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Adult Social Care Funding Model

Model outputs and distributional analysis report

July 2018

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Introduction

Introduction

Adult social care funding model outputs and distributional analysis report

This report accompanies the adult social care funding modelling we have performed by providing an overview of the key outputs for each funding option and their distributional impact. The model and accompanying report have been produced to aid Independent Age in producing their own report in anticipation of the upcoming government green paper on the future of social care. There are three sections to this report:

1. Funding options

The first section of the report analyses the impact of different funding options on closing the adult social care funding gap in relation to four policy and demand scenarios.

The policy and demand scenarios are taken from the Health Foundation *A fork in the road* report. The four scenarios are:

- Maintaining the current system at 2015/16 levels of demand
- Reforms to introduce a cap of £75,000 and floor of £100,000 at 2015/16 levels of demand
- Reforms to introduce free personal care at 2015/16 levels of demand
- Maintaining the current system at 2009/10 levels of demand

The nine funding options include:

- Income tax changes
- Introduction of an age related levy
- Council tax changes
- Business rate changes
- Corporation tax changes
- National insurance rate changes
- Introduction of national insurance to over 65's
- A lump sum contribution at the age of 65's
- Inheritance tax changes

For each of these funding options the following analysis is included*:

- The funding raised by 2020/21 and 2030/31 relative to the funding gap under each of the policy and demand scenarios.
- The multiple of funding needed to close the funding gap for each of the policy and demand cost scenarios.
- The proportion of total funding raised by region for 2020/21 and 2030/31.
- Heat maps illustrating the amount raised by local authority in 2020/21 and 2030/31
- The top 10 and bottom 10 authorities by amount of funding raised

*Note: Lack of relevant data at a local authority level means that we are unable to provide distributional analysis for Corporation tax and Inheritance tax.

2. Further distributional analysis

The second section of the report provides analysis of a range of indicators that have an impact on the amount raised in each local authority area. This analysis helps to provide more context of the socio-economic environment across geographies. This section includes analysis of the following indicators across England's local authorities:

- Adult social care population adjusted spend
- Population projections
- Employment rates
- Average incomes

3. Model assumptions

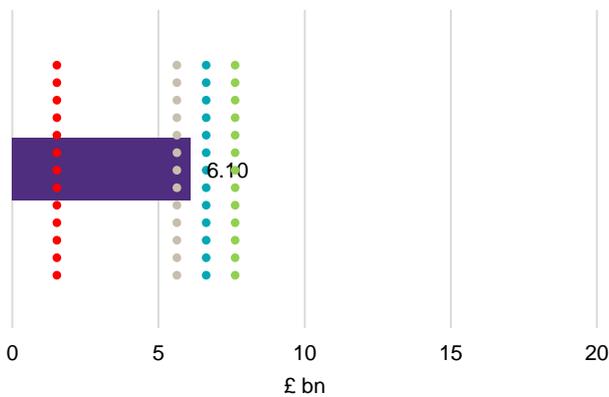
The final section provides an overview of the key data sources used in the model build as well as the methodology and assumptions used to estimate the impact of each of the funding options.

Funding options

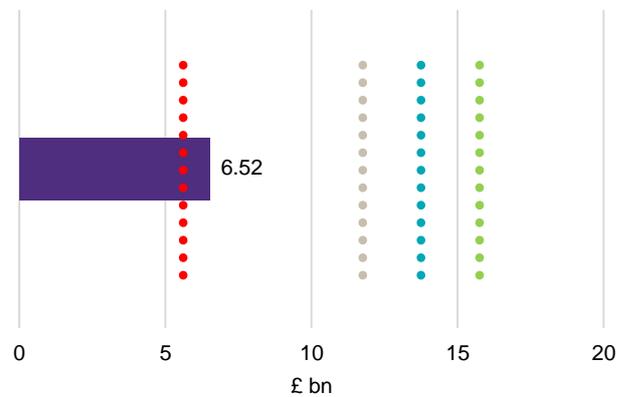
Income tax

This funding option analyses the additional funding raised by a 1% increase in the rate of income tax. The increase has been applied to the basic rate, higher rate and additional rate. By 2020/21 this funding option would raise enough to maintain the current system at 15/16 levels as well as the cap and floor scenario. By 2030/31 this option would only raise enough to maintain the current system at 15/16 levels.

