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# Experian Yorkshire Household Income

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# Household Income
# Yorkshire Water

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# Contents

# 1. Background and overview

PR19 outlines that there is no longer a hard line between an affordable bill and an unaffordable bill. It depends on household income and a customer's individual circumstances. Incomes are one of the key drivers of affordability and differ greatly depending on location, age and job type etc. At a more aggregate level, individual household income will also depend on national/local economic conditions and for certain groups of households whose income is largely reliant on state benefits, government's welfare policy.

On the question of affordability, the report focuses on household disposable income – gross income minus direct taxation- which determines a household's ability to consume goods and services. The objective of this report is to establish the current state of household income using official statistics for the Yorkshire Water area benchmarked against other water company areas and the national (England and Wales) average. Once this is established, the focus turns to identifying areas of low average household income within the Yorkshire Water area, and identifying the affordability risks.

The analysis is structured as follows:

1. Analysis on all relevant official statistics relating to average household disposable income in the company area in comparison with other company areas historically. The analysis includes the estimates of the percentage of households below 60% of median income, which is the DWP (Department for Work and Pensions) definition of a household living in poverty. Experian draws on published data to produce the percentage of households living in poverty for all water companies in England and Wales for FY 2011/12 and FY 2013/14.

2. Low household income indicates a higher incidence of affordability risks. Experian develops a methodology to produce household disposable income estimates at LSOA (Lower Super Output Area) level, which are consistent with official ONS income estimates ensuring consistency across geographical areas over time. Experian examines the household composition by FSS (Financial Strategy Segment), which provides a robust basis for assessing future income and affordability prospects given the macroeconomic forecast assumptions. Through detailed analysis of the future economic conditions for the Yorkshire and Humber region, the FSS outputs are combined with Experian's regional and local forecasts to capture the effects of local economic performance on the future state of household finances.

3. Analysis of the income forecasts at LSOA level will enable Yorkshire Water to understand where pockets of high affordability risk exist within its water boundary over the 2017-25 period.

# 2. Disposable household income estimates by area

## 2.1 Household disposable income definition

Disposable household income is the preferred measure of household income as it measures the amount of income that is available to household to spend or save after deductions by direct taxation.

Income includes:

- Wages and salaries
- Incomes from self-employment
- Investment income (properties or other investments)
- Social benefits received (e.g. income support, child benefits and state pension)

Direct taxation includes:

- Income tax and national insurance contributions
- Council tax

Housing costs include:

- Housing rent
- Water, Sewerage & Refuse Collection
- Mortgage Interest Payments
- Capital Repayment of Mortgage

## 2.2 Water company area disposable household income estimates

Figure 1 shows weekly average disposable household income for each of the water companies in England and Wales for the period 2011 to 2015. For all years, Yorkshire Water has the third lowest disposable household income estimates across all water company areas, with the average household income only ranking higher than those residing in the Welsh Water and Northumbrian Water areas.

In 2015 average household income in England and Wales was estimated to have been £621 per week, 14 per cent higher than the average for Yorkshire Water, which came in at £531 per week. Between 2011 and 2015, weekly household disposable income in the Yorkshire Water area increased by just 11 per cent, compared with an increase of almost 13 per cent in England and Wales.

The data presented in Figure 1 is equivalised, which means that it takes into account the different resource needs of single adults, any additional adults in the household, and children in various age groups to enable comparison of income on a like for like basis.

**Figure 1 Weekly average household disposable income (equivalised) by water company area, 2011 to 2015**

| Water Company | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Affinity Water | 637 | 654 | 682 | 716 | 736 |
| Anglian Water | 536 | 546 | 560 | 586 | 596 |
| Bournemouth & West Hants Water | 547 | 554 | 573 | 603 | 622 |
| Bristol Water | 547 | 549 | 570 | 603 | 622 |
| Cambridge Water | 827 | 845 | 882 | 939 | 945 |
| Cholderton & District Water | 587 | 589 | 610 | 641 | 664 |
| Dee Valley Water | 520 | 526 | 542 | 566 | 578 |
| Dwr Cymru Welsh Water | 470 | 477 | 486 | 508 | 518 |
| Essex & Suffolk Water | 556 | 571 | 585 | 616 | 631 |
| Northumbrian Water | 468 | 481 | 491 | 511 | 525 |
| Portsmouth Water | 518 | 530 | 560 | 582 | 590 |
| Severn Trent Water | 497 | 504 | 521 | 547 | 555 |
| South East Water | 617 | 630 | 656 | 687 | 696 |
| South Staffordshire Water | 479 | 487 | 504 | 535 | 547 |
| South West Water | 502 | 506 | 522 | 546 | 557 |
| Southern Water | 550 | 559 | 578 | 601 | 615 |
| Sutton & East Surrey Water | 677 | 695 | 718 | 747 | 749 |
| Thames Water | 720 | 742 | 772 | 813 | 827 |
| United Utilities | 486 | 494 | 508 | 530 | 540 |
| Wessex Water | 559 | 561 | 577 | 606 | 620 |
| Yorkshire Water | 480 | 486 | 499 | 521 | 531 |
| *England and Wales average* | 551 | 562 | 581 | 609 | 621 |
| *Source: ONS and Experian analysis* | | | | | |

Figure 2 presents equivalised household disposable income after housing costs which is useful for assessing the impact of the costs of housing for a given area and for providing an indicator of disposable income before the cost of living. The data suggests that in 2015 average housing costs in England and Wales were £109 per week. Housing costs include:

- rent (gross of housing benefit)
- water rates, community water charges and council water charges
- mortgage interest payments (net of any tax relief)
- structural insurance premiums (for owner occupiers)
- ground rent and service charges

After factoring in housing costs, Yorkshire Water households continue to underperform the households in the other water company areas in terms of the average weekly household disposable income. The estimate of £449 for 2015, is 12 percent lower than the England and Wales average. This demonstrates that housing costs in the Yorkshire Water area are slightly below the England and Wales average. In 2015, average equivalised housing costs for the Yorkshire Water were estimated to be £82 per week compared to an England and Wales average of £109 per week. Between 2011 and 2015, household income after housing costs grew by around 11 per cent compared with an England and Wales average of 13 per cent over the same period.

