

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

***Research Paper 10: Estimated Percentages of  
Households with Affordability Difficulties in Multiple  
Sectors: Selected Countries***

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## 1. Introduction

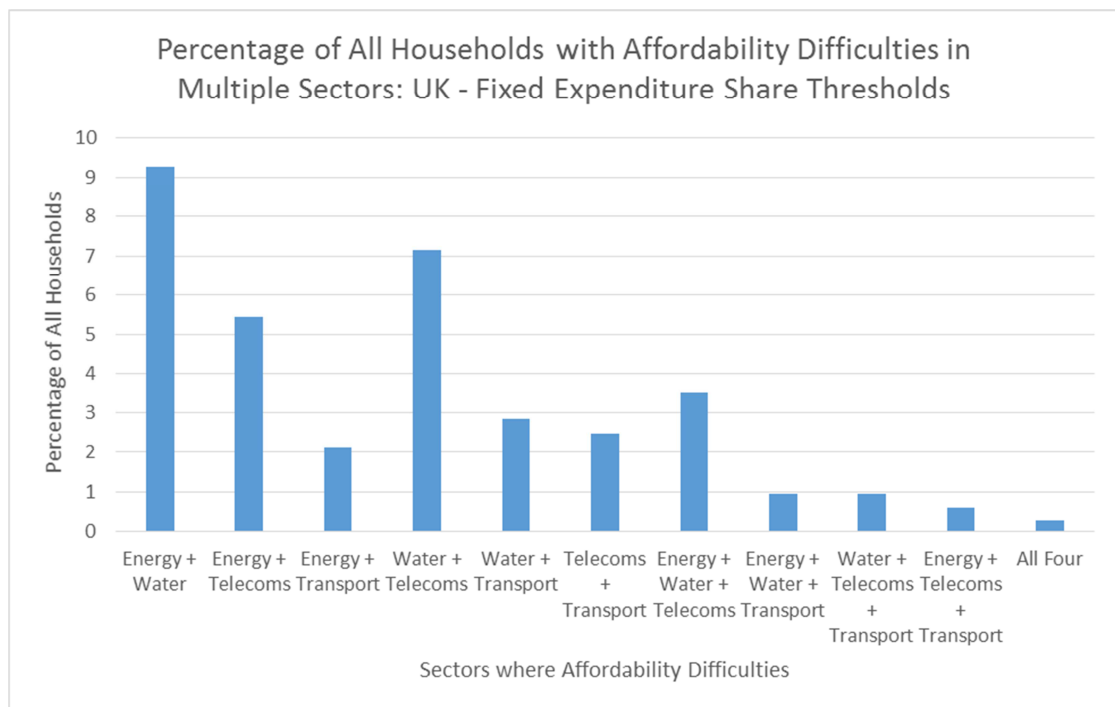
A key advantage of considering expenditure data at the individual household level is that it is possible to map the rate at which households are identified as having affordability difficulties across more than one utility sector. In this paper we report the findings of this analysis for the UK, Northern Ireland, Republic of Ireland and Estonia. As in the other documents, the figures reported below are estimates; for brevity, we only report the central estimates rather than the extent of uncertainty which exists around these estimates. For each country we report proportions for both the population as a whole and for those households whose income lies below 60% of the median; and three affordability metrics: fixed expenditure share thresholds, twice the median expenditure share and the Low Income High Consumption (LIHC) metric. For reference, the fixed expenditure share thresholds used to indicate affordability difficulties are the following: 10% in energy, 3% in water, 5% in telecoms and 20% in transport.



## 2. United Kingdom

Chart 1 reports the percentage of all households in the UK with expenditure difficulties in multiple utility sectors according to the fixed expenditure share thresholds detailed above. It is a deliberate choice to record the percentages by specific combination, e.g. water and telecoms, rather than simply stating the percentage of the population with affordability difficulties in two sectors or three sectors. We do this because the interpretation of a high expenditure share devoted to transport or telecommunications is slightly ambiguous, for example high transport expenditure related to exotic holidays is not normally considered an affordability concern.

**Chart 1: Percentage of All Households with Affordability Difficulties in Multiple Sectors: UK – Fixed Expenditure Share Thresholds**



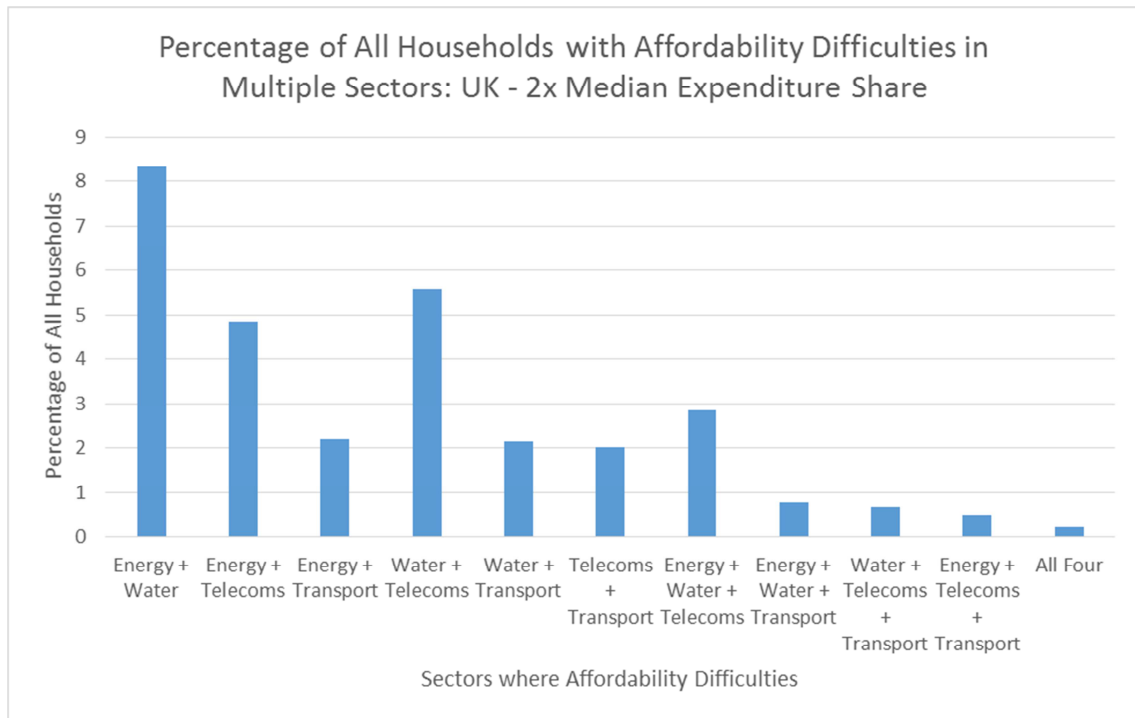
Source: Authors calculations from Living Costs and Food Survey, 2012

Chart 1 shows that overall a small proportion of the total population is recorded as having affordability difficulties in several sectors according to the fixed expenditure share thresholds. Only three combinations of affordability difficulties involve more than 5% of the population: energy and water, energy and telecoms, and water and telecoms. That transport does not feature in any of these combinations reflects the fact that a high transport expenditure share is linked to those on slightly higher incomes and so transport expenditure probably has a weak correlation with high expenditure shares in the other sectors. That energy and water is the combination of utility



difficulties which is most common in the UK (over 9% of households suffer this) is probably due to households with the lowest incomes having by far the highest expenditure shares devoted to these two sectors. In contrast to the relative prevalence of this combination, less than 0.3% of the population has affordability difficulties in all four of the utility sectors. However, this small group faces considerable pressures on their household budgets, with at least 38% of their total household expenditure being devoted to utilities.

