

***Affordability of utilities' services: extent,
practice, policy***

***Research Paper 6: Simulations of Policies to Alleviate
Utility Affordability Issues in Northern Ireland:
Evidence from the Living Costs and Food Survey 2009***

***Dr David Deller (Centre for Competition Policy, University of East
Anglia)***

***Professor Catherine Waddams (Joint Academic Director, CERRE
and Centre for Competition Policy, University of East Anglia)***

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1. Introduction

This document is based on the sample of Northern Irish households included in the 2009 Living Costs and Food Survey. This is the most recent of the UK's Living Costs and Food Surveys to incorporate the Northern Ireland boost sample which increases the number of households sampled in Northern Ireland from c. 200 to c. 600. Nevertheless the small sample size means that some of the results, such as for households where the breadwinner is unemployed, are based on very small sub-samples and should be treated with caution.

Another consequence of this analysis being based on a sub-sample for the UK as a whole is that no weights are available to correct the Northern Ireland sample for sample selection issues and non-response to bring it into line with the Northern Ireland population.¹ Consequently the results reported are the actual results for the sample rather than estimated results for Northern Ireland's population.

The amounts in euro for each of the policy interventions have been converted into pounds sterling at a rate of 0.8521 euros to the pound which was the market exchange rate on 30 June 2009.

Lastly, the Living Costs and Food Survey 2009 records zero expenditure for water and sewerage charges for all households in Northern Ireland, since this sector is not funded through charges on households. Hence, no analysis is undertaken or simulations performed for the water sector in Northern Ireland.

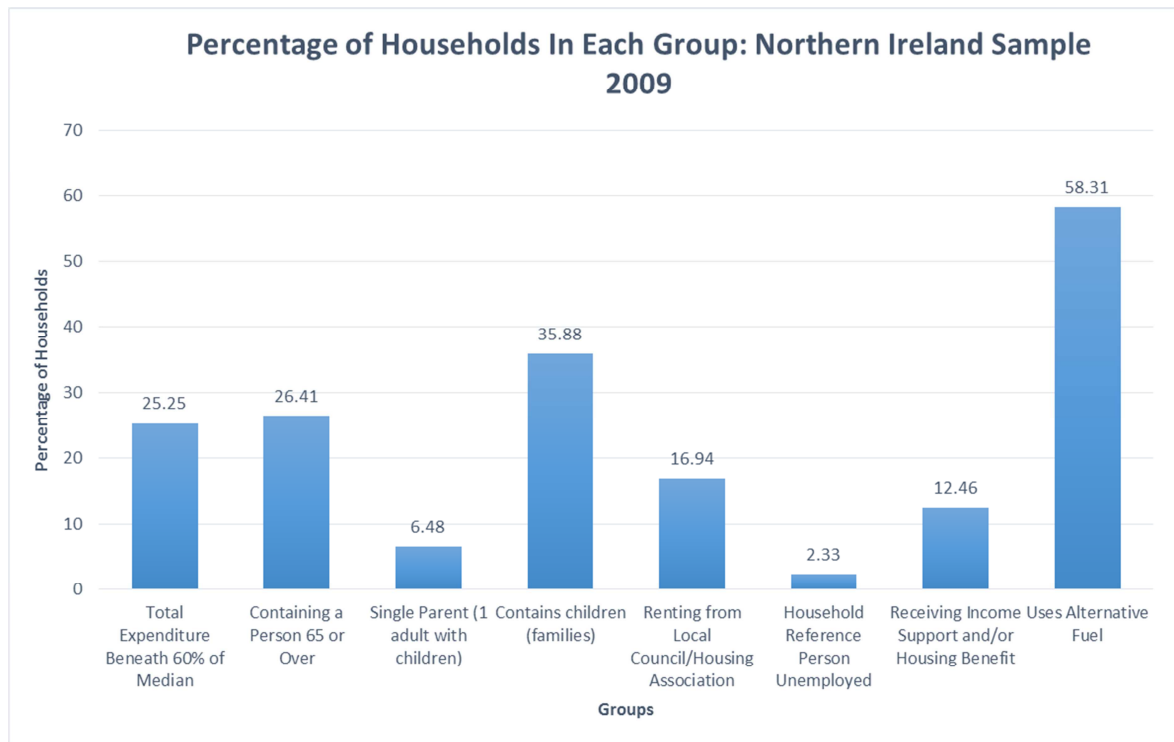
¹ The lack of available weights to make the sample representative of the Northern Irish population has been confirmed with the Northern Ireland Statistics and Research Agency.



2. Description of population and household groups

Chart 1 shows that demographically the Northern Irish sample is somewhere between the UK’s and the Republic of Ireland’s populations regarding the percentage of households with children and the percentage of households containing someone aged 65 or over. Crucially for explaining Northern Ireland’s fuel poverty issues, the percentage of households using alternative fuels in the Northern Ireland sample is even higher than that in the Republic of Ireland, being 58.3% as opposed to 53.3%. Also, the percentage of households in the Northern Ireland sample who receive housing benefit or income support is three times higher than the percentage in the UK in 2012.

Chart 1: Percentage of Households in Each Group: Northern Ireland Sample 2009



Source: *Living Costs and Food Survey, Northern Ireland sub-sample, 2009*

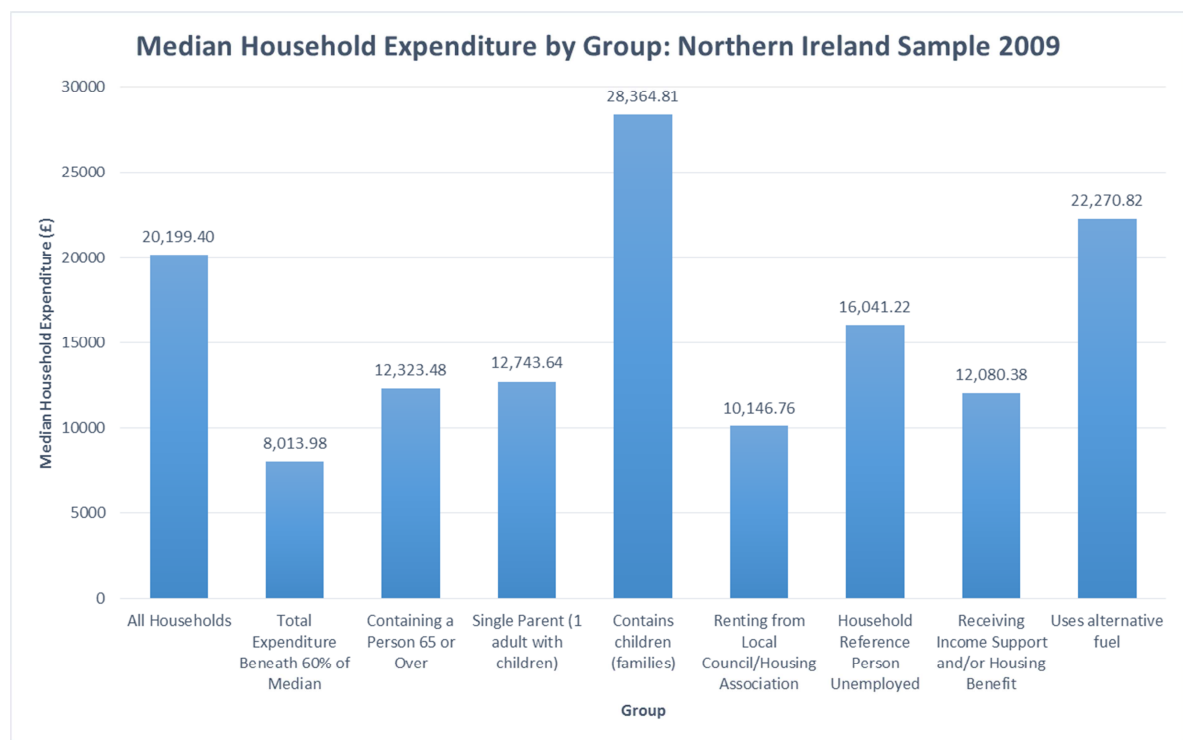
In terms of households’ total expenditure (proxy income) in Northern Ireland, while the median household expenditure across all households in 2009 is over £1,000² lower than for the UK in 2012, in particular household groups, total expenditure in the Northern Ireland sample is higher than for

² All of these monetary differences are in nominal terms. In real terms the differences between Northern Ireland and the UK are likely to be slightly smaller than reported when Northern Ireland has lower total expenditure, while the differences are likely to be slightly larger than reported when Northern Ireland has higher total expenditure.



the UK in 2012. For example, in the Northern Ireland sample the total expenditure of households where the breadwinner is unemployed is around £6,000³ higher than in the UK data and the total expenditure for those receiving benefits is about £2,000 higher. In contrast, the total expenditure of households containing someone aged 65 or over is approximately £2,000 lower and the total expenditure of single parent households is almost £3,000 lower in Northern Ireland.

