evidence of a fall between 2001 and 2011 (Shuttleworth & Lloyd, 2009, 2013). The apparent fall in migration in more recent years could be read perhaps as a result of the start of the Peace Process or as a consequence of the same factors causing the migration decrease seen in other societies.

On the other hand, whilst there is a credible case to be made that NI is unique, it should not be pressed too far. NI does not exist in a bubble—it has also experienced many of the labour market, social and demographic changes that have been seen elsewhere in the United Kingdom, and, indeed with variations, in other high-income countries. It is not the intention to survey these in detail here but it is worthwhile noting that, just as elsewhere, there has been a decline in manufacturing jobs, growth in service employment, an increase in the proportion of the population with secondary and higher educational qualifications, and an increase in the population's average age (Rowland, 2019; Teague, 1993) all of which are compositional drivers of internal migration (Green, 2018). To these can be added geographical shifts in the population, notably a fall in the population of Belfast and particularly of its urban core (Gregory et al., 2013; Power & Shuttleworth, 1997), no doubt partly as a result of violence as noted above but also because of housing clearance/improvement and the move to suburbs and smaller settlements seen in other national contexts (Champion, 1989). In summary, there is enough to set NI apart as a special case, and thus a good test for the generalisability of the migration decline, but enough in common with other parts of the United Kingdom (and other countries too) to make useful analytical comparisons.

3 | EXPECTATIONS AND EVIDENCE FROM THE EXISTING LITERATURE

It is unnecessary to review the whole literature on declining rates of internal migration *ab initio* as this is done elsewhere (Cooke, 2011; Champion et al 2018), but it is useful to reflect on the social and demographic correlates of migration as it is through changes in the composition of a population in terms of these that a start can be made on analysing temporal trends in migration rates over the long term. Green (2018) provides a comprehensive review of population changes and their expected impacts on aggregate migration levels, with key features including population ageing, rising educational levels,

increasing home ownership, rises in the numbers of single and divorced people, and a variety of changes in the labour market. To these might be added technical factors, such as internet use, and cultural preferences such as Cooke's (2011) "secular rootedness." The longer the analytical time period, the bigger these changes will be and the greater their effect, although compositional changes should have some effect over the 14-year period between 2001 and 2015 of the analysis in the present paper.

As regard ageing, the expected effect would be to decrease migration rates, everything else being equal, because older people tend to move home less frequently. Therefore, a growing proportion of older people will shift the population into less migratory age groups and will tend to force migration rates down. The growth of owner occupation and decline in renting in the housing market will also push migration rates down, because renters tend to be more mobile than owners but the increase in private renting since 2001 might increase migration propensities.

The other two changes suggested above would tend to act to increase migration rates. More educated people tend to move more over longer distances, and hence, the growth of the share of the population with school and postschool qualifications would be expected to boost longer-distance migration rates. The same outcome would also be forecast as a result of changes in relationship status—increased proportions of single and divorced people, who tend to be more spatially mobile than married people (Cooke 2008), should increase overall address changing and longer moves.

Labour market change might also be expected on balance to act to increase migration rates in the long term and to lead to higher migration in our analytical period. The number of jobs in NI steadily increased from 1991 onwards before being checked by the Great Recession but then resuming growth, and there has been a fall in the number of unemployed people since 2001 who are often less mobile—apart from in the immediate aftermath of the recession (Rowland, 2019). At the same time, there has been a historical sectoral move away from older manufacturing industries such as shipbuilding towards service employment, which has been matched by occupational shifts to service-type jobs. These developments might be expected to increase migration rates as the share of people with characteristics associated with higher rates of migration has grown into the 21st century (Green, 2018).

The factors that are less easy to hypothesise about are those specific to NI. The ending of the Troubles and the transition to peace may have acted to reduce migration as fewer people were compelled to move. Moreover, the net fall in Belfast's population, which was mostly between 1971 and 1991, seems to have ceased in later decades, and segregation grew from 1971, peaked in 1991, and was thereafter stable or falling, reinforcing the impression that NI's population was more dynamic and mobile before the 1990s than since then. On the other hand, the transition to peace in the 1990s, coupled with growing affluence, might have served to release pent-up demand for moving home and thereby increase address changing rates.

Evidence on longer-term trends is available from Campbell (2019) arising from previous work on the NILS. This showed a progressive fall

in the rate of NI's internal migration since the 1980s. Whereas 42% of NILS members aged 25–74 in 1981 and who also had a census record in 1991 had moved between Super Output Areas (SOAs) over the decade, the proportion of the equivalent population in the intercensal decade 1991–2011 was just 36% and it fell further to 34% in the 2001–2011 period. There are 890 SOAs in NI with an average population of around 2,000 people. It was also found that the majority of this 8 percentage point decline between the 1980s and the 2000s was attributable to changes in migration behaviour, with only a very small proportion (less than one-eighth) being explained by changing population composition. In this latter regard, it would seem that population ageing and changes in housing tenure that tend to pull migration down (for example, shifts towards older people and away from renting) have over this longer term tended to offset the effects of the sorts of changes that would tend to push migration rates upwards (such as the increase in single and divorced people). Increased higher educational participation probably had an upwards effect but was not analysed because of difficulties with the education variables in 1981. This finding—that migration rates have fallen at least at one spatial scale (that of the SOA)—meshes well with circumstantial evidence about what is known about the NI's population from the other perspectives noted earlier. For instance, the large increase in residential segregation between 1971 and 1991 (Shuttleworth & Lloyd, 2009) implied substantial migration as a contributing factor as did the large population losses from inner-city Belfast and indeed from the city as whole (Gregory et al., 2013; Power & Shuttleworth, 1997), whereas the relative stability in residential segregation in 1991–2001 and small declines since 2001 suggest less intense population movement.

