



Estimates of poverty in the UK adjusted for expenditure on tobacco – 2026 update

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Acknowledgements

Data from the Living Costs and Food Survey and Family Resources Survey are Crown Copyright and are made available by kind permission of the UK Data Archive.

1 Introduction

Landman Economics has been commissioned by Action on Smoking and Health (ASH) to analyse the impact of tobacco expenditure on poverty rates in the UK. This report aims to answer the following questions:

1. if tobacco expenditure is subtracted from household expenditure, how many more households would be in poverty under the official UK government definition of poverty (below 60 percent of median household net income, adjusted for family size?)
2. Within these households, how many extra adults and children are in poverty, taking into account household tobacco expenditure?
3. What is the specific poverty rate for households with positive expenditure on tobacco (i.e. households containing smokers?)
4. How much higher is poverty among households containing smokers than the overall average poverty rate?
5. What is the specific impact of tobacco expenditure on poverty rates adjusted for tobacco expenditure among households with smokers in them?
6. What is the impact of tobacco expenditure on poverty rates when the population is broken down by other variables (e.g. housing tenure, region, employment status)?
7. How does the impact of tobacco expenditure on poverty differ according to which household income measure is used (Before Housing Costs or After Housing Costs)?
8. How does the impact of tobacco expenditure on poverty differ according to whether an absolute or relative measure of poverty is used?

This report is an updated version of research carried out for ASH in 2015,¹ and previously updated in 2019² and 2021.³ Section 6 of this report uses results from all four reports to illustrate how the impact of smoking on poverty rates has changed between the early 2010s and the early 2020s.

¹ H Reed (2015), “Estimates of poverty in the UK adjusted for expenditure on tobacco”

² ASH (2019) “The quitting dividend for landlords and tenants”.

³ H Reed (2021), “Estimates of poverty in the UK adjusted for expenditure on tobacco – 2021 update.” <https://ash.org.uk/resources/view/smoking-and-poverty-2>

2 Choice of dataset

The official measure of poverty in the UK is published each year by the UK Department for Work and Pensions's [DWP]'s *Households Below Average Income* statistics [HBAI], with the most recent data available at the time of writing (December 2025) being the 2023/24 tax year.⁴ Since 1994 the HBAI publication has used the Family Resources Survey (FRS) as its data source. FRS is the most detailed and accurate source of household survey data on incomes in the UK, with a sample size of between 15,000 and 20,000 households per year.

It is not possible to use the FRS to calculate poverty rates adjusted for tobacco expenditure because the FRS does not include any data on household spending. Instead, it is necessary to use the Living Costs and Food Survey (LCF) for this analysis. LCF includes data on household expenditure (including expenditure on tobacco products) as well as detailed data on household incomes. The LCF has two drawbacks compared to the FRS for modelling poverty rates:

1. The sample size of the LCF is much smaller – only around 5,000 to 5,500 households per year, which is no more than a third the sample size of the FRS.
2. The income data in the LCF is not quite as detailed as the data in the FRS (although it is still detailed enough to produce reasonably accurate poverty estimates, and indeed before the FRS was established in 1994 the Family Expenditure Survey, which was the forerunner of the LCF, was the main source of household data on the distribution of income in the UK).

The analysis in this report overcomes the first of these drawbacks (small sample size) by combining the three most recent consecutive years of LCF at the time of writing (2021/22, 2022/23 and 2023/24) into a pooled sample of around 16,000 households – approaching the same level of accuracy as one year of FRS⁵. This is the same approach that is taken by HM Treasury in their microsimulation model of the tax-benefit system (which uses LCF rather than FRS), so we are confident that this technique has credibility among government researchers. To check that the second drawback (lower quality income data) is not a serious problem for the analysis, this report compares estimated household poverty rates for the 2021-24 pooled LCF sample with the estimated household poverty rate in the 2023/24 FRS and shows that the overall poverty rates are reasonably similar (see Table 1 below).

⁴ See <https://www.gov.uk/government/collections/households-below-average-income-hbai--2>

⁵ Our analysis excludes the 2020/21 LCF data because data collection was adversely impacted by the Covid-19 pandemic in 2020/21, leading to concerns about how reliable the data are for that year. The 2023/24 LCF data had not been deposited at the UK Data Archive at the time of writing, meaning that the 2022/23 LCF was the most recent data available for this report.

3 Definitions of net income and poverty

3.1 Net income definitions

This report uses two different measures of net income: Before Housing Costs (BHC) and After Housing Costs (AHC). The HBAI publication uses calculated net incomes for each household in the FRS controlling for family size (equivalisation), taking the median net income in the sample, and then classifying all households below 60% median income as poor. The BHC income measure is defined as income before subtracting housing costs, while the AHC measure is income after subtracting housing costs.

The FRS net incomes measures are calculated as follows (see DWP (2025), *HBAI Quality and Methodology Information Report FYE 2023*⁶):

The income measure used in HBAI is weekly net (disposable) equivalised household income. This comprises total income from all sources of all household members including dependants.

*Income is adjusted for household size and composition by means of **equivalence scales**, which reflect the extent to which households of different size and composition require a different level of income to achieve the same standard of living. This adjusted income is referred to as **equivalised income**.*

In detail, income includes:

- *usual net earnings from employment;*
- *profit or loss from self-employment (losses are treated as a negative income);*
- *income received from dividends;*
- *state support - all benefits, Universal Credit and tax credits;*
- *income from occupational and private pensions;*
- *investment income;*
- *maintenance payments;*
- *income from educational grants and scholarships (including, for students, top-up loans and parental contributions);*
- *the cash value of certain forms of income in kind (free school meals, free school breakfast, free school milk, free school fruit and vegetables, Healthy Start vouchers and free TV licence for those aged 75 and over who receive Pension Credit).*

⁶ See <https://www.gov.uk/government/statistics/households-below-average-income-for-financial-years-ending-1995-to-2023/households-below-average-income-series-quality-and-methodology-information-report-fye-2023>

Income is net of the following items:

- *income tax payments;*
- *National Insurance contributions;*
- *domestic rates / council tax;*
- *contributions to occupational pension schemes (including all additional voluntary contributions (AVCs) to occupational pension schemes, and any contributions to stakeholder and personal pensions);*
- *all maintenance and child support payments, which are deducted from the income of the person making the payment;*
- *parental contributions to students living away from home;*
- *student loan repayments.*

The FRS housing costs measure comprises the sum of the following items:

- *rent (gross of housing benefit or housing support in Universal Credit);*
- *water rates, community water charges and council water charges;*
- *mortgage interest payments;*
- *structural insurance premiums (for owner occupiers);*
- *ground rent and service charges.*

When constructing BHC and AHC net income measures using the Living Costs and Food Survey, I replicate the methodology used for the FRS in the HBAI publication as closely as possible given the information available in the LCF data. All elements of the disposable income measure used for the FRS are available in the LCF, although in some cases (for example student loan repayments) the data are not as detailed as in the FRS. The components of housing costs are also available in the LCF. The equivalisation of income to take account of family size can be performed for the LCF in exactly the same way as for the FRS. All incomes are uprated to April 2024 prices using the Consumer Prices Index to ensure comparability across the three years of LCF being used.

3.2 Poverty definitions

This report uses two different definitions of poverty, based on equivalised net income measures (which control for the number of adults and children in the household):

- On the **relative** poverty measure, a household is poor if its equivalised net income is below 60% of median income in the year of the survey data (e.g. 2023/24 for the most recent FRS).
- On the **absolute** poverty measure, a household is poor if its equivalised net income is below 60% of median income for 2010/11 (uprated by CPI inflation).

This report produces poverty estimates using BHC and AHC net incomes for the relative and absolute poverty measure – meaning that there are four poverty measures in total.

3.3 Comparing poverty measures using the LCF and FRS data

Table 1 below compares the LCF data with the FRS data to check how similar the measured poverty rates are in each sample for each poverty and income definition. The left-hand column of Table 1 shows the measured poverty rates for the three-year LCF sample, while the measured poverty rates for the 2023/24 FRS are shown in the right-hand column. Poverty rates are shown across all households (in the top row of Table 1) and for working age adults, pensioners and children in the lower rows.