Chart 2: Median Household Expenditure by Group: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

In broad terms the expenditure share patterns across sectors and groups shown for the Northern Ireland sample in Chart 3 are similar to those found in the UK population in 2012. Putting aside households where the breadwinner is unemployed or there is a single parent⁴, the main difference with the UK is a slightly higher median expenditure on energy. The median share of total expenditure devoted to energy for all households is around 0.5-0.75 percentage points higher in the Northern Ireland data. In particular, the median expenditure share devoted to energy is around 1 percentage point higher in the Northern Ireland data when compared to the UK data for households containing someone aged over 65 and is 2 percentage points higher for households receiving Income Support or Housing Benefit.

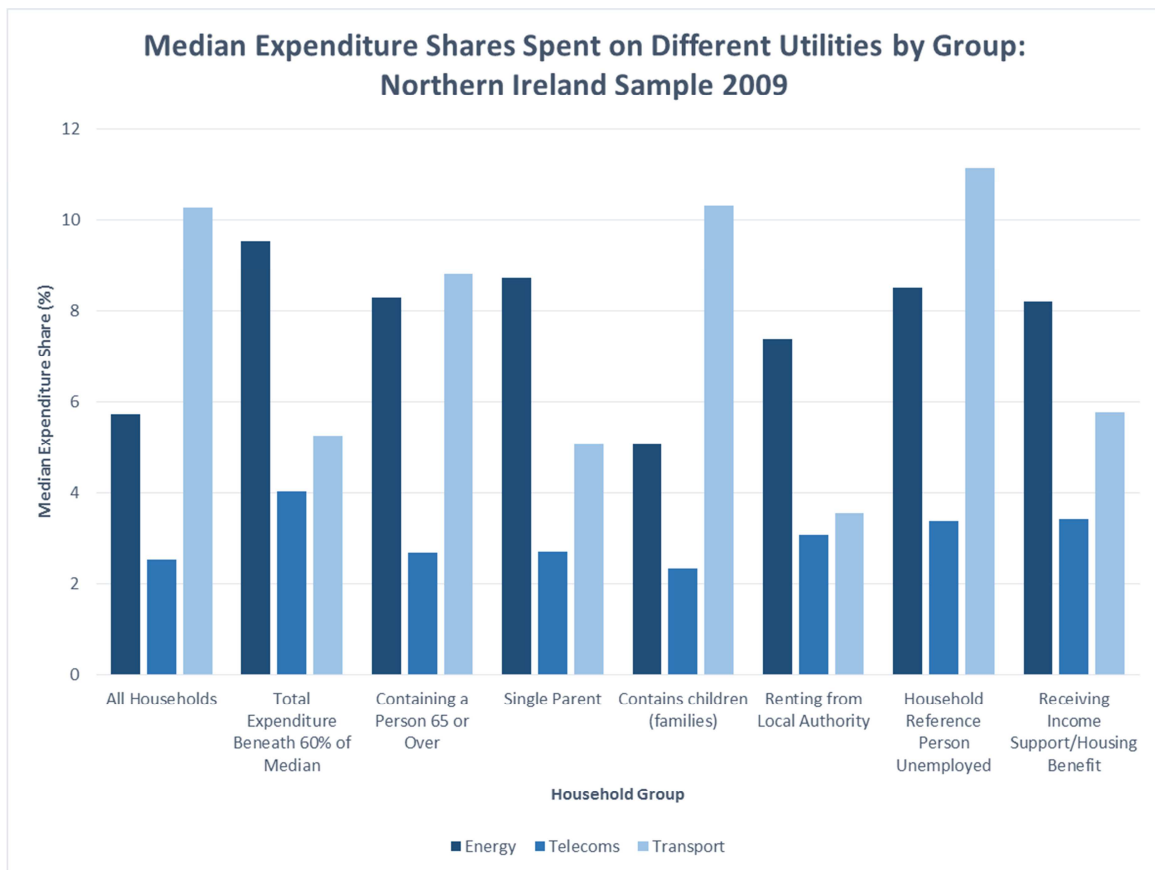
³ This figure may be influenced by the very small size of the unemployed sub-sample within the Northern Ireland sample.

⁴ This is due to the small size of these sub-samples.



Chart 4 again shows similar patterns for the Northern Ireland sample to the UK and Republic of Ireland in the relationships between a household’s total expenditure and the share of expenditure they devote to particular utility sectors.

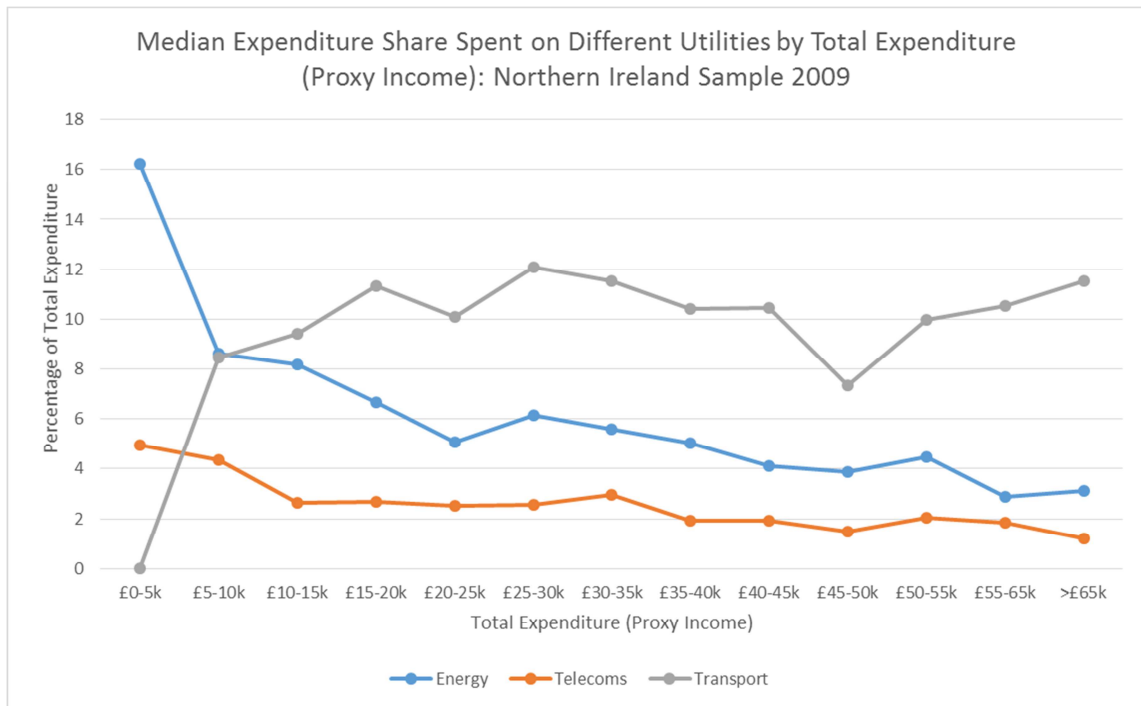
Chart 3: Median Expenditure Shares Spent on Different Utilities by Group: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009



Chart 4: Median Expenditure Share Spent on Different Utilities by Total Expenditure (Proxy Income): Northern Ireland 2009



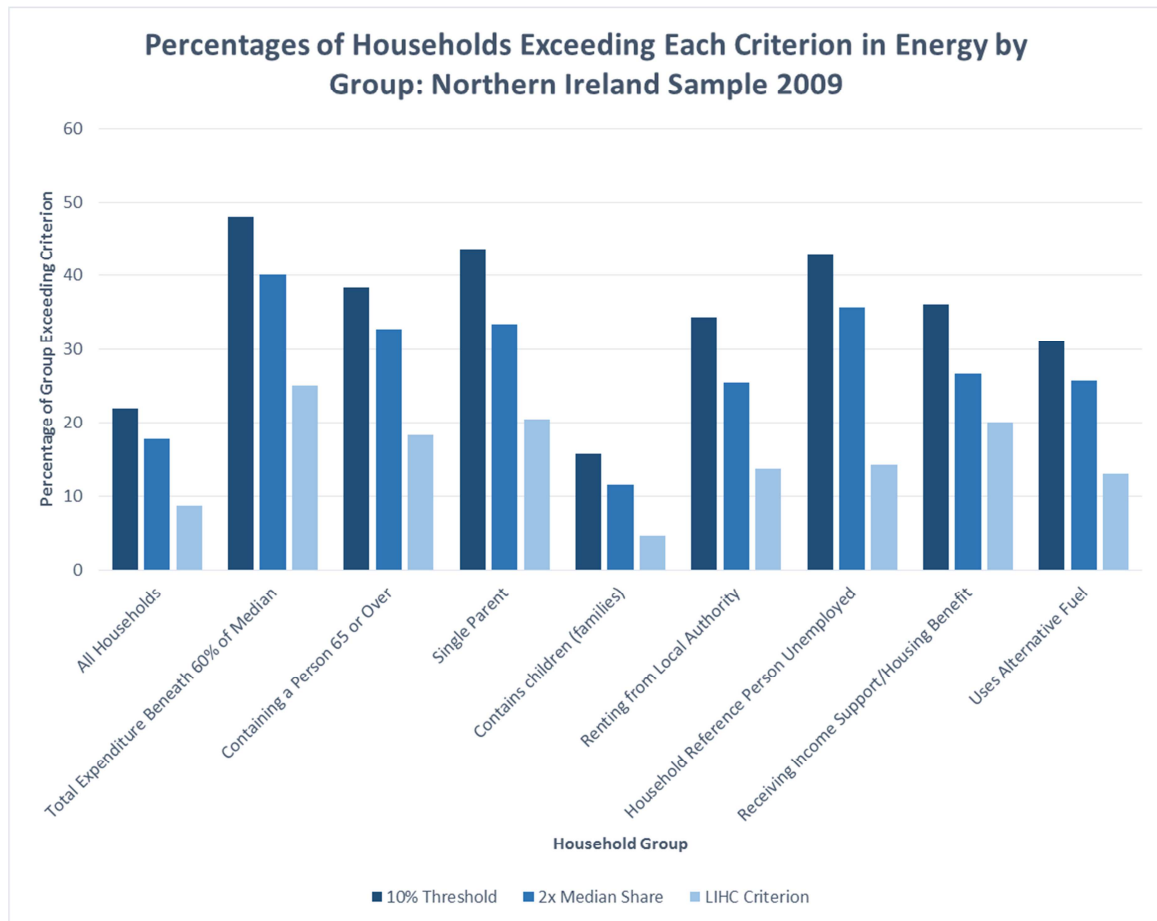
Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009