**Figure 2: Weekly average household disposable income (equivalised) after housing costs by water company area, 2011 to 2015**

| Water Company | 2011 | 2012 | 2013 | 2014 | 2015 |
|---|---|---|---|---|---|
| Affinity Water | 520 | 534 | 557 | 584 | 600 |
| Anglian Water | 454 | 462 | 474 | 496 | 505 |
| Bournemouth & West Hants Water | 452 | 457 | 473 | 498 | 513 |
| Bristol Water | 456 | 458 | 475 | 503 | 518 |
| Cambridge Water | 687 | 702 | 732 | 781 | 786 |
| Cholderton & District Water | 493 | 495 | 513 | 538 | 557 |
| Dee Valley Water | 444 | 450 | 463 | 484 | 494 |
| Dwr Cymru Welsh Water | 397 | 403 | 411 | 430 | 438 |
| Essex & Suffolk Water | 454 | 467 | 478 | 503 | 515 |
| Northumbrian Water | 393 | 404 | 413 | 430 | 441 |
| Portsmouth Water | 432 | 442 | 467 | 485 | 492 |
| Severn Trent Water | 417 | 423 | 437 | 459 | 465 |
| South East Water | 523 | 535 | 557 | 583 | 590 |
| South Staffordshire Water | 403 | 410 | 424 | 450 | 460 |
| South West Water | 420 | 423 | 436 | 457 | 466 |
| Southern Water | 454 | 461 | 477 | 496 | 508 |
| Sutton & East Surrey Water | 570 | 585 | 604 | 628 | 630 |
| Thames Water | 561 | 578 | 601 | 634 | 644 |
| United Utilities | 406 | 413 | 425 | 443 | 451 |
| Wessex Water | 467 | 468 | 482 | 506 | 517 |
| Yorkshire Water | 405 | 410 | 422 | 440 | 449 |
| *England and Wales average* | 455 | 464 | 480 | 503 | 512 |
| *Source: ONS and Experian analysis* | | | | | |

The data presented so far provides different measures of mean disposable household income across water company areas. Average household disposable income conceals households that have lower levels of household income. Alongside the mean household income estimates, ONS also produces estimates of households living in poverty. A household is deemed to be in poverty if the household's income lies below 60% of the UK median income, where income is defined as net weekly equivalised income. Experian has aggregated the ONS MSOA level data to provide estimates of the proportion of households in each water company area that are in poverty according to the ONS definition in 2011/12 and 2013/14.

Figure 3 presents the results of this analysis and shows that in 2011/12 and 2013/14, before housing costs, over 19 percent of households in the Yorkshire Water area were living in poverty according to the ONS definition. Furthermore, the area had the third highest poverty rate of any water company behind Welsh Water and South Staffordshire Water. The earlier analysis demonstrated that housing costs are relatively low in the Yorkshire Water area – 25 per cent below the England and Wales average - and this is reflected in the second table where we find that after housing costs, Yorkshire Water is ranked 7$^{th}$ out of 21 water companies according to the proportion of households in poverty in 2011/12. The estimates for Thames Water highlight the high housing costs in and around London, where a quarter of all households are classified as in poverty after housing costs in 2013/14.

**Figure 3: Proportion of households in poverty by water company area, before and after housing costs**

| Before Housing Costs | | |
|---|---|---|
| **Water Company** | **2011** | **2013** |
| Dwr Cymru Welsh Water | 20.5% | 20.5% |
| South Staffordshire Water | 19.4% | 19.5% |
| Yorkshire Water | 19.4% | 19.2% |
| Severn Trent Water | 18.7% | 18.6% |
| Northumbrian Water | 19.3% | 18.5% |
| United Utilities | 18.1% | 17.8% |
| Dee Valley Water | 17.2% | 17.4% |
| South West Water | 19.0% | 16.8% |
| Anglian Water | 16.6% | 16.3% |
| Essex & Suffolk Water | 16.6% | 15.8% |
| Bristol Water | 17.2% | 15.3% |
| Southern Water | 16.6% | 15.3% |
| Bournemouth & West Hants Wate | 17.3% | 15.3% |
| Portsmouth Water | 16.1% | 15.0% |
| Wessex Water | 17.7% | 15.0% |
| Affinity Water | 15.8% | 14.2% |
| Thames Water | 15.6% | 14.0% |
| South East Water | 14.0% | 13.3% |
| Cambridge Water | 14.2% | 13.0% |
| Cholderton & District Water | 12.4% | 11.4% |
| Sutton & East Surrey Water | 12.7% | 10.5% |
| *Source: ONS and Experian analysis* | | |

| After Housing Costs | | |
|---|---|---|
| **Water Company** | **2011** | **2013** |
| Thames Water | 25.8% | 25.0% |
| South Staffordshire Water | 21.5% | 24.0% |
| Northumbrian Water | 22.1% | 23.3% |
| Dwr Cymru Welsh Water | 22.0% | 22.3% |
| Southern Water | 20.6% | 22.1% |
| Severn Trent Water | 22.2% | 21.6% |
| Yorkshire Water | 21.6% | 21.4% |
| United Utilities | 21.4% | 21.2% |
| Essex & Suffolk Water | 20.9% | 21.2% |
| Affinity Water | 21.6% | 21.0% |
| South West Water | 22.1% | 19.9% |
| Portsmouth Water | 19.5% | 19.7% |
| Dee Valley Water | 18.5% | 19.6% |
| Bristol Water | 21.5% | 19.4% |
| Bournemouth & West Hants Water | 20.5% | 19.0% |
| Anglian Water | 19.3% | 18.8% |
| Wessex Water | 21.3% | 17.9% |
| Cambridge Water | 17.7% | 17.6% |
| South East Water | 16.3% | 17.2% |
| Sutton & East Surrey Water | 17.3% | 16.2% |
| Cholderton & District Water | 15.9% | 13.8% |
| *Source: ONS and Experian analysis* | | |

# 3. Future affordability and risk

Official statistics provide evidence of how household income has changed over time and how it varies across different areas historically. Experian has the capability of providing a more forward looking view on affordability, to help predict how the financial risks to certain households will evolve over the short to medium term. The forward looking view is based on understanding how UK economic prospects will impact different types of households using FSS Economics. Forecasts of income and expenditure from FSS Economics, provide a robust basis for assessing future income and affordability prospects. In addition, FSS Economics is combined with Experian's regional and local forecasts to capture the effects of local economic performance on household finances in the Yorkshire Water area.

## 3.1 UK Economic Prospects

### 3.1.1 Short term outlook

The short term outlook for the UK economy has weakened significantly following the EU referendum. Uncertainties, notably on the domestic front have mounted. Inflation threatens to erode real income growth and curb consumer spending while capital spending is set to weaken further as political and economic turmoil persist. There is likely to be some gains from the more competitive exchange rate, but with global demand remaining weak, this will be heavily outweighed by the fall in domestic demand, despite looser monetary and fiscal stances.

Since the 2016 EU referendum consumer spending has continued to support output expansion; buoyed by a rebound in consumer confidence after an initial fall, robust labour market conditions, and continued earnings growth. Foreign direct investment in to the UK has slowed and company margins will come under pressure as imported costs remain high. Under this less favourable backdrop, firms could opt to put hiring decisions on hold or even cut back on headcount. Employment growth is expected to slow and could even turn mildly negative.