For households, working-age adults and pensioners, AHC poverty rates are higher than BHC poverty rates; for pensioners, BHC poverty rates are higher than AHC poverty rates (mainly because pensioner housing costs are lower on average than for other groups in the population). Relative poverty rates are higher than absolute poverty rates for all groups because there has been real-terms growth in median household incomes between 2010/11 and 2023/24, therefore the relative poverty lines are higher than the absolute poverty lines (for both BHC and AHC incomes) and so there are fewer households, adults and children below the absolute poverty lines than the relative poverty lines in each case.

Table 1 shows that measured household poverty rates in the three-year LCF sample are within two percentage points of the FRS for all four poverty definitions. LCF household poverty rates are below FRS poverty rates for the relative and absolute BHC measures, and above FRS poverty rates for the relative AHC measure. For the absolute AHC measure the LCF 3-year poverty rate is within 0.2 percentage points of the FRS poverty rate.

The three-year pooled LCF poverty rates for working-age adults are within one percentage point of the FRS for all four poverty definitions. Working-age adult poverty is slightly higher for the LCF pooled sample than the FRS sample for relative AHC poverty, whereas for the other three poverty measures, the FRS poverty measure is higher than the LCF poverty measure.

For pensioners, the three-year LCF poverty rate is within one percentage point of the FRS poverty rate for all poverty measures except for the absolute BHC measure, where the LCF pensioner poverty rate is almost 3 percentage points below the FRS poverty rate.

For children, the BHC relative poverty rate for the pooled LCF is one percentage point higher than the FRS poverty rate while the absolute AHC poverty rate for the LCF is 0.5 higher than the FRS poverty rate. For the absolute BHC poverty rate the LCF poverty rate is around 1.5 percentage points higher than the FRS rate, while the gap is just over 2 percentage points for the relative AHC measure.

Overall, with a few exceptions, measured poverty rates in the 3-year pooled LCF are fairly similar to the 2023/24 FRS. In general, BHC poverty rates in the LCF tend to be slightly lower than the FRS while AHC poverty rates in the LCF tend to be slightly higher than the FRS. This reflects the fact that median household incomes as measured in the LCF are slightly lower than the FRS, while median housing costs are slightly higher in the LCF than the FRS. Appendix A gives more details of the precise figures for median income and housing costs in both surveys.

This report uses the baseline poverty rates for the 2023/24 FRS and then calculates increases in poverty based on the three-year LCF sample, so that the baseline results are in line with the HBAI poverty measures.

Table 1: Baseline relative and absolute poverty rates in the 2021/22, 2022/23 and 2023/24 LCF pooled sample and the 2023/24 FRS using BHC and AHC income measures

	Percentage in poverty:	
	Relative BHC measure	
	LCF 3-year sample	FRS 2023/24
Households	16.7	18.1
Working-age adults	14.3	14.7
Pensioners	18.0	18.6
Children	24.2	23.2
	Absolute BHC measure	
	LCF 3-year sample	FRS 2023/24
Households	14.6	15.7
Working-age adults	12.5	12.9
Pensioners	13.2	16.0
Children	21.4	20.0
	Relative AHC measure	
	LCF 3-year sample	FRS 2023/24
Households	22.2	20.5
Working-age adults	20.2	19.4
Pensioners	15.5	15.7
Children	32.7	30.5
	Absolute AHC measure	
	LCF 3-year sample	FRS 2023/24
Households	17.8	18.0
Working-age adults	16.6	16.9
Pensioners	12.3	13.2
Children	26.9	26.4

Source: Landman Economics analysis of LCF and FRS data

4 Calculating an 'after tobacco expenditure' measure of poverty

The 'after tobacco expenditure' measure of poverty is calculated by subtracting tobacco expenditure for each household from net income (adjusting for family size) and then calculating how many extra households fall below the poverty line after tobacco expenditure is subtracted. Across the pooled three-year LCF sample, average expenditure on tobacco products (including cigarettes, cigars and hand rolling tobacco), uprated to April 2024 prices using the Consumer Price Index, is £2.86 per week across all households, and £24.21 per week across the subgroup of households with any expenditure on tobacco at all during the two-week period for which households in the LCF sample complete expenditure diaries. (11.8 percent of households in the LCF survey report positive expenditure on tobacco over the three years 2021/22, 2022/23 and 2023/24).

However, the LCF suffers from a problem common to household expenditure surveys – the households in the LCF under-report their tobacco expenditure on average⁷, meaning that estimated total tobacco expenditure in the UK using FRS is considerably lower than estimated overall tobacco expenditure when derived from HM Revenue and Custom's figures for duty receipts. Analysis of the LCF dataset for 2023/24 shows that grossed-up tobacco expenditure in the was £3.89 billion per year, whereas aggregate tobacco expenditure for 2023/24 estimated from a combination of HMRC duty receipts (for legally purchased tobacco) and HMRC projections of the size of the illicit tobacco market combined with survey evidence on the prices paid for illicit cigarettes and hand rolling tobacco, was £15.32 billion (see the Appendix to this paper for details of the methodology for estimating tobacco expenditure from HMRC statistics on tobacco duty receipts). Therefore this analysis multiplies tobacco expenditure in the pooled LCF sample by a factor of **3.94** (calculated as 15.32 divided by 3.89) to correct the under-reporting in the survey and reconcile the estimates with HMRC data.

⁷ See Appendix C of H Reed (2011), *Tobacco Taxation, Smuggling and Smoking in Ireland*, Irish Heart Foundation, for a detailed analysis of the extent of under-reporting of tobacco expenditure in various household expenditure surveys for different countries.

5 Results for the impact of tobacco expenditure on poverty: whole sample

5.1 Households in poverty

Tables 2a and 2b shows the impact of tobacco expenditure on household poverty under each of the four different poverty measures used in this report. Table 2a shows the results for household poverty rates, while Table 2b shows the results for the number of households in poverty.

The left-hand columns of Tables 2a and 2b shows the poverty rates for the whole sample, including smoking and non-smoking households, when tobacco expenditure is taken into account, household poverty rates increase by between 1.5 and 1.7 percentage points depending on the poverty measure used. This equates to between 417,000 and 478,000 extra households in poverty, according to which poverty measure is used. The increase in poverty is largest for the absolute AHC poverty measure, and smallest for the relative AHC poverty measure.

Looking at the subsample of households with positive tobacco expenditure (in the right hand columns of Tables 2a and 2b), the poverty rate before tobacco spending is taken into account ranges between 16.5% (on the absolute BHC poverty measure) and 28.1% (on the relative AHC poverty measure). In each case, the poverty rate for households with positive tobacco expenditure is higher than the rate for households as a whole. The poverty rate for these households rises by between 12.3 and 14 percentage points (depending on the poverty measure used) once tobacco spending is taken into account.

Table 2a. Household poverty rates before and after taking tobacco expenditure into account

	Whole sample	Households with positive tobacco expenditure only
Proportion of households in poverty	%	%
Relative BHC poverty measure		
Before tobacco expenditure	18.1	19.2
After tobacco expenditure	19.7	33.0
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.6	13.8
Absolute BHC poverty measure		
Before tobacco expenditure	15.7	16.5
After tobacco expenditure	17.2	29.9
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.5	13.4
Relative AHC poverty measure		
Before tobacco expenditure	20.5	28.1
After tobacco expenditure	22.0	40.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.5	12.3
Absolute AHC poverty measure		
Before tobacco expenditure	18.0	21.8
After tobacco expenditure	19.7	35.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.7	14.0

Source: Landman Economics analysis of LCF data

Table 2b. Number of households in poverty before and after taking tobacco expenditure into account

	Whole sample	Households with positive tobacco expenditure only
Number of households in poverty (1000s)	%	%
Relative BHC poverty measure		
Before tobacco expenditure	5,195	653
After tobacco expenditure	5,667	1,125
Increase in number of households in poverty once tobacco expenditure is taken into account	472	472
Absolute BHC poverty measure		
Before tobacco expenditure	4,530	562
After tobacco expenditure	4,985	1,017
Increase in number of households in poverty once tobacco expenditure is taken into account	455	455
Relative AHC poverty measure		
Before tobacco expenditure	5,909	955
After tobacco expenditure	6,326	1,372
Increase in number of households in poverty once tobacco expenditure is taken into account	417	417
Absolute AHC poverty measure		
Before tobacco expenditure	5,172	740
After tobacco expenditure	5,650	1,218
Increase in number of households in poverty once tobacco expenditure is taken into account	478	478

Source: Landman Economics analysis of LCF data

5.2 Working age adults in poverty

Tables 3a and 3b shows the impact of tobacco expenditure on poverty for working age adults under each of the four different poverty measures. Table 3a shows the results for working age adult poverty rates, while Table 3b shows the results for the number of working age adults in poverty.

