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A Daughter to ELSI – NILSI: A Northern Ireland Standard of Living Index or Problematising Wealth in the Analysis of Inequality and Material Well-being

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When the measurement of inequality is being considered in Ireland and the UK the poor and socially excluded are routinely the focus of debate. Building on methodology developed in New Zealand this paper outlines the development of a more wide ranging approach through the construction of a Northern Ireland Living Standard Index (NILSI). It then utilises this tool to explore dimensions of inequality in Northern Ireland and present findings on the living standards of different subgroups.

Introduction

In 1999 the New Zealand government established the Super 2000 Taskforce to inform the development of policies relating to older New Zealanders. Although the Taskforce was later disbanded, the research it initiated led to a programme of work within the Ministry of Social Policy, subsequently the Ministry of Social Development, which diverged significantly from the approach to the measurement of social advantage and disadvantage in Ireland and the United Kingdom. Whereas in the latter the focus has been mainly on the poor and socially excluded (see for example, Mack and Lansley, 1985; Callan *et al.*, 1993; DSS, 1999; Gordon *et al.*, 2000; Layte *et al.*, 2000), in New Zealand the focus has been on measuring the living standards of both the poor and the better off. The work began with the Super 2000 Taskforce commissioning a new survey in order to measure the living standards of older New Zealanders (Fergusson *et al.*, 2001). A key feature of this work was the development of the Material Well-being Scale, which provided a method to score all older New Zealanders based on their standard of living. The methodology was subsequently developed to construct the Economic Living Standard Index (ESLI), which was used to measure the living standards of all New Zealanders in 2002 and again in 2004 (Krishnan *et al.*, 2002; Jensen *et al.*, 2002; Jensen *et al.*, 2006).

In 2002, the Office of First Minister and Deputy First Minister in Northern Ireland (OFMDFM) and Her Majesty's Treasury funded a study of Poverty and Social Exclusion. Using the same methodology developed in the Poverty and Social Exclusion Survey in Great Britain (Gordon *et al.*, 2000), the key objective was to provide income and deprivation measures on the nature and extent of poverty in Northern Ireland (Hillyard *et al.*, 2003). A further objective of the study was to explore the possibility of moving beyond a focus on the poor to a focus on the living standards of the whole population of Northern Ireland using the New Zealand methodology to produce a Northern Ireland

Living Standard Index (NILSI). This paper describes the development of NILSI and presents findings on the living standards of the different groups in Northern Ireland.

Construction of the standard of living index

The New Zealand study set a number of key requirements for its living standard index (Jensen *et al.*, 2002: 17), which we have also adopted. The most important requirement of the measure is that it should be based on non-monetary indicators. Second, it should be uni-dimensional and continuous, valid and reliable. Third, the tool should be readily understood and the scores have immediate meaning. In addition, it should be able to discriminate across the whole population and must allow for comparisons between different groups. Moreover, it should permit monitoring over time. The key requirement that it should be based on non-monetary indicators was stimulated because of the need for a direct measure of standards of living. While income is widely used, it is only an indirect measure, although a key factor in determining people's standard of living (Ringen, 1988; Nolan and Whelan, 1996). Our aim was to construct a measure based on a number of different aspects, such as possessions, social participation, economising and subjective views, which would reflect directly a person's standard of living.

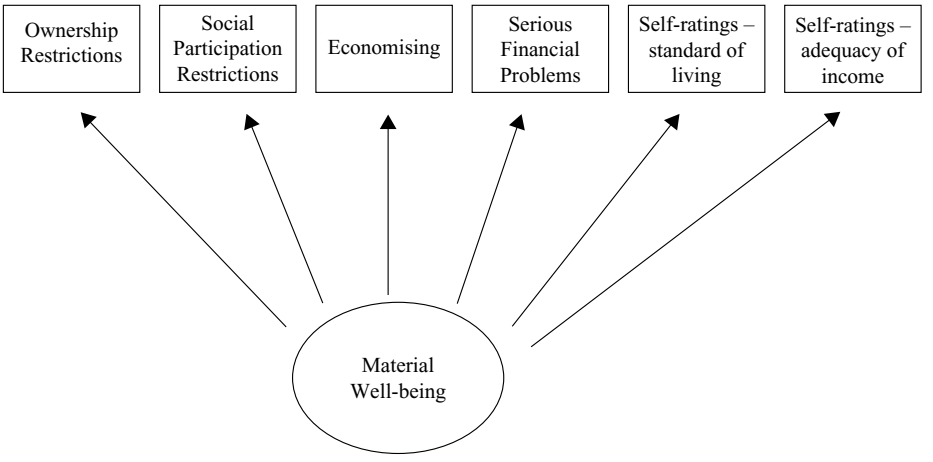

Figure 1. Conceptual model of material well-being.
Source: Fergusson *et al.*, 2001, p. 67.