**Chart 2: Percentage of All Households with Affordability Difficulties in Multiple Sectors: UK – 2x Median Expenditure Share**



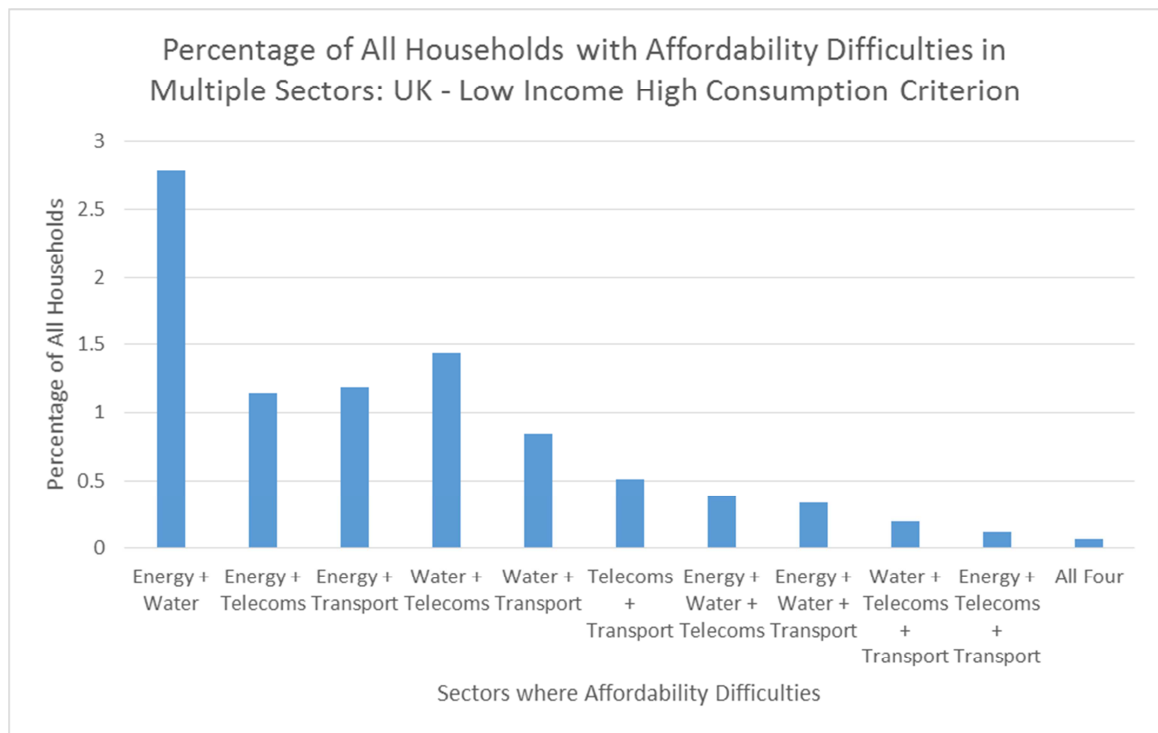
Source: Authors calculations from Living Costs and Food Survey, 2012

Chart 2 is very similar to Chart 1 despite the switch to identifying affordability difficulties by a household spending more than twice the median expenditure share on a particular utility. The relative proportions facing each combination of affordability difficulties are virtually identical to those in Chart 1. Given that the LIHC criterion identifies a far lower percentage of households as facing affordability difficulties in individual sectors, compared to the other two affordability metrics, it is unsurprising that the percentages of the population identified as facing multiple utility affordability difficulties according to the LIHC criterion in Chart 3 are also lower. While over 8% of the UK population spent at least twice the median expenditure share on both energy and water, only 2.75% of the population faced affordability difficulties in these two sectors according to the LIHC criterion. It is notable that once the LIHC criterion is used, the percentages of the population



recorded as suffering difficulties in multiple sectors becomes so low that the apparent relevance for policymakers may be questionable.

**Chart 3: Percentage of All Households with Affordability Difficulties in Multiple Sectors: UK – Low Income High Consumption Criterion**



Source: Authors calculations from Living Costs and Food Survey, 2012

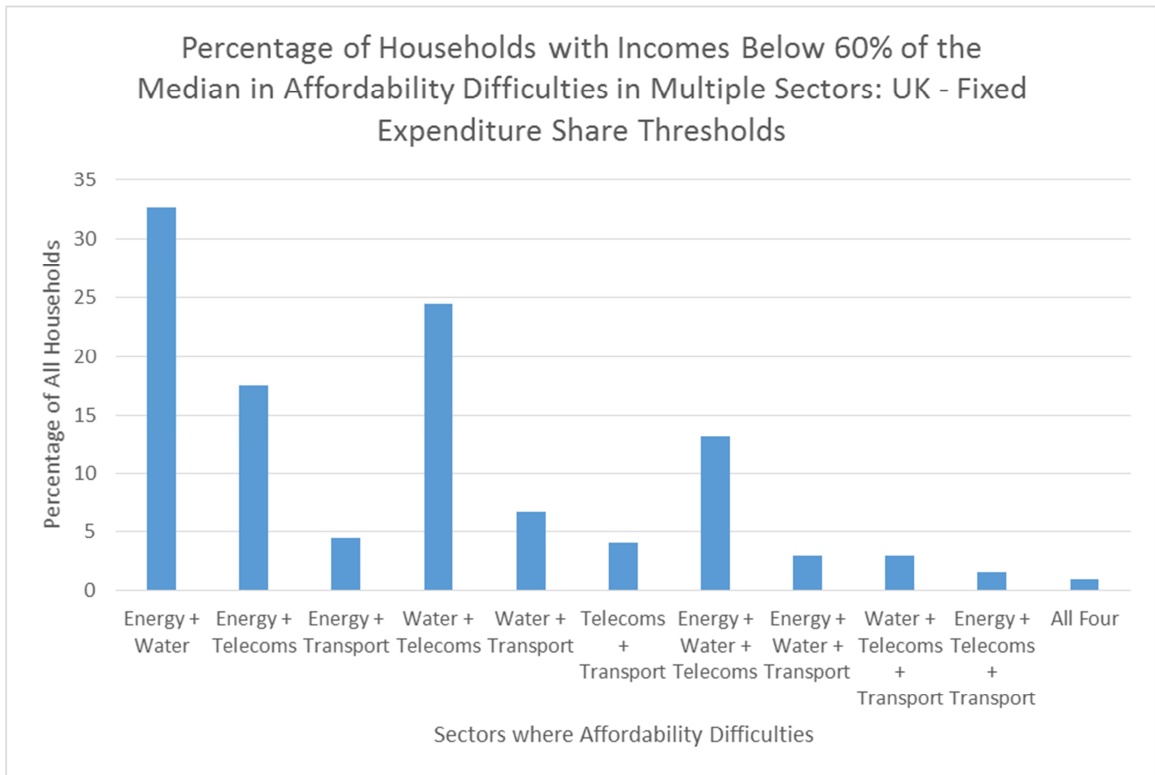
The other difference between Chart 3 and Charts 1 and 2 is that in Chart 3 a relatively similar percentage of households (1-1.5%) experience each of the following three combinations of affordability difficulties: energy and telecoms, energy and transport, and water and telecoms. In Charts 1 and 2 a far lower percentage of households are recorded as having affordability difficulties in energy and transport compared to the other two combinations.

Charts 4 to 6 report the percentage of low income households who have affordability difficulties in multiple utility sectors. From Chart 4 it is immediately apparent that households with income beneath 60% of the median have much higher rates of multiple affordability difficulties than the UK population as a whole. The rates of low income households being in particular types of multiple affordability difficulties appear to be around three times those for the population as whole. Over 30% of the low income households spend over 10% of their expenditure on energy and over 3% of their expenditure on water (Chart 4). Almost 25% of low income households face affordability difficulties in water and telecoms and over 15% have affordability difficulties in energy and telecoms according to the fixed threshold metrics. Chart 4 shows that around 13% of households



with incomes below 60% of the median face affordability difficulties simultaneously in energy, water and telecoms according to the fixed threshold metrics. Lastly Chart 4 shows that while the percentage of low income households reporting affordability difficulties for energy and transport is higher than for the population as whole, the increase relative to the whole population is smaller than for the other categories involving two utility sectors. This result reflects the pattern of low income households generally devoting a lower fraction of expenditure to transport than other households.