The analysis builds on this foundation. Firstly, it seeks to evaluate whether the decline in internal migration noted in NI since the 1980s continued after 2011. Secondly, it assesses whether major economic and political shocks to NI since 2001 such as the Great Recession and the Flags Protest (this, starting in December 2012, centred over the flying of the Union Flag over Belfast City Hall, led to street protests, and a worsening of community relations) had any impact on annual internal migration levels. Thirdly, it considers the individual and geographical determinants of address changes over different distance bands and whether migrants who leave NI significantly alter our understandings. Finally, it adds to the comparative migration literature through an analysis similar to that in Scotland by McCollum et al. (2020) thereby also helping to demonstrate the effectiveness of the UK census longitudinal studies for migration research.

4 | USING THE NILS TO ANALYSE MIGRATION

NILS is the only source that has sufficient detail to answer the questions set out in the previous section. This dataset is based on the routine linkage of records from NI's healthcard register to census and administrative data such as that from the Valuation and Lands Agency. The healthcard register is nearly universal and includes anyone registered with the National Health Service at a doctor's practice. It

captures address changes, from 2001, as they are reported to health professionals—it is essential to provide either a new or updated home address when registering with a doctor, getting treatment, or receiving a prescription. Moves from NI are captured by deregistrations, moves to there by new or re-registrations. Some demographic groups (for example young men) lag in reporting address changes (Barr & Shuttleworth, 2012) but most update their records after a delay (Foley et al 2017) and, when assessed, migration statistics drawn from administrative sources are closely comparable with those from the census in which they are self-reported (Foley, 2017). This permits migration to be measured as a series of multiple events for any one individual, with a maximum of one move for each 6-month period. Furthermore, since house locations are georeferenced very accurately, it is possible to calculate the precise distances moved. For the purposes of this paper, the distance variable was categorical since a precise individual distance of move was judged to be disclosive. These categories were aggregated to give those used in the paper.

The NILS comprises an approximately 28% sample of the NI's population (drawn from a random selection of 104 birthdates), which translates to a sample size of between 450,000 to 500,000 individuals at any single time point but cumulatively far more if the total is reckoned as anyone who has ever been a NILS member. The NILS is linked to the 1981, 1991, 2001, and 2011 Censuses and holds vital and migration events after 2011 used for this particular analysis. A full range of individual census variables are available for each NILS member, but there is also census information available for other household members. Since the NILS contains individual- and household-level microdata from multiple censuses and administrative sources, the data can only be accessed by accredited researchers in a secure and supervised data laboratory in the Northern Ireland Statistics and Research Agency (NISRA).

These detailed data on internal migration are conceptualised in two ways in this study; as binary (any address change as opposed to no address change) and then as a multiple category variable (moves of less than 10 km, moves of 10–50 km, and moves of 50 km or more [with or without emigration from NI]). NI is relatively small geographically—some 160 km from east to west—so sample members who left NI were included as the equivalent of longer-distance moves as, for instance, those between regions in England and Wales or as longer moves in Scotland. Around 75% of moves outside NI were to other parts of the United Kingdom at the start of the period, this proportion falling towards its end but remaining at over 50% and including an unknown share of movers within the island of Ireland and who crossed the border. This variable, along with all address changes, is our main focus. Apart from one important exception—see below—the results were the same whether or not moves to locations outside NI were included in the more than 50-km category.

There are some caveats. To preserve confidentiality, a continuous distance measure was not provided; instead, category data were recoded as described above. Administrative datasets are also subject to cleaning and updating. In this case, 2012 saw many more moves reported than other years because of a concerted attempt to revise the healthcard register. This is acknowledged and, in the later

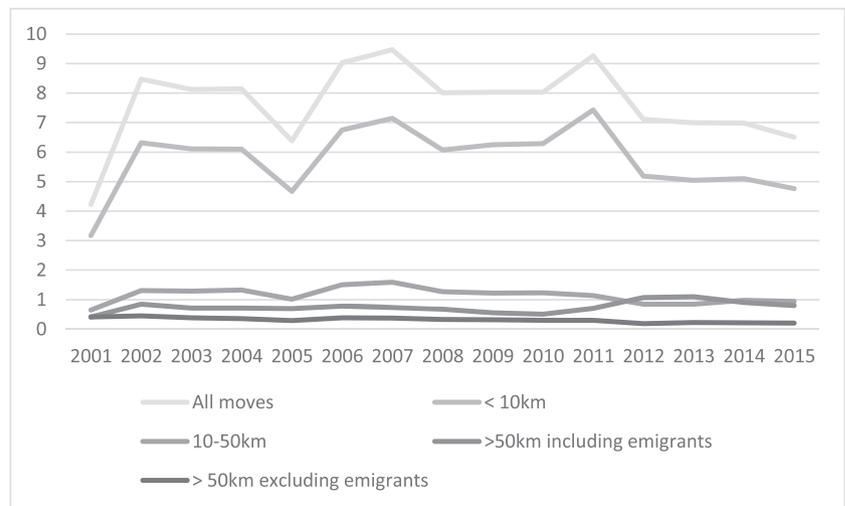
quantitative analysis, dealt with by a year dummy for April and October 2012. The sample used was for NILS members aged 16–64 in 2011 and possessing a census record in that year, and whose georeferenced location in 2011 in the healthcard register and census matched at the time of the census or within 6 months of it. On the basis of these criteria, there were approximately 252,000 sample members. Note that this sample would be aged 6–54 in 2001 and would be 20 to 68 years old at the end of our reference period in 2015.