The left-hand columns of Tables 3a and 3b show that when tobacco expenditure is taken into account, poverty rates for working age adults increase by between 1.2 and 1.3 percentage points depending on the poverty measure used. This equates to between 499,000 and 527,000 extra working age adults in poverty, according to which poverty measure is used. The increase in poverty is largest for the relative BHC poverty measure, and smallest for the relative AHC poverty measure.

Looking at the subsample of working age adults in households with positive tobacco expenditure (in the right hand columns of Tables 3a and 3b), the poverty rate before tobacco spending is taken into account ranges between 14.5% (on the absolute BHC poverty measure) and 24.9% (on the relative AHC poverty measure). In each case, the poverty rate for working age adults with positive tobacco expenditure is higher than the rate for working age adults as a whole. The poverty rate for these working age adults rises by between 9 and 9.5 percentage points (depending on the poverty measure used) once tobacco spending is taken into account.

Table 3a. Working age adult poverty rates before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Proportion of working age adult in poverty	%	%
Relative BHC poverty measure		
Before tobacco expenditure	14.7	17.2
After tobacco expenditure	16.0	26.7
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.3	9.5
Absolute BHC poverty measure		
Before tobacco expenditure	12.9	14.5
After tobacco expenditure	14.2	23.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.3	9.3
Relative AHC poverty measure		
Before tobacco expenditure	19.4	24.9
After tobacco expenditure	20.6	33.9
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.2	9.0
Absolute AHC poverty measure		
Before tobacco expenditure	16.9	19.9
After tobacco expenditure	18.2	29.2
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.3	9.3

Source: Landman Economics analysis of LCF data

Table 3b. Number of working age adults in poverty before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Number of working age adults in poverty (1000s)	%	%
Relative BHC poverty measure		
Before tobacco expenditure	6,002	955
After tobacco expenditure	6,529	1,482
Increase in number of working age adults in poverty once tobacco expenditure is taken into account	527	527
Absolute BHC poverty measure		
Before tobacco expenditure	5,287	807
After tobacco expenditure	5,798	1318
Increase in number of working age adults in poverty once tobacco expenditure is taken into account	511	511
Relative AHC poverty measure		
Before tobacco expenditure	7,907	1,383
After tobacco expenditure	8,406	1,882
Increase in number of working age adults in poverty once tobacco expenditure is taken into account	499	499
Absolute AHC poverty measure		
Before tobacco expenditure	6,887	1,105
After tobacco expenditure	7,402	1,619
Increase in number of working age adults in poverty once tobacco expenditure is taken into account	515	515

Source: Landman Economics analysis of LCF data

5.3 Pensioner poverty

Tables 4a and 4b shows the impact of tobacco expenditure on poverty for pensioners under each of the four different poverty measures. Table 4a shows the results for pensioners poverty rates, while Table 4b shows the results for the number of pensioners in poverty.

The left-hand columns of Tables 4a and 4b show that when tobacco expenditure is taken into account, poverty rates for pensioners increase by between 1.6 and 2.1 percentage points depending on the poverty measure used. This equates to between 194,000 and 257,000 extra pensioners in poverty, according to which poverty measure is used. The increase in poverty is largest for the absolute AHC poverty measure, and smallest for the relative AHC poverty measure.

Looking at the subsample of pensioners in households with positive tobacco expenditure (in the right hand columns of Tables 4a and 4b), the poverty rate before tobacco spending is taken into account ranges between 13.3% (on the absolute BHC poverty measure) and 25.6% (on the relative AHC poverty measure). In contrast to the household and working age poverty results earlier in this section, the poverty rate for pensioners in households with positive tobacco expenditure is lower than for the sample of pensioners as a whole for each of the BHC poverty measures (relative and absolute). For the AHC poverty measures, the poverty rate for pensioners with positive tobacco expenditure is higher than the rate for pensioners as a whole. The poverty rate for these pensioners rises by between 20.5 and 27.3 percentage points (depending on the poverty measure used) once tobacco spending is taken into account. This is a much larger percentage point increase than for working age adults or for households as a whole.

Table 4a. Pensioner poverty rates before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Proportion of pensioners in poverty	%	%
Relative BHC poverty measure		
Before tobacco expenditure	18.6	16.1
After tobacco expenditure	20.6	41.6
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.0	25.5
Absolute BHC poverty measure		
Before tobacco expenditure	16.0	13.3
After tobacco expenditure	17.8	37.1
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.8	20.6
Relative AHC poverty measure		
Before tobacco expenditure	15.7	25.6
After tobacco expenditure	17.3	46.1
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.6	20.5
Absolute AHC poverty measure		
Before tobacco expenditure	13.2	14.6
After tobacco expenditure	15.3	41.9
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.1	27.3

Source: Landman Economics analysis of LCF data

Table 4b. Number of pensioners in poverty before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Number of pensioners in poverty (1000s)	%	%
Relative BHC poverty measure		
Before tobacco expenditure	2,247	152
After tobacco expenditure	2,488	391
Increase in number of pensioners in poverty once tobacco expenditure is taken into account	239	239
Absolute BHC poverty measure		
Before tobacco expenditure	1,924	125
After tobacco expenditure	2,147	348
Increase in number of pensioners in poverty once tobacco expenditure is taken into account	223	223
Relative AHC poverty measure		
Before tobacco expenditure	1,889	241
After tobacco expenditure	2,083	434
Increase in number of pensioners in poverty once tobacco expenditure is taken into account	194	193
Absolute AHC poverty measure		
Before tobacco expenditure	1,586	137
After tobacco expenditure	1,843	394
Increase in number of pensioners in poverty once tobacco expenditure is taken into account	257	257

Source: Landman Economics analysis of LCF data

5.4 Child poverty

Tables 5a and 5b shows the impact of tobacco expenditure on child poverty under each of the four different poverty measures. Table 5a shows the results for child poverty rates, while Table 5b shows the results for the number of children in poverty.

The left-hand columns of Tables 5a and 5b show that when tobacco expenditure is taken into account, child poverty rates increase by between 0.9 and 1.0 percentage points depending on the poverty measure used. This equates to between 125,000 and 140,000 extra children in poverty, according to which poverty measure is used. The increase in poverty is largest for the absolute BHC poverty measure, and smallest for the relative BHC poverty measure.

Looking at the subsample of children in households with positive tobacco expenditure (in the right hand columns of Tables 5a and 5b), the poverty rate before tobacco spending is taken into account ranges between 23.1% (on the absolute BHC poverty measure) and 35.2% (on the relative AHC poverty measure). As with working age adults and overall household poverty rates, the poverty rate for children in households with positive tobacco expenditure is lower than for the sample of children as a whole for each of the poverty measures. The poverty rate for children in these households rises by between 7.2 and 8.0 percentage points (depending on the poverty measure used) once tobacco spending is taken into account.