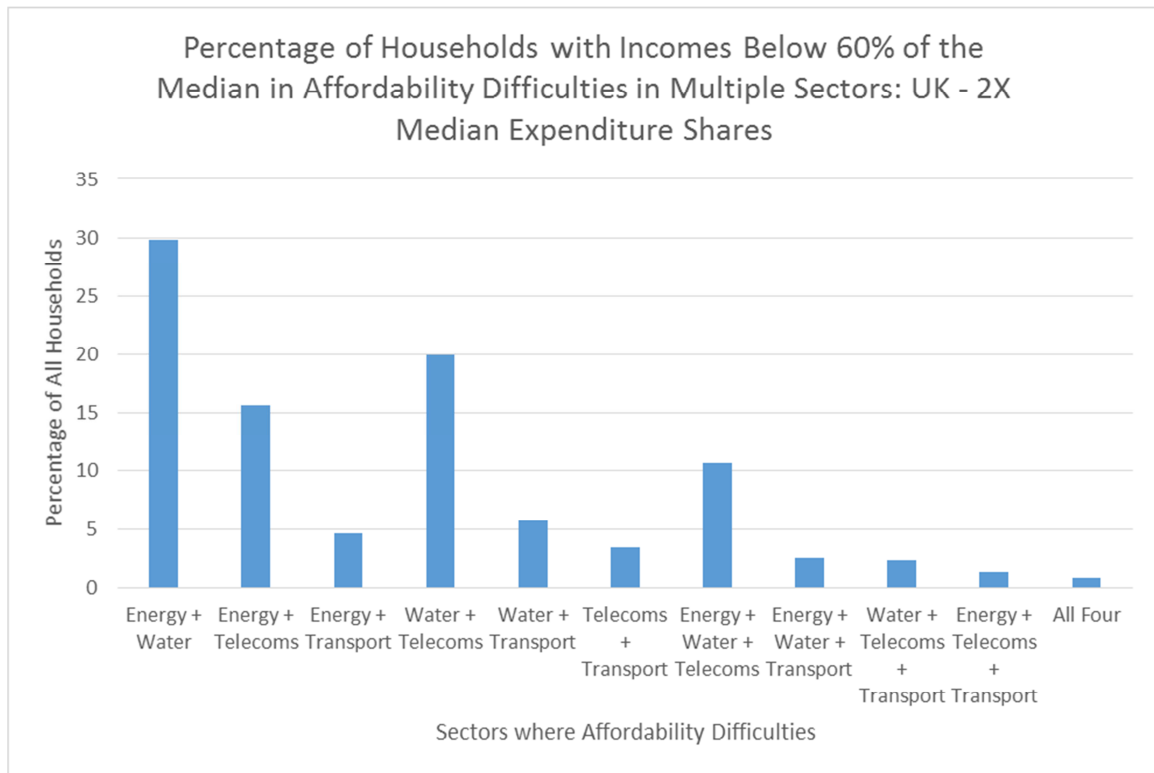
**Chart 4: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: UK – Fixed Expenditure Share Thresholds**



Source: Authors calculations from Living Costs and Food Survey, 2012



**Chart 5: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: UK – 2X Median Expenditure Shares**



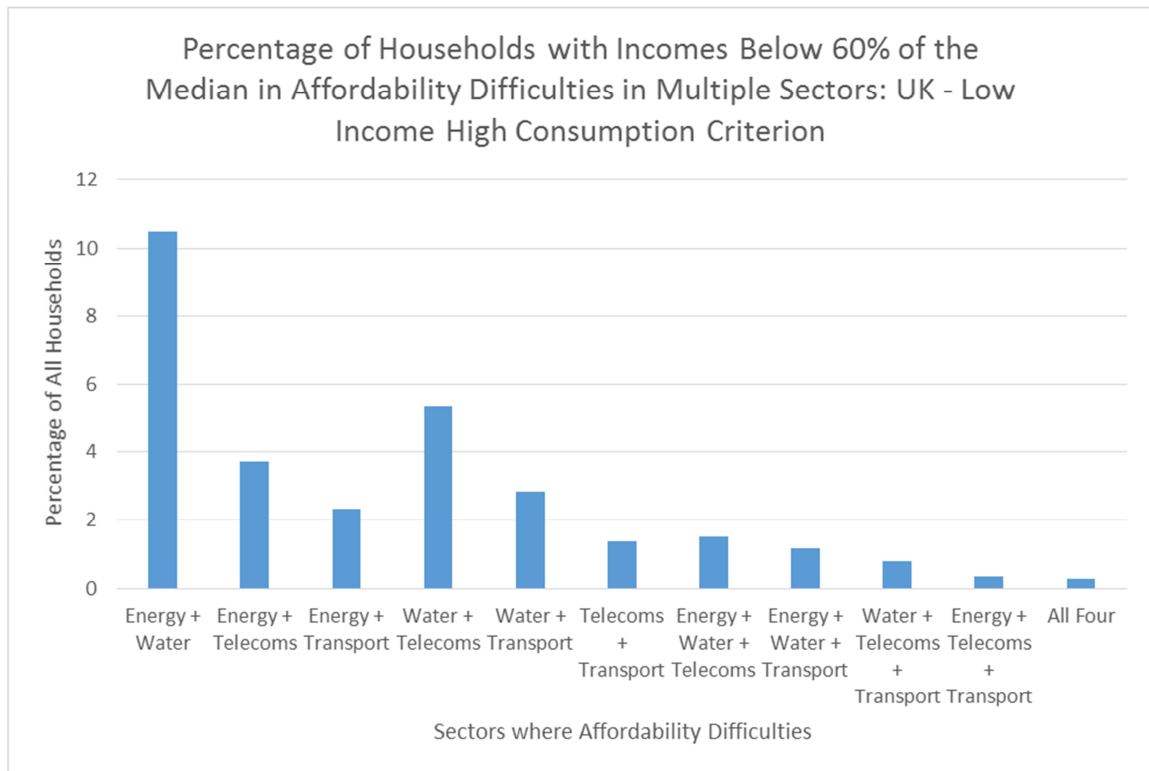
Source: Authors calculations from Living Costs and Food Survey, 2012

Chart 5 provides a very similar picture to Chart 4, and, in general, the relative proportions in each of the combined affordability groups is also similar in Chart 6, although the *levels* of multiple affordability difficulties recorded by the LHC criterion are much lower. An interesting result in Chart 6 is that the proportion of low income households reporting affordability difficulties in energy, telecoms and water using the LHC criterion is not much higher than for the other combinations of affordability difficulties involving 3 sectors. In contrast, when the other metrics are used in Charts 4 and 5 the proportion of households reporting affordability difficulties in energy, telecoms and water is noticeably higher than for the other 3-sector combinations.





**Chart 6: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: UK – Low Income High Consumption Criterion**



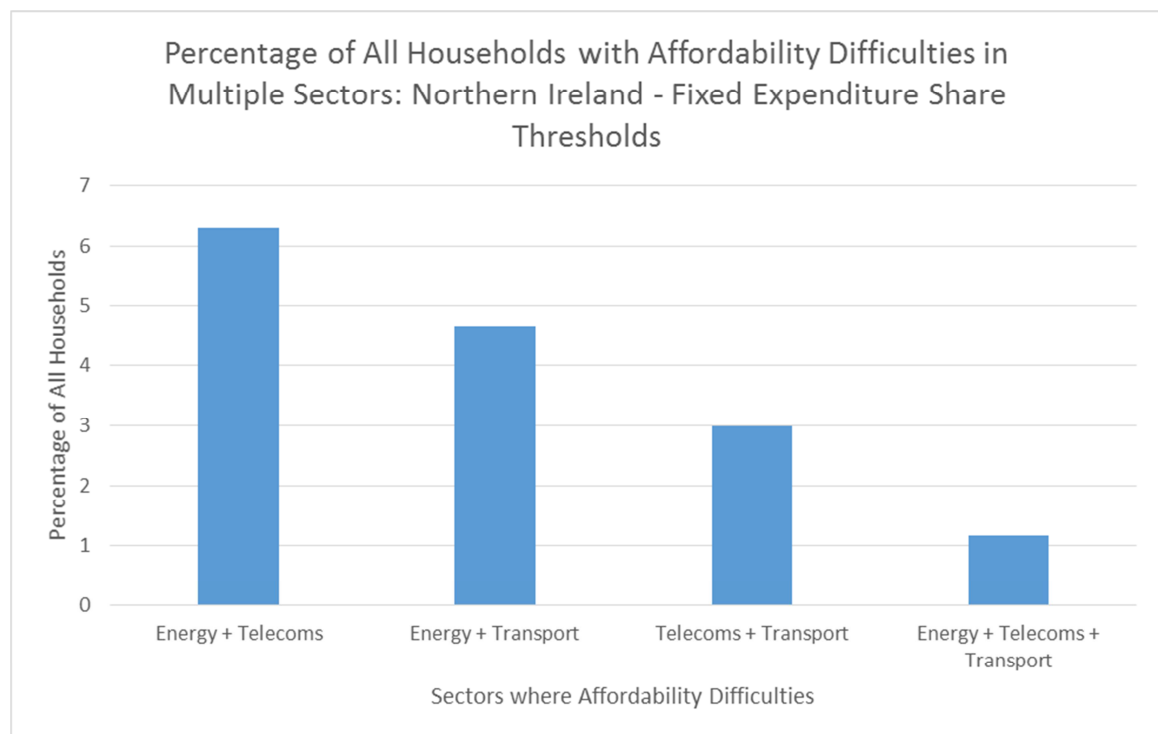
Source: Authors calculations from Living Costs and Food Survey, 2012



### 3. Northern Ireland

Because sufficiently detailed data are available for Northern Ireland only until 2009, analysis is based on this year, which affects the interpretation of comparisons with the latest figures available for the UK (2012). The first thing to note about Northern Ireland is that for households in this part of the UK no water expenditure was recorded in the 2009 Living Costs and Food Survey, so there are far fewer combinations of sectors to be charted. Chart 7 shows that three out of the four combinations of utility affordability difficulties are slightly higher, but broadly in line, with the percentages for UK households as a whole. The one exception to this pattern is the combination of energy and transport. In Northern Ireland over 4.5% of households face affordability difficulties in energy and transport according to the fixed threshold metrics, which is more than double the figure for the UK as a whole. Chart 8 shows a similar pattern of results for the twice median expenditure share metrics.