The selection of independent variables for inclusion in the analyses was informed by pragmatic considerations of what was available in the census and also by reference to the literature and past precedent (see Shuttleworth et al 2019; Cooke, 2011). They comprise age, gender, religion, socio-economic status, economic activity, health, education, and SOA social deprivation. There is a problem that is common to all analyses of this kind, which arise from the capture of the independent variables from a census. Many of the explanatory variables (e.g., education, health, housing tenure, and economic activity) naturally vary through time as people fall ill, become healthy, or move house. However, we only know the status of sample members every 10 years when a census occurs so these have to be treated as time invariant. Taking the 2001 Census as the source for our explanatory variables was considered, as was measuring individual transitions between 2001 and 2011, for example in education. However, with the analytical period running forward to October 2015, the 2001 Census would be very dated as would any 2001–2011 transition, so the pragmatic choice was made to take the independent variables from the 2011 Census. These are therefore taken as fixed in 2011 for each person, so the model results for variables that might be expected to change over time in unpredictable ways, especially for migrants, like housing tenure, relationship status, and of course type of residential area (urban/rural, area deprivation level), must be treated with caution. Finally, time dummy variables are used to measure the all-important aspect of temporal variation. For comparability with McCollum et al. (2020), the same time dummies of 2001–2003 (reference category), 2004–2006, 2007–2009, 2010–2011, 2012, and 2013–15 are used with the exception of 2012, which was, as noted above, a year with administrative updates.

5 | RESULTS

The results of the first stage of the analysis is set out in Figure 1 and Table 1, which show, respectively, the annual rate (aggregated from the six-monthly data) of address changes by distance band between 2001 and 2015 for all NILS members, and the demographic characteristics of the analytical sample with selected different migratory profiles. On this basis the total address changing rate starts at about 4.2% for the first half-year period and then fluctuates between 6% and 10% for whole years—remember this may also record two moves by the same person in a single year—peaking in 2006/2007 at a time when the NI housing market was buoyant but falling afterwards despite a small increase in 2011. Barring this peak, the overall trend

FIGURE 1 Annual migration rates, 2001–2015 (percentages), for the Northern Ireland Longitudinal Study (NILS) sample aged 16–64 in 2011, by distance band. Source: NILS, own calculations



Source: NILS, own calculations

for migration within NI appears stable or perhaps slightly declining but with the important caveat that, when migrants who leave NI are counted in the greater than 50-km category, this rate increases towards the end of the period. However, there are limits to the conclusions that can be drawn from visual inspection of this figure; aggregate annual migration rates may alter, for example, because of economic and political events/shocks or else the continuation of longer-term trends.

Two important initial points to note, before turning to Table 1, are that few people have high numbers of multiple address changes; most people do not move at all or only change address once or twice (Foley, 2017) and those who do move seldom move over great distances. Bearing in mind the outcome variable that is the focus for later quantitative analysis (no moves, moves of less than 10 km, moves of 10 to 50 km, and moves of more than 50 km excluding or including people who leave NI), it was possible to create a typology of migration trajectories when a sample member changed address. There were a vast range of possible migration sequences, and it was simply impossible to tabulate them all so Table 1 shows the sample profile, that of members who did not move, those who moved more than once over 50 km (including leaving NI), and those who had two or more moves of less than 10 km. These were chosen on the basis of illustrating differences between different types of sample members' migratory profiles. The percentages sum to 100% vertically.

Table 1 shows that there are considerable differences in the demographic characteristics of the subgroups from the composition of the whole sample. For age group, nonmovers tend to be concentrated more in the older groups than the sample, whereas multiple movers—whether over long or short distances—tend to be younger. This accords well with what might be expected, and it is also worth noting the high proportion of long-distance migrants among those aged 16–25 in 2011 perhaps because of higher-education enrolment. There are interesting differentials by marital status with singles dominating the long-distance category of 50 km or more and the divorced and separated being

overrepresented in the multiple short-distance move category of 10 km or less. There are major differences by housing tenure; there are a high proportion of owner occupiers in the nonmovers group, but renters are overrepresented in the short-distance category and private renters in the long-distance group. In terms of religion, the demographic subgroup that really stands out is the one with no religion—this group forms a greater proportion of the long- and short-distance categories than proportionally in the sample, which is partly a result of its younger age structure. With respect to educational attainment, there seem to be few differences between no movers and the entire sample, but long-distance movers are more highly educated than the other groups and they also tend to be healthier. There are some geographical differences by migration trajectory—those who are frequent short-distance migrants tend to be concentrated in socially deprived places and towns, whilst long-distance migrants tended to be disproportionately drawn from the least deprived quartile of SOAs (in terms of their place of residence in 2011) as defined by the 2010 Measure Deprivation Measure. Some differences by NS-SEC are also apparent; professionals and students are concentrated tend to move longer distances, those in routine occupations more over short distances.