For households, this means a potential slowdown in earnings growth with inflation running above wage growth, real disposable household incomes are falling. This will weigh down on output growth in the UK's dominant service sector. Weaker sterling could support an increase in manufacturing output as exports become relatively cheaper, though we expect the net impact to be a marked decline in GDP growth this year and next.

### 3.1.2 Medium term outlook

For The medium and long-term outlook for the UK economy, much will depend on the outcome of trade negotiations and terminating involvement with the EU, and only time will tell how these issues affect economic performance. The strong performance of the past four years means that the UK economy has recovered the ground lost during the 2007/08 recession more quickly than seemed likely a few years ago. But the repercussions of the recession and above all the implications of the Brexit vote are set to hamper economic progress for a few years. The pace of expansion is likely to be well below the long-term trend throughout 2017-25. GDP growth is expected to average 2.2% per annum during that period, against 2.6% from 1981 to 2008.

The weaker growth outlook reflects in large measure the expected slowdown in consumer demand as real incomes are eroded by higher inflation and still sluggish earnings growth, while the labour market deteriorates from the buoyancy of recent years. Fiscal policy will be easier than in the past six years, even though the squeeze in working-age benefits is expected to continue, the monetary stance will remain accommodative. This will help support activity but until trade negotiations are resolved it is not possible to determine whether this will be sufficient to avert an outright recession at some stage in the next few years. Debt worries cloud both government and household over the longer term. Net financial liabilities of the government will represent over 80% of GDP within the next few years, and household debt is already over 80% of GDP and rising steadily, increasing vulnerability to shocks.

The state of the labour market is likely to have the largest bearing on household finance as wages and salaries constitute the most important income sources for the majority of the non-retired households. Over the past year the employment rate has risen to a record high (78.8% in May-July 2017) and the unemployment rate has fallen to a 42-year low. The past tightening in the labour market is likely to lead to greater upward pressure on wage growth, however, pay increases remain unusually weak by historic standards. Fragile employment growth in the higher paying industries such as professional services and finance, a shift towards self-employed work, and tepid productivity (output per worker) growth are all likely to have held back gains.

Although most survey indicators suggest that wage growth is likely to remain modest in the near term, there are some signs that wage demand pressures have increased. Wage growth is projected to increase gradually in the short term, as the tightening labour market starts to put more widespread upward pressure on wage demands and as productivity growth recovers somewhat.

The recent increase in consumer price inflation has been driven by an increase in the cost of imports, primarily due to the depreciation of the sterling since last year's EU referendum. An increase in prices is more notable in the components of the inflation index which tend to be heavily imported, such as food and energy. Moreover, the rise in global oil prices has added external pressure which quickly feed through to increase in retail fuel prices.

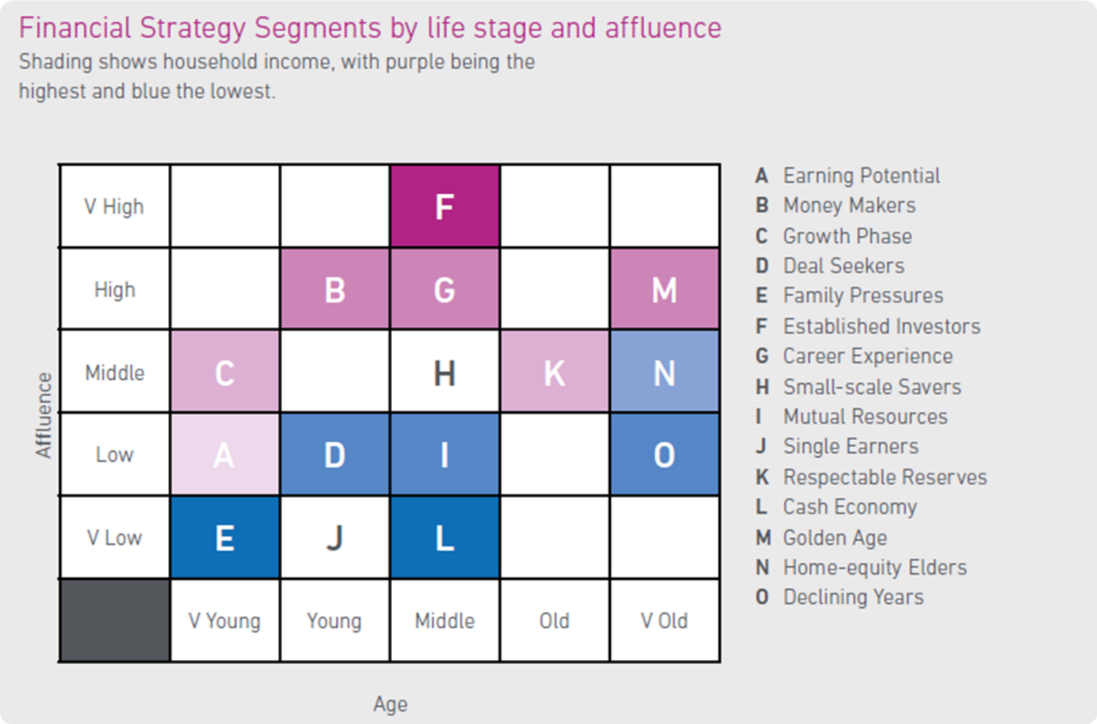
The latest data suggests that UK inflation may have peaked at 3% as measured by the Consumer Price Index (CPI). Experian expects a steady easing of overall inflation in the second half of 2018 as the effect of higher imported prices slowly dissipate in the year on year CPI calculations. The CPI is forecast to increase, on an average, at 2 per cent between 2017-25. However, further increases in the global oil price, or a renewed weakening in sterling present key risks to the upside.

# 3.2 Household composition in the Yorkshire Water area

## 3.2.1 Overview of FSS household type

FSS Economics provides an in-depth analyses of the key economic drivers of customer behaviour split by FSS household type. Figure 4 shows how the 15 FSS groups vary by affluence and life stage. As households move to another life stage, the composition of income sources will change accordingly; older retired households will be largely dependent on pension income (state and private pension) whereas younger households will receive incomes predominantly in the form of wages and salaries.

**Figure 4: FSS household group**




## 3.2.2 Potential risks to affordability

The Chancellor of the Exchequer announced in the most recent budget that most working age benefits will be frozen in cash terms until at least 2020. By increasing benefits by less than inflation, the ‘real’ value of most non-pension benefits fell, leading to increases in the gap between household income and living costs. Most exposed to the squeeze from welfare reforms are FSS groups E (Family Pressures) and L (Cash Economy) as illustrated in Figure 6. Conversely, FSS groups that contain a high proportion of households with at least one working person will fare better. Wage growth is expected to remain fairly muted in the coming years underlined by an easing in employment gains, but it continues to significantly outstrip the projected growth in benefits. Those FSS groups that receive a high proportion of their income in pension benefits are also set to gain from the continuation of the ‘triple lock’ - the policy ensures that retired households will enjoy real terms increase in the state pension by the highest of the increase in either earnings, price inflation (as measured by the Consumer Price Index) or 2.5%.