Funding raised in 2020/21 - In current prices



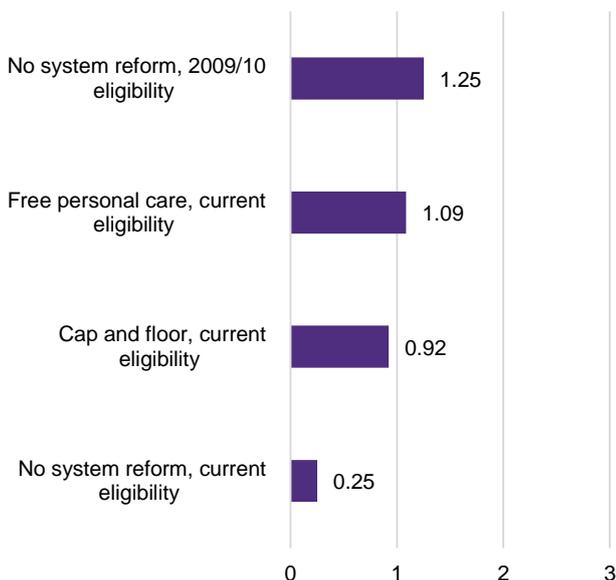
Funding raised in 2030/31 - In current prices



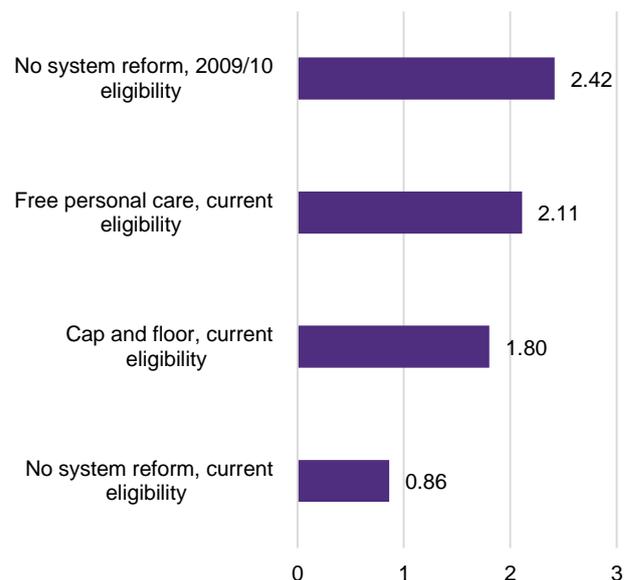
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



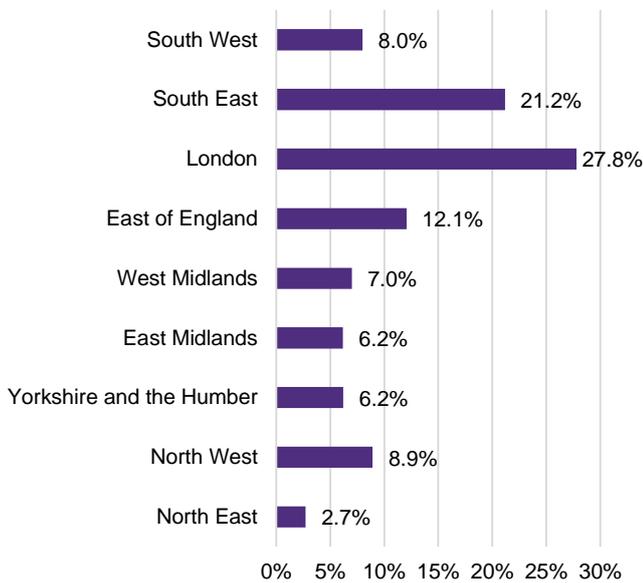
Multiple of funding required to close funding gap