The conceptual model depicting the underlying latent variable (Muthen, 1989) – overall material well-being – was initially developed by Jensen *et al.* (2000) in New Zealand and is shown in Figure 1. The model assumes that the overall material well-being of the person or household is reflected in each of the observed domains. The unit of analysis for the construction of the index was the household. For each household, one member, who could be either male or female, served as the informant and was asked to supply information on all the items, activities, subjective views and other details used to construct the index. All the information collected for the initial analysis covered six domains: Ownership restrictions, Social participation, Economising behaviour, Financial problems, Self-assessment of standard of living and Self-assessment of adequacy of income. For the first two domains, people were asked what items they already had

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or wanted but could not afford (i.e. whether or not they had an 'enforced lack' of a particular item). For economising behaviours, respondents were asked to state how often ('often', 'sometimes', 'never') they economised on particular items and activities. Financial problems were dealt with through a series of questions covering borrowing behaviour and extent of indebtedness. The Self-assessments covered people's views on their standard of living (5-point scale), the adequacy of their income (3-point scale) and their satisfaction with their standard of living (5-point scale). Table 1 notes the items used in each domain and, for comparison, the items used in the construction of the ELSI scale.

Validity and reliability of the scale items

Variations in the subscale measures (domains) were calculated using an unweighted sum of items (Fergusson *et al*., 2001: 71). Each candidate item (e.g. 'can't afford an annual holiday') for inclusion in the domain subscale was then tested to check that it was valid. This was done by testing it against a number of other variables, which were not used in the index and calculating the correlation (odds ratio) between it and the test item. The six test items used were: 'Never' worried about finances, 'A lot above level' of income needed to keep household out of absolute poverty, 'Excellent' self-rated health, 'No' long-standing illness or disability, 'Degree level/higher education' as highest educational attainment and 'Worked last week' as reported employment status. These variables have been shown to be robust measures of criterion validity (Pantazis *et al*., 2006), as evidence suggests that objective measures of poverty are related to subjective opinions of 'state of poverty' (Townsend *et al*., 1997; Gordon, 2006), that poverty causes ill health (Shaw *et al*., 1999; Davey Smith and Gordon, 2000), and that poverty is linked to lower social economic groups (Townsend, 1979; Layte and Whelan, 2002) and employment status (Jenkins and Rigg, 2001; Bailey, 2006). Cronbach's alpha was used to test for reliability. It measures how well an item correlates with the sum of the remaining items and conventionally values of alpha of 0.8 or above are taken to indicate that a scale is highly reliable.[1]

Table 2 presents a summary of the validity and reliability analysis for the initial test of items in each subscale measure. Individual items were retained for the final scale if there was strong evidence suggesting that they were either valid or reliable. For our purposes, an item was excluded from the aggregated indicator if it could not to be shown to be significantly related to one of the test measures, could not be calculated due to low cell counts and/or its removal increased the scale's overall reliability. Using these criteria, we subsequently dropped television, fridge, microwave oven, boat, second/holiday home, pet, dictionary, vacuum cleaner, telephone, and central heating from Ownership restrictions. Collecting kids from school, attending place of worship, visiting school (e.g. sports day/parents' evening), family celebrations, visiting family or friends locally and going to weddings and funerals were omitted from the Social participation domain. Economising behaviours no longer included skimped on food for others, postponed visits to the dentist, spent less on hobbies, and not picked up prescriptions. As the table shows, only one item from Serious financial problems ('borrowed money from family to pay bills') was a significant test item. As such, a decision was made to not include any items from this index in the final NILSI scale.

Table 3 notes the reliability analysis for the final selection of domain items. Each of the test item domains shows a Cronbach's alpha of greater than 0.80, suggesting fairly robust and reliable unidimensional scales form NILSI.

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Table 1 Items used in NILSI and ELSI

NILSI 2002–03	ELSI 2004
Ownership restriction (did not own because of cost)	
Telephone	Telephone
Dry, damp-free home	
Car	
Washing machine	Washing machine
Dishwasher	
Video recorder	
Enough money to keep your home in a decent state of decoration	
Home contents insurance	Contents insurance
Fresh fruit and vegetables every day	
Home computer	Personal computer
Microwave oven	
Tumble dryer	
Deep freezer (includes fridge-freezer)	
Satellite/cable TV	Pay TV
Enough money to replace worn out furniture	
Enough money to replace or repair broken electrical goods	
Access to the internet from home	Internet access
Second home/holiday home	
Central heating	Heating in main rooms
Enough money to pay heating, electricity and telephone bills on time	
Vacuum cleaner	
Roast dinner once a week	
New, not second-hand clothes	
Meal with meat, chicken or fish every second day	
Warm, waterproof coat	Winter coat
Regular savings (of £10 a month) for rainy days or retirement	
Two pairs of strong shoes	Good shoes
Good outfit to wear for special occasions such as parties or weddings	Best clothes
Good clothes to wear for job interviews	
Access to a decent pension	
Small amount of money to spend on yourself, not on your family	
Daily Newspaper	
Health/disability aids and equipment, if needed	
Pet	Pet
Boat	Boat
	Electricity
	Secure locks
	Good bed
	Warm bedding
Social participation (did not do because of cost)	
Evening out once a fortnight	Night out once a fortnight
Hobbies	
Holiday away from home without relatives	Holiday away from home every year