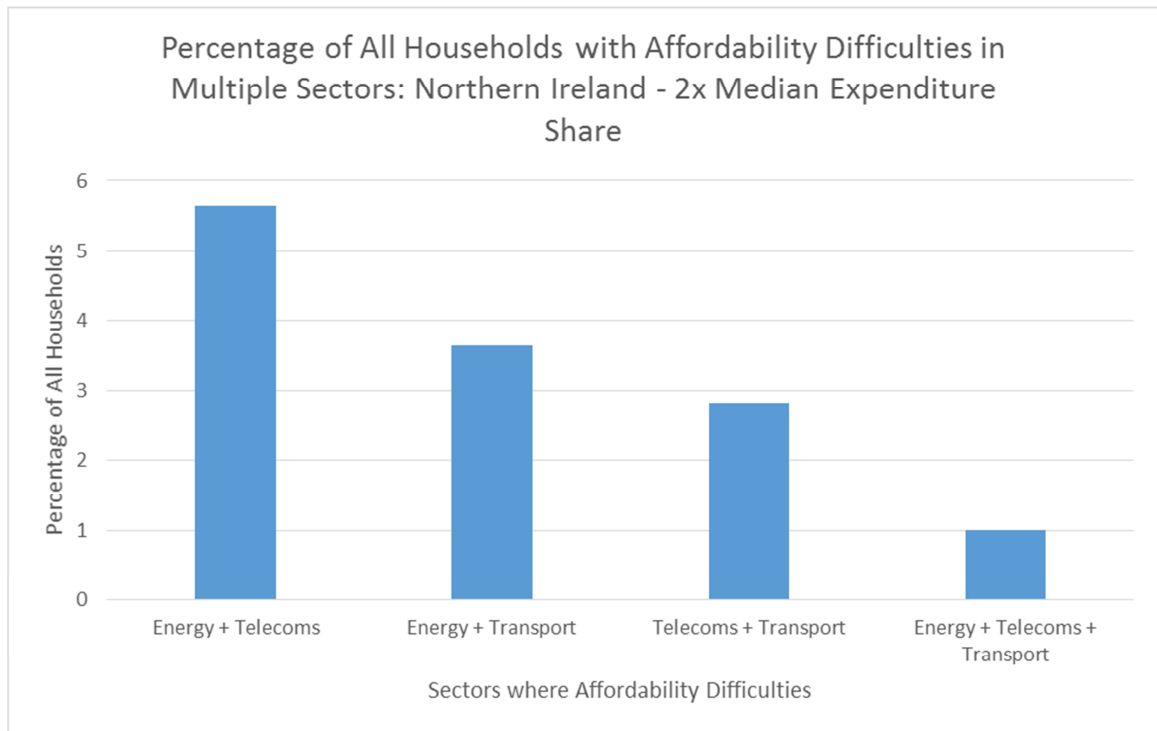
**Chart 7: Percentage of All Households with Affordability Difficulties in Multiple Sectors: Northern Ireland – Fixed Expenditure Share Thresholds**



Source: Authors calculations from Living Costs and Food Survey, 2009



**Chart 8: Percentage of All Households with Affordability Difficulties in Multiple Sectors: Northern Ireland – 2x Median Expenditure Share**

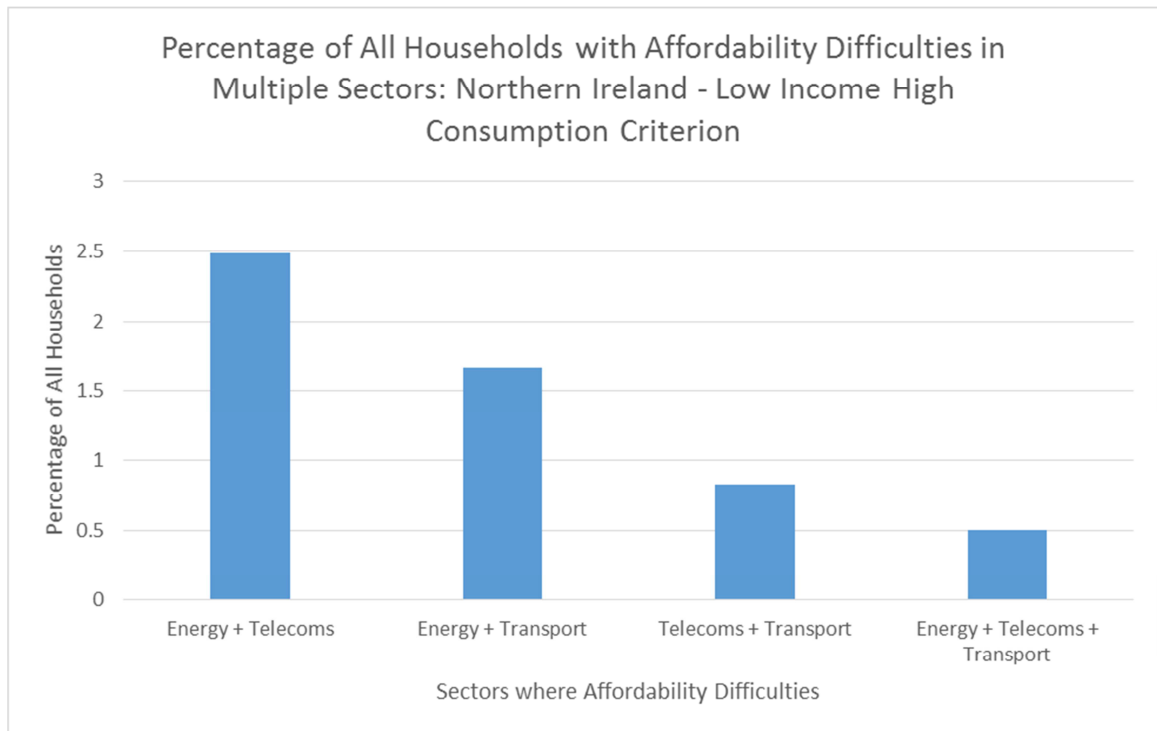


Source: Authors calculations from Living Costs and Food Survey, 2009

Switching to the LHC criterion in Chart 9, the same relative relationships between the different combinations of sectors exist, but levels of combined affordability difficulties occurring in the population are reduced compared to Charts 7 and 8. However, Chart 9 does show that when using the LHC criterion the percentage of households in Northern Ireland with affordability difficulties in both energy and telecoms is approximately double the figure for the rest of the UK (2.5% vs 1.2%).