Table 5a. Child poverty rates before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Proportion of children in poverty	%	%
Relative BHC poverty measure		
Before tobacco expenditure	23.2	27.9
After tobacco expenditure	24.1	35.0
Percentage point increase in poverty rate once tobacco expenditure is taken into account	0.9	7.2
Absolute BHC poverty measure		
Before tobacco expenditure	20.0	23.1
After tobacco expenditure	21.0	31.1
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.0	8.0
Relative AHC poverty measure		
Before tobacco expenditure	30.5	35.2
After tobacco expenditure	31.5	43.0
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.0	7.8
Absolute AHC poverty measure		
Before tobacco expenditure	26.4	27.0
After tobacco expenditure	27.3	34.5
Percentage point increase in poverty rate once tobacco expenditure is taken into account	0.9	7.5

Source: Landman Economics analysis of LCF data

Table 5b. Number of children in poverty before and after tobacco expenditure is taken into account

	Whole sample	Households with positive tobacco expenditure only
Number of children in poverty (1000s)	%	%
Relative BHC poverty measure		
Before tobacco expenditure	3,383	492
After tobacco expenditure	3,508	617
Increase in number of children in poverty once tobacco expenditure is taken into account	125	125
Absolute BHC poverty measure		
Before tobacco expenditure	2,916	408
After tobacco expenditure	3,056	548
Increase in number of children in poverty once tobacco expenditure is taken into account	140	140
Relative AHC poverty measure		
Before tobacco expenditure	4,452	622
After tobacco expenditure	4,589	759
Increase in number of children in poverty once tobacco expenditure is taken into account	137	137
Absolute AHC poverty measure		
Before tobacco expenditure	3,851	476
After tobacco expenditure	3,982	607
Increase in number of children in poverty once tobacco expenditure is taken into account	131	131

Source: Landman Economics analysis of LCF data

6 Results for the impact of tobacco expenditure on poverty – breakdowns by sample characteristics

This section presents results for the impact of tobacco expenditure on poverty using a number of different breakdown variables for households in the LCF sample – region/country, housing tenure, household employment patterns and NS-SEC classification of the head of household. To keep the analysis manageable the results in this section use just one of the four poverty measures presented in earlier sections – the **relative AHC** poverty measure. This is probably the most widely used headline measure of poverty in recent discussions of trends in household incomes and poverty rates by researchers and campaigners⁸. Appendix B contains the equivalent results for the other three poverty measures – relative BHC, absolute BHC and absolute AHC – for the breakdown variables featured in this section.

6.1 Region and country

Tables 6a and 6b show an analysis of poverty by region and country in the UK (nine English regions plus Scotland, Wales and Northern Ireland) using the relative AHC measure of poverty. Before tobacco expenditure is taken into account, poverty rates range from 17.5% in the East of England to 28.6% in London⁹. Once tobacco expenditure is taken into account, the poverty rate increases by between 0.9 and 2.4 percentage points in the English regions, Scotland and Northern Ireland. In Wales, the poverty rate increases by 3 percentage points – a higher increase than any other region or country. The highest regional poverty rate after taking tobacco costs into account is London at 29.9%, followed by Wales at 24.7% and Yorkshire and the Humber at 23.7. The lowest regional poverty rate after taking tobacco costs into account is Northern Ireland at 19.4%, followed by South West England at 19.7%.

Among the subsample of households with positive tobacco expenditure, AHC relative poverty rates (before taking tobacco expenditure into account) vary widely, from 20.1% in the East Midlands to 52.6% in Scotland. Including tobacco expenditure in the poverty calculations increases poverty rates for households in England with positive tobacco expenditure by between 8.2 percentage points (for Yorkshire and the Humber) and 17 percentage points (for the North East), with the largest increase again being in Wales (21.7 percentage points). The increase for Scotland is 9.7 percentage points and for Northern Ireland, 11.8 percentage points.

⁸ See for example Joseph Rowntree Foundation (2025), *UK Poverty 2025*. <https://www.jrf.org.uk/uk-poverty-2025-the-essential-guide-to-understanding-poverty-in-the-uk>

⁹ AHC poverty rates are higher in London than other regions/countries mainly because London has much higher average housing costs than other regions in England, or in Scotland, Wales and Northern Ireland.

In terms of number of additional households in poverty, the biggest region/country increases due to tobacco expenditure are for North West England (with around 54,000 extra households in poverty) and London (with around 49,000 extra households in poverty). The smallest increase is for Northern Ireland, with around 14,000 extra households in poverty.

Table 6a: Percentage and number of households in poverty by region and country – whole sample, relative AHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	18.6	18.5	22.8	19.3	19.9	20.0	28.6	17.6	18.3	21.7	19.9	17.5
After tobacco expenditure	21.0	20.1	23.7	20.4	21.5	21.4	29.9	18.6	19.7	24.7	21.2	19.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.4	1.6	0.9	1.1	1.6	1.4	1.3	1.0	1.4	3.0	1.3	1.9
Number of households in poverty (1000s)												
Before tobacco expenditure	221	593	540	404	498	532	1,038	682	461	302	503	132
After tobacco expenditure	251	647	562	427	537	569	1,087	725	494	344	537	146
Increase in poverty rate once tobacco expenditure is taken into account	30	54	22	23	39	37	49	43	33	42	34	14

Source: Landman Economics analysis of LCF data

Table 6b: Percentage and number of households in poverty by region – households with positive tobacco expenditure only, relative AHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	21.4	28.3	30.9	20.2	26.2	22.1	24.0	24.0	24.1	28.8	52.6	28.8
After tobacco expenditure	38.4	42.9	39.1	28.7	38.8	35.3	38.2	34.8	34.1	50.5	62.3	40.6
Percentage point increase in poverty rate once tobacco expenditure is taken into account	17.0	14.6	8.2	8.5	12.6	13.2	14.2	10.8	10.0	21.7	9.7	11.8
Number of households in poverty (1000s)												
Before tobacco expenditure	37	103	85	54	81	62	81	94	81	55	184	35
After tobacco expenditure	67	156	107	77	120	99	130	136	114	97	218	49
Increase in poverty rate once tobacco expenditure is taken into account	30	53	22	23	39	37	49	42	33	32	34	14

Source: Landman Economics analysis of LCF data

6.2 Housing tenure

Tables 7a and 7b show an analysis of poverty by housing tenure, broken down into three groups:

- Social renters – local authority and housing association tenants;
- Private renters;
- Homeowners – households who own their home outright or are buying with a mortgage.

Before tobacco expenditure is taken into account, poverty rates are 12.4% for homeowners, 34% for private renters and 36.9% for social renters. Once tobacco expenditure is taken into account, the poverty rate increases by 3.4 percentage points for social renters, with smaller increases for private renters (1.5 percentage points) and homeowners (1 percentage point). In other words, including tobacco costs in the poverty calculations leads to a wider discrepancy between the poverty rates for different housing tenure types, with social renters much more likely to be in poverty than other tenure types. However, the increase in the number of households in poverty is largest for homeowner households (182,000) followed by social renter households (158,000) and private renter households (77,000).

Looking only at households with positive tobacco expenditure, the measured poverty rate for social renter households increases from 48.5% to 63.9% when tobacco costs are included (around 15.5 percentage points). This compares with an increase of just over 10 percentage points for private renter households and 11.5% for homeowner households with positive tobacco expenditure.

Table 7a: Percentage and number of households in poverty by housing tenure – whole sample, relative AHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	36.9	34.0	12.4
After tobacco expenditure	40.3	35.5	13.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.4	1.5	1.0
Number of households in poverty (1000s)			
Before tobacco expenditure	1,792	1,813	2,304
After tobacco expenditure	1,950	1,890	2,486
Increase in poverty rate once tobacco expenditure is taken into account	158	77	182

Source: Landman Economics analysis of LCF data

Table 7b: Percentage and number of households in poverty by housing tenure – households with positive tobacco expenditure only

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	48.5	37.4	11.5
After tobacco expenditure	63.9	47.7	23.0
Percentage point increase in poverty rate once tobacco expenditure is taken into account	15.4	10.3	11.5
Number of households in poverty (1000s)			
Before tobacco expenditure	510	285	187
After tobacco expenditure	669	362	369
Increase in poverty rate once tobacco expenditure is taken into account	158	77	182

Source: Landman Economics analysis of LCF data

6.3 Household employment pattern

Tables 8a and 8b show an analysis of poverty for working age households (households where all the adults in household are below the state pension age of 66) according to the number of people in work in the household. Households are divided into those with no earners, those with one earner and those with two or more earners.

Before tobacco expenditure is taken into account, relative AHC poverty rates in the LCF sample are 56.7% for households with no earner, 26.9% for households with one earner and 8.2% for households with two or more earners. This pattern reflects the fact that working-age households with earnings from work are less likely to be in poverty (on average) than households with no earnings. Similarly, two-earner households are less likely to be in poverty than one-earner households. Including tobacco expenditure in the calculations, measured poverty increases by 2.3 percentage points for no-earner households, 1.9 percentage points for one-earner households and 0.8 percentage points for households with two or more earners. As with the results by housing tenure analysed above, including tobacco costs in the poverty calculation widens the discrepancy between the poverty rates of different groups of households.