3. Energy – Baseline

Looking at the percentages of households identified as having energy affordability issues, the first noticeable thing in the Northern Ireland sample is that the percentage of households with twice the median expenditure share is always at least 5 percentage points lower than the percentage of households with an energy expenditure share above 10%. This contrasts with the UK data where the 10% threshold and the twice median threshold are broadly comparable. The second major difference from the UK data is that affordability difficulties are less common in households using alternative energy sources in the Northern Ireland sample when compared to the same group in the 2012 UK population. In the UK data around 40% of households using alternative fuels had an energy expenditure share above 10%, whereas in the Northern Ireland sample the percentage of households in the same position is only about 30%. It is difficult to know how far this variation reflects real differences between Northern Ireland and the UK as opposed to just reflecting energy price and expenditure changes between 2009 and 2012. Assuming the difference is real (potentially a big assumption) the question is then what may explain the lower rate of energy affordability difficulties for this group in Northern Ireland. Two explanations present themselves; the first is that as over 50% of Northern Irish households use alternative fuels compared to 7% in the UK a greater proportion of higher income households utilise alternative fuels in Northern Ireland; the second is that the greater density of Northern Ireland's market for alternative fuels means the market is more competitive/works more effectively thereby leading to lower prices for consumers.

Chart 5: Percentages of Households Exceeding Each Criterion in Energy by Group: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

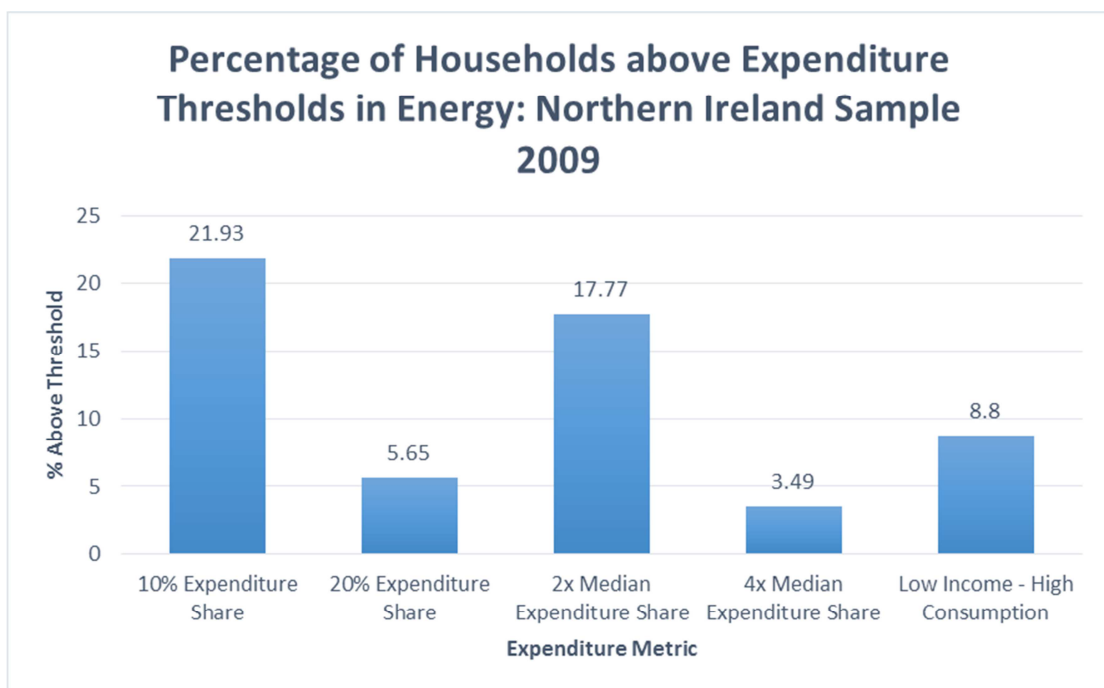
Chart 6 shows that in the Northern Ireland sample the dispersion of energy expenditure shares indicated by the relative metrics appears to be relatively similar to that in the UK (Chart 5, Research Paper 4). However, in the Northern Ireland sample the percentages of households above the 10% and 20% expenditure share thresholds are higher (4.8 percentage points and 2.3 percentage points higher respectively) than in the UK data. The percentage of households in the Northern Ireland sample spending over 10% and over 20% of their expenditure on energy is around double that for the Republic of Ireland. This stark difference is likely to be due to the much higher total expenditure (income) levels in the Republic of Ireland in 2009.

Turning to Chart 7 a noticeable feature is the big difference between the mean and median LIHC expenditure gaps for households including someone aged 65 or over. The mean LIHC gap is almost double the median gap. It is also noticeable that the LIHC gaps for this group are much higher in the



Northern Ireland sample than in the UK, suggesting that some elderly individuals in Northern Ireland maybe in particularly severe fuel poverty. The other difference with the UK is that the LHC gaps for those using alternative fuels are lower in Northern Ireland by a fairly large margin. Again it is difficult to know whether this is due to changes between 2009 and 2012, the composition of households in this group being different or the market for alternative fuels functioning differently in Northern Ireland.

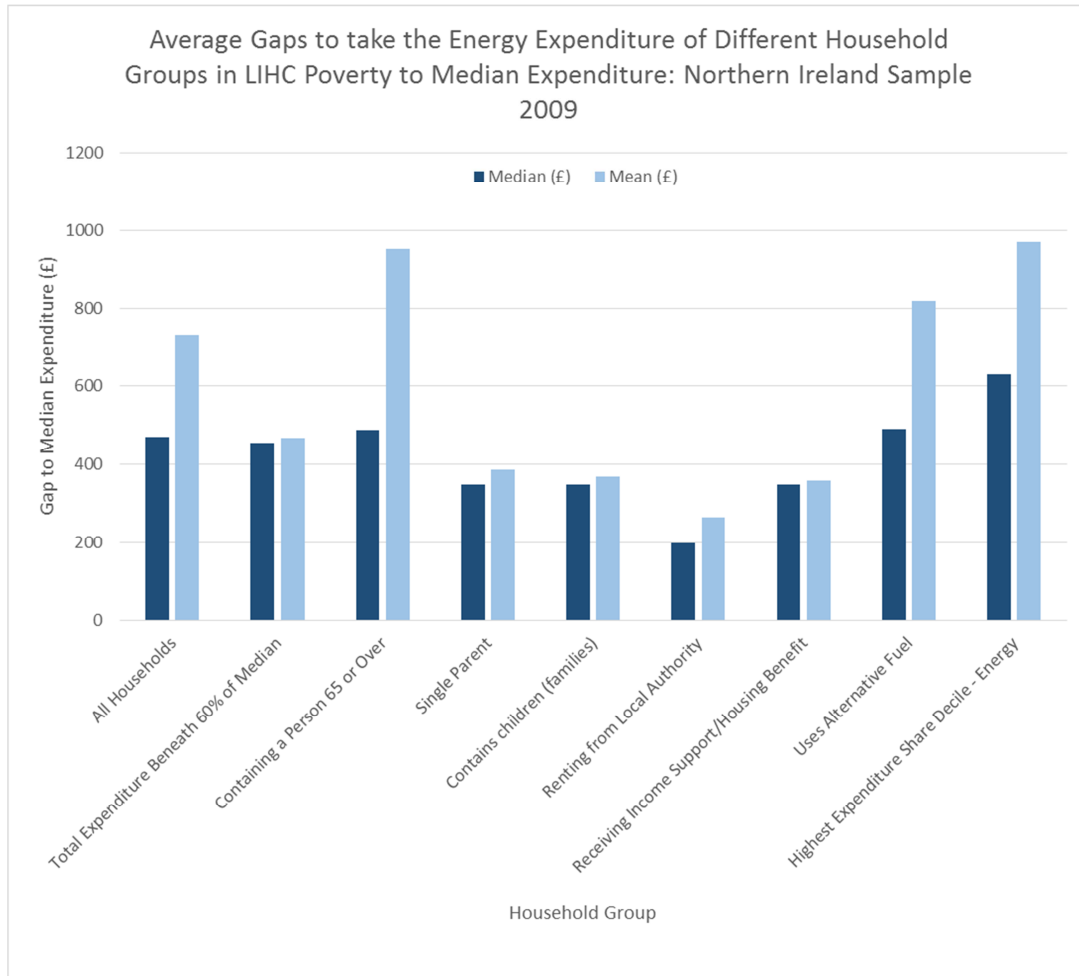
Chart 6: Percentage of Households above Expenditure Thresholds in Energy: Northern Ireland Sample 2009