At the same time, significantly higher inflation than the post financial crisis average will be concentrated in food and fuel, as the weakness in sterling, although easing, results in far higher import costs than the post financial crisis average. FSS groups E and L are among the most vulnerable to high prices for food and fuel, as these essential items make up a relatively large proportion of their disposable income, as shown in Figure 6.

FSS groups E and L also spend a relatively large proportion of their income on housing rent (Figure 7a), an additional source of vulnerability. Housing rent is anticipated to grow strongly, at a very homogenous rate of at least 4% a year in all FSS groups in the 2017 – 2020 period (Figure 7c), and exceeding 4.5% in the longer term. In the 10 years to 2016 housing rent in the UK grew by an estimated 5.7% a year, per household, driven by high demand and a lack of supply. Going forward demand should ease slightly given an anticipated deceleration in population growth. However, this is likely to be offset somewhat by a reduction in supply as landlords scale back their portfolios as a reaction to tougher rules on tax relief on buy-to-let rental income that is being phased in gradually out to 2020, and the imposition of higher stamp duty rates on second homes.

The FSS groups with higher disposable incomes such as B (Money Makers), C (Growth Phase), F (Established Investors) and G (Career Experience) are less vulnerable to the strong expected increases in housing rent costs in the forecast, as this expense makes up a much lower proportion of their net income than FSS groups E and L. On the contrary, mortgage payments, make up a much larger proportion of disposable income for these groups (Figure 7b). Given only a modest anticipated rise in Bank Rate in the coming years from its current very low level, the disposable incomes of these FSS groups are relatively well protected. In the 2017 – 2021 period the growth in mortgage payments is forecast to average no more than 3% per FSS group, rising to a high of roughly 3.25% in the 2021 – 2025 period for group F (Figure 7d).

Overall, the compounding factors of a relatively large exposure to rising food, fuel and housing rent costs, and high benefit dependency see FSS groups such as E and L underperform the UK average in terms of disposable income growth in both the short and long term forecasts (Figure 8). Conversely, those FSS groups that have relatively large mortgage outgoings as a percentage of disposable income, and a high proportion of working persons in the household will do relatively well.

**Figure 5: Household vulnerability: State benefits**

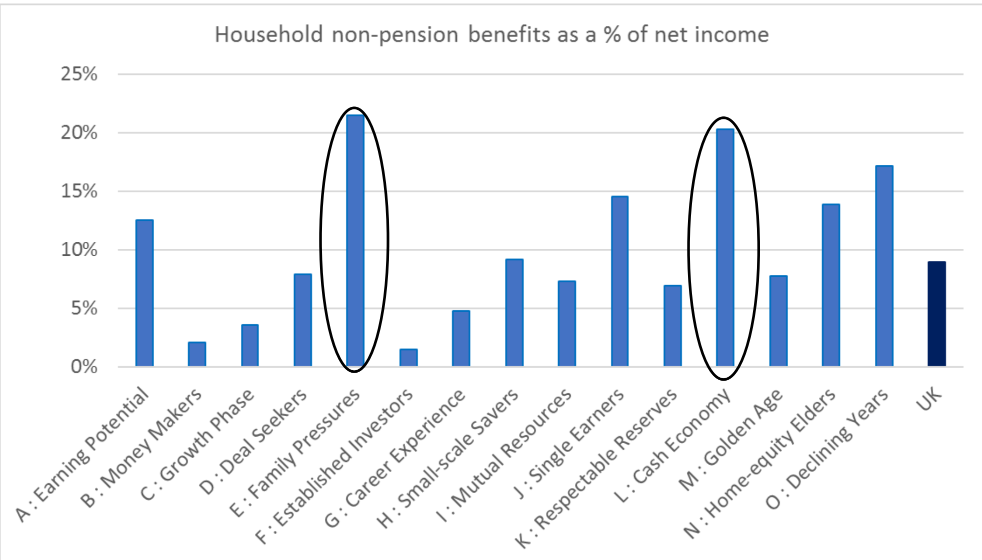


**Figure 6: Household vulnerability: Living costs**

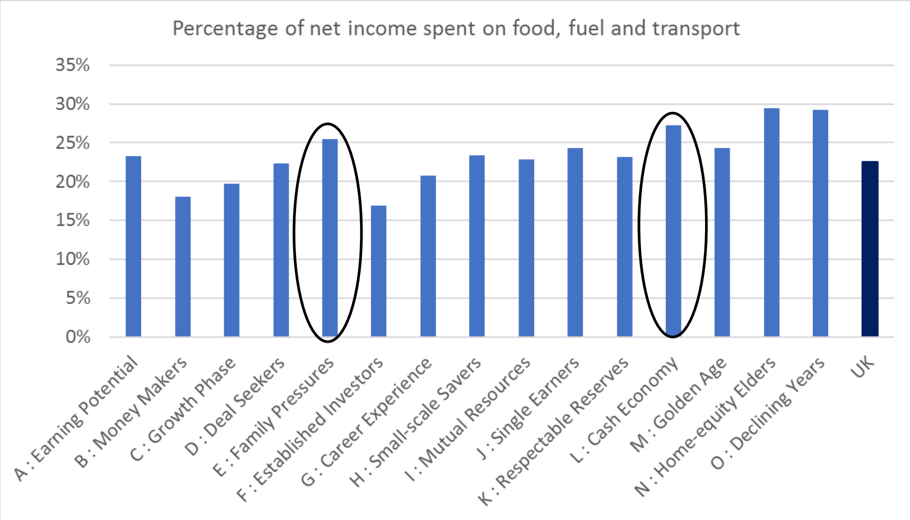
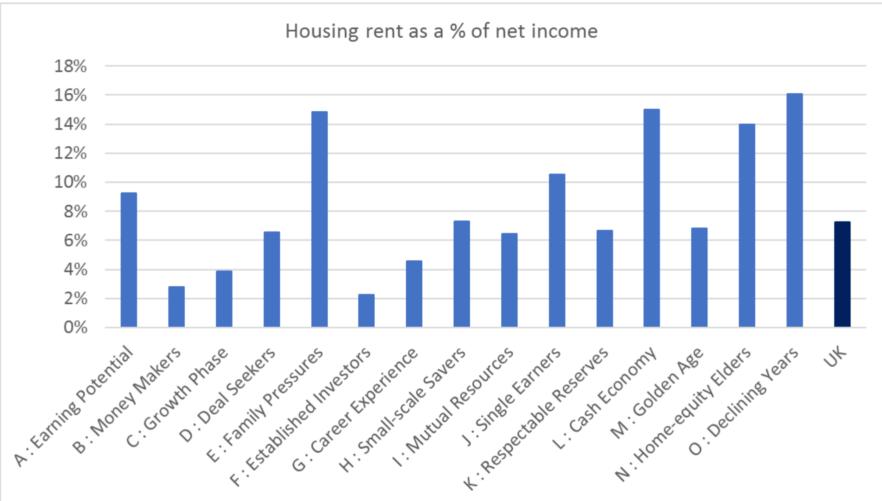
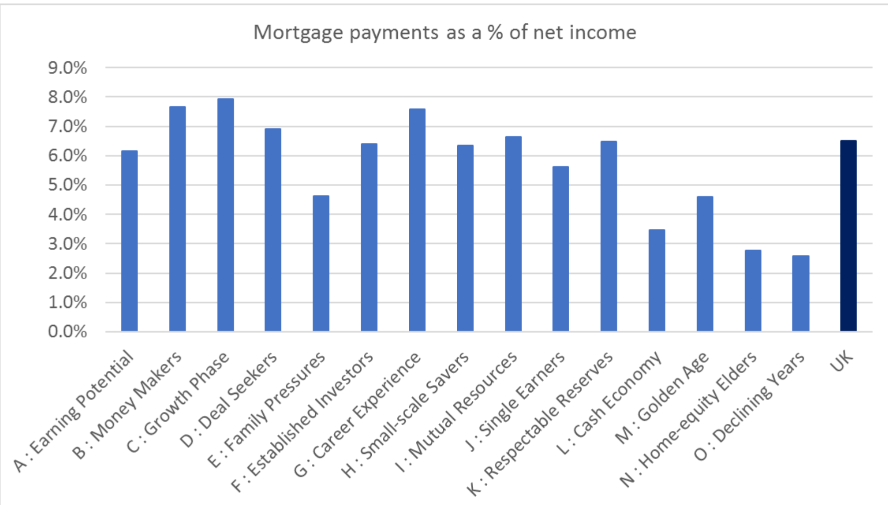