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Table 1 Continued

NILSI 2002–03	ELSI 2004
Go out for a meal in a restaurant/pub once a month	
Holiday abroad once a year	Overseas holidays once every 3 years
Coach/train fare to visit family friends 4 times/year	
Having family over for a meal	Have family or friends over for a meal at least once a month
Going to weddings/funerals	
Visits to hospital	
Family days out	
Gifts to family once a year	Give presents to family/friends on special occasions
	Visit hairdresser once every 3 months
	Space for family to stay the night
Economising items	
Bought less/cheaper meat	Less/cheaper meat
Gone without fresh fruit and vegetables	Less fresh fruit/vegetables
Bought second hand clothing	Bought second hand clothes
Continued wearing worn out clothing	Worn old clothes
Put off buying new clothing	Put off buying new clothes
Relied on gifts of clothing	Relied on gifts of clothes
Continued wearing worn out shoes	Worn-out shoes
Put up with feeling cold to save heating costs	Put up with cold
Stayed in bed longer to save heating costs	Stayed in bed for warmth
Skimped on food so that others would have enough to eat (>1 person in hhold)	
Postponed visits to the dentist	Postponed visit to the doctor
Not picked up a prescription	Not picked up prescription
Gone without or cut back on visits to family and friends	Cut back on visits to family/friends
Gone without or cut back on telephone calls to family and friends	
Done without or cut back on trips to the shops or local places	Cut back on shopping
Spent less on hobbies than you would like	
Not gone to a funeral you would have liked to attend because of the costs	Not gone to funeral
Cut back on visits to the local pub	
Used less gas, electricity and the telephone because you could'nt afford it	
	Less time on hobbies
Self-assessments of standard of living	
Standard of living rating	Standard of living rating
Adequacy of income rating	Adequacy of income rating
Satisfaction with standard of living rating	Satisfaction with standard of living rating

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Table 2 Validity and reliability summary table for NILSI test items

Scale items	Number of non-significant validity indicators	Number of validity indicators unable to calculate (low Ns)	Level of reliability (Cronbach's alpha) (bold = unreliable)
Ownership restrictions			Initial group apha = 0.903
Television	5	1	**0.904**
Fridge	5	1	**0.904**
Microwave oven	4	0	0.903
Boat	4	0	**0.904**
Second/holiday home	3	0	**0.905**
Pet	3	0	0.903
Dictionary	2	1	**0.904**
Vacuum cleaner	2	0	0.903
Telephone	1	1	0.902
Washing machine	1	1	**0.904**
Central heating	1	0	**0.904**
Deep freezer	*0*	*1*	*0.902*
Roast dinner once/week	*0*	*1*	*0.902*
Meal with meat/chicken	*0*	*1*	*0.902*
Daily newspaper	*0*	*1*	*0.902*
Social participation			Item group apha = 0.825
Collect kids from school	5	1	**0.828**
Attend place of worship	4	2	**0.828**
Visit school (e.g. sports day)	4	2	**0.828**
Celebrate special occasions	0	5	**0.827**
Visit family or friends locally	2	1	0.824
Going to weddings/funerals	1	1	0.821
Visits to hospitals	*1*	*0*	*0.823*
Economising behaviours			Item group apha = 0.936
Skimped on food for others	3	0	0.935
Postponed visits to dentist	3	0	0.936
Spent less on hobbies	3	0	0.933
Not picked up prescription	2	0	0.936
Cut back on visits to pub	*1*	*0*	*0.931*
Serious financial problems			Item group apha = 0.692
Paying mortgage	5	0	0.690
Paying gas bill	5	1	0.692
Borrowed from pawnbroker	4	1	**0.695**
Paying rent	3	0	0.670
Paying electric bill	3	0	0.677
Hire purchase payments	2	0	0.657
Telephone bill	2	0	0.645
Other payments	2	0	0.648
Borrowed from money lender	2	0	0.681
Catalogue payments	1	0	0.657
Borrowed from friend	1	0	0.662
Borrowed from family	0	0	0.689

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Table 3 Reliability analysis: final model selection

	Initial Cronbach's alpha	Initial number of NILSI items	Final Cronbach's alpha	Final number of NILSI items	Number of items dropped
Ownership restrictions	0.903	38	**0.907**	**27**	*–9*
Social participation	0.825	16	**0.844**	**10**	*–6*
Economising behaviours	0.936	19	**0.932**	**15**	*–4*
Serious financial problems	0.692	12	–	–	–

The confirmatory factor model

Having established valid and reliable subscale measure items, we then proceeded to fit the observed NI data to the NZ material well-being model. We used the same methodology to test our model and estimate the scale scores. Table 4 records the means, standard deviations and correlations between the five domains. It can be seen that there are high

Table 4 Five domains: means, standard deviations and correlations

	1.	2.	3.	4.	5.
1. Ownership restrictions	*				
2. Social participation	0.788	*			
3. Economising behaviours	0.750	0.704	*		
4. Rating-Standard of living	0.505	0.491	0.451	*	
5. Rating-Adequacy of income	0.531	0.508	0.491	0.517	*
Mean	23.7	8.5	24.8	2.2	1.0
Standard deviation	4.6	2.2	6.5	0.8	0.7

correlations between the Ownership restrictions, Social participation and Economising behaviours domains, as well as the Self-ratings. The number of factors to be extracted was decided on the basis of a scree test (see Table 5 and Figure 2). This suggested a three-factor solution was the most appropriate. Despite some exceptions – particularly with regard to Ownership restrictions – the three factors related nicely to the various domains: Economising behaviours, Ownership restrictions and Social participation restrictions. Taken together, the three factors accounted for 41 per cent of the total variance (see Table 5).