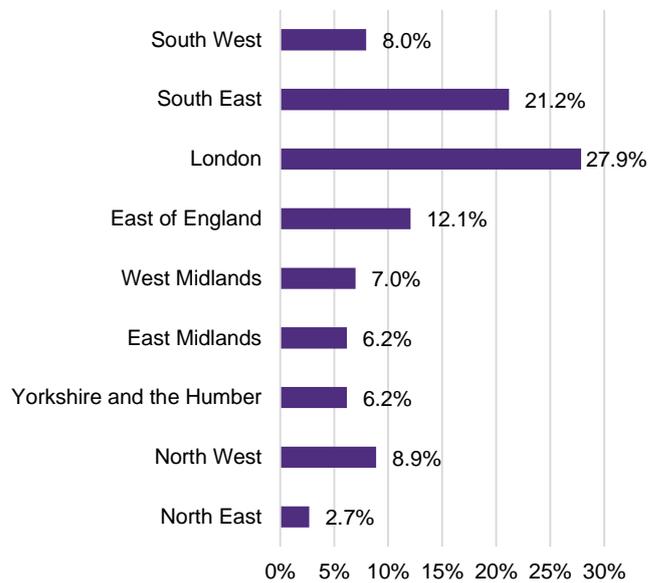
Income tax

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority area in 2020/21 and 2030/31. London and the South East combined would contribute almost half of all funding raised nationally: 49.0% in 2020/21 and 49.1% in 2030/31.

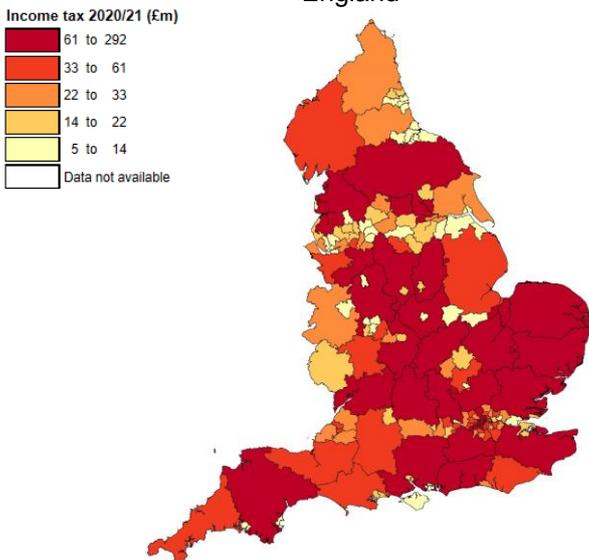
Proportion of total funding raised by region, 2020/21



Proportion of total funding raised by region, 2030/31



Income tax raised, 2020/21 - Local Authorities in England



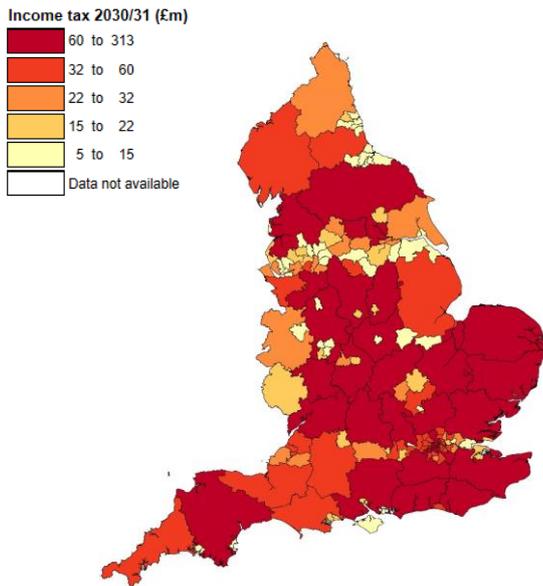
Income tax raised, 2020/21 - Local Authorities in London



Income tax

The ten authority areas that collect the largest amounts are all based in either the South East, East or London.