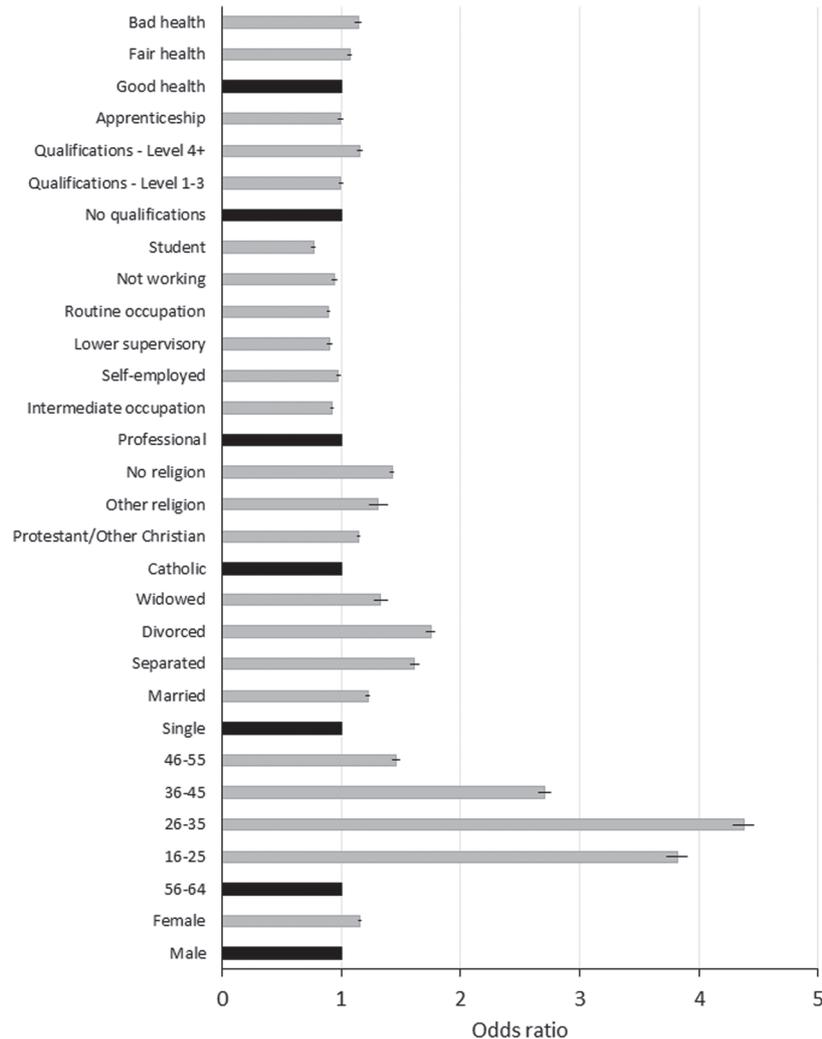
There are clear differences in the demographic profile of nonmigrants, migrants of different types, and the full NILS analytical sample. Looking first at the variables associated with all address changes, these are investigated via binary logistic regression in Figures 2a (for the individual-level results) and 2b (for the household and geographical results), which graph the results as odds ratios relative to reference categories. In this, sample members who leave NI are included within the outcomes variable along with those who migrate just within NI so it is *all* address changes that are the focus—although the proportions who emigrate are very small. Since time is the central focus of the paper, the analysis includes temporal dummies. The reference category is 2001–2003, with the other categories being 2004–2006, 2007–2009, 2010–2011, 2012, and 2013–2015. These categories were chosen to be comparable with those used in Scotland by McCollum et al. (2020) with the exception of the separate dummy for 2012. As mentioned earlier, the purpose

TABLE 1 Profile of analytical sample by selected migratory trajectories 2001–2015

Characteristics	All sample	No moves	More than one move >50 km and emigration	Two or more moves <10 km
Gender				
Male	46.56	48.97	46.15	40.56
Female	53.44	51.03	53.85	59.44
Age				
16–25	19.93	20.17	46.85	21.94
26–35	18.73	9.06	24.99	31.71
36–45	22.14	17.03	13.44	25.26
46–55	22.58	28.65	8.59	14.53
56–64	16.62	25.10	6.14	6.56
Marital status				
Single	38.92	36.90	68.99	45.55
Married	49.16	53.14	25.66	37.91
Separated	4.28	3.05	1.52	7.14
Divorced	6.01	4.78	3.20	8.34
Widowed	1.63	2.13	0.59	1.06
Housing tenure				
Owner occupied	75.33	86.20	78.26	49.66
Social rented	11.78	9.22	4.69	20.21
Private rented	11.45	3.40	13.99	28.61
Rent free	1.24	1.05	2.06	1.33
Communal establishment	0.20	0.14	0.99	0.18
Religion				
Catholic	39.83	41.81	38.68	38.30
Protestant	41.67	43.66	35.35	37.06
Other religion	0.78	0.66	2.20	0.97
No religion	17.71	13.88	23.77	23.67
NS-SEC				
Professional	24.49	22.55	28.15	20.98
Intermediate occupation	13.26	12.99	10.22	12.98
Self employed	10.60	11.42	6.20	8.18
Lower supervisory	6.62	6.69	4.21	6.70
Routine occupation	28.16	28.99	16.37	32.36
Not working	7.06	6.40	5.16	10.23
Students	9.82	10.96	29.68	8.56
Education				
No qualifications	22.16	25.45	8.93	22.32
Qualifications—Level 1–3	44.25	43.42	44.27	47.31
Qualifications—Level 4+	25.56	22.51	40.63	22.43
Other qualifications	8.03	8.63	6.17	7.94
Health				
Very good/good	80.27	79.04	91.41	78.78
Fair	13.96	15.00	6.44	14.50
Very bad/bad	5.77	5.96	2.15	6.72
Area deprivation—quartile (Q)				
MDM Q1 - least deprived	26.02	26.97	31.08	21.28
MDM Q2	25.39	25.83	26.73	22.40
MDM Q3	24.15	24.42	24.29	23.14
MDM Q4—most deprived	24.44	22.79	17.91	33.18
Area type				
Rural	33.91	36.51	34.15	22.43
Urban	66.09	63.49	65.85	77.57
Total	251,934	119,005	7,904	41,191