Like the New Zealand study, we used Confirmatory Factor Analysis (CFA) to test the assumption that households can be ranked along a continuum reflecting their living standards. The model postulated that variations in living standards could be validly specified on a single underlying dimension that was the source of the associations between a number of observable variables. LISREL 8.7 was used to test the fit of the model defined by the specified set of domain indicators. Typically, the fit of the model is assessed by a number of different methods.[2] The analysis had another exploratory element to it, as initially the model did not fit, and one domain – Financial Problems – had to be dropped

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Table 5 Exploratory factor analysis – number of factors and variance explained

	Initial eigenvalues		
Component	Total	% of variance	Cumulative %
1	17.1	32.8	32.8
2	2.2	4.2	37.0
3	2.0	3.8	40.7
	Extraction sums of squared loadings		
Component	Total	% of variance	Cumulative %
1	17.1	32.8	32.8
2	2.2	4.2	37.0
3	2.0	3.8	40.7
	Rotation sums of squared loadings		
Component	Total	% of variance	Cumulative %
1	8.4	16.2	16.2
2	7.0	13.5	29.7
3	5.7	11.0	40.7

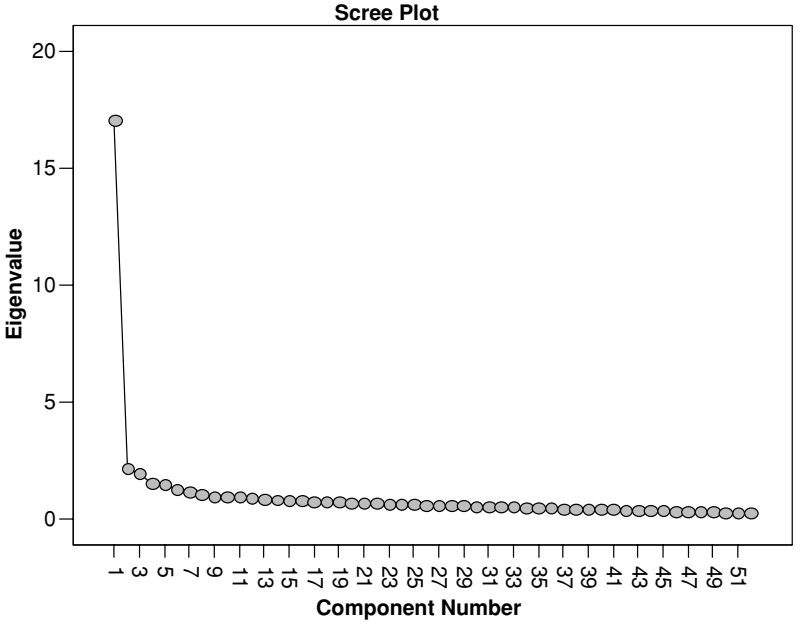

Figure 2. A plot of the eigenvalues

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from the initial set in order to achieve an acceptable fit to the data. This confirmed the results of the validity and reliability analysis above. Moreover, the model had to be adapted to accommodate the existence of what is known as the 'method effect' (Fergusson *et al.*, 2001; Jensen *et al.*, 2002: 57). This occurs where variables measured in the same way were more strongly correlated with each other than with variables measured in different ways (Fergusson *et al.*, 1991). As a consequence, non-zero correlations between ratings for the Self-assessment of standard and Self-assessment of adequacy of income and between Ownership restrictions and Social participation domains were permitted. The initial fit of the confirmatory factor model produced results which suggested that living standards could not be validly specified on a single underlying dimension (LR chi square = 274.6, df = 5, p = 0.00; RMSEA = 0.17; RMSR = 0.068; AGFI = 0.32). The subsequent analysis produced a clear fit supporting the assumption that variations in living standards could be specified on a single underlying dimension – that is the source of the associations between a number of observable variables. The revised model is shown in Figure 3. The various tests of goodness of fit show that the model fitted the observed data very well (LR chi square = 3.25, df = 3, p = 0.36; RMSEA = 0.006; RMSR = 0.018; AGFI = 1.00).