Income tax raised, 2030/31 - Local Authorities in England



Income tax raised, 2030/31 - Local Authorities in London



Income tax collection, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Surrey	288.7
2	Hertfordshire	212.9
3	Essex	193.8
4	Hampshire	180.3
5	Kent	176.3
6	Kensington and Chelsea	173.0
7	Westminster	141.3
8	Buckinghamshire	116.5
9	Wandsworth	111.4
10	Oxfordshire	104.2

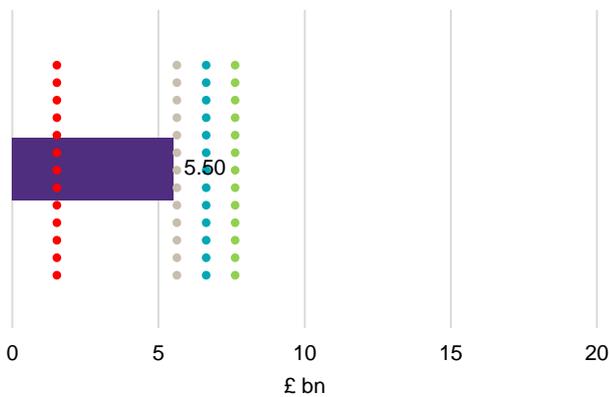
Income tax collection, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	North East Lincolnshire	7.9
144	Knowsley	7.1
145	Torbay	6.9
146	Darlington	6.8
147	Middlesbrough	6.2
148	Blackburn with Darwen	6.2
149	Rutland	5.8
150	Blackpool	5.4
151	Hartlepool	5.4
152	Isles of Scilly	-

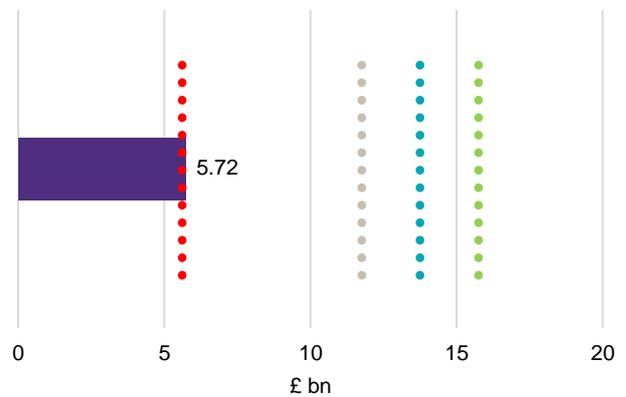
Age related levy

This funding option analyses the additional funding raised by an age related levy applied to the working population aged 40 and above. This scenario is closely aligned to the model currently used in Japan where at the age of 40 a levy of 0.7% is applied to both the employer and employee. By 2020/21 this option would raise enough funding to maintain the current system at 15/16 levels and slightly less than the amount needed for the cap and floor scenario. By 2030/31 this option would raise slightly less than the amount needed to maintain the current system under 16/17 levels.

Funding raised in 2020/21 - In current prices



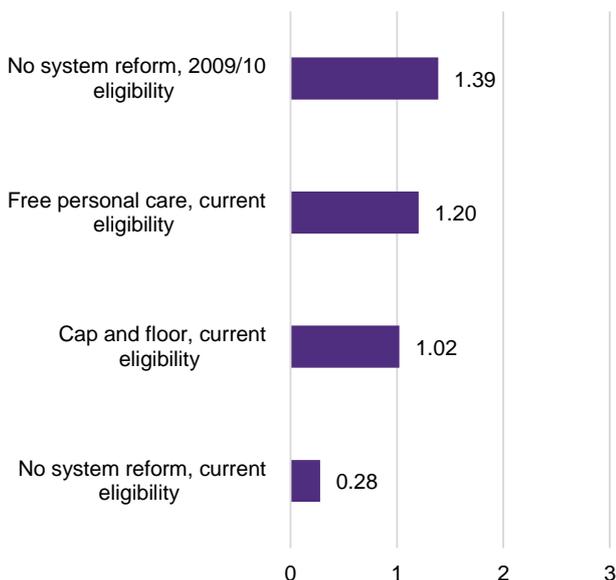
Funding raised in 2030/31 - In current prices