^aSource: NILS

(a) Individual characteristics



Source: NILS

FIGURE 2 Binary logistic results for all address changes, 2001–2015. (a) Individual characteristics. Source: Northern Ireland Longitudinal Study (NILS). (b) Household, geographical, and time correlates. *2005 Multiple Deprivation Measure quartile of Super Output Area. Source: NILS

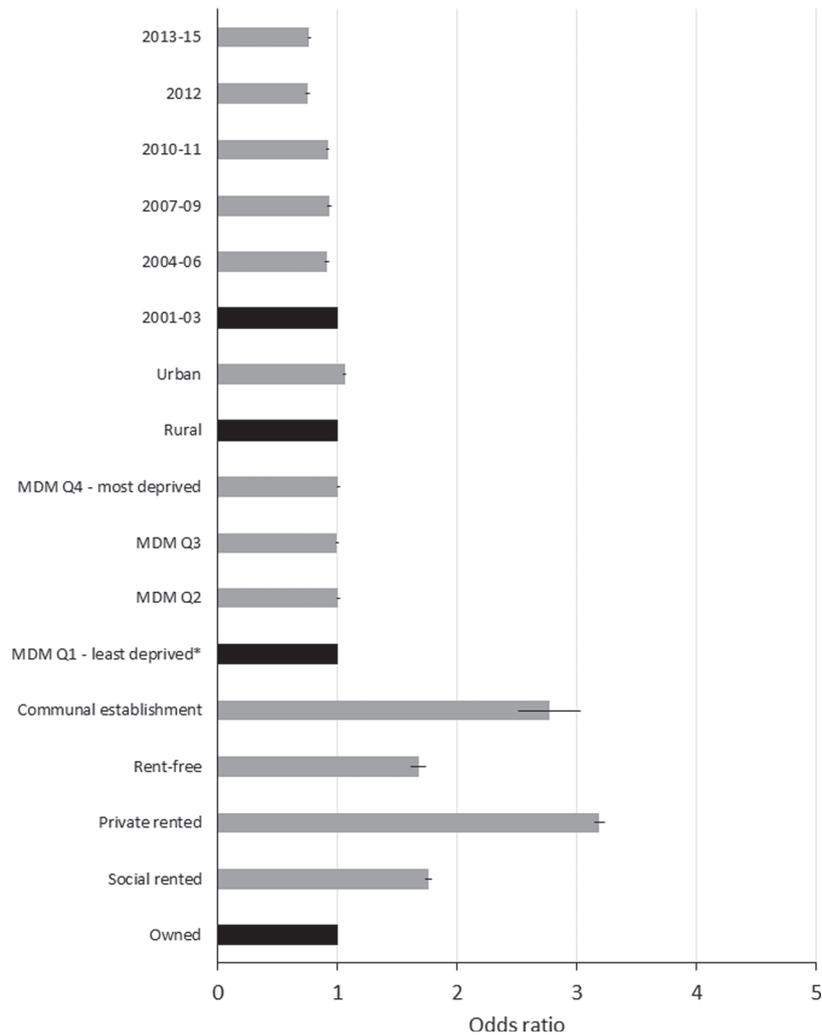
of the 2012 dummy was to take some account of various adjustments and updates of the healthcard register. The period 2007–2009 overlaps with the immediate onset of the Great Recession, and 2013–2015 follows closely on the Flags Protest that began in December 2012 and which led to heightened political tension and poorer community relations in 2013 and 2014.

Considering first Figures 2a and 2b—all address changes—there are large differences as expected by housing tenure with private renters and communal dwellers much more likely to change their address than owner occupiers. Communal establishments, in particular, are associated with mobile groups such as students. There are large individual-level differences in address changing by age, religion, and marital status, and some that are statistically significant (5% confidence lines are on the figure) but substantively smaller by education, NS-SEC, gender, and health. These all make sense in terms of the migration literature and are of the expected direction. There is good

evidence from the year dummies that there has been a continued decline in address changes of all sorts as compared with a 2001–2003 base. Differences appear to be minimal between places whether in terms of social deprivation or urban/rural in all address change rates after controlling for the other explanatory variables in the model have been made (urban/rural location is as recorded in the 2011 Census, social deprivation as measured by the 2010 Measure Deprivation Measure linked to 2011 SOA of enumeration), but there are clear temporal effects. This decline is statistically significant and indicates that controlling for individual situation and location in 2011 there has been an across-the-board fall in residential mobility in NI that follows on from the earlier decline noted by Campbell (2018).

Figures 3a and 3b show the results from a multinomial logistic analysis of moves by distance band (with emigration included in the >50-km band). Results excluding those who leave NI are presented in Figures S4a and S4b—they are largely similar with the one significant

(b) Household, geographical and time correlates



* 2005 Multiple Deprivation Measure quartile of Super Output Area
Source: NILS

FIGURE 2 (Continued)