Effects of household type on scale properties

Although the preceding confirmatory factor-analysis has shown that it is possible to develop a latent model of material well-being, which fits the NI data quite well, it is possible that there are variations according to household type across the various domain measures. For example, pensioner households may vary to the extent that they economise on certain items and activities compared with non-pensioner households. Likewise, there may be important distinctions between those who are single and those who are living as a married couple. To test this assumption we divided the sample into single and married groups ($n = 939$ and $n = 1031$ respectively), whereupon separate CFAs were run in order to reveal significant group differences with regard to the scale measures. Results indicate that the single group data fit the overall model very well, showing similar factor loadings and goodness-of-fit indices to the overall model (LR chi square = 3.50, df = 3, p = 0.32; RMSEA = 0.013; RMSR = 0.044; AGFI = 0.99). The married group data fit the model less well than the single group, but was still significant on some of the goodness of fit indices (LR chi square = 13.23, df = 3, p = 0.004; RMSEA = 0.058; RMSR = 0.055; AGFI = 0.97). Although the differences between single and married groups suggest the need to develop subscale measures for each specific household type, the factor loadings between the separate group models were relatively small allowing us to score all respondents on the same scale (see Fergusson *et al.*, 2001: 80).

The material well-being score: NILSI

Once the model was found to fit, rather than use the regression coefficients to produce a scale, the New Zealand Study produced an easy-to-calculate scale suitable for research and policy advice. It did, however, closely approximate the scores obtained by the regression equation and has the same theoretical basis as the confirmatory factor analysis (Jensen *et al.*, 2002: 79). Using this 'total score approach' (Carver, 1989), we are able to simply add up all the valid and reliable domain items in a linear fashion to produce

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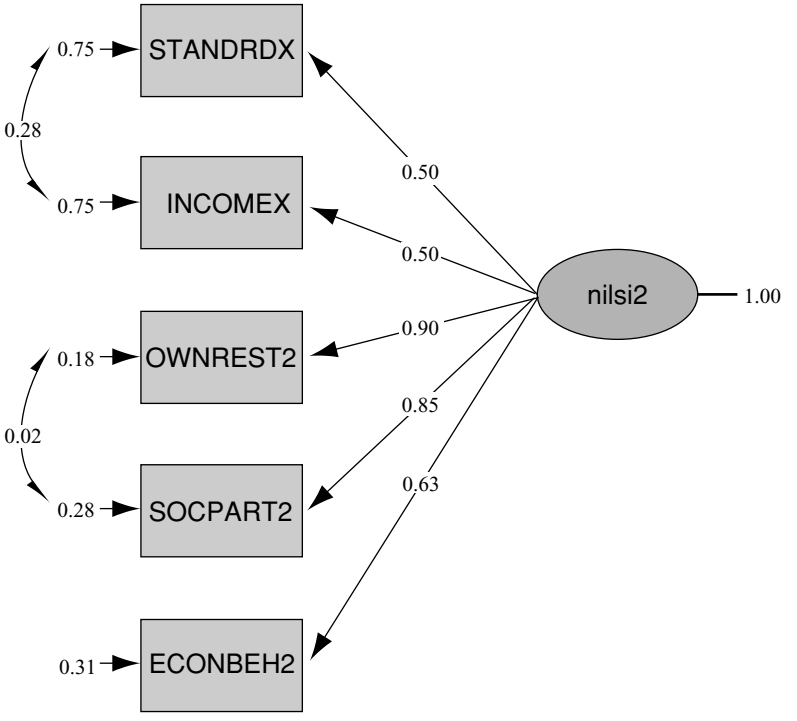

Figure 3. CFA – Final NILSI model standardised solution.

a summative index – the main advantage of which is its simplicity and applicability to current policy debates in Northern Ireland.

To construct a generic scale reflecting NILSI, we summed the scores on each of the domains for Ownership restrictions (27 of the original 35 items) Social participation (10 of the original 16 items), Economising behaviours (15 of the original 19 items) and Self-ratings (three items), totalling 55 items with a maximum possible score of 77. Because the various domains include different response categories (ownership/social participation restriction items are dichotomous, whereas Economising behaviours and Self-rating items are polytonomous), a way was needed to standardise each of the domain items contributing to the overall score without a loss of understanding or information.

In New Zealand, where they had 15 fewer items (n = 40), they applied a multiplier of 2 to social participation and self-ratings in order to increase their contribution to the overall ELSI score. They also chose to remove family units with a score of 22 or less, stating that the 'majority of responses in this category could reasonably be regarded as outliers' (Jensen *et al.*, 2002: 90). After considering recoding polytonomous response categories into dichotomous ones and/or increasing the contribution of individual domains to the NILSI score, we decided against inflating the contribution of any one particular domain set to the overall scale and retained the original response categories and used them as the basis of the scoring mechanism. However, we did re-set the original response categories

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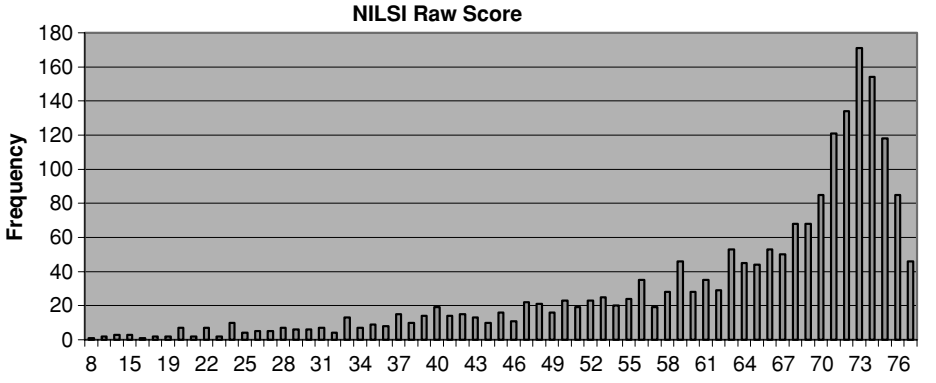

Figure 4. NILSI Raw Scores.