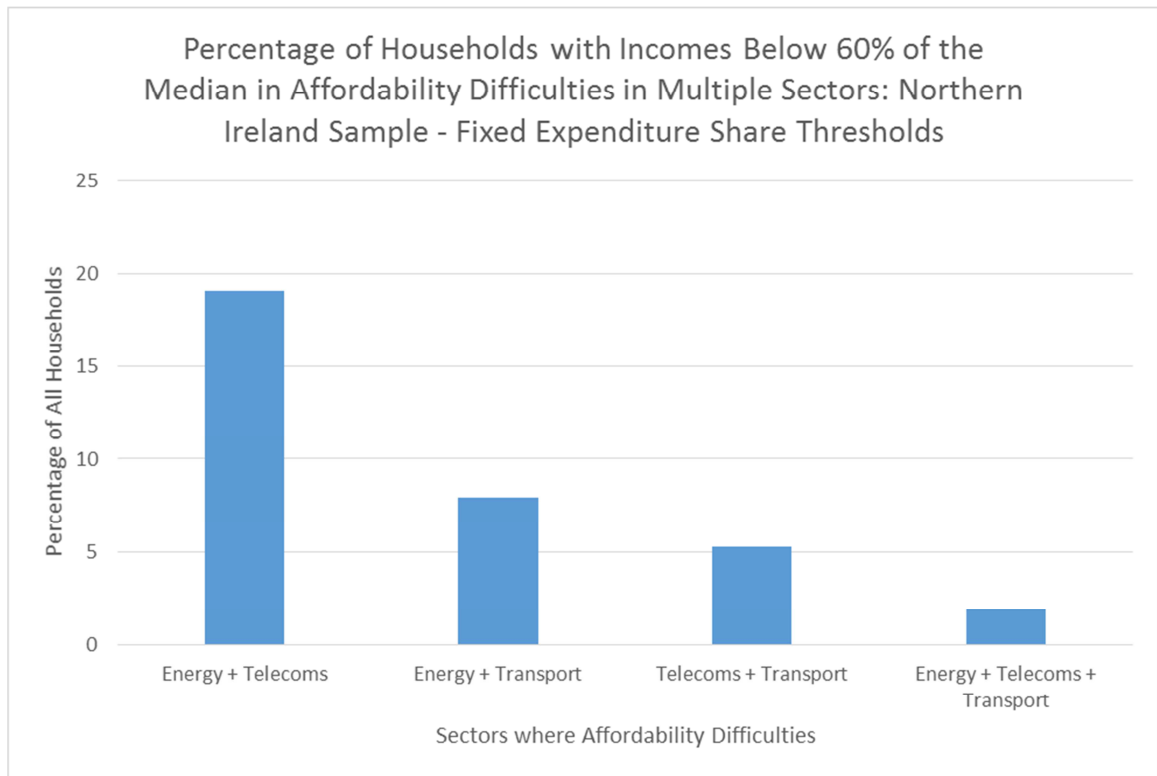
**Chart 9: Percentage of All Households with Affordability Difficulties in Multiple Sectors: Northern Ireland – Low Income High Consumption Criterion**



Source: Authors calculations from Living Costs and Food Survey, 2009



**Chart 10: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Northern Ireland Sample – Fixed Expenditure Share Thresholds**

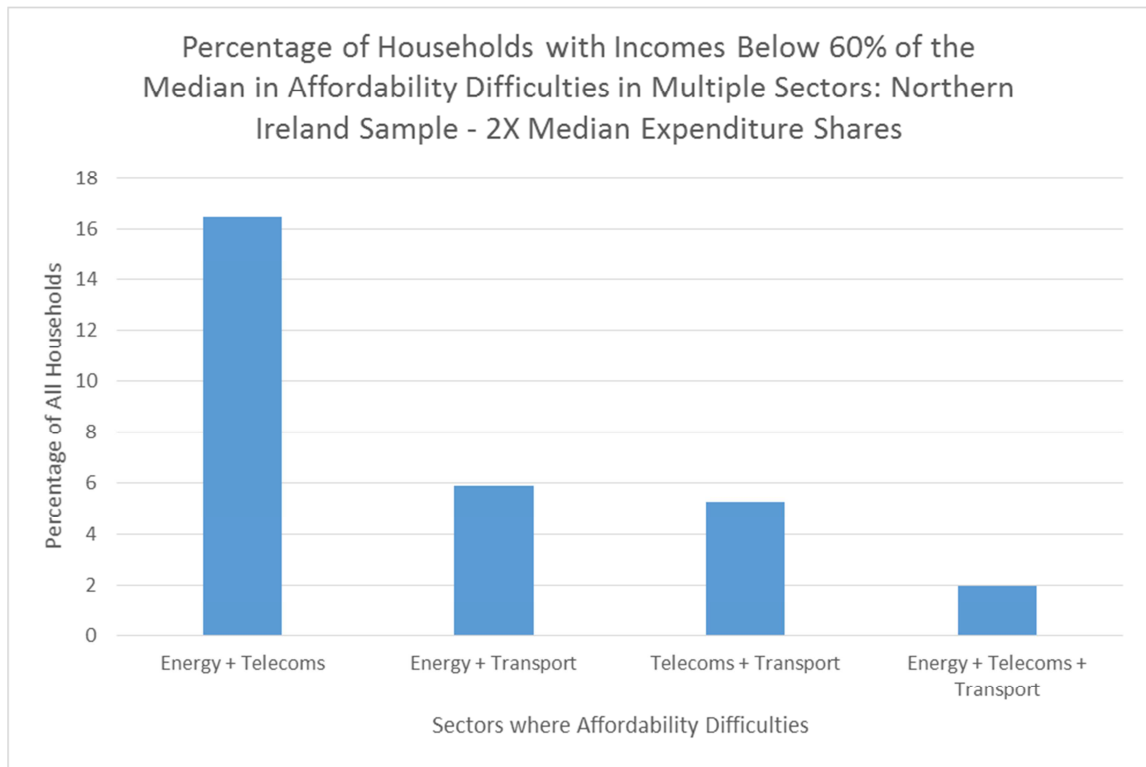


Source: Authors calculations from Living Costs and Food Survey, 2009

Chart 10 shows that the key difference with the rest of the UK is that the rate of low income households reporting affordability difficulties in energy and telecoms is around 2.5 percentage points higher in Northern Ireland.



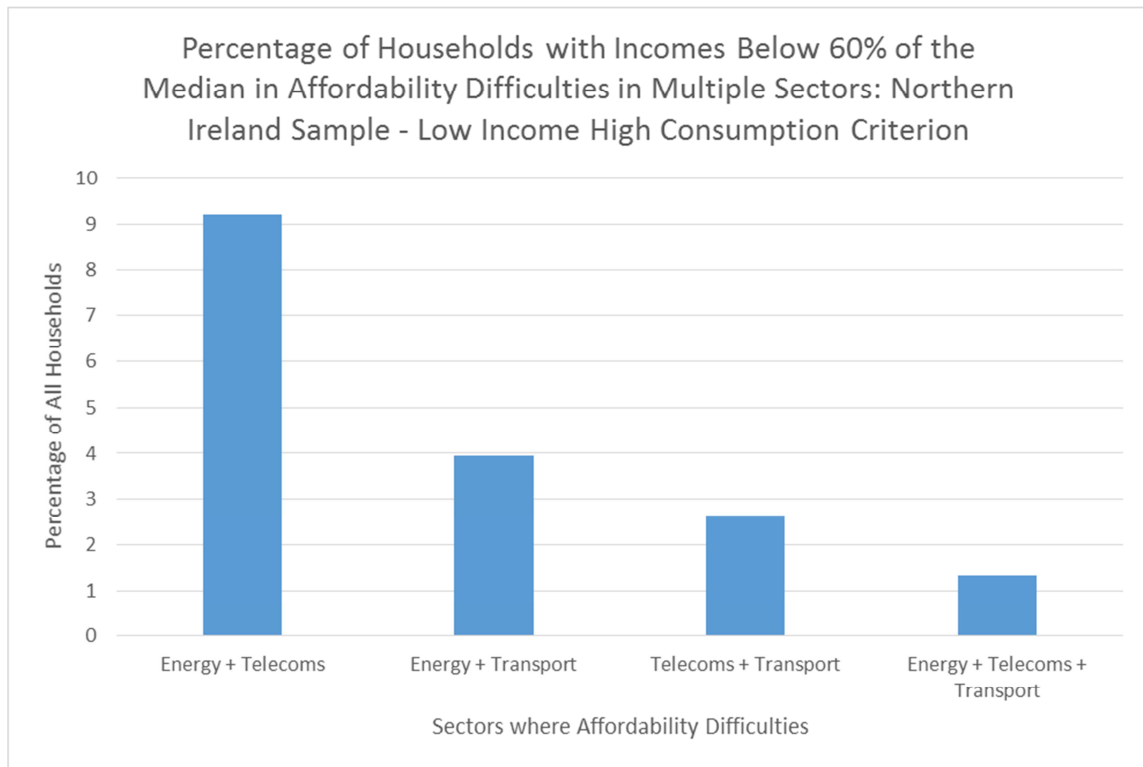
**Chart 11: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Northern Ireland Sample – 2x Median Expenditure Shares**



Source: Authors calculations from Living Costs and Food Survey, 2009



**Chart 12: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Northern Ireland Sample – Low Income High Consumption Criterion**



*Source: Authors calculations from Living Costs and Food Survey, 2009*

Turning to the LHC criterion, the differences between Northern Ireland and the rest of the UK are more pronounced. In Northern Ireland the LHC criterion records around 9% of low income households facing affordability difficulties in both energy and telecoms compared to less than 4% of households in the UK as a whole. The rates of low income households in Northern Ireland reporting affordability difficulties for energy and transport, and energy, telecoms and transport according to the LHC criterion are also much higher than for the UK as a whole.