Source: *Living Costs and Food Survey, Northern Ireland sub-sample, 2009*



Chart 7: Average Gaps to take the Energy Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

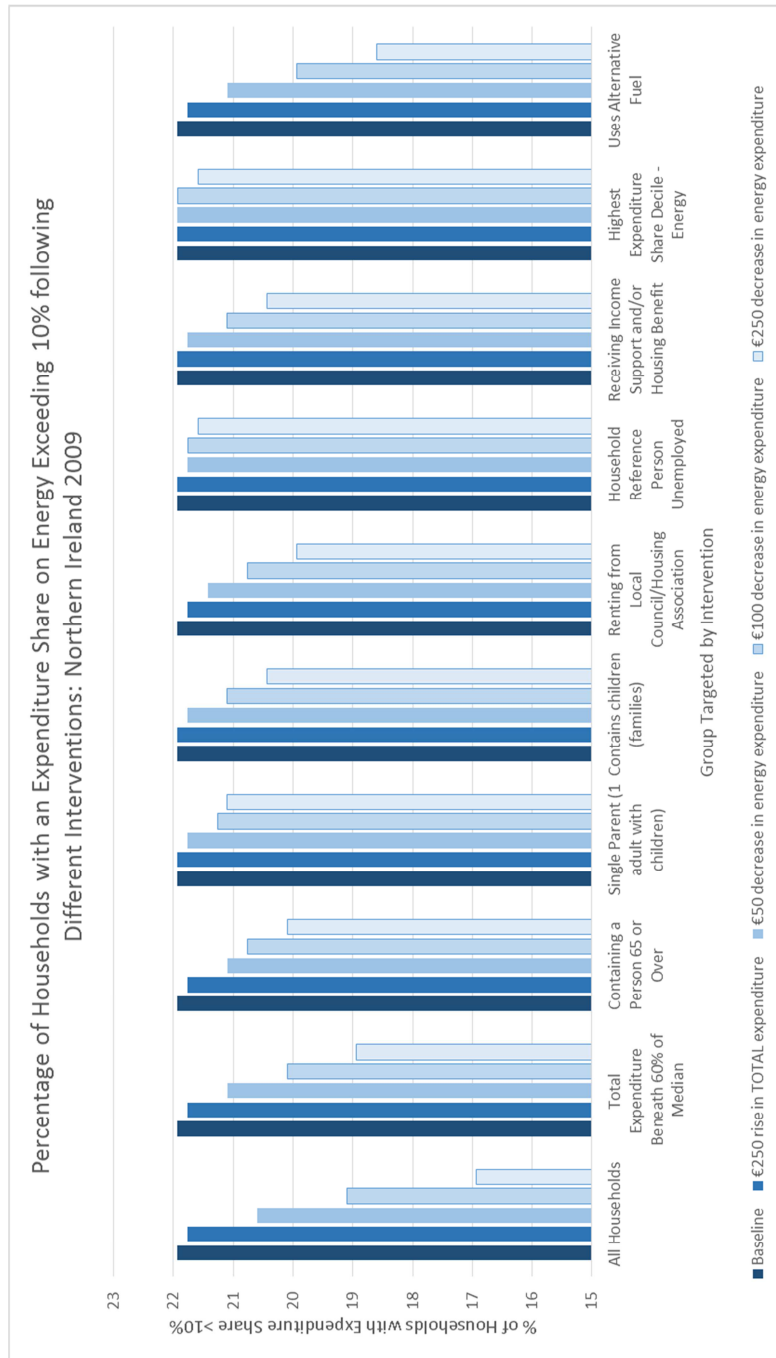


4. Energy – Simulations

In comparison to the UK, Chart 8 shows fairly similar patterns regarding the groups which, when targeted with policy interventions, have the largest impact on the percentage of households reporting energy expenditure shares over 10%. The two groups that have a bigger impact in reducing this affordability indicator in Northern Ireland, households receiving housing benefit/income support and those using alternative fuels, are much larger groups (relative to the total population) than in the rest of the UK.

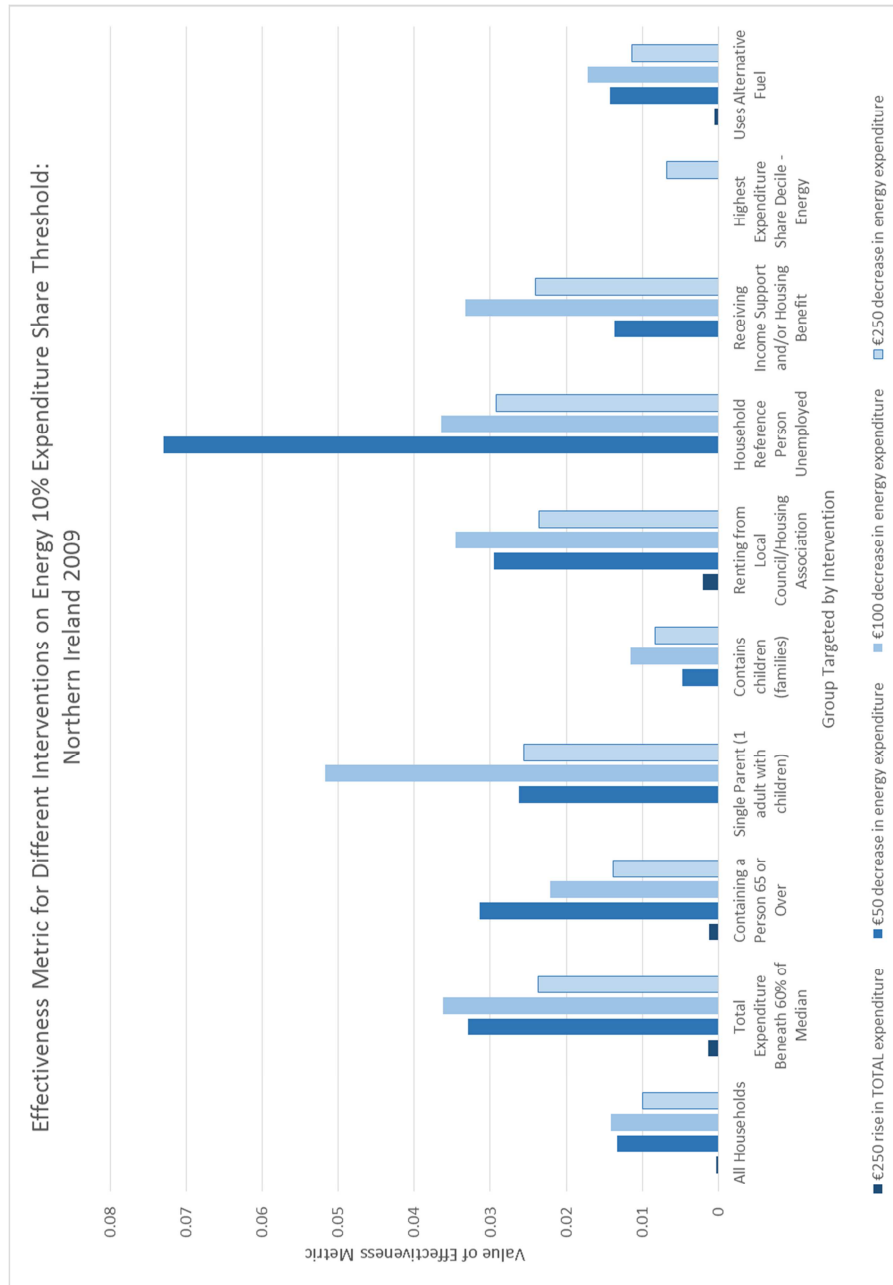
Turning to the effectiveness metric, the small size of the sub-samples for single parent households and households where the breadwinner is unemployed may reduce the reliability of the results in these two categories. This casts particular doubt on the exceptionally high effectiveness reported for targeting a €100 expenditure reduction at single parent households and a €50 expenditure reduction at households where the breadwinner is unemployed. Apart from these two groups, the next most effective groups to target to reduce energy affordability difficulties in the Northern Ireland sample are households with total expenditure beneath 60% of the median and those living in social housing. The relatively low effectiveness of targeting households using alternative fuels probably reflects the large size of this group and therefore the wide diversity of households within it.