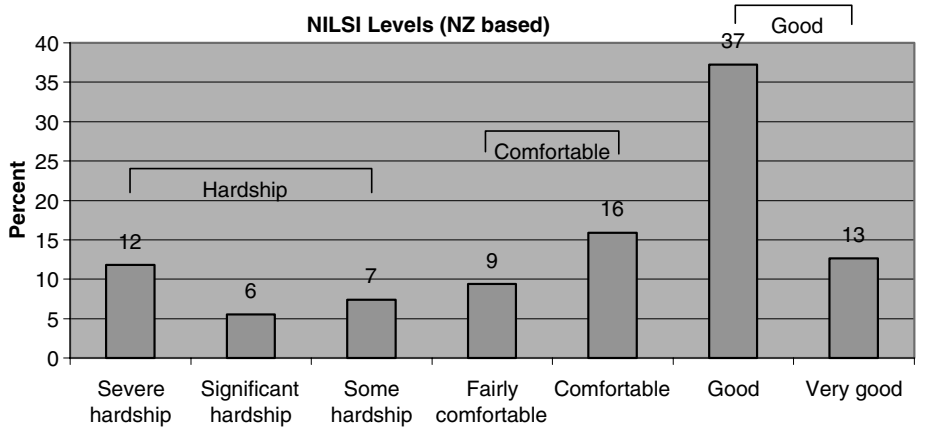

Figure 5. Northern Ireland Living Standards Index (NILSI) levels.

(for both dichotomous and polytonomous response categories) to zero, in order that the summative index did not count a 'one' as positively contributing to well-being.

Figure 4 notes NILSI raw scores. The distribution is heavily skewed towards the higher end of the scale. The scores range from 8 to 77, with a mean of 63 and a standard deviation of 14. As in the New Zealand study (Jensen *et al.*, 2002: 93), the scores were then divided into seven categories, reflecting different standards of living from the lowest to the highest. Figure 5 shows the distribution of NILSI levels for all households in Northern Ireland. We will discuss the meaning of the data in the results section of the paper.

Calibration of the scale

The final step in the construction of NILSI was to calibrate the index. This process allows meaning to be given to the scores, making it possible to describe the circumstances concerning a household's standard of living at a particular level. The New Zealand study identified a set of basic items and a set of comfort/luxury items to use in the calibration.

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Table 6 Calibration measures summary table

NILSI score range	NILSI level	Calibration results	Category label
8 thru 44 15 thru 50	Level 1	• LACK 26% of basics • HAVE 18% of comforts/luxuries • HAVE 20% of the financial problems • HAVE 12% of accommodation problems • LACK 9% of the child basics	'Severe hardship'
45 thru 50 51 thru 58	Level 2	• LACK 11% of basics • HAVE 30% of comforts/luxuries • HAVE 12% of the financial problems • HAVE 7% of accommodation problems • LACK 3% of the child basics	'Significant hardship'
51 thru 56 59 thru 66	Level 3	• LACK 6% of basics • HAVE 38% of comforts/luxuries • HAVE 6% of the financial problems • HAVE 7% of accommodation problems • LACK 2% of the child basics	'Some hardship'
57 thru 62 67 thru 74	Level 4	• LACK 4% of basics • HAVE 47% of comforts/luxuries • HAVE 4% of the financial problems • HAVE 7% of accommodation problems • LACK 1% of the child basics	'Fairly comfortable'
63 thru 68 75 thru 82	Level 5	• LACK 2% of basics • HAVE 57% of comforts/luxuries • HAVE 2% of the financial problems • HAVE 5% of accommodation problems • LACK 1% of the child basics	'Comfortable'
69 thru 74 83 thru 90	Level 6	• LACK 0% of basics • HAVE 74% of comforts/luxuries • HAVE 1% of the financial problems • HAVE 4% of accommodation problems • LACK 0% of the child basics	'Good'
75 thru 77 91 thru 94	Level 7	• LACK 0% of basics • HAVE 91% of comforts/luxuries • HAVE 0% of the financial problems • HAVE 2% of accommodation problems • LACK 0% of the child basics	'Very good'

To qualify as a basic item, it had to be wanted by most people, had to be considered important and had to have high discriminating power at the lower end of the scale. In contrast, the criterion for a luxury/comfort item was that it had high discriminating power at the top end of the scale and was seen as a luxury item. We used slightly fewer basic items, 15 compared to 19, and the same list of comfort/luxury items. In addition, the New Zealand study used three other calibration measures: Serious financial problems, Accommodation problems and the lack of Child basics. We also used these three measures but with somewhat different items. Table 6 shows the calibration measures for each level of the NILSI index and for each score range.