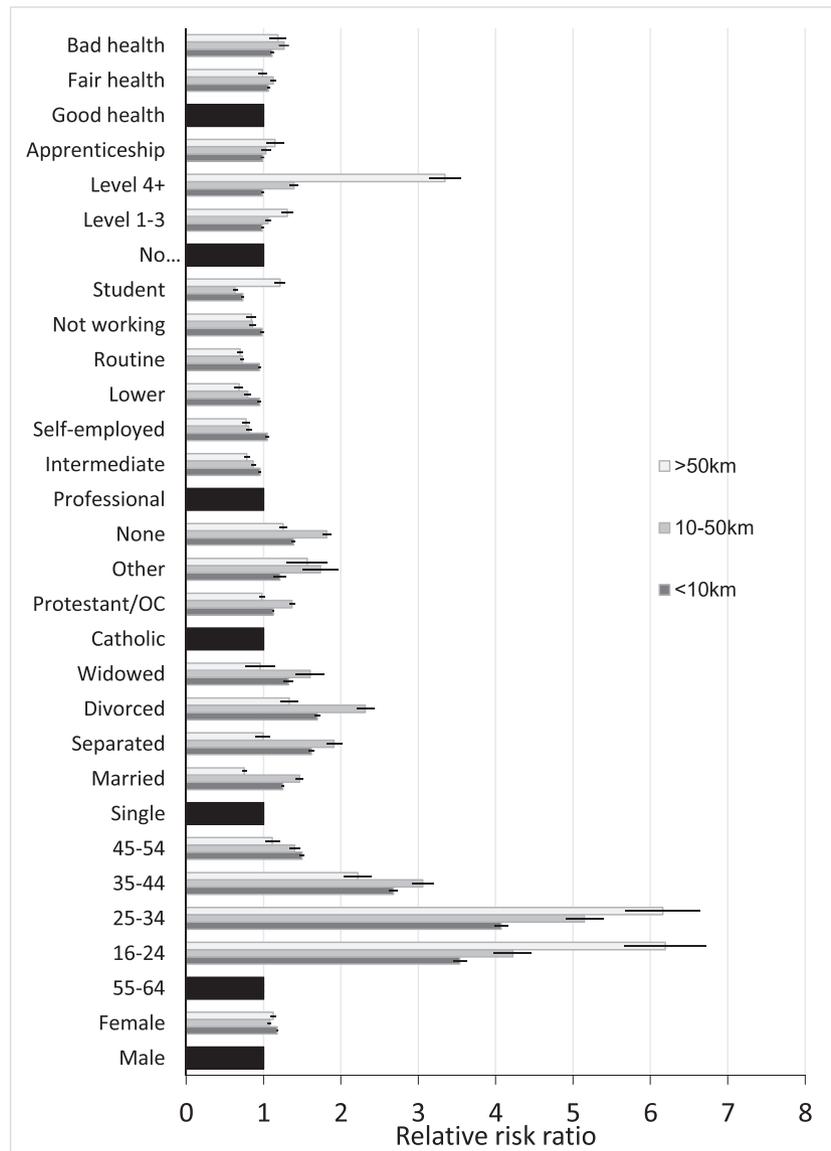
exception that in this case moves over 50-km fall through time. Care is needed in the interpretation of these results as they are compared against a reference category for the outcome variable—in this case no move—and also against the reference categories for each of the independent variables. This time, the results are presented as relative risk ratios. As before, there are 5% confidence limits on each bar in the chart.

Figure 3a demonstrates large differentials by age group with younger people being far more likely to move over all distance bands but especially the longest. Divorced and separated NILS members are also likely to move between 10 and 50 km and less than 10 km than those who were single, as were those with no or other religion. Those with Level 4+ qualifications (equivalent to degree level and above) were more likely to move more than 50 km. There are smaller differences by NS-SEC and health, which, though statistically significant, have less substantive importance. This latter analysis shows that there are differences in the demographic and social characteristics not

only between address changers and nonaddress changers but also between movers over different distance bands. These indicate that the experiences and motives of residential migrants are very varied and that the reasons and motives for why people move differ between distance bands (Niedomysl, 2011). Multiple short-distance residential moves of less than 10 km are associated with some degree of vulnerability, such as poor health and social deprivation (Tseliou, Maguire, Donnelly, & O'Reilly, 2016), whereas longer distance residential changes are associated with youth, employment, and higher education. This is what is expected from the extant literature; NI is not a place apart.

However, there are two features worthy of more comment. First is the difference by religion in internal migration behaviour; relative to Catholics, Protestants are more mobile for the less than 10 km and 10- to 50-km bands, and those with other/no religion are in turn more mobile than Catholics and Protestants. It is probable that since the other/no religion groups are relatively small, they might self-select