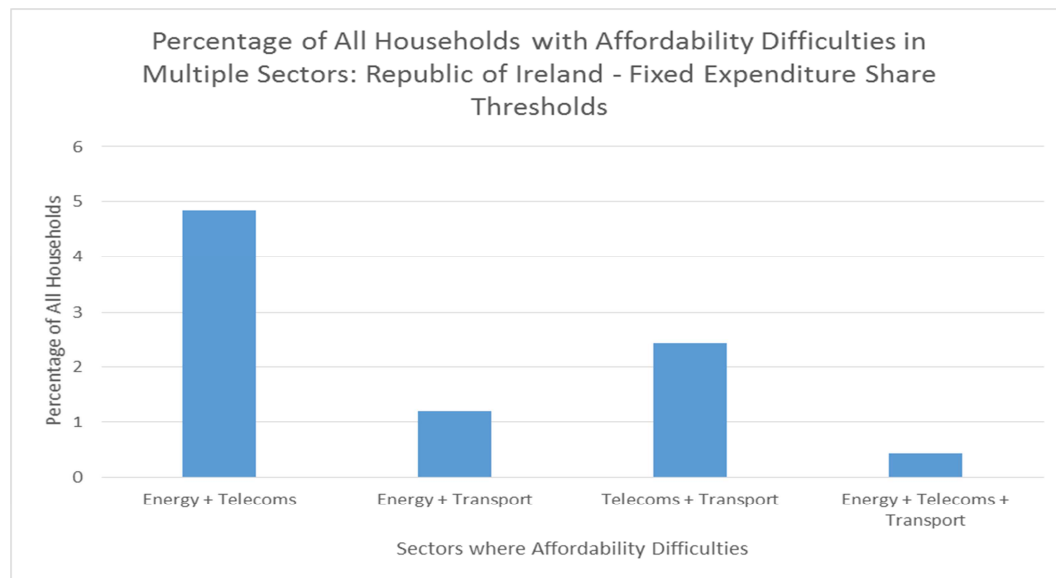
## 4. Republic of Ireland

Before considering the Republic of Ireland’s results it is important to recall that the Republic of Ireland has a very different charging system for water services compared to the UK. In particular, it is unclear what the expenditure figures for water and sewerage services in our data from the Republic of Ireland represent. Most households have zero or very low expenditure on water and sewerage services in the Republic of Ireland, and our understanding that general charging for water services was not introduced until 2014. As a result we have excluded the water sector from our analysis of multiple affordability difficulties illustrated in the charts below.

Funding water consumption via taxation will mechanically reduce the expenditure on water recorded in household budget surveys. However this does not mean that households do not face the costs of water, merely that the cost is paid for via a different mechanism, namely taxes rather than bills. Paying for water services via a taxation system will only address water affordability issues in the real world (as opposed to in the statistics) if the taxes funding water services are progressive.

We make several comparisons with the UK, but in interpreting these, it should be noted that the proportions refer to different years: 2009-10 for the Republic of Ireland and 2012 for the UK. Charts 13 and 14 show that the percentages of households reporting affordability difficulties for both energy and telecoms according to the fixed threshold and twice median metrics are fairly similar to those in the UK.

**Chart 13: Percentage of All Households with Affordability Difficulties in Multiple Sectors:**

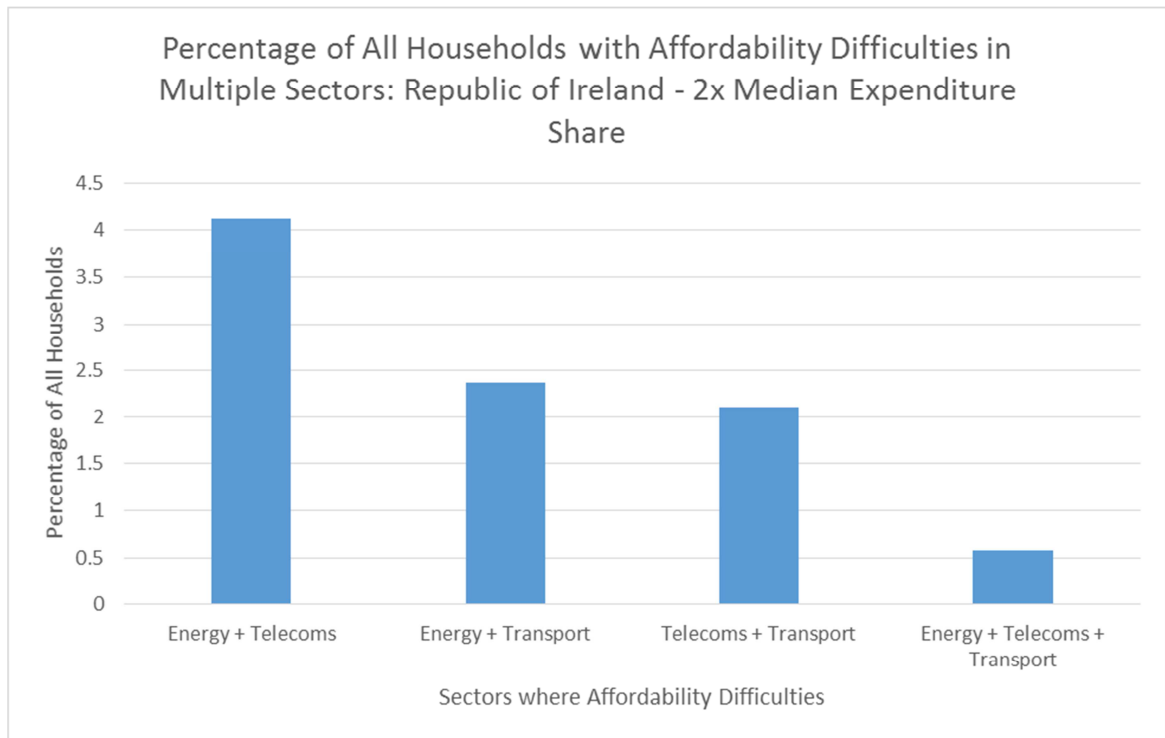


Source: Authors calculations from Irish Household Budget Survey, 2009-10



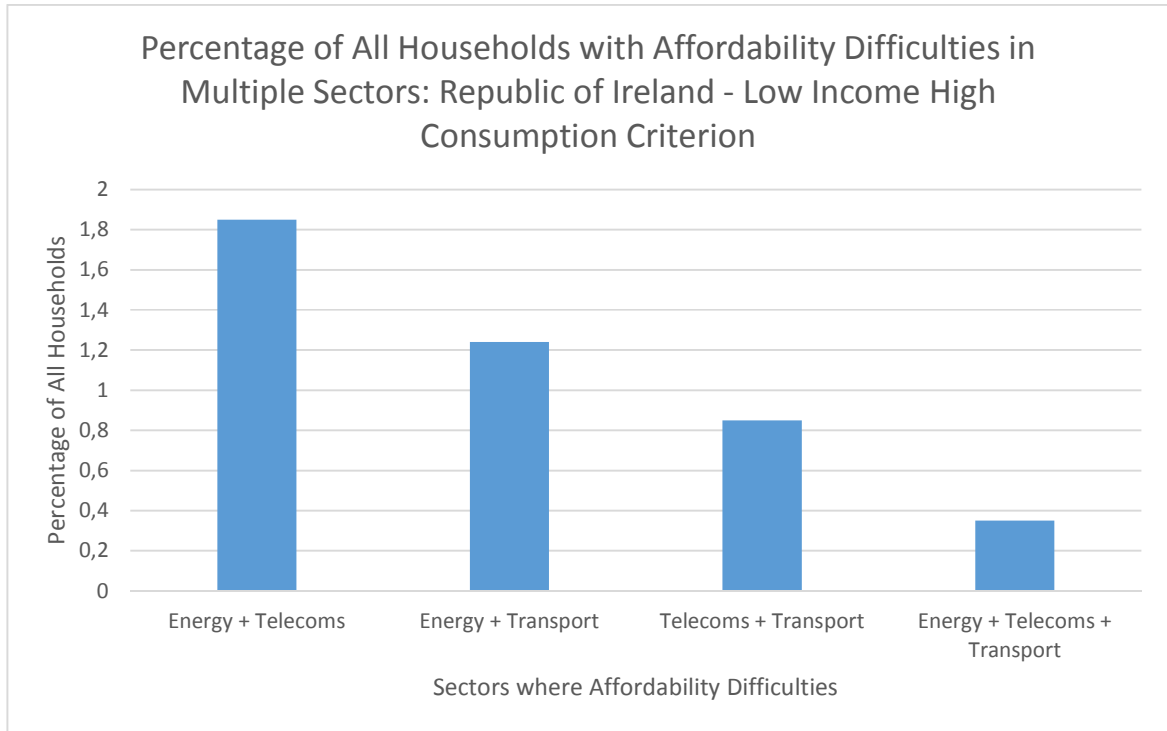


**Chart 14: Percentage of All Households with Affordability Difficulties in Multiple Sectors: Republic of Ireland – 2x Median Expenditure Share**