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Results

This section of the paper provides an overview of living standards of the total population in Northern Ireland and for each of the 'Section 75' categories. Section 75 formed part of the Northern Ireland Act, 1998 arising out of the Good Friday/Belfast Agreement and requires public authorities when carrying out their functions to have due regard to the need to promote equality of opportunity within nine categories of persons: between persons of different religious beliefs; political opinion, racial group, age, marital status or sexual orientation; between men and women generally, between persons with a disability and persons without; and between persons with dependents and persons without. Significantly, the legislation does not include any dimension relating to social class, which, from all the evidence, is a crucial division within Northern Ireland. Given its importance, we include it in this analysis. It has not been possible to include two of the section 75 dimensions – racial groups or sexual orientation – because the numbers in the survey were too small.

Northern Ireland is a 25/25/50 society as can be seen from Figure 5. Some 12 per cent live in 'Severe hardship' and 6 per cent in 'Significant hardship' and 7 per cent in 'Some hardship'. These groups make up one quarter of all households. A further 9 and 16 per cent respectively are 'Comfortable' or 'Fairly comfortable' forming another 25 per cent of all households. At the higher end, some 37 per cent have a 'Good' and 13 per cent have a 'Very good' standard of living, making up 50 per cent of all households. The mean NILSI score is 63, which falls in the 'Comfortable' range. The standard deviation is 14.

For the purposes of the rest of the analysis, NILSI has been divided into three broad groups, reflecting different standards of living labelled: 'Hardship', 'Comfortable' and 'Good'. As can be seen from the data in Table 7 living standards vary considerably across the Section 75 dimensions.

Catholics experience lower living standards than Protestants. The former's living standards reflect a 31/26/43 community, while the latter are a 20/25/55 community. In other words, at the lower end of the living standard scale, some 31 per cent of Catholics compared with 20 per cent of Protestants are in 'Hardship', similar proportions of both groups have a 'Good' standard of living and, at the top end, 55 per cent of Protestants have a 'Comfortable' standard of living compared with 43 per cent of Catholics. Those who define their religion as 'Other' have a standard of living which falls between that of Protestants and Catholics.

The supporters of different political parties have very different standard of living profiles. Sinn Fein and the Women's Coalition have a high proportion of their supporters in 'Hardship' – 38 and 40 per cent respectively.[3] The two parties with the smallest number of supporters in 'Hardship' are the Alliance Party (13%) and the Ulster Unionist Party (14%). At the higher end of the living standard scale, some 66 per cent of the Alliance Party supporters and 61 per cent of Unionist Party supporters have a 'Good' standard of living compared with only 32 per cent among Sinn Fein supporters.

Living standards vary considerably with age, in general, increasing over the life cycle. Although some 31 per cent of respondents aged 16–34 are in 'Hardship', by retirement only about 14 per cent are in this category. Conversely, less than one half of 16–34 year olds have a 'Good' standard of living, while nearly two-thirds of those above retirement age are in this situation.

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Table 7 Section 75 Indicators

	Hardship	Comfortable	Good	Total
Nationality				
British	21	25	55	100
Irish	33	25	42	100
Other	25	28	47	100
Political opinion				
Ulster Unionist Party	14	25	61	100
Democratic Unionist Party	26	27	47	100
Other Unionist parties	29	27	44	100
Sinn Fein	38	30	32	100
SDLP	25	26	49	100
Alliance Party	13	20	66	100
Womens coalition	40	16	44	100
Other	18	35	47	100
None/No political opinion	30	24	45	100
Religious composition of household				
Neither Catholic/Protestant	28	23	49	100
Catholic only	31	26	43	100
Protestant only	20	25	55	100
Age group				
16–34	31	27	42	100
35–54	25	24	51	100
55–64	29	24	47	100
65 PLUS	14	28	59	100
Marital status				
Single, that is, never married	34	26	40	100
Married and living with your husband/wife	17	24	59	100
Married and separated from your husband/wife	49	26	25	100
Divorced	42	30	28	100
Widowed?	18	26	56	100
Disabled household				
Not disabled	19	25	56	100
All disabled	32	25	43	100
Multi-disabled	44	27	30	100
Gender				
Male	21	24	56	100
Female	28	27	45	100
Household type				
Pensioner household	17	26	57	100
Childless Household	27	26	46	100
Couple household	18	26	56	100
Lone parent household	59	26	16	100
Family household	24	23	53	100
Table %	25	25	50	100
Valid *N*	488	498	982	1,968

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Average living standard scores varied widely between different types of household. Lone parents with dependent children had the lowest standard of living of any household type. They were more than twice as likely to be in 'Hardship' than any other type, and nearly four times less likely to have a 'Good' standard of living. Further analysis reveals that two-thirds of lone parent households with three or more children are living in 'Hardship' compared with one-third of their two-parent family household counterparts. We also found that 63 per cent of lone parent households with one child are also living in 'Hardship', compared with only 22 per cent of two-parent family households with one child. Two-parent family households with one child are also most likely to report a 'Good' standard of living (58%), a rate higher than even those without children (52%). Pensioner households had the best average standard of living with only 17 per cent experiencing 'Hardship', while some 57 per cent enjoyed a Good standard of living.