Chart 8: Percentage of Households with an Expenditure Share on Energy Exceeding 10% following Different Interventions: Northern Ireland 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

Chart 9: Effectiveness Metric for Different Interventions on Energy 10% Expenditure Share Threshold: Northern Ireland 2009

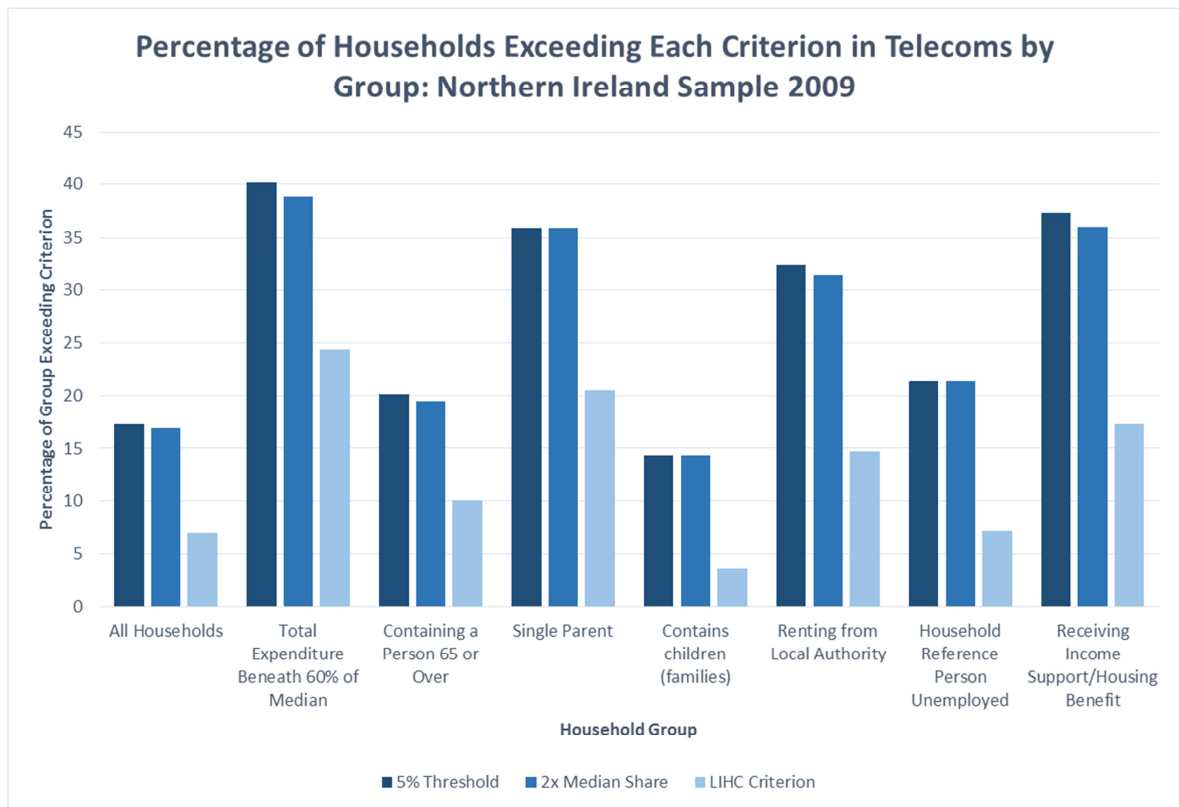


Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

5. Telecoms – Baseline

The relative rates of telecoms affordability difficulties across the different household groups in the Northern Ireland sample, as shown in Chart 10, are similar to that for the UK as whole. The one exception to this is the rate of telecoms affordability difficulties recorded for single parent households. For single parent households the percentage of households exceeding the metric in Northern Ireland is at least 10 percentage points higher than it is in the UK as a whole. This, too, may result from the small sample.

Chart 10: Percentage of Households Exceeding Each Criterion in Telecoms by Group: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

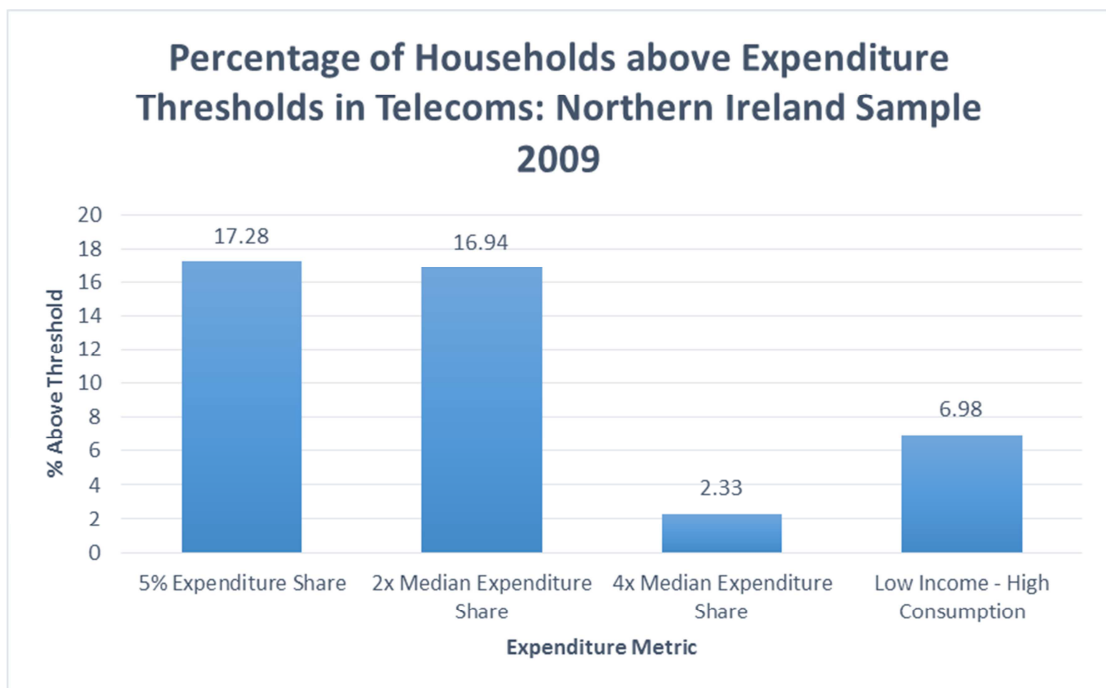
Chart 11 indicates that the distribution of telecoms expenditure shares is a bit more dispersed than for the UK as a whole and the Republic of Ireland, with the percentage of households above the three relative affordability thresholds (2x Median, 4x Median and LIHC) being somewhat higher.

As with the UK and Republic of Ireland, Chart 12 shows that the presence of children in a household is associated with the depth of affordability difficulties being high (conditional on being identified



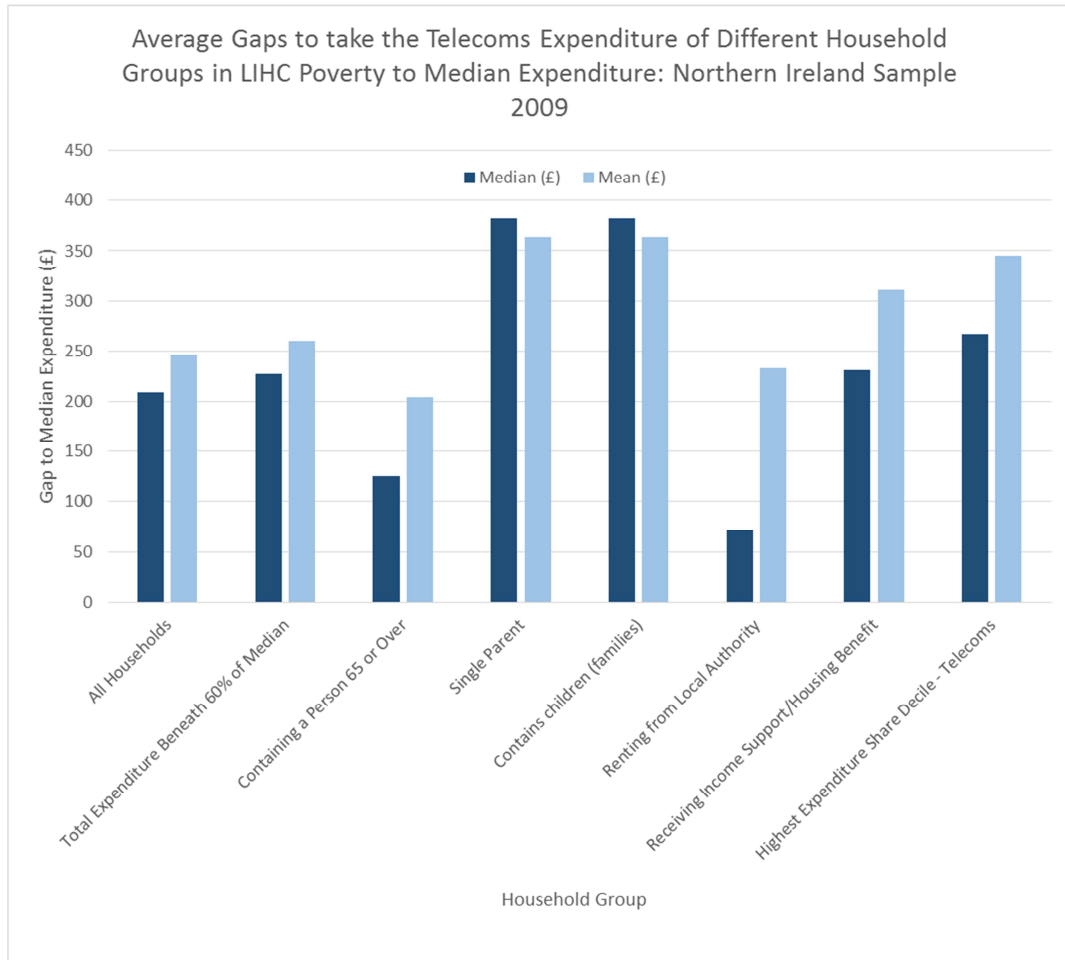
as having telecoms affordability difficulties according to the LHC criterion). The other striking feature of Chart 12 is the large difference between the mean and median LHC expenditure gaps for those living in social housing. For those households in social housing the mean LHC gap is over three times greater than the median LHC gap indicating that some households in social housing combine low incomes with particularly high telecoms consumption.