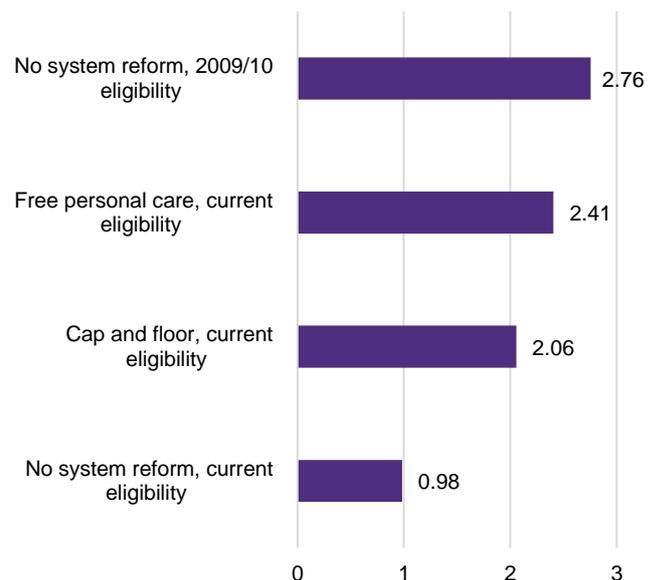
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



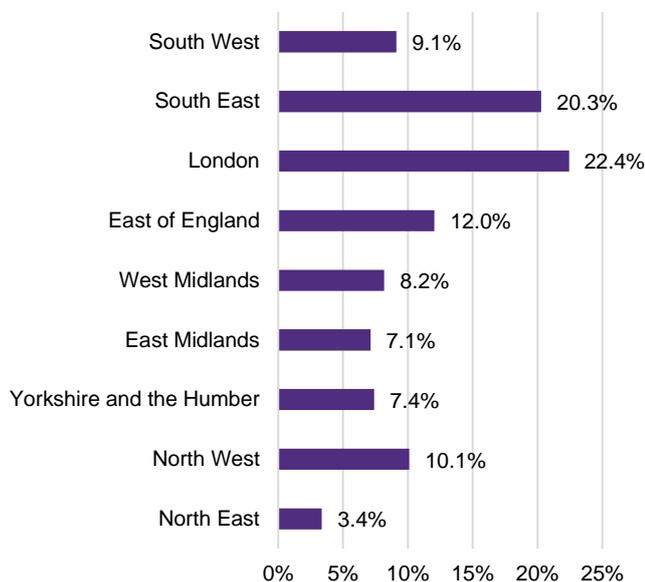
Multiple of funding required to close funding gap



Age related levy

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority area in 2020/21 and 2030/31. By 2020/21 London (22.4%) would contribute the most through an age related levy, followed by the South East (20.3%) and East of England (12.0%). There is a similar picture by 2030/31 with the same three regions contributing the most.

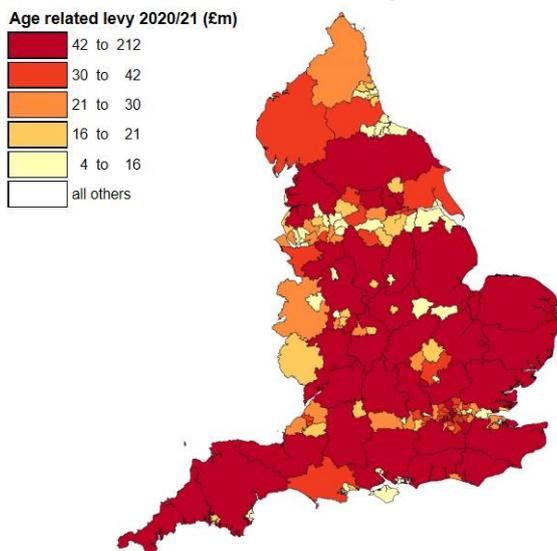
Proportion of total funding raised by region, 2020/21