(a) Individual characteristics



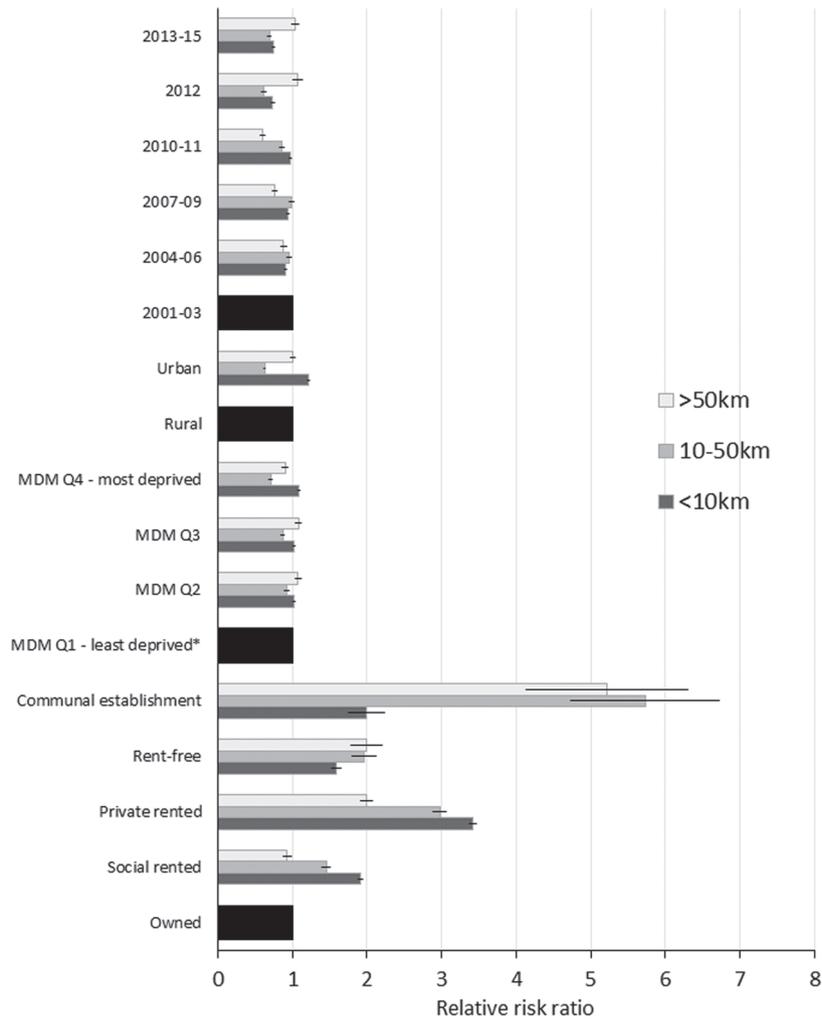
Source: NILS

FIGURE 3 Multinomial logistic results for address change, 2001–2015, by distance band (including emigrants in >50 km). (a) Individual characteristics. Source: Northern Ireland Longitudinal Study (NILS). (b) Household, geographical, and temporal characteristics. *2005 Multiple Deprivation Measure quartile of Super Output Area. Source: NILS

and be different from the rest of the population in their demographic and other (unobservable) characteristics. The remaining difference between Catholics and Protestants is intriguing, since in terms of characteristics observed in the 2011 Census, these groups are now very similar to each other in census categories such as housing tenure and educational attainment, (Rowland, 2019). This suggests that there are other factors at work—some perhaps social, others perhaps cultural—making Protestants more mobile than Catholics. Figure 3b tells us that the residents, in 2011, of the most deprived quartile of wards were less likely to be long-distance migrants and more likely to make moves of less than 10 km, as were urban dwellers and social renters.

As regard the temporal variables, there are statistically significant decreases across all distance bands until 2011 with a fall in migratory moves of 50 km or more being especially large in 2010–2011 as seen in the figures that have been presented. Thereafter, the number of these movers is not significantly different from the 2001–2003 reference period although the number of movers who make address changes of 50 km or less remain well down on this benchmark. This suggests that a post-2001 residential migration decline occurred across all distance bands until 2009, with some recovery after that at the longest (>50 km) distances (when including those leaving NI), but that continued falls in the numbers of people changing address within NI in the less than 10 km and 10- to 50-km bands have acted to

(b) household, geographical and temporal characteristics



* 2005 Multiple Deprivation Measure quartile of Super Output Area
Source: NILS

FIGURE 3 (Continued)

reduce the number of all address changes. It is difficult to explain the recovery in moves of more than 50 km when including emigrants, but this might have arisen because of a growth in moves to the rest for the United Kingdom as the latter moved out of recession. It is interesting to contrast this with the analysis where emigrants—see Figure S1—are excluded since in this case moves of more than 50 km remain depressed suggesting a continued decline in internal migration within NI but not of migrants leaving NI.

6 | DISCUSSION

Looking back to the research themes identified earlier in the paper, the analysis of the 2001–2015 period suggests that the migration decline that started in 1981 as noted earlier (see Campbell, 2018)

continued not only through the first decade of the 21st century but also into its second. According to the results of the binary logistic analysis of all address changes, the rate fell for each of the time periods, with NILS sample members being only three quarters as likely to move in 2013–2015 than in 2001–2003. This is a substantial decline. Economic uncertainty following the Great Recession of 2008 may be part of the explanation, but the decline in internal migration predates this and also continued during the subsequent economic recovery.

These patterns are like those seen in Scotland, using similar data (see McCollum et al., 2020), but there are differences in what has been seen in NI by distance band of move. Like Scotland, there were rate declines across the short- and medium-distance bands and these would have the greatest numerical importance as most NI residents move only over short distances. Unlike the Scottish example, the

decline in migration was over the whole 2001–2015 period, and also unlike Scotland, there are signs that longer distance moves (where address changes of more than 50 km are merged with moves leaving NI) recovered to their 2001–2003 levels. There is, however, one important qualification to this. When moves to places outside NI are excluded from the more than 50-km category, rates across all distance bands in 2013–2015 remained beneath their 2001–2003 levels. This shows that internal migration with origins and destinations within NI has decreased and people are moving less than in the past. However, including emigration from NI, long-distance migration grew at the end of the period, implying that interregional migration within the United Kingdom and/or international moves have increased. It is unknown from the NLS where NI residents who leave NI go but some may truly be emigrants to other countries. The available evidence from NISRA suggests that at the start of the period, about two thirds of leavers went to elsewhere in the United Kingdom and about one third to other countries but by the end of the period the division was nearer 50/50 so interregional migration within the United Kingdom has some explanatory importance. There is, however, a consistent decline in migration *within* NI.

The second research theme was concerned with the identification of possible effects on the NI migration rate of economic and political shocks such as the Great Recession of 2007–2008 and the Flags Protest of 2012. The analysis of the NLS data does not reveal anything associated with these years. There is a general and long-term trend of decline—excluding migrants who leave NI. This does not necessarily rule out the sensitivity of migration to political events or economic cycles in this case, but it does suggest that the size of any such effect is insufficient to be seen against a general downward trajectory and presumably deeper and longer acting causes. This accords with recent findings from the United States (Molloy and Smith 2019), which suggest that economic cyclical or other short-term effects have less influence on aggregate migration rates—perhaps because of the greater stickiness of people in place, which means that they become less sensitive to migration drivers than might have been the case in the past.