Chart 11: Percentage of Households above Expenditure Thresholds in Telecoms: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

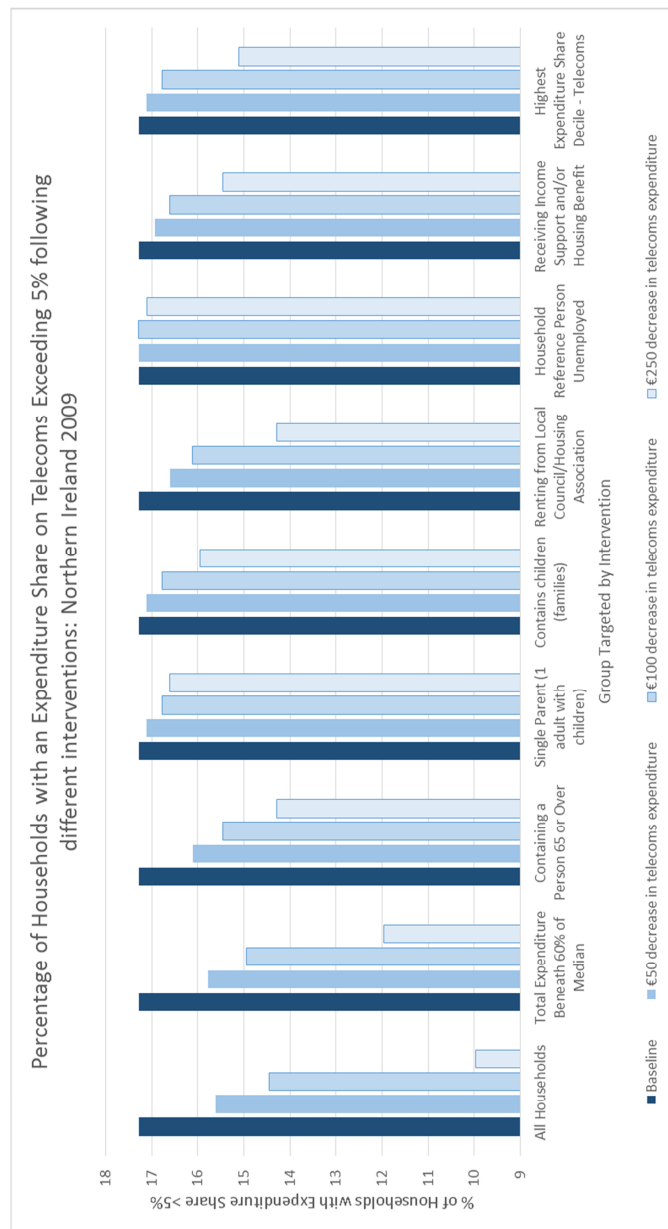
Chart 12: Average Gaps to take the Telecoms Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

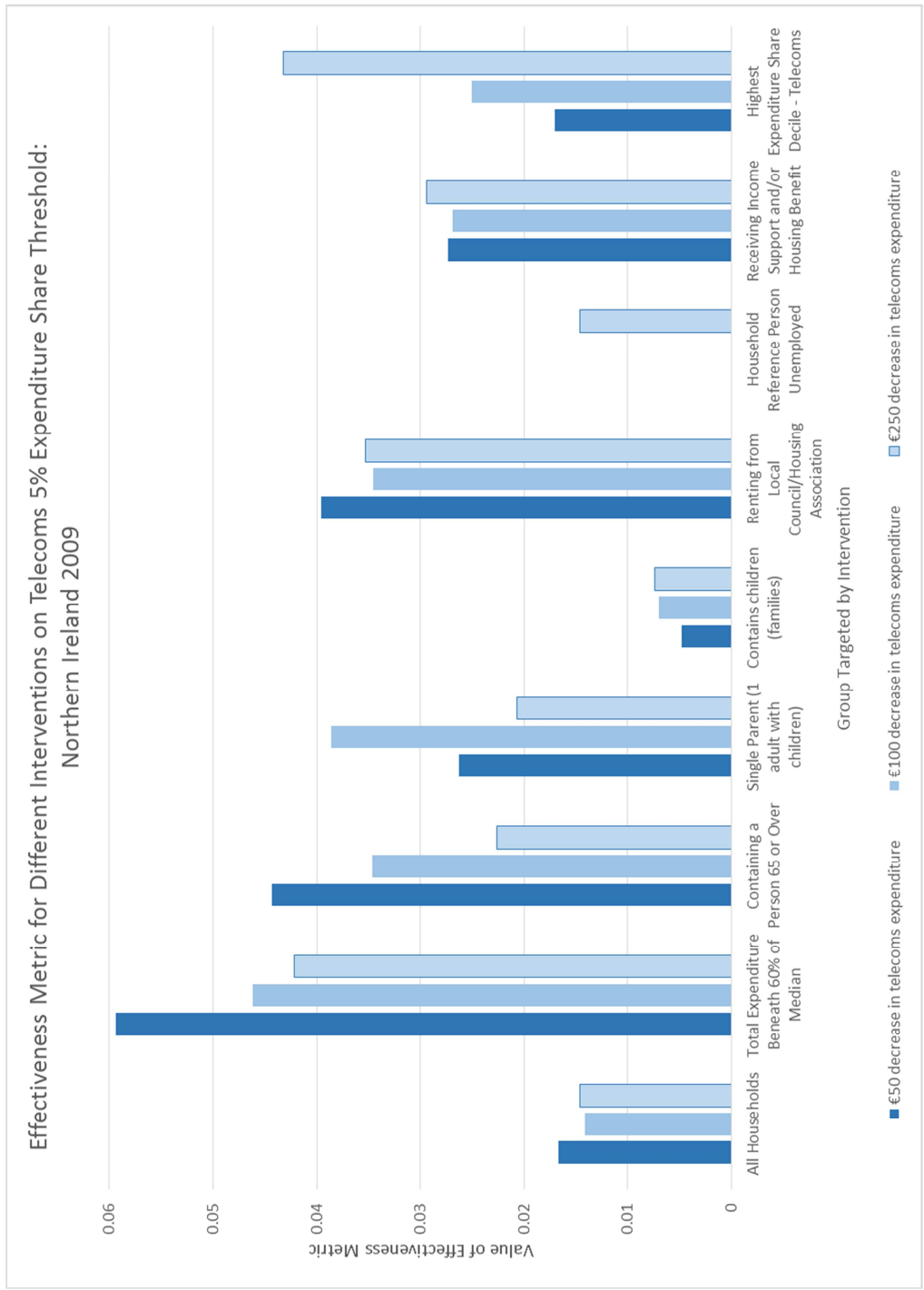
6. Telecoms – Simulations

Chart 13: Percentage of Households with an Expenditure Share on Telecoms Exceeding 5% following Different Interventions: Northern Ireland 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

Chart 14: Effectiveness Metric for Different Interventions on Telecoms 5% Expenditure Share Threshold: Northern Ireland 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009



Looking at the effectiveness of different policy interventions in Chart 14, it is clear that the most effective way to reduce the percentage of households spending over 5% of their expenditure on telecoms is to reduce the telecoms expenditure of households with total expenditure beneath 60% of the median. This is the same policy prescription as in the UK as a whole and the Republic of Ireland. The main difference from these two countries is that targeting households with someone over 65 appears to be relatively more effective in the Northern Ireland sample (particularly a €50 expenditure reduction), while targeting households with children is even less effective than in the other countries.

Another interesting contrast with the UK concerns the effectiveness of the different policy interventions if targeted at households with telecoms expenditure shares in the top 10%. For the UK (Chart 27, Research Paper 4), as the size of the expenditure reduction grows in magnitude the effectiveness of the policy intervention falls. In contrast, in the Northern Ireland sample the effectiveness score for a €250 expenditure reduction is more than double that for a €50 expenditure reduction. This suggests that in the Northern Ireland sample there is a larger proportion of households which are a relatively long way above the 5% telecoms expenditure share threshold.