**Figure 7a, 7b and 7c: Household vulnerability: Housing costs**

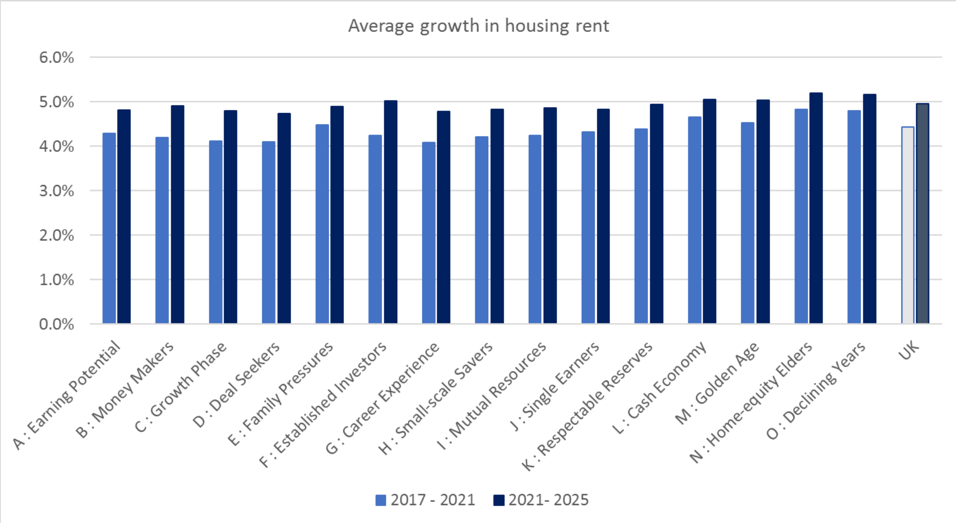
**7a: Housing rent**



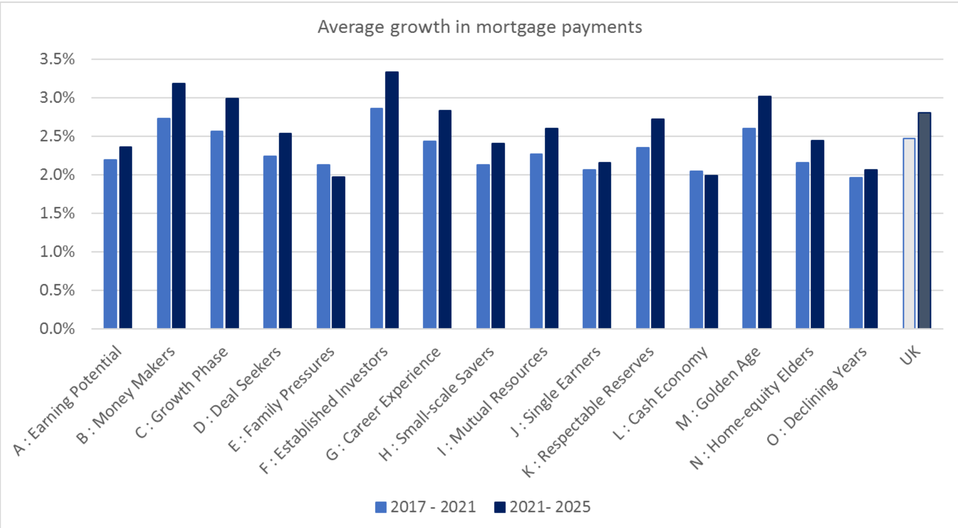

**7b: Mortgage costs**



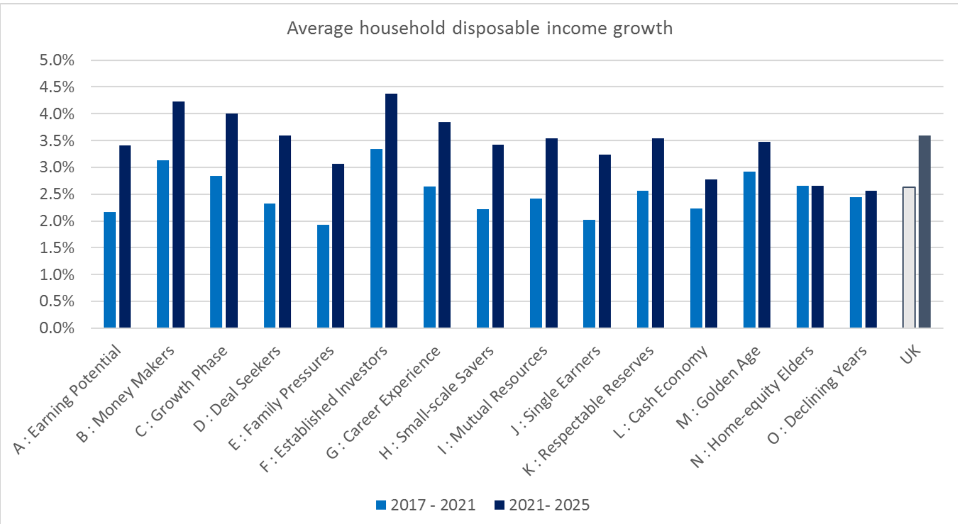
### 7c: Growth in housing rent




### 7d: Growth in mortgage payments



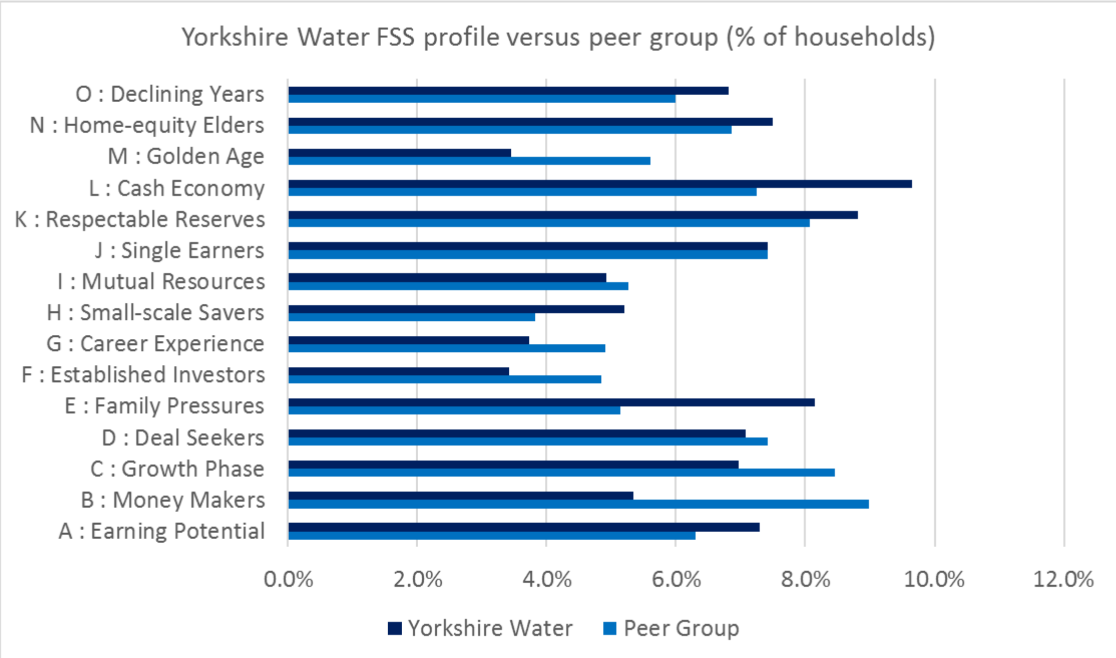

### Figure 8: UK Household disposable income growth



### 3.2.3 Household compositions by FSS type in the Yorkshire Water area

Experian has constructed the FSS profile based on the water boundary file provided by Yorkshire Water. Figure 9 shows the household by FSS group profile for the Yorkshire Water and their peer group. It highlights that households in the Yorkshire Water area tend to be older and less affluent; the FSS groups most over-represented in the Yorkshire Water area are Cash Economy, Family Pressures and Small-scale Savers[1]. These FSS groups are all expected to be amongst the worst performing in terms of disposable income growth in the 2017 – 2021 period. They are also relatively vulnerable to cost of living pressures as inflationary pressures persist. Cash Economy and Family Pressures are particularly at risk due to their high dependency on state benefits as well as a large exposure to housing rent costs.

**Figure 9: FSS profile by Yorkshire Water area and peer group**




## 3.3 Yorkshire and the Humber regional economic outlook

Yorkshire water resource zones do not follow standard administrative boundaries, the vast majority of the supply area sits within Yorkshire and The Humber, one of the twelve UK standard (NUTS1) regions. While Yorkshire & The Humber is one of the most diversified regions outside the south of England, the reliance on public services and manufacturing remain key features of the economy. This skew can often explain the shortfall in growth between the region and the UK average. However, the professional & other private services sector in the region has now surpassed public services in terms of its contribution to GVA. Despite this gain, the sector is still slightly under represented in the region compared with the UK as a whole.