The third research theme was concerned with the individual and geographical correlates of moving over different distance bands. In this regard, the analysis indicates that the demographic factors associated with internal migration in NI are similar to those noted in the literature elsewhere (Green, 2018). In itself, this remark is unexceptional, but it does serve as an antidote to the assumption that NI is unique and utterly unlike elsewhere. In fact, both in its internal migration decline and in the drivers of its migration noted above, NI is just like many other places. The variables with greatest importance on whether someone moves or not are age and housing tenure. The largest effects, differentiating movers by distance band, in rank order of size are age, education, housing tenure, and marital status. Of course, the legacy of conflict and communal division does make NI different from most other comparable societies, notably in the importance of religion as a driver of migration and in the political interpretations of changing population geographies.

In this context, it is worthwhile drawing attention to the result that other religions and those with no religion are more migratory

than Catholics and Protestants, and after controlling for population composition and location, that Protestants are significantly more likely to change address than Catholics. The causes of this require further investigation as it implies that there are unobserved differences between religious denominations not accounted for by the models. These unmeasured differentials might include characteristics such as place satisfaction, community ties, the legacy of past discrimination, or something entirely different. Besides raising questions about the cause of these differences, it would be interesting to know whether this is a phenomenon specific to NI or something that might be detected in other parts of the United Kingdom where religion data are available. The outcomes of changing address (or not) are also worth exploring against the backdrop of residential segregation. Shuttleworth et al (2013) concluded that not enough people were changing address and then moving far enough to reduce (or increase) segregation between 2001 and 2007. This suggests that the desire to create more mixed neighbourhoods and to reduce the current geography of residential segregation could easily flounder given the continuing decrease in address changing that has been observed in this analysis which is very likely to mean that more people remain in place.

The analysis also shows that there are no differences in address changing between SOAs in terms of social deprivation; residents of the most deprived quartile in 2011 were just as likely to have moved than those of more affluent SOAs. However, there are some differences in the distances that are moved by the residents of neighbourhoods at different rungs on the social deprivation ladder. Compared with the reference category of the least deprived quartile, residents of the most deprived SOAs are less likely to make medium-distance moves and longer-distance moves of 50 km or more (including emigration). This suggests that socially deprived people tend to make shorter-distance moves than others and that perhaps they do not avail themselves of the full range of regional opportunities. This indicates some degree of possible entrapment because of a greater localisation of those from more socially deprived areas unless some people choose to stay in place. The importance of migration is apparent in Shuttleworth et al (2013) where longer-distance moves are needed to effect substantial moves up or down the social deprivation and religion hierarchy of places.

The fourth and final research theme concerned the comparison between NI and Scotland. There are many similarities in the individual factors associated with migration, but there are differences in the temporal trends observed with NI's continuous decline (especially when leavers are excluded). It is worth noting, however, that the relationship between neighbourhood social deprivation noted in NI is different from that observed by McCollum et al. (2020) in Scotland and that there is no clear gradient across the different distance bands along the quartile ranking and that the results are sensitive to whether those who leave NI are excluded or included. The descriptive statistics suggest, however, that frequent short-distance moves of less than 10 km are associated with personal disadvantage (see Table 1, final column) in health and housing tenure and being in an urban SOA in 2011 and also in the most deprived quartile. This implies that multiple short-distance

address changes can be a mark of social deprivation and disadvantage, but the frequency of address changing by individuals and why this might be needs further probing.

7 | CONCLUSION

The paper builds on the contributions of McCollum et al. (2020) and Campbell (2018) by using administrative data alongside census data, thereby permitting geographies to be used independent of official statistical output units, after the 2011 Census. Furthermore, it allows migration to be described and modelled as a series of events—the multiple moves that any NILS member might make—rather than as a single transition between time T and time $T + 1$. In this, and its updateability on a six-monthly basis, the NILS data offer a fresh perspective on migration. This adds to the cross-UK evidence base, and it also offers an analysis that is similar to that undertaken by McCollum et al. (2020) using the Scottish Longitudinal Study for Scotland. Its findings, and the wider background back to 1981, show that internal migration in NI has fallen over the long term as it has in other countries (Champion et al 2018). In this NI appears not to be immune from the broader social trends seen elsewhere. This is also true when the correlates of address changing and of moving different distances are modelled. The Great Recession, and indeed the various political events noted after 2001, does not seem to have had any impact on the address changing or distances moved; the longer-term trend for decreases in between SOA moves that started in 1981 seem mostly to be also observable for different distances of move and to continue after 2011. Either our data or analyses are not sensitive to detect their effects, or longer term forces have proved more important, or their impacts have been manifested in other ways, possibly in the destinations to which migrants move/do not move when they change address. Despite this insensitivity to political events, religion remains important as a correlate of migration and, as indicated earlier, this raises questions about why and how this might be. Some of these questions could be addressed with more years of migration event data, but others will require primary data collection to provide answers and yet others from more in-depth analysis of existing NILS data to deal with issues such as the implications of individual religion and neighbourhood characteristics for migratory behaviour.

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NOTES

¹<https://www.nisra.gov.uk/publications/long-term-international-migration-statistics-northern-ireland-2018>, accessed 15/02/20

²The reduction noted between 2001 and 2011 is likely to be a result of (a) in situ natural increase/decrease, (b) immigration from outside Northern Ireland, (c) changes in self-reporting of religion, and (d) greater integration

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