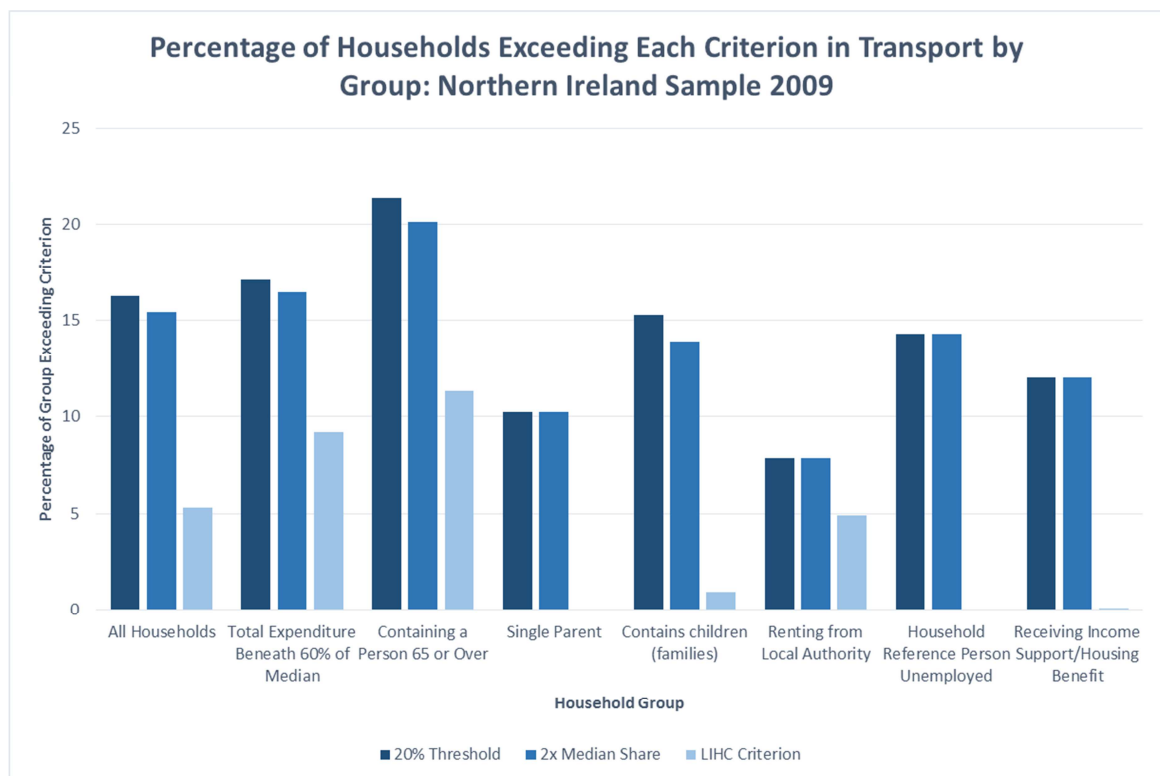
7. Transport – Baseline

The main feature of Chart 15 is the much higher rate of transport affordability difficulties for households containing someone aged 65 or over compared to either the UK as a whole or the Republic of Ireland. In the Northern Ireland sample, households with someone aged 65 or over have the highest rate of affordability difficulties according to all three of the affordability metrics. As a comparison, for the UK as a whole they have the fourth highest rate of affordability difficulties.

That in Chart 15 the LHC criterion records no affordability difficulties for single parent households, households where the breadwinner is unemployed and households receiving benefits is probably the result of a lack of observations in these sub-samples.

Turning to the rates of affordability difficulties for the population as a whole, the figures in Chart 16 are broadly in line with the UK.

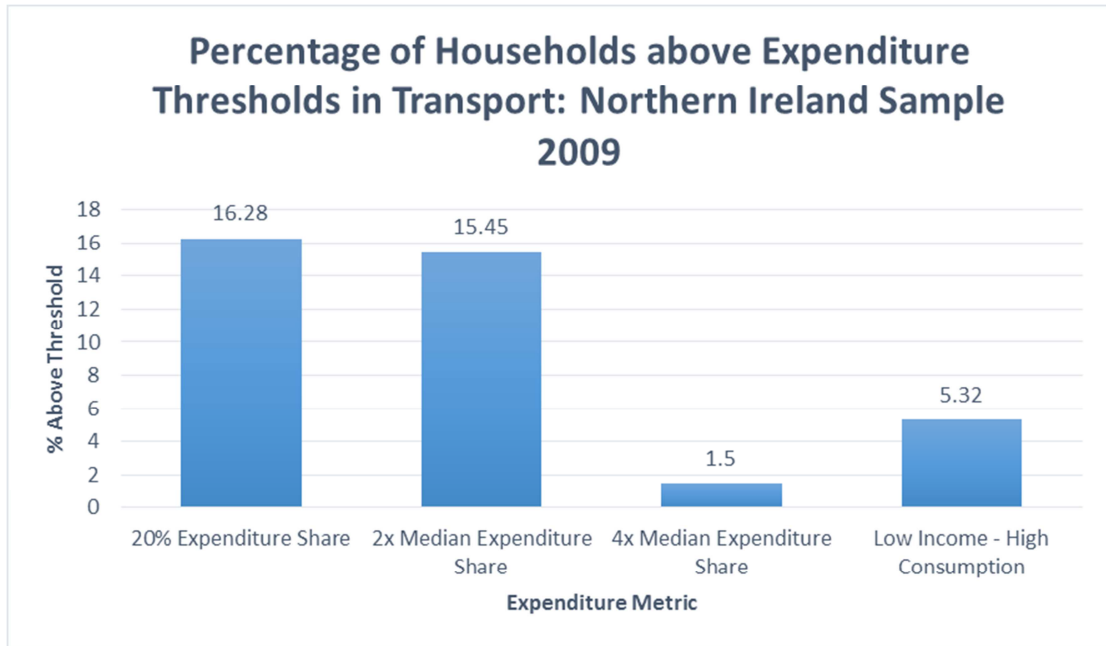
Chart 15: Percentage of Households Exceeding Each Criterion in Transport by Group: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009



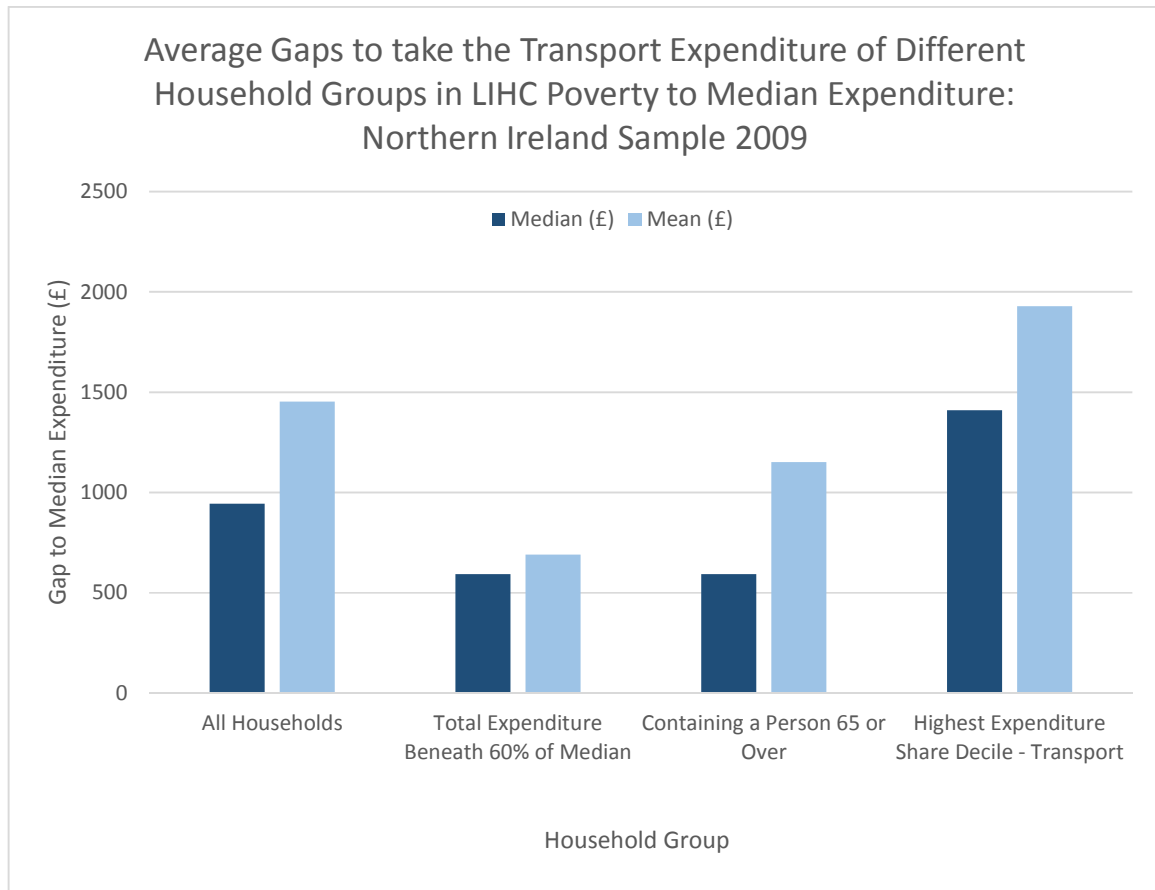
Chart 16: Percentage of Households above Expenditure Thresholds in Transport: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

In terms of the depth of affordability difficulties shown in Chart 17, it is noticeable that while the LHC gaps for 'All households' are similar to those for the UK, in each of the sub-groups identified the gaps are somewhat smaller than in the rest of the UK.