Before the 2008 global financial crisis, Yorkshire & The Humber performed favourably relative to the UK average in terms of GVA and productivity growth. Since then the regional economy has been growing at half the rate relative to the UK (in terms of GVA growth) and the long term outlook is expected to under-perform the UK as a whole. Key growth challenges over the forecast horizon are slower population growth and a

[1] Detailed descriptions of the FSS household groups are in appendix B

relatively high concentration of the public and manufacturing sectors, which have a less dynamic outlook compared with other sectors in the region. Indeed, the large professional & other private services sector will continue to be the key driver of long term activity in the region, with information & communications and finance also among the fastest-growing.

Employment is expected to grow at an average rate of 0.6 per cent annually between 2017-25 in Yorkshire & The Humber, slightly lower than the 0.8 per cent forecast for the UK. The poorer employment prospects translate into higher unemployment rates and lower earnings growth. The unemployment rate is anticipated to average around 5.6 per cent annually between 2017 and 2025, compared to 4.7 per cent nationally. In addition, households' disposable income is projected to increase by 3.4 per cent a year compare to 3.6 per cent for the UK.

# 4. LSOA Income forecast

Experian has an established method of forecasting average disposable household income at LSOA level, which draws on a number of datasets including:

- ONS Gross Disposable Household Income (GDHI) for local authority areas, 2011 to 2015 inclusive
- ONS household gross operation surplus consistent with GDHI for local authority areas, 2011 to 2015 inclusive
- ONS small area household income estimates for MSOA areas, England and Wales 2011/12 and 2013/14
- ONS small area model-based households in poverty estimates, England and Wales, 2011/12 and 2013/14
- ONS population estimates, MSOA and local authority areas, 2011 to 2015 inclusive
- The Living Costs and Food Survey (LCFS), 2011 to 2015 inclusive
- Experian FSS Economics income estimates by FSS type
- Experian FSS area profiles for LSOA, MSOA and local authority areas
- Experian household estimates for LSOA, MSOA and local authority areas, 2011 to 2015 inclusive (derived from ONS population estimates and Census 2011 data)