Source: Authors calculations from Irish Household Budget Survey, 2009-10

**Chart 15: Percentage of All Households with Affordability Difficulties in Multiple Sectors: Republic of Ireland – Low Income High Consumption Criterion**

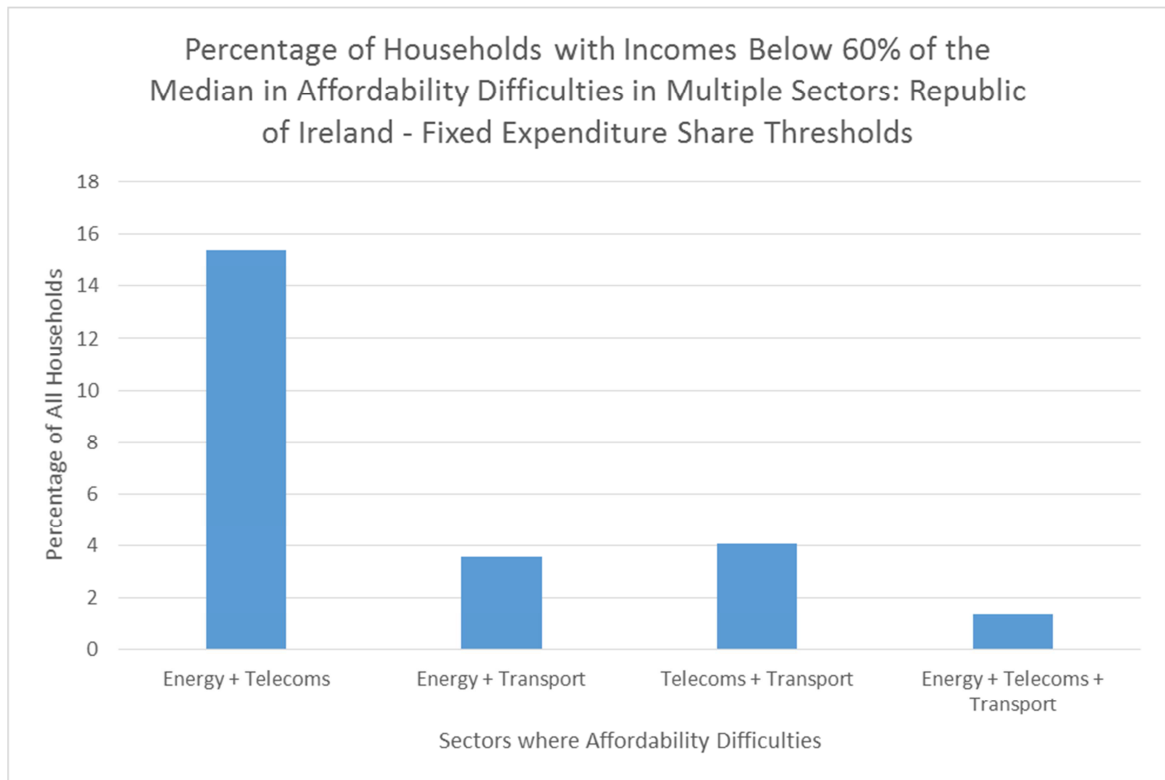


*Source: Authors calculations from Irish Household Budget Survey, 2009-10*

However, the LIHC criterion in Chart 15 indicates the percentage of households in the Republic of Ireland reporting affordability difficulties in energy and telecoms to be somewhat higher than in the UK (approximately 1.8% vs 1.2%). The percentages of households in the Republic of Ireland with affordability difficulties in telecoms and transport or energy, telecoms and transport are also higher than in the UK according to the LIHC criterion.



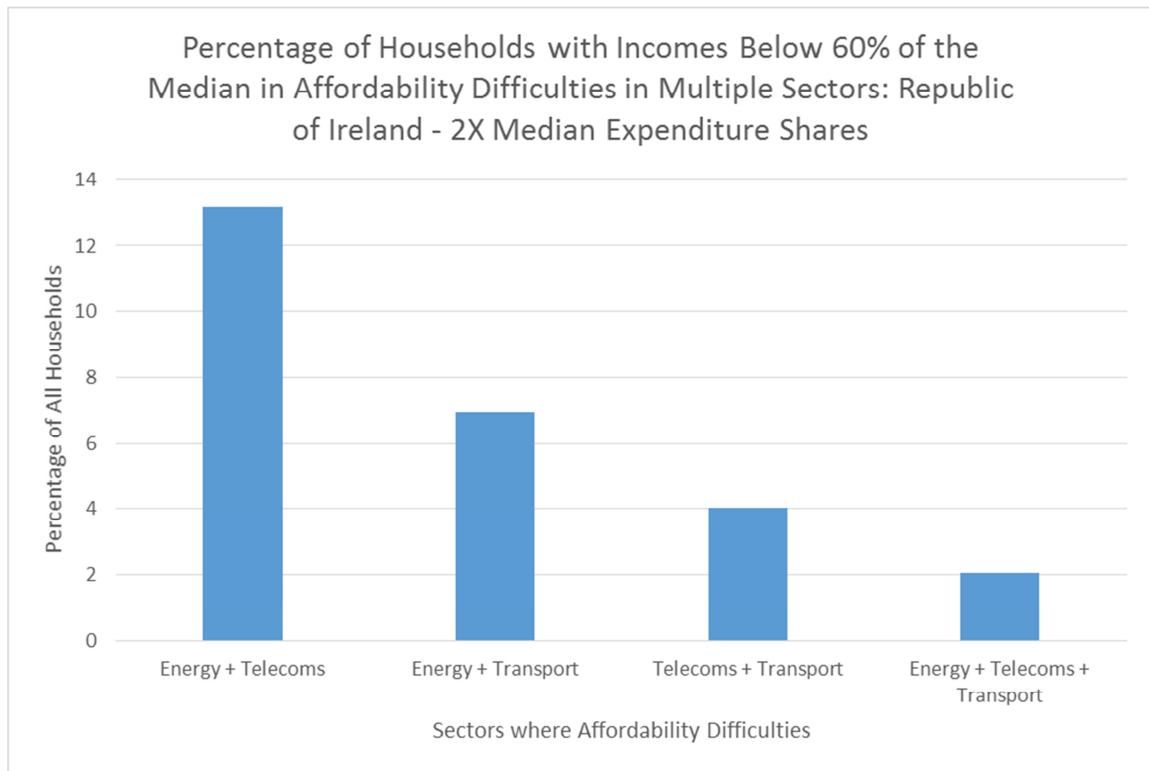
**Chart 16: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Republic of Ireland – Fixed Expenditure Share Thresholds**