Chart 17⁵: Average Gaps to take the Transport Expenditure of Different Household Groups in LIHC Poverty to Median Expenditure: Northern Ireland Sample 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

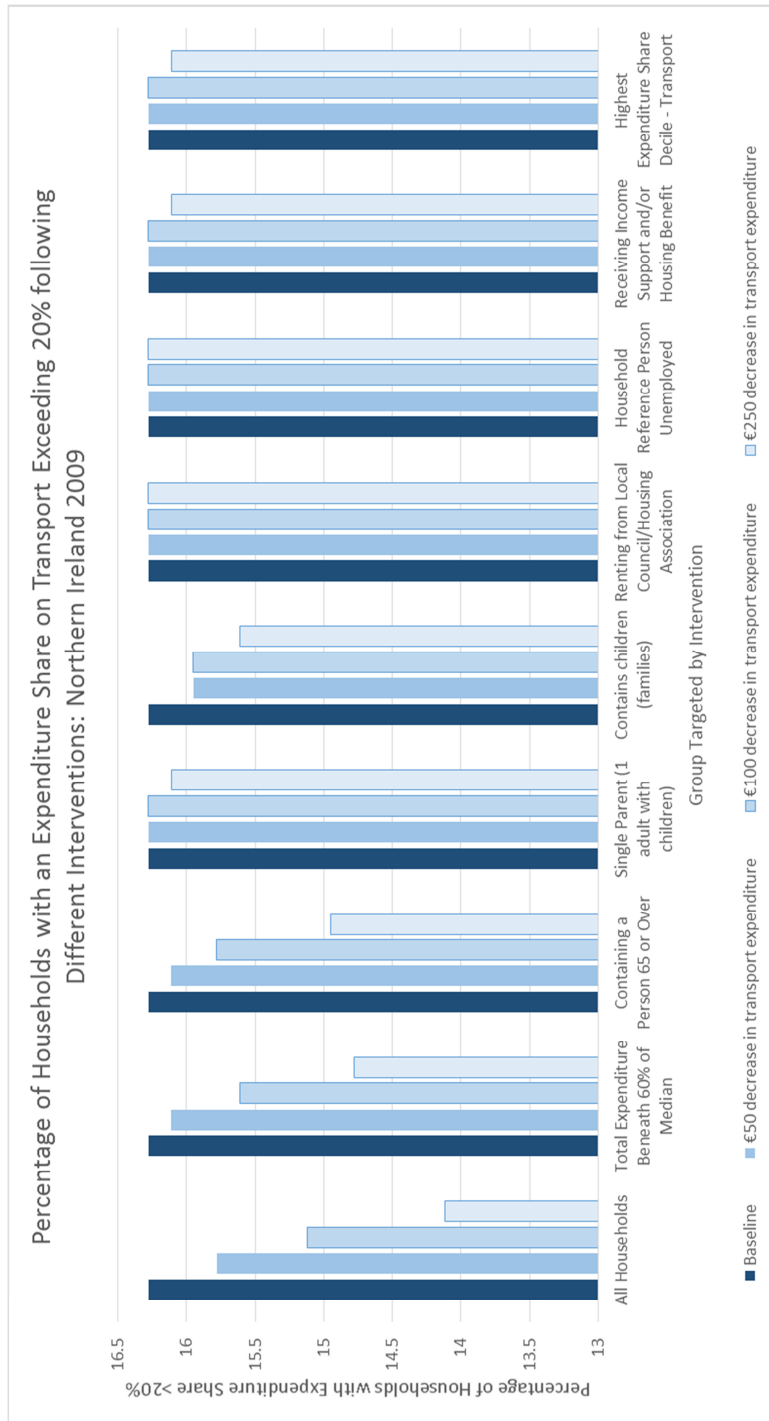
⁵ Only four groups are identified in Chart 81 due to no households being recorded in LIHC transport affordability difficulties in the Northern Ireland sample for the following categories: single parent households, households where the breadwinner is unemployed and households receiving housing benefit and/or income support.



8. Transport – Simulations

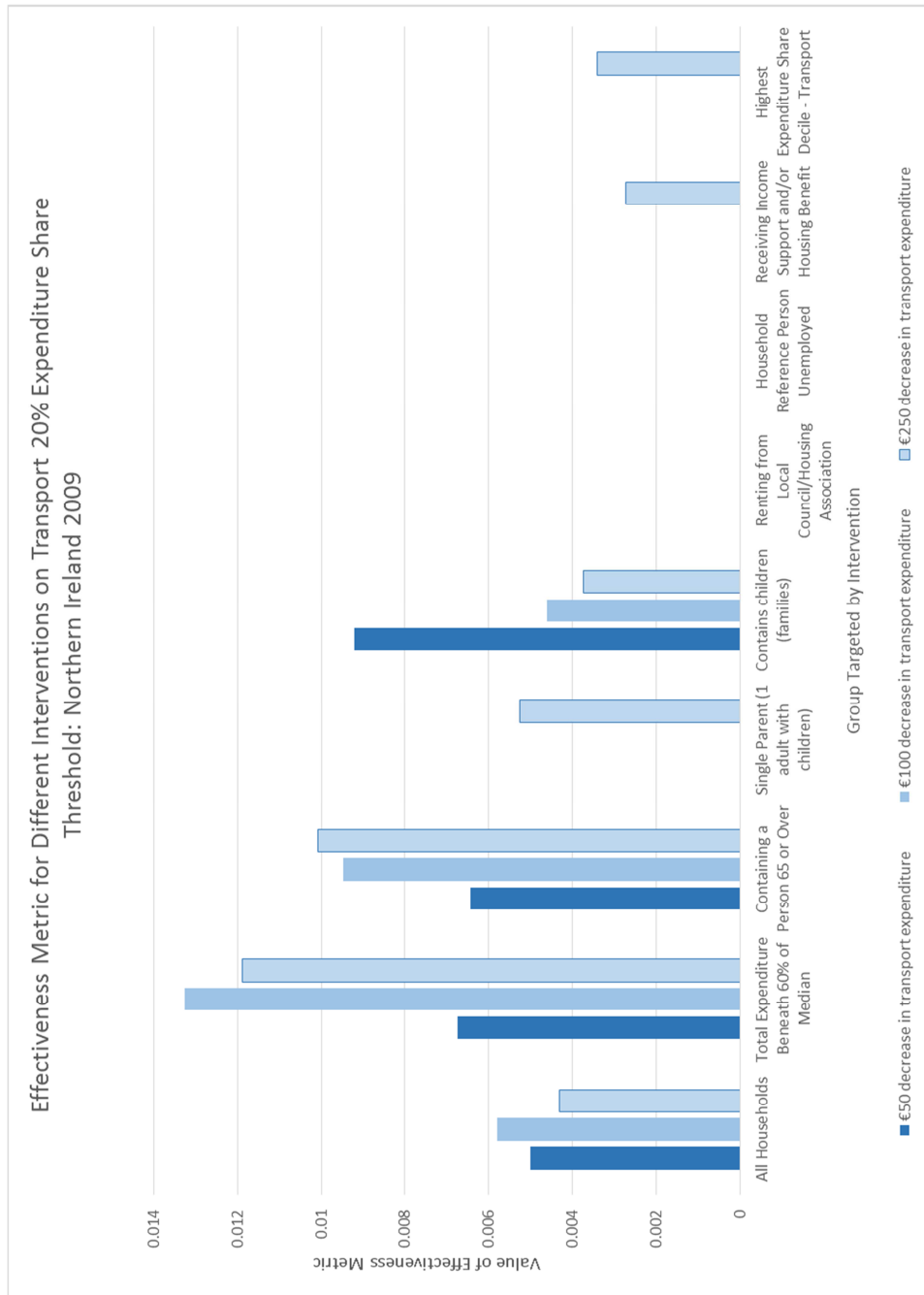
In the transport simulations for the Northern Ireland sample, the clearest result is that the structure of transport expenditure among households with the very highest transport expenditure shares has more in common with the UK than with the Republic of Ireland. In contrast to the Republic of Ireland, Chart 18 shows that expenditure reductions of €50 and €100 have no impact on the percentage of households spending more than 20% of their total expenditure on transport. The other noticeable feature of Chart 18 when compared to the UK and Republic of Ireland is that expenditure reductions targeted at households in social housing have no impact on the percentage of households with a transport expenditure share exceeding 20%. In Chart 19 the most effective target group is households with total expenditure below 60% of the median. The main difference between Chart 19 and the UK as a whole is that targeting households containing someone aged 65 or over is relatively more effective in Northern Ireland.

Chart 18: Percentage of Households with an Expenditure Share on Transport Exceeding 20% following Different Interventions: Northern Ireland 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009

Chart 19: Effectiveness Metric for Different Interventions on Transport 20% Expenditure Share Threshold: Northern Ireland 2009



Source: Living Costs and Food Survey, Northern Ireland sub-sample, 2009