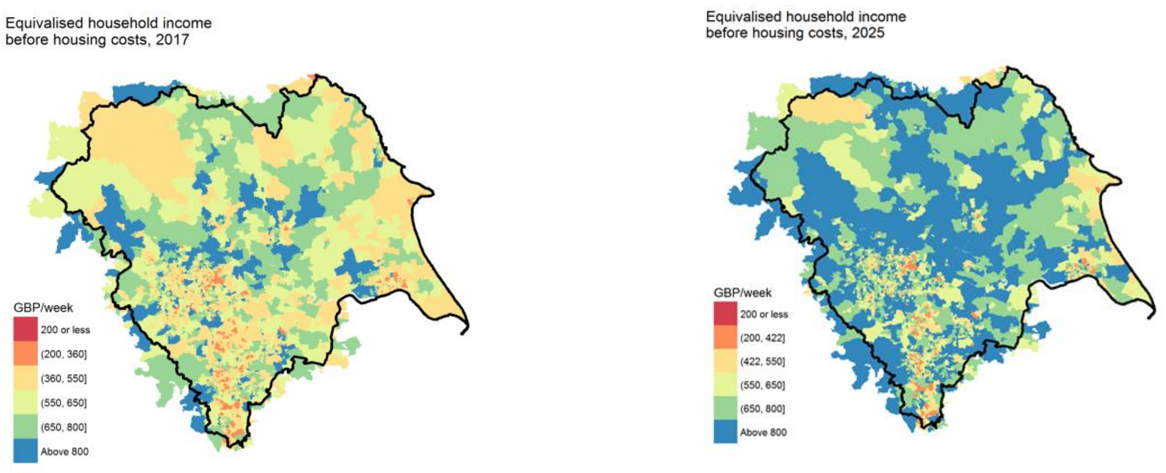
It is important to note that the disposable income measure presented here is in nominal terms which does not take into account the effects of inflation, therefore low earnings growth and high inflation will increase affordability risk for households. The social tariff scheme has been introduced to enable water companies to reduce charges for individuals who would otherwise have difficulty paying their bill in full. The income threshold for a household[2] which qualifies for the social tariffs within the Yorkshire Water area is £18,742.50, which is equivalent to £360 per week for this year. Experian assumes that the income threshold for social tariffs will increase in line with inflation. Experian expects inflation, measured by the Consumer Prices Index (CPI), to increase by an average of 2 per cent annually between 2017-25. The household income threshold which qualified for the social tariffs will therefore increase to £423 per week in 2025.

Figure 10 shows the distribution of equivalised household disposable income before housing costs within the Yorkshire Water boundary according to Experian's estimates for the year 2017. The map on the left highlights the LSOA areas whose average household income is below the social tariff threshold in red and orange; the areas are concentrated in urban centres such as Leeds, Barnsley, Sheffield and Kingston upon Hull.

The map on the right shows the average disposable income forecast before housing costs in 2025. It highlights the LSOA areas whose average household income is below the social tariff threshold in red and orange. Experian's forecast shows that the household income growth for the majority of the low income LSOAs at present is likely to remain below inflation making them vulnerable to future income shocks.

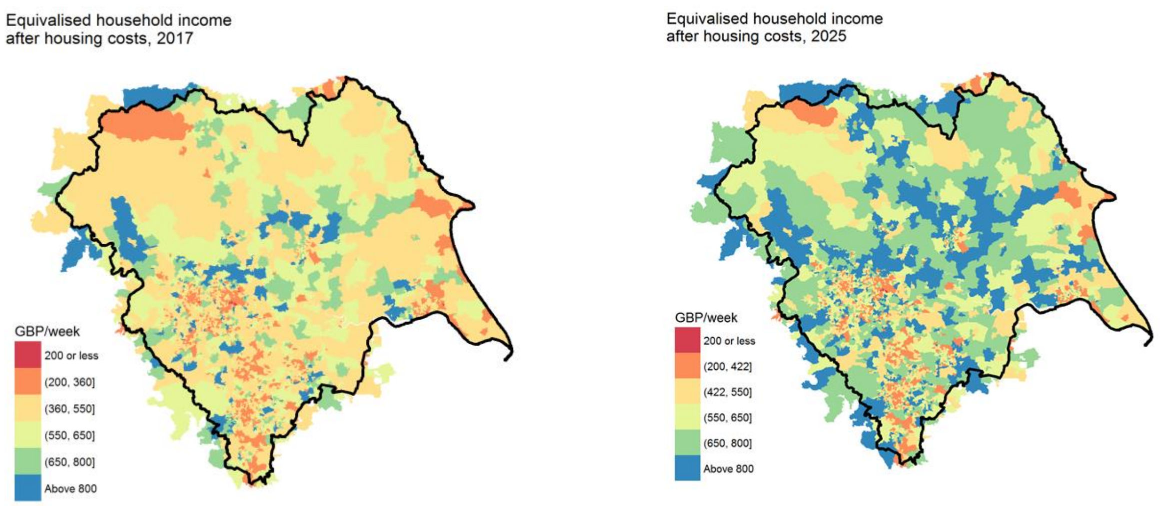
[2] The equivalised household income is measured relative to a two-adult household

**Figure 10: Equivalised household income before housing costs, 2017 and 2025**



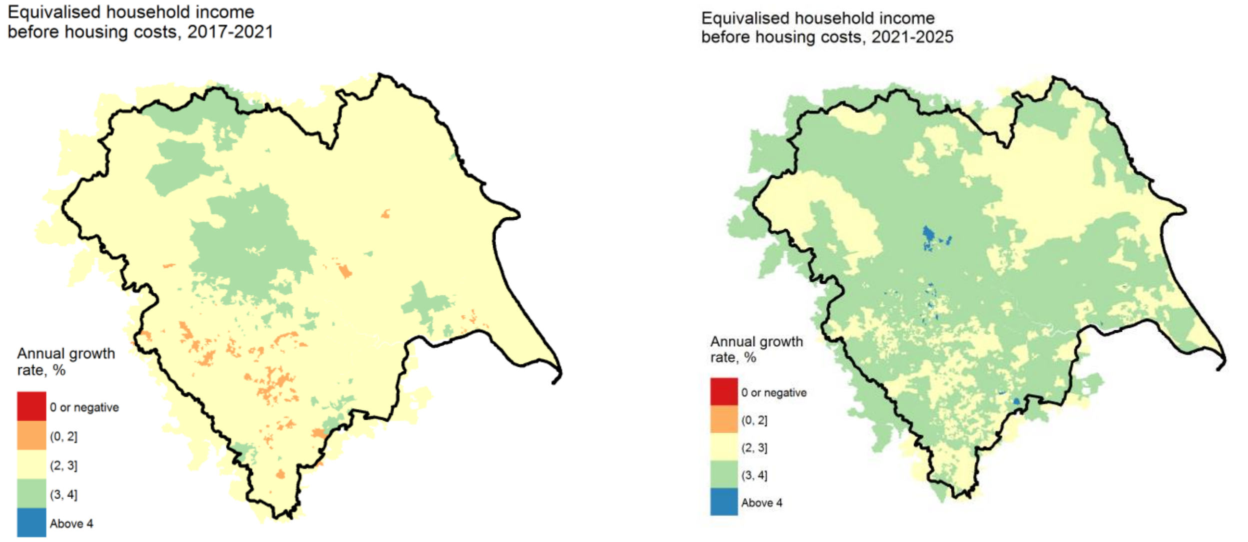

Housing costs can be seen as non-discretionary spending by households. There are a number of LSOAs where household disposable income is above the income threshold before housing costs, but once housing costs are taken into account, fall below the threshold. The average household income below the £360 income threshold is highlighted in red and orange in the left map in Figure 11. The map on the right shows the expected average disposable household income after housing costs in 2025. Areas where household income is expected to fall below the social tariff income threshold are again shown in red and orange, with the worst performing households continuing to be concentrated in the urban centres.