Source: Authors calculations from Irish Household Budget Survey, 2009-10



**Chart 17: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Republic of Ireland – 2x Median Expenditure Shares**

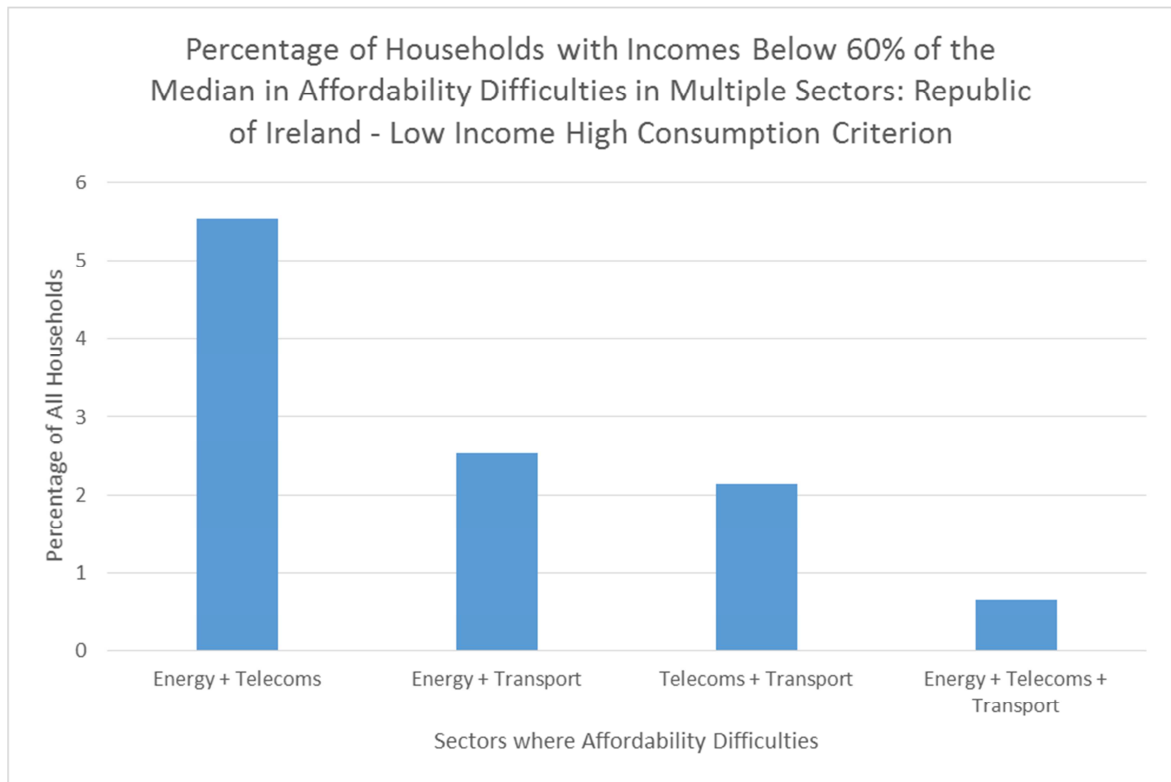


Source: Authors calculations from Irish Household Budget Survey, 2009-10

For households on low incomes, the percentage with affordability difficulties in multiple utility sectors in the Republic of Ireland are broadly comparable to the figures in the UK.



**Chart 18: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Multiple Sectors: Republic of Ireland – Low Income High Consumption Criterion**



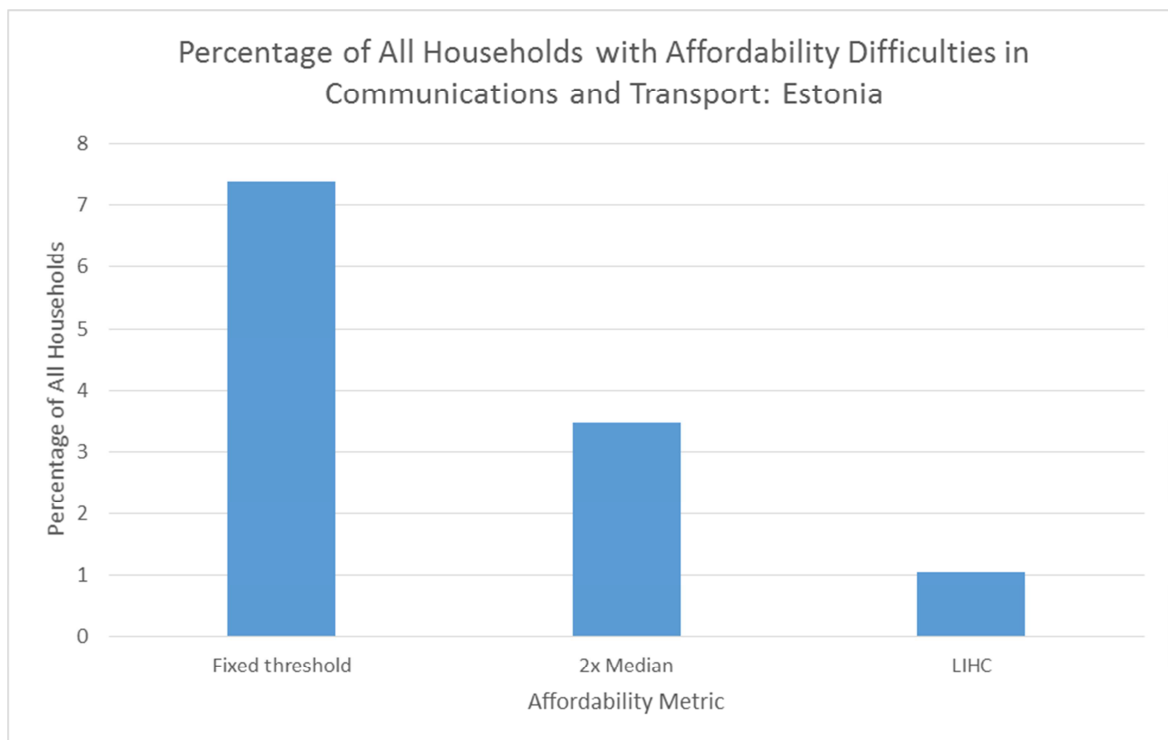
Source: Authors calculations from Irish Household Budget Survey, 2009-10



## 5. Estonia

Since Estonia only provides data on the high-level expenditure categories ‘Communications’ and ‘Transport’ there is only one combination of affordability difficulties to consider. Chart 19 considers this combination for the population as a whole while Chart 20 considers the combination for low income households. Comparing these two charts demonstrates that, as in other countries, Estonians on low incomes devote a lower percentage of their expenditure to transport than those on higher incomes. While in the Estonian population as a whole over 7% of households have affordability difficulties in both communications and transport, fewer than 2% of low income households have this combination of affordability difficulties according to the fixed threshold metric. Also, as one would predict, a greater percentage of low income households have affordability difficulties in both sectors according to the LIHC criterion.

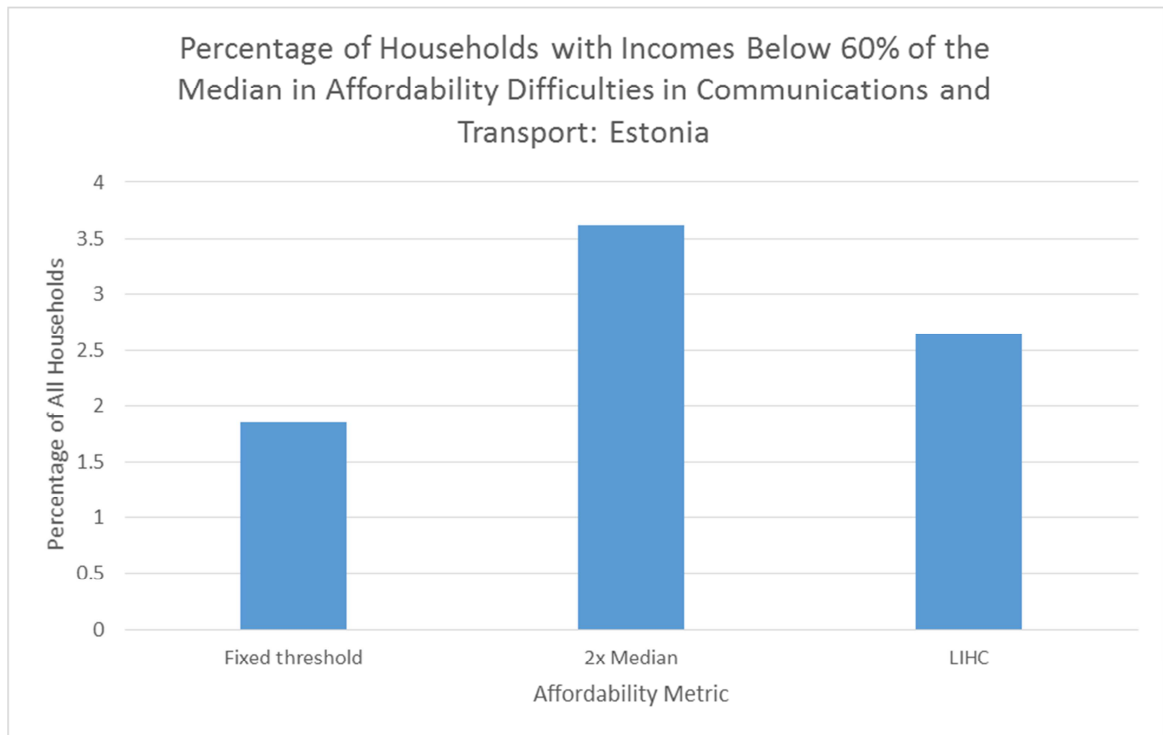
**Chart 19: Percentage of All Households with Affordability Difficulties in Communications and Transport: Estonia**



Source: Authors' calculations from Household Budget Survey, 2012



**Chart 20: Percentage of Households with Incomes Below 60% of the Median in Affordability Difficulties in Communications and Transport: Estonia**



Source: Source: Authors' calculations from Household Budget Survey, 2012