Looking only at households with positive tobacco expenditure, the measured poverty rate for no-earner households increases from just under 68 per cent to just over 79 per cent when tobacco costs are included. This means that almost four in five working age households with positive tobacco expenditure and no one in work are in poverty (using the relative AHC poverty measure) when tobacco expenditure is taken into consideration. This figure is almost twice as large as the poverty rate for one-earner households with positive tobacco expenditure after taking tobacco costs into account (41.6%), and almost five times higher than the equivalent figure for households with two or more earners (16.9%)

Table 8a: Percentage and number of households in poverty by number of people in employment – working age households, relative AHC measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	56.7	26.9	8.2
After tobacco expenditure	59.0	28.8	9.0
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.3	1.9	0.8
Number of households in poverty (1000s)			
Before tobacco expenditure	1,726	1,846	823
After tobacco expenditure	1,793	1,972	901
Increase in poverty rate once tobacco expenditure is taken into account	67	127	78

Source: Landman Economics analysis of LCF data

Table 8b: Percentage and number of households in poverty by number of people in employment – households with positive tobacco expenditure only, relative AHC poverty measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	67.6	26.8	10.5
After tobacco expenditure	79.3	41.6	16.9
Percentage point increase in poverty rate once tobacco expenditure is taken into account	11.7	14.8	6.4
Number of households in poverty (1000s)			
Before tobacco expenditure	397	233	130
After tobacco expenditure	464	360	208
Increase in poverty rate once tobacco expenditure is taken into account	67	127	78

Source: Landman Economics analysis of LCF data

6.4 NS-SEC classification of head of household

It is useful to analyse poverty statistics according to the characteristics of workers, such as industry or occupation. Unfortunately, the LCF does not collect information on the industry or occupation of employed people in the survey. However, it does collect data on the National Statistics Socio-Economic Classification (NS-SEC) which is an index designed to measure the employment conditions and employment relations of occupations. The NS-SEC statistic is collected only from the “household respondent person” (HRP), which is the person in each household who answers the questions for the main LCF questionnaire. Therefore, the results in this section are presented at household, rather than individual, level (as with the results for region, housing tenure and number of people in work in each household).

The NS-SEC classification used in the LCF contains eight classifications for working people: these are listed in the left-hand column of Table 9. To make the results easier to read I have combined the eight categories into three broader classifications: managerial and professional, intermediate and technical and semi-routine and routine. These are shown in the right-hand column of Table 9.

Table 9: NS-SEC classification used in the Living Costs and Food Survey and the aggregated classification used in this paper, relative AHC poverty measure

LCF classification	Aggregated classification
Large employers and higher managerial occupations	Managerial and professional
Higher professional occupations	
Lower managerial and professional occupations	
Intermediate occupations	Intermediate and technical
Small employers and own account workers	
Lower supervisory and technical occupations	
Semi-routine occupations	Semi-routine and routine
Routine occupations	

Table 10a shows the percentage and number of working households in poverty¹⁰ on the relative AHC poverty measure using the three-category NS-SEC definition for the HRP, before and after tobacco expenditure is taken into account. Before including tobacco expenditure, the poverty rate is lowest for households where the HRP has a managerial or professional job (10.5 per cent) and much higher in households where

¹⁰ The LCF collects NS-SEC information for working-age people who are not currently employed, based on their previous job. However, for we exclude households with no-one currently in work from the analysis in Tables 10a and 10b, so these tables are based on working households only.

the HRP has an intermediate or technical job (25.1 per cent) and for routine or semi-routine jobs (35.4 per cent). Including tobacco expenditure in the calculations increases the measured poverty rate most for households where the HRP is in a semi-routine or routine job (an increase of 2.4 percentage points), followed by those where the HRP is in an intermediate or technical job (1.9 percentage points). The smallest increase is for the households where the HRP is in a managerial or professional job (0.4 percentage points). As with the tenure and employment status breakdowns earlier in this report, including tobacco expenditure in the poverty calculations exacerbates differences in poverty rates among households classified according to the NS-SEC status of the HRP.

Table 10a: Percentage and number of households in poverty by aggregated NS-SEC classification of HRP – working households, relative AHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	10.5	25.1	35.4
After tobacco expenditure	10.9	27.0	37.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	0.4	1.9	2.4
Number of households in poverty (1000s)			
Before tobacco expenditure	1,021	1,193	1,527
After tobacco expenditure	1,063	1,282	1,630
Increase in poverty rate once tobacco expenditure is taken into account	42	89	103

Source: Landman Economics analysis of LCF data

Restricting the analysis to working households with positive tobacco expenditure only, Table 10b shows that once again, there is a larger increase in poverty after taking tobacco expenditure into consideration for households where the HRP is in a semi-routine and routine job (13.2 percentage points) than for households where the HRP is in an intermediate or technical job (7.3 percentage points) or managerial or professional job (4.9 percentage points). After taking tobacco expenditure into account, households where the HRP is in a semi-routine or routine job are more than three times more likely to be in poverty as households where the HRP is in a managerial or professional job. The increase in the household poverty rate due to tobacco expenditure is larger in numerical terms for households where the HRP is in a semi-routine or routine job (103,000 extra households in poverty) than for the other two groups (89,000 extra households in poverty where the HRP is in an intermediate or technical occupation, and 43,000 extra households in poverty where the HRP is in a managerial or professional occupation).

Table 10b: Percentage and number of households in poverty by NS-SEC classification of head of household – working households with positive tobacco expenditure only, relative AHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	8.3	19.9	27.2
After tobacco expenditure	13.2	27.2	40.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	4.9	7.3	13.2
Number of households in poverty (1000s)			
Before tobacco expenditure	71	244	245
After tobacco expenditure	113	333	348
Increase in poverty rate once tobacco expenditure is taken into account	42	89	103

Source: Landman Economics analysis of LCF data

7 Changes in the impact of tobacco expenditure on household poverty rates over time

This section shows how the impact of smoking on measured household poverty rates in the Living Costs and Food Survey has changed over time. This report is the fourth in a series of reports for ASH looking at the impact of smoking on poverty rates. Table 11 shows the timeline for the reports and the LCF data (and FRS data) used in each case.

Table 11. Timeline of ASH reports on the impact of tobacco expenditure on poverty

Year of publication	Name	LCF data used
2015	<i>Estimates of poverty in the UK adjusted for expenditure on tobacco</i>	2010/11, 2011/12, 2012/13
2019	<i>The quitting dividend for landlords and tenants</i>	2014/15, 2015/16, 2016/17
2021	<i>Estimates of poverty in the UK adjusted for expenditure on tobacco – 2021 update</i>	2016/17, 2017/18, 2018/19
2026	<i>Estimates of poverty in the UK adjusted for expenditure on tobacco – 2026 update</i>	2021/22, 2022/23, 2023/24

Table 12 uses the results from this report and the previous ASH reports on smoking and poverty to show how the estimated impact of tobacco expenditure on household poverty rates has changed over the 11-year period for the pooled LCF datasets ending 2012/13 to 2023/24. Note that the poverty measure used here is the relative BHC measure because this was the only poverty measure calculated in the earlier reports.

Table 12: Impact of tobacco expenditure on household poverty rates over time, pooled LCF samples ending in 2012/13 through 2023/24 (relative BHC poverty measure)

Three year pooled LCF ending:	Proportion of households with positive tobacco expenditure(%)	All households			Households with positive tobacco expenditure	
		Baseline poverty (%)	Increase due to smoking (% pts)	Increase due to smoking (number of households, 1000s)	Baseline poverty (%)	Increase due to smoking (% pts)
2012/13	23.14	16.72	1.91	512	20.57	8.39
2016/17	17.23	17.64	1.59	442	22.88	9.24
2018/19	16.84	17.82	1.89	526	21.23	11.20
2023/24	11.82	18.05	1.64	472	19.19	13.82

Source: 2023/24 results from this report. Data for earlier years from previous ASH reports. Note: baseline poverty estimates are calibrated using the latest FRS/HBAI data release for each of the financial years listed in the left hand column. Due to revisions to weights in the FRS/HBAI data, baseline poverty figures for the earlier years diverge slightly from the results as originally published.

Table 12 shows that the proportion of households with positive tobacco expenditure in the LCF pooled datasets has fallen significantly and steadily, from just over 23 percent of households in the pooled LCF sample ending in 2012/13 to just under 12 percent in the sample ending in 2022/23. This is in line with the falling trends in smoking prevalence in other surveys such as the Annual Population Survey and UK Household Longitudinal Study observed over the same period.