Proportion of total funding raised by region, 2030/31



Funding raised by age related levy, 2020/21 - Local Authorities in England



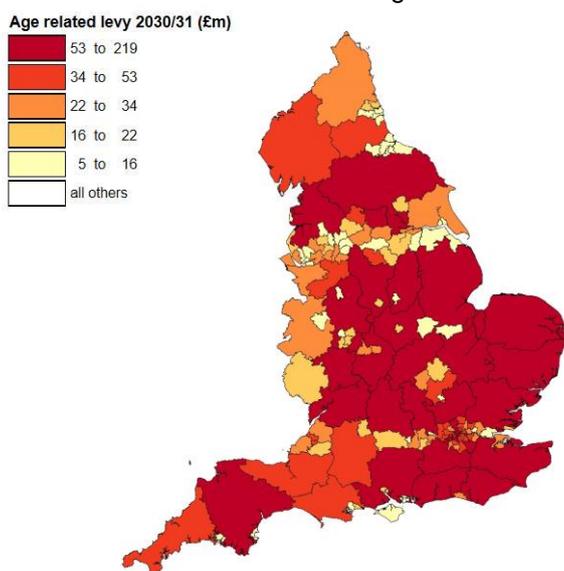
Funding raised by age related levy, 2020/21 - Local Authorities in London



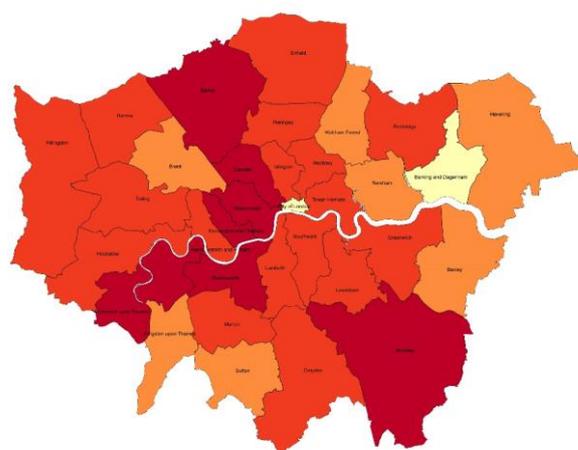
Age related levy

The local authority areas expected to raise the most by 2020/21 through an age related levy are Surrey (£210.0m), Essex (£169.7m) and Hertfordshire (£169.1m). The local authority areas expected to raise the least are Hartlepool (£5.7m), Rutland (£5.3m) and the City of London (£4.8m).

Funding raised by age related levy, 2030/31 - Local Authorities in England



Funding raised by age related levy, 2030/31 - Local Authorities in London



Funding raised by age related levy, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Surrey	210.0
2	Essex	169.7
3	Hertfordshire	169.1
4	Kent	166.1
5	Hampshire	164.9
6	Lancashire	96.5
7	West Sussex	94.8
8	Buckinghamshire	93.9
9	Kensington and Chelsea	92.9
10	Oxfordshire	87.4

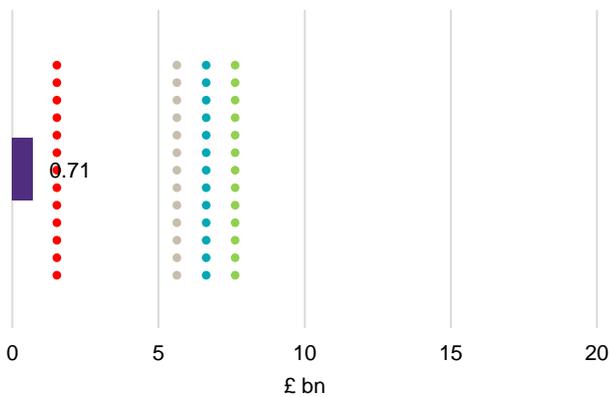
Funding raised by age related levy, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	Knowsley	8.7
144	Blackburn with Darwen	8.3
145	Redcar and Cleveland	8.1
146	Darlington	8.0
147	Blackpool	7.5
148	Middlesbrough	7.2
149	Hartlepool	5.7
150	Rutland	5.3
151	City of London	4.8
152	Isles of Scilly	-

Council tax

This funding option analyses the additional funding raised by a 3% increase in the rate of council tax. This option would raise less than half the amount needed to maintain the current system at 15/16 levels to 2020/21. To maintain the current system at 15/16 levels to 2030/31 the council tax rate would need to increase by over 21%.