**Figure 11: Equivalised household income after housing costs, 2017 and 2025**



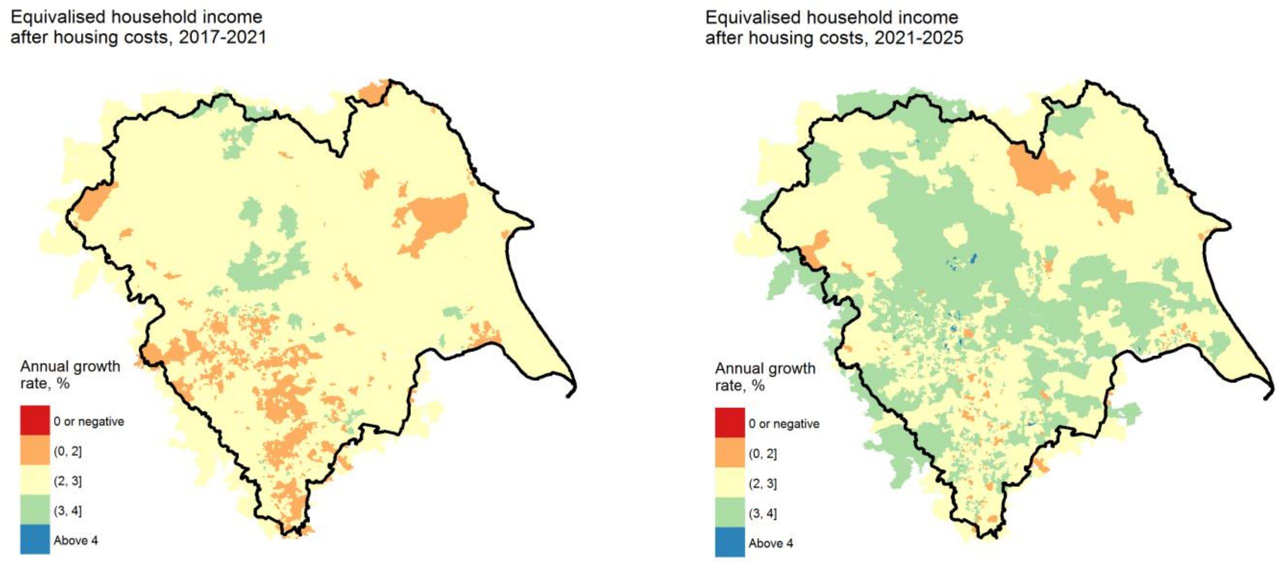

Disposable incomes for the majority of households are expected to increase in real terms between 2017-2021. However, there are small number of areas near Sheffield, Rotherham and Kirklees where average household disposable income is forecast to decrease in real terms over the forecast horizon. Household income growth is expected to return to historic trends over the medium terms as illustrated in the map on the right in Figure 12, which means higher household income growth in most of LSOAs compared to the preceding five years.

**Figure 12: five-year annual average equivalised household income growth before housing costs 2017-21, 2021-25**




The map on the left in Figure 13 shows that disposable income after housing costs is expected to increase in real terms in all areas between 2017-2021. However, falling benefit income and the rising cost of essential items such as food, fuel and rental payments will supress disposable income growth to just a little over zero in some areas. In the longer-term (2021 – 2025) most of these pressures should ease somewhat. On the income side, benefit gains are likely to remain a drag unless a looser fiscal stance is accommodated. However, an acceleration in business investment, output and productivity growth as the uncertainty surrounding Brexit dissipates, should support a modest increase in wage and salary income. On the spending side, the pressures are expected to ease as inflation settles at somewhere near the Bank of England's 2% target, significantly below where it is at present. An easing in the cost of food and fuel should be particularly prominent as import cost pressures linked to a weaker sterling exchange rate stabilise. These complimentary trends are projected to see household income growth improve for all FSS groups after 2021. However, it should be noted that the FSS groups that struggled in the short term (such as groups C and L), will continue to trail behind the average and in some areas growth will remain below 2 per cent per annum.

**Figure 13: average annual average equivalised household income growth after housing costs, 2017-21, 2021-25**



Historically, Experian has shown that the average disposable household income in the Yorkshire Water area is amongst the lowest in England and Wales, and the area has a high incidence of households living in poverty. Looking to the future, Experian has identified that the key growth challenges for the region over the forecast horizon will be the relatively high concentration of public sector and manufacturing sector activity, with the unfavourable sectoral mix resulting in the area underperforming the UK in economic terms.

Experian also highlights that Cash Economy and Family Pressures FSS groups are over-represented in the Yorkshire Water area. These households are particularly at risk due to their high dependency on state benefits as income and spend a large proportion of the income to rising housing rent costs.

In conclusion, Experian expects income growth in the company area to slightly lag the UK due to weaker economic prospects and the over representation of certain FSS groups that are more dependent on state benefits. Whilst the average household disposable income across all LSOA within the Yorkshire Water area is expected to increase by 3.0 percent per annum between 2017 and 2025, there will be pockets of areas that are forecast to see a decline in income in real terms. Assuming the social tariff threshold stays constant in real terms, Experian estimates that 6.8 percent of all LSOA areas within the Yorkshire Water area will have an average household income below the social tariff in 2025, compared to 9 percent in 2017.

# Appendix A - Equivalisation

**Equivalisation methodology**

Household income is a measure of the financial resources available to a household from various income streams. However, as households vary in size and composition, absolute measures of income level may be misleading. The method of equivalisation is used to adjust household income, taking into account household size and composition. It adjusts household income to reflect the different resource needs of single adults, any additional adults in the household, and children in various age groups. The OECD (Organisation for Economic Co-operation and Development)-modified equivalence scale is used in the calculations. The modified OECD equivalence values are shown in the table below:

| Type of Household Member | Equivalence value |
|---|---:|
| First adult | 1.0 |
| Additional adult | 0.5 |
| Child aged: 14 and over | 0.5 |
| Child aged: 0-13 | 0.3 |