Across all households, the baseline household (BHC) poverty rate in each year (calibrated using the FRS data for the relevant year) was around 16.7% in the three years ending 2012/13 and has risen over time since then, reaching just over 18% in the three years ending 2023/24. The increase in household poverty due to smoking was between 1.5 and 2 percentage points in each of the four years for which estimates are available. Measured as an increase in the number of households in poverty due to smoking, this is between 440,000 and 530,000 extra households in poverty. There is a modest upward trend in the impact of smoking on poverty between 2016/17 and 2018/19, followed by a decline between 2018/19 and 2023/24. Looking just at households with positive tobacco expenditure, the baseline poverty rate for these households fell slightly between 2016/17 and 2023/24. However, the percentage point increase in poverty for households with positive tobacco expenditure due to smoking increased dramatically over the same period, from just over 9 percentage points in 2012/13 to just under 14 percentage points in 2023/24.

The implication of these results is that while the proportion of households with any expenditure on tobacco in the LCF is falling over time, the impact of smoking on poverty *per smoker household* has increased in recent years.

8 Conclusions

The results in this paper show that when expenditure on tobacco is taken into account, between 415,000 and 480,000 extra households, comprising between 500,000 and 530,000 working age adults, between 195,000 and 260,000 pensioners and between 125,000 and 140,000 children, are classified as in poverty in the UK compared to the official Households Below Average Income figures. The precise number of extra households, adults and children in poverty depends on which measure of poverty is used (BHC or AHC income, absolute or relative).

These results show that tobacco imposes a real and substantial cost on many low-income households. When the poverty analysis is broken down into subgroups of households, the results show that including tobacco expenditure in the poverty calculations increases the disparity in poverty rates between low-poverty and high-poverty groups. For example, the gap in poverty rates between social renter households and homeowner households, and the discrepancy in poverty rates between households with no-one in work and households with at least one person in work, are exacerbated when tobacco expenditure is taken into consideration in the poverty calculations.

It is important, however, to avoid concluding from these results that a suitable policy response would be to reduce tobacco taxation to make tobacco products more affordable. Previous research shows that increases in tobacco taxation are potentially a *progressive* measure in economic and health terms because poorer smokers are more likely to quit, and young people less likely to take up smoking, when tobacco prices increase because poorer households and young people are more sensitive to price increases¹¹. Indeed, raising tax is the only tobacco control intervention which has been proven to have a greater effect on more disadvantaged smokers at population level and so contribute to reducing health inequalities¹². However, poorer smokers who do not quit are disproportionately disadvantaged in economic terms because of the negative impact of tobacco tax increases on their already small incomes.

This poses a dilemma which can be resolved by ensuring that all efforts are made to motivate and support smokers in quitting. ASH supports increasing tobacco taxation as long as at the same time the UK Government continues to provide adequate

¹¹ The World Bank, *Curbing the epidemic: governments and the economics of tobacco control*. May, 1999

¹² Amos A, Bauld L, Clifford D *et al*, "Tobacco control, inequalities in health and action at a local level." York: Public Health Research Consortium, 2011.

funding for measures to help smokers to quit and population level measures to reduce smoking.

APPENDICES

Appendix A: Estimating total consumer expenditure on tobacco in the UK

The estimate of total UK consumer expenditure on tobacco for 2022/23 used in this paper is made up of an estimate for legally purchased tobacco and an estimate for illicitly purchased tobacco, which are summed together.

Legally purchased tobacco

HMRC provides data on total tobacco receipts by tax year which has been used to derive total consumer spending on tobacco for the tax year 2023/24 by using statistics on the average price of cigarettes and hand-rolling tobacco. Table A.1 summarises the main calculations for legally purchased tobacco. Total legal consumer tobacco expenditure for 2023/24 is estimated at around £16.4 billion.

Table A.1. Estimated consumer spending on legally purchased cigarettes and handrolling tobacco, 2023/24

	£bn		
	Cigarettes	Hand-rolling tobacco	Total
Excise duties	6.476	2.075	8.551
VAT	1.723	0.671	2.394
Total spending	10.336	4.025	14.361
Tax as % of total spending	79.3%	68.2%	76.2%

Data sources:

Excise duty receipts: HMRC *Tobacco Bulletin Tables*, April 2025 (<https://www.gov.uk/government/statistics/tobacco-bulletin>). VAT calculation uses (i) average price data from ONS price comparison tool (<https://www.ons.gov.uk/economy/inflationandpriceindices/articles/shoppingpricescomparison/2023-05-03>) for September 2023 updated to April 2024 using CPI time series for cigarettes (ONS identifier L7AQ) and other tobacco (ONS identifier L7AS).

Illicit tobacco

The estimate for the value of illicit tobacco purchased in 2023/24 is based on two sources:

- i) Estimates for the volume of illicit cigarettes and hand-rolling tobacco (HRT) are from HMRC's *Measuring Tax Gaps 2024* publication (<https://www.gov.uk/government/statistics/measuring-tax-gaps>).

- ii) Estimates for the average price paid for illicit cigarettes and HRT are taken from surveys commissioned by Fresh (a tobacco control organisation in the North East of England)¹³ of the price paid per pack of 20 cigarettes in the North East of England in 2024.

Table A.2 shows how the overall estimate of spending on illicit tobacco of just over £950 million is arrived at. Summing expenditure on illicit tobacco and legally purchased tobacco gives a total UK consumer tobacco expenditure figure for 2023/24 of approximately £15.3 billion.

Table A.2. Estimated consumer spending on illicit cigarettes and handrolling tobacco, 2023/24

	Cigarettes	Hand-rolling tobacco	Total
Price per unit	£5.50 per pack of 20 cigarettes	£24.00 per 100g pack	
Volume of sales	1.22 billion sticks	2.6 million kg	
Total spending (£m)	333	623	956

Data sources: Volume of sales from HMRC *Measuring Tax Gaps 2020*. Price data from surveys conducted by NEMS.

Total tobacco spending

Given the results in Table A.1 and A.2, total consumer spending on tobacco is calculated as:

Legally purchased spending (£14.361 bn)

+ Illicit spending (£0.956 bn)

= total spending (£15.317 bn)

Appendix B: Comparison of average net incomes and housing costs in the Family Resources Survey and Living Costs and Food Survey

[need to write this up – the tables are now done.]

¹³ www.fresh-balance.co.uk

Appendix B: Comparison of average household net incomes and housing costs in the Family Resources Survey and Living Costs and Food Survey

Table B.1 below shows a comparison of Before Housing Costs (BHC) incomes, After Housing Costs (AHC) household incomes and housing costs for the pooled 3-year LCF dataset for the years 2021/22, 2022/23 and 2023/24 and the FRS-HBAI dataset for 2023/24. Incomes and housing costs are updated to October 2023 prices in each case. The BHC and AHC incomes are equivalised for household size, while the housing costs are unequivalised. Incomes and housing costs are compared at the mean of the distribution (top row) and at five different percentile points of the distribution (10th, 25th, 50th (median), 75th and 90th percentiles).

Table B.1. Comparison of BHC and AHC net incomes and housing costs in the LCF (2021/22 to 2023/24) and FRS 2023/24, £ per week

	BHC incomes (equivalised)			AHC incomes (equivalised)			Housing costs		
	LCF	FRS	difference (LCF vs FRS, %)	LCF	FRS	difference (LCF vs FRS, %)	LCF	FRS	difference (LCF vs FRS, %)
Mean	750	779	-4%	659	698	-6%	106	94	13%
Percentiles:									
10th	328	314	4%	222	231	-4%	8	9	-11%
25th	470	456	3%	380	378	1%	15	15	0%
Median (50 th)	670	650	3%	594	580	2%	87	69	26%
75th	952	923	3%	867	846	2%	157	133	18%
90th	1278	1292	-1%	1182	1206	-2%	243	212	15%

Source: Landman Economics analysis of LCF and FRS data

Table B.1 shows that mean BHC household income is around 4% higher in the FRS than the LCF. However, at percentile points of the distribution between the 10th and 75th percentile, BHC income in the LCF is higher than the FRS. It is only at the 90th percentile that FRS income is higher than LCF. At the very top of the BHC income distribution, incomes are much higher in the FRS than the LCF – the 99th percentile of BHC income in the FRS is just over £3,000 per week compared to just under £2,100 per week in the LCF. This helps explain why mean income in the LCF is lower than the FRS despite the fact that median income in the LCF is higher than the FRS. For AHC incomes, mean income in the FRS is around 6% larger than the LCF – a greater difference than for BHC income. LCF AHC income is lower relative to FRS income at all percentile points compared to BHC – for example, at the 10th percentile LCF income is 4% lower than FRS (compared to BHC where LCF income is 4% *higher* than FRS, while at the median LCF income is 2% higher than FRS compared to 3% for BHC).