Funding raised in 2020/21 - In current prices



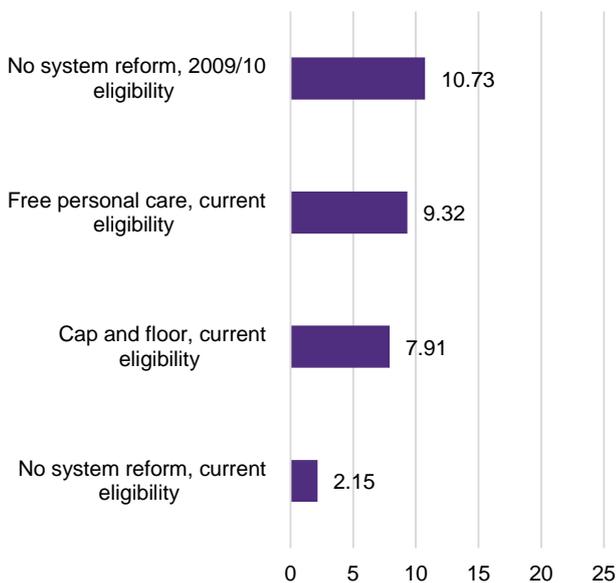
Funding raised in 2030/31 - In current prices



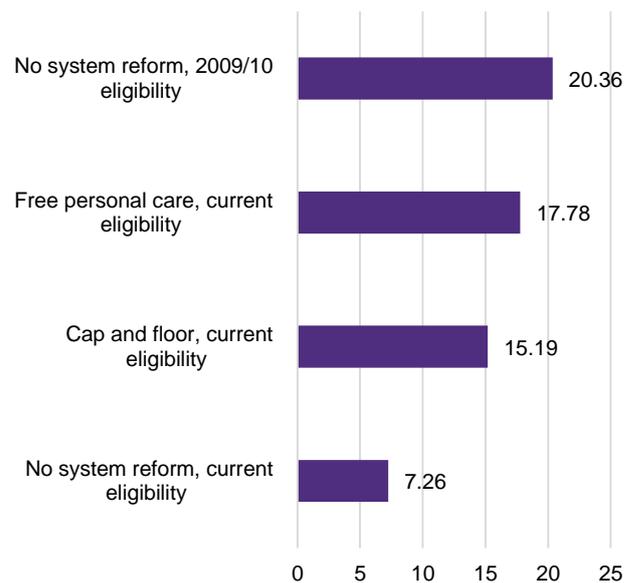
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



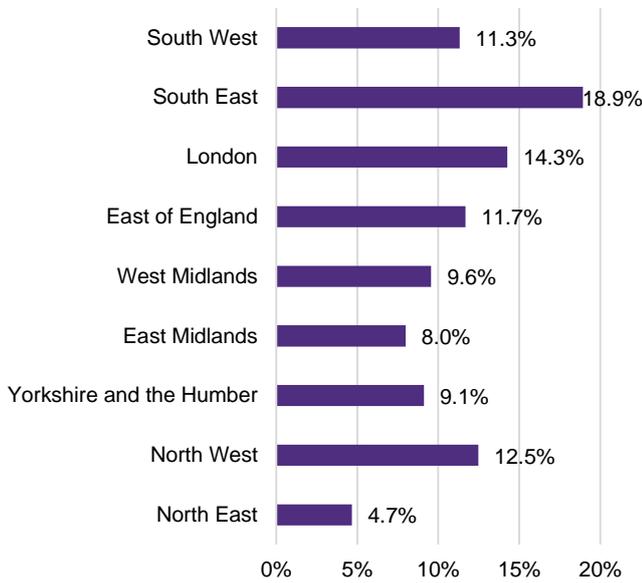
Multiple of funding required to close funding gap