Living standards vary greatly by marital status. People who are separated from their partners have the lowest average standard of living of all marital status groups. They are disproportionately at the lower end of the NILSI scale, with close to 50 per cent in some degree of 'Hardship'. People who are divorced also have a low standard of living, with 42 per cent defined as in 'Hardship'. Many of same people will be single or lone parents and as can be seen from the household type variable, more than one half of all lone parents are experiencing 'Hardship'. The groups with the least 'Hardship' are married people living with their partners.

As the NILSI scale is based on the household, the scores for partnered men and women will mainly be the same except where there are gender-related/gendered responses. The NILSI mean score for partnered men and partnered women was 66.8 and 65.2 respectively. However, as there are also large differences in living standards between single adult and lone parent households, the living standards between men and women in all households in the population vary greatly. Some 28 per cent of households where the interviewee was female suffer 'Hardship' compared with some 21 per cent of households where the interviewee was male.

Households with one or more disabled person vary in their living standards. McLaughlin *et al*. (2006) have made a distinction between households where one or more members are disabled and those where one or more are multi-disabled. Multi-disabled households are more than twice as likely to experience 'hardship' than households where no one is disabled. Moreover, less than one third of these households have a 'Good' standard of living compared with more than one half of the households in which no one is disabled.

Conclusions

This paper's conclusions highlight a number of previously under-developed/neglected issues. First, a focus on the living standards of the whole population produces a very different picture of a society from research concentrating exclusively on the poor and disadvantaged. This study has shown that Northern Ireland is very unequal, with over one fifth of the population suffering 'Hardship', while over half of the population have a 'Good' standard of living. Second, NILSI has provided a new way of analysing the various section 75 groups, which goes beyond the now common practice of presenting a range of

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statistics for different elements making up the group – Catholic and Protestant, men and women and so on – without any clear criteria for making a judgement on which statistics are more important. NILSI, in contrast, provides a single scale which is reliable and valid for each of the different elements within the group.

The results provide robust data to assess a number of current perceptions. There is little evidence that the Protestant community *as a whole* has lost out in relation to the Belfast Agreement. Although, this is a snapshot of living standards at one point in time, the data show that four years after the Belfast Agreement, there are still marked differences in the living standards of the two communities with proportionately more Catholics than Protestants experiencing a lower standard of living, while the reverse is the case for the higher standard of living. While some 20 per cent of Protestants do experience 'Hardship', nearly 55 per cent experience a 'Good' standard of living compared with 43 per cent of Catholics. In short, large sections of the Protestant community have a good standard of living and it is therefore incorrect to talk about either community as heterogeneous as far as living standards are concerned.

Secondly, the results show that social and demographic characteristics are more strongly associated with low standard of living than with religion or community background. While both Catholic and Protestant communities have a standard of living profile where relatively more households experience a good standard of living compared with a low standard of living, the reverse is true for those who are separated or divorced. Both groups have a significantly larger proportion experiencing a low standard of living compared with those experiencing a good standard of living.

Notes

1 As Streiner and Norman (1989: 64–65) have pointed out, there are problems with this technique *The first problem is that alpha is dependent not only on the magnitude of the correlations among items, but also on the number of items in the scale. A scale can be made to look more 'homogenous' simply by doubling the number of items, even though the average correlation remains the same. This leads directly to the second problem. If we have two scales which each measure a distinct construct, and combine them to form one long scale, alpha would probably be high, although the merged scale is obviously tapping two different attributes. Third, if alpha is too high, then it may suggest a high level of item redundancy; that is, a number of items asking the same question in slightly different ways.*

2 According to Joreskog & Sorbom (1993a; 1993b) a series of measures can be used to assess the 'goodness of fit' of a latent factor model. The most common is to use Chi-square to test if /whether or not the covariance matrix of the observed sample differs from the covariance matrix of the estimated parameters. In this instance a non-significant chi-square value is taken to indicate a well-fitting model. But, as this test may vary according to the size of the sample, other tests are used. The Root Mean Square of Approximation (RMSEA) measures the discrepancy between the observed and fitted data, adjusting for the available degrees of freedom. RMSEA values of <0.05 indicate a good fit. The Root Mean Square Residual (RMR) tests the residual variances and covariances from the fitted model and an RMSR of $<.03$ usually indicates a good-fitting model. Finally, the Adjusted Goodness of Fit Index (AGFI) measures the improvement of the model fit when compared with a null model in which all parameter estimates are set to zero. Good-fitting models usually have an AGFI in excess of 0.95 (Fergusson *et al.*, 2001). It is important to note that good-fitting models should produce consistent results on many different indices.

3 The number of supporters of the Women's Coalition in the sample is small and this high may be a consequence of sampling error.

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