This pattern of results occurs because measured housing costs are larger in the FRS than the LCF – about 13% higher at the mean (£106 in the LCF compared to £94 in the FRS). This difference in housing costs seems to be at least partially because of greater accuracy of the housing costs in the FRS dataset. In particular, mortgage interest payments (as distinct from capital repayments) are reported with greater accuracy in the FRS, while they have to be imputed for most mortgage-holders in the LCF – and it seems that the process of imputation means that some of the capital repayment is mistakenly being treated as interest payments in the LCF, biasing the LCF measure of housing costs upwards. We plan to do more work in future versions of this research to explore biases in the LCF housing costs measure and whether the LCF data can be adjusted to better match the patterns in the FRS data.

Appendix C: Results equivalent to those in Section 6 for the other three poverty measures used in this report

C.1 Region and country

Table C1a: Percentage and number of households in poverty by region and country – whole sample, relative BHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	17.9	18.2	22.1	18.7	19.4	16.6	18.9	14.4	17.2	19.7	18.2	18.7
After tobacco expenditure	19.3	20.2	23.6	20.0	21.0	17.9	19.7	15.4	19.6	24.2	19.8	20.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.4	2.1	1.5	1.3	1.7	1.3	0.7	1.1	2.4	4.5	1.7	2.1
Number of households in poverty (1000s)												
Before tobacco expenditure	213	585	524	392	484	442	688	559	433	275	460	141
After tobacco expenditure	230	651	560	418	526	477	715	600	493	337	503	157
Increase in poverty rate once tobacco expenditure is taken into account	17	67	36	27	42	35	27	41	60	62	43	16

Source: Landman Economics analysis of LCF data

Table C1b: Percentage and number of households in poverty by region – households with positive tobacco expenditure only, relative BHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	18.1	22.4	24.5	13.6	19.0	16.0	18.6	15.2	13.1	18.2	27.9	25.9
After tobacco expenditure	27.9	40.7	37.7	23.5	32.5	28.3	26.4	25.7	30.9	50.5	40.2	38.7
Percentage point increase in poverty rate once tobacco expenditure is taken into account	9.9	18.2	13.2	9.8	13.5	12.3	7.9	10.5	17.8	32.2	12.3	12.8
Number of households in poverty (1000s)												
Before tobacco expenditure	31	82	68	37	59	45	63	59	44	35	98	31
After tobacco expenditure	49	148	104	63	101	80	90	100	103	97	141	47
Increase in poverty rate once tobacco expenditure is taken into account	17	67	36	27	42	35	27	41	60	62	43	16

Source: Landman Economics analysis of LCF data

Table C1c: Percentage and number of households in poverty by region and country – whole sample, absolute BHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	15.9	14.8	19.2	15.6	16.8	14.6	17.8	12.6	14.8	16.9	19.9	17.5
After tobacco expenditure	17.6	16.6	20.8	17.3	18.6	15.8	18.5	13.5	17.2	20.1	17.7	18.2
Percentage point increase in poverty rate once tobacco expenditure is taken into account	1.7	1.8	1.6	1.7	1.8	1.2	0.8	0.8	2.5	3.2	1.7	1.9
Number of households in poverty (1000s)												
Before tobacco expenditure	190	476	456	328	421	387	646	491	371	235	406	123
After tobacco expenditure	210	536	494	343	466	420	673	523	433	280	448	137
Increase in poverty rate once tobacco expenditure is taken into account	21	59	39	36	45	33	27	32	62	45	42	14

Source: Landman Economics analysis of LCF data

Table C1d: Percentage and number of households in poverty by region – households with positive tobacco expenditure only, absolute BHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	14.1	21.1	21.1	9.0	17.5	14.0	14.0	14.0	10.7	16.9	24.2	23.4
After tobacco expenditure	26.1	37.4	35.1	22.2	31.9	25.8	22.0	22.1	29.2	40.2	36.3	35.1
Percentage point increase in poverty rate once tobacco expenditure is taken into account	12.0	16.3	14.0	13.2	14.4	11.7	8.0	8.2	18.5	23.3	12.1	11.7
Number of households in poverty (1000s)												
Before tobacco expenditure	24	77	58	24	54	40	48	54	36	33	85	28
After tobacco expenditure	45	136	97	60	99	72	75	86	98	77	127	43
Increase in poverty rate once tobacco expenditure is taken into account	21	59	39	36	45	33	27	32	62	45	42	14

Source: Landman Economics analysis of LCF data

Table C1e: Percentage and number of households in poverty by region and country – whole sample, absolute AHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	15.8	15.7	18.9	16.8	18.3	17.3	26.8	15.3	16.2	18.6	16.5	14.5
After tobacco expenditure	18.0	17.6	20.4	18.3	20.0	18.6	28.1	16.6	18.3	21.4	18.3	15.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.2	1.9	1.5	1.5	1.8	1.3	1.3	2.2	2.8	1.8	1.3	1.7
Number of households in poverty (1000s)												
Before tobacco expenditure	188	504	448	352	457	460	974	597	406	259	417	109
After tobacco expenditure	215	565	484	383	501	494	1,020	647	461	298	462	119
Increase in poverty rate once tobacco expenditure is taken into account	27	61	36	31	44	35	46	50	54	39	45	10

Source: Landman Economics analysis of LCF data

Table C1f: Percentage and number of households in poverty by region – households with positive tobacco expenditure only, absolute AHC measure of poverty

	England:									Wales	Scotland	N Ireland
	North East	North West	Yorks & Humber	East Midlands	West Midlands	East of England	London	South East	South West			
Proportion of households in poverty (%)												
Before tobacco expenditure	13.1	21.8	24.2	13.7	19.6	28.5	19.3	18.5	14.9	20.7	46.9	23.4
After tobacco expenditure	28.5	38.5	37.2	25.2	33.9	30.8	32.9	31.3	31.1	41.1	59.9	31.5
Percentage point increase in poverty rate once tobacco expenditure is taken into account	15.4	16.7	13.0	11.5	14.2	12.3	13.6	12.9	16.2	20.4	13.0	8.1
Number of households in poverty (1000s)												
Before tobacco expenditure	23	79	66	37	61	52	65	72	50	40	164	28
After tobacco expenditure	49	140	102	68	105	87	112	122	104	79	209	38
Increase in poverty rate once tobacco expenditure is taken into account	27	61	36	31	44	35	46	50	54	39	45	10

Source: Landman Economics analysis of LCF data

C.2 Housing tenure

Table C2a: Percentage and number of households in poverty by housing tenure – whole sample, relative BHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	26.1	20.9	15.1
After tobacco expenditure	30.2	22.5	16.2
Percentage point increase in poverty rate once tobacco expenditure is taken into account	4.1	1.5	1.1
Number of households in poverty (1000s)			
Before tobacco expenditure	1,266	1,118	2,812
After tobacco expenditure	1,461	1,197	3,009
Increase in poverty rate once tobacco expenditure is taken into account	195	80	197

Source: Landman Economics analysis of LCF data

Table C2b: Percentage and number of households in poverty by housing tenure – households with positive tobacco expenditure only, relative BHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	32.2	15.6	12.5
After tobacco expenditure	51.0	26.2	24.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	18.8	10.6	12.3
Number of households in poverty (1000s)			
Before tobacco expenditure	338	119	203
After tobacco expenditure	533	199	400
Increase in poverty rate once tobacco expenditure is taken into account	195	80	197

Source: Landman Economics analysis of LCF data

Table C2c: Percentage and number of households in poverty by housing tenure – whole sample, absolute BHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	22.5	17.8	13.4
After tobacco expenditure	26.3	19.3	14.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.8	1.5	1.0
Number of households in poverty (1000s)			
Before tobacco expenditure	1,089	951	2,490
After tobacco expenditure	1,274	1,030	2,682
Increase in poverty rate once tobacco expenditure is taken into account	184	79	192