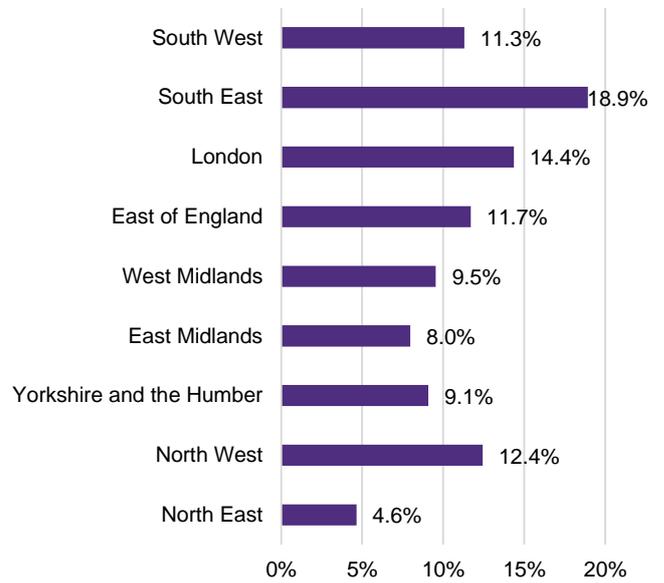
Council tax

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority in 2020/21 and 2030/31. By 2020/21 the South East (18.9%) is expected to raise the most of all regions, followed by London (14.3%) and the North West (12.5%). There are expected to be very minor changes to the proportional breakdown by 2030/31.

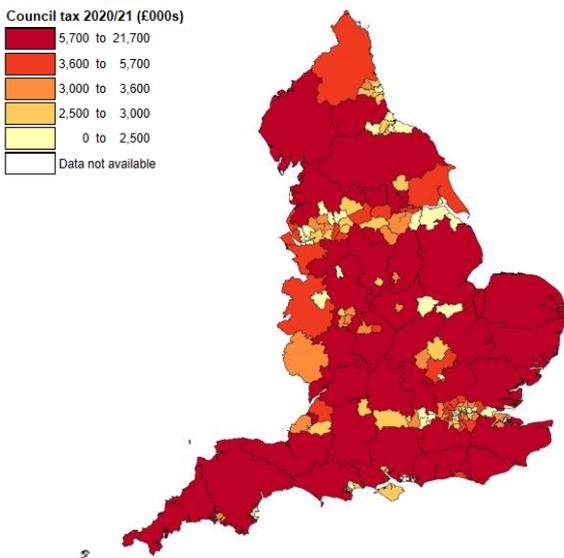
Proportion of total funding raised by region, 2020/21



Proportion of total funding raised by region, 2030/31



Council tax funding, 2020/21 - Local Authorities in England



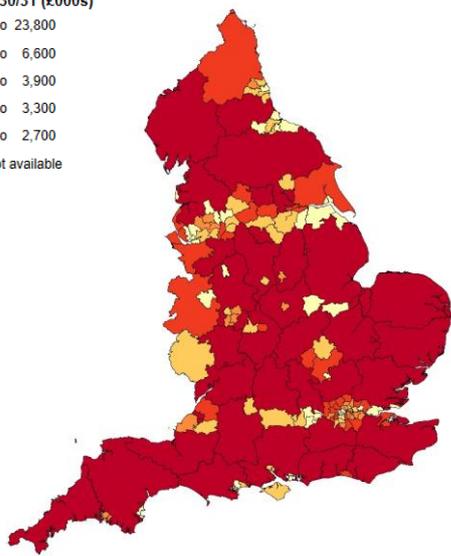
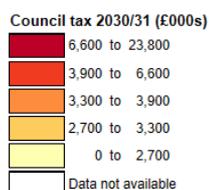
Council tax funding, 2020/21 - Local Authorities in London