Source: Landman Economics analysis of LCF data

Table C2d: Percentage and number of households in poverty by housing tenure – households with positive tobacco expenditure only, absolute BHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	28.6	13.2	10.2
After tobacco expenditure	46.4	23.8	22.2
Percentage point increase in poverty rate once tobacco expenditure is taken into account	17.8	10.6	12.0
Number of households in poverty (1000s)			
Before tobacco expenditure	300	101	166
After tobacco expenditure	484	180	358
Increase in poverty rate once tobacco expenditure is taken into account	184	79	192

Source: Landman Economics analysis of LCF data

Table C2e: Percentage and number of households in poverty by housing tenure – whole sample, absolute AHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	32.3	30.4	10.7
After tobacco expenditure	36.6	32.2	11.7
Percentage point increase in poverty rate once tobacco expenditure is taken into account	4.3	1.8	1.0
Number of households in poverty (1000s)			
Before tobacco expenditure	1,567	1,619	1,986
After tobacco expenditure	1,772	1,715	2,163
Increase in poverty rate once tobacco expenditure is taken into account	205	96	177

Source: Landman Economics analysis of LCF data

Table C2f: Percentage and number of households in poverty by housing tenure – households with positive tobacco expenditure only, absolute AHC measure of poverty

	Social renters	Private renters	Homeowners
Proportion of households in poverty (%)			
Before tobacco expenditure	37.8	30.2	8.2
After tobacco expenditure	57.7	43.0	19.3
Percentage point increase in poverty rate once tobacco expenditure is taken into account	19.9	12.8	19.3
Number of households in poverty (1000s)			
Before tobacco expenditure	397	230	133
After tobacco expenditure	602	325	310
Increase in poverty rate once tobacco expenditure is taken into account	205	96	177

Source: Landman Economics analysis of LCF data

C.3 Household employment pattern

Table C3a: Percentage and number of households in poverty by number of people in employment – working age households, relative BHC measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	49.0	20.0	5.2
After tobacco expenditure	52.7	21.8	5.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.7	1.8	0.6
Number of households in poverty (1000s)			
Before tobacco expenditure	1,492	1,373	521
After tobacco expenditure	1,599	1,487	585
Increase in poverty rate once tobacco expenditure is taken into account	107	115	64

Source: Landman Economics analysis of LCF data

Table C3b: Percentage and number of households in poverty by number of people in employment – households with positive tobacco expenditure only, relative BHC poverty measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	52.4	19.8	5.0
After tobacco expenditure	71.5	33.6	10.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	19.1	13.8	5.4
Number of households in poverty (1000s)			
Before tobacco expenditure	307	172	62
After tobacco expenditure	414	287	115
Increase in poverty rate once tobacco expenditure is taken into account	115	115	64

Source: Landman Economics analysis of LCF data

Table C3c: Percentage and number of households in poverty by number of people in employment – working age households, absolute BHC measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	44.4	17.3	4.2
After tobacco expenditure	47.8	19.1	4.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.4	1.8	0.6
Number of households in poverty (1000s)			
Before tobacco expenditure	1,350	1,184	425
After tobacco expenditure	1,449	1,301	486
Increase in poverty rate once tobacco expenditure is taken into account	99	117	61

Source: Landman Economics analysis of LCF data

Table C3d: Percentage and number of households in poverty by number of people in employment – households with positive tobacco expenditure only, absolute BHC poverty measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	48.7	16.2	3.4
After tobacco expenditure	66.3	30.2	8.6
Percentage point increase in poverty rate once tobacco expenditure is taken into account	17.7	14.0	5.2
Number of households in poverty (1000s)			
Before tobacco expenditure	285	141	42
After tobacco expenditure	385	258	103
Increase in poverty rate once tobacco expenditure is taken into account	99	117	61

Source: Landman Economics analysis of LCF data

Table C3e: Percentage and number of households in poverty by number of people in employment – working age households, absolute AHC measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	52.7	23.7	6.6
After tobacco expenditure	55.6	25.6	7.3
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.9	1.9	0.7
Number of households in poverty (1000s)			
Before tobacco expenditure	1,605	1,623	669
After tobacco expenditure	1,688	1,745	732
Increase in poverty rate once tobacco expenditure is taken into account	83	122	63

Source: Landman Economics analysis of LCF data

Table C3f: Percentage and number of households in poverty by number of people in employment – households with positive tobacco expenditure only, absolute AHC poverty measure

	No earner	One earner	Two or more earners
Proportion of households in poverty (%)			
Before tobacco expenditure	61.4	21.6	6.4
After tobacco expenditure	76.5	36.3	11.8
Percentage point increase in poverty rate once tobacco expenditure is taken into account	15.0	14.7	5.4
Number of households in poverty (1000s)			
Before tobacco expenditure	360	188	80
After tobacco expenditure	444	310	143
Increase in poverty rate once tobacco expenditure is taken into account	83	122	63

Source: Landman Economics analysis of LCF data

C.4 NS-SEC classification of head of household

Table C4a: Percentage and number of households in poverty by aggregated NS-SEC classification of HRP – working households, relative BHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	7.9	19.0	27.8
After tobacco expenditure	8.2	20.6	30.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	0.3	1.6	27.8
Number of households in poverty (1000s)			
Before tobacco expenditure	775	905	1,198
After tobacco expenditure	802	981	1,311
Increase in poverty rate once tobacco expenditure is taken into account	26	76	114

Source: Landman Economics analysis of LCF data

Table C4b: Percentage and number of households in poverty by NS-SEC classification of head of household – working households with positive tobacco expenditure only, relative BHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	5.0	13.8	15.0
After tobacco expenditure	8.1	20.0	27.7
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.1	6.2	12.6
Number of households in poverty (1000s)			
Before tobacco expenditure	43	169	135
After tobacco expenditure	69	245	249
Increase in poverty rate once tobacco expenditure is taken into account	26	76	114

Source: Landman Economics analysis of LCF data

Table C4c: Percentage and number of households in poverty by aggregated NS-SEC classification of HRP – working households, absolute BHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)	7.2	17.0	23.4
Before tobacco expenditure	7.5	18.7	26.1
After tobacco expenditure	0.3	1.7	2.7
Percentage point increase in poverty rate once tobacco expenditure is taken into account			
Number of households in poverty (1000s)	704	808	1,009
Before tobacco expenditure	728	888	1,126
After tobacco expenditure	24	80	117
Increase in poverty rate once tobacco expenditure is taken into account	7.2	17.0	23.4

Source: Landman Economics analysis of LCF data

Table C4d: Percentage and number of households in poverty by NS-SEC classification of head of household – working households with positive tobacco expenditure only, absolute BHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	4.5	11.8	10.5
After tobacco expenditure	7.3	18.3	23.4
Percentage point increase in poverty rate once tobacco expenditure is taken into account	2.8	6.5	12.9
Number of households in poverty (1000s)			
Before tobacco expenditure	38	144	94
After tobacco expenditure	62	224	80
Increase in poverty rate once tobacco expenditure is taken into account	23	80	116

Source: Landman Economics analysis of LCF data

Table C4e: Percentage and number of households in poverty by aggregated NS-SEC classification of HRP – working households, absolute AHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	9.2	21.8	31.4
After tobacco expenditure	9.5	23.3	34.5
Percentage point increase in poverty rate once tobacco expenditure is taken into account	0.3	1.5	3.1
Number of households in poverty (1000s)			
Before tobacco expenditure	900	1,035	1,352
After tobacco expenditure	929	1,108	1,488
Increase in poverty rate once tobacco expenditure is taken into account	29	74	136

Source: Landman Economics analysis of LCF data

Table C4f: Percentage and number of households in poverty by NS-SEC classification of head of household – working households with positive tobacco expenditure only, absolute AHC poverty measure

	Managerial and professional	Intermediate and technical	Semi-routine and routine
Proportion of households in poverty (%)			
Before tobacco expenditure	6.6	17.3	16.9
After tobacco expenditure	10.0	23.3	31.9
Percentage point increase in poverty rate once tobacco expenditure is taken into account	3.4	6.0	15.0
Number of households in poverty (1000s)			
Before tobacco expenditure	56	212	152
After tobacco expenditure	85	285	288
Increase in poverty rate once tobacco expenditure is taken into account	29	73	136

Source: Landman Economics analysis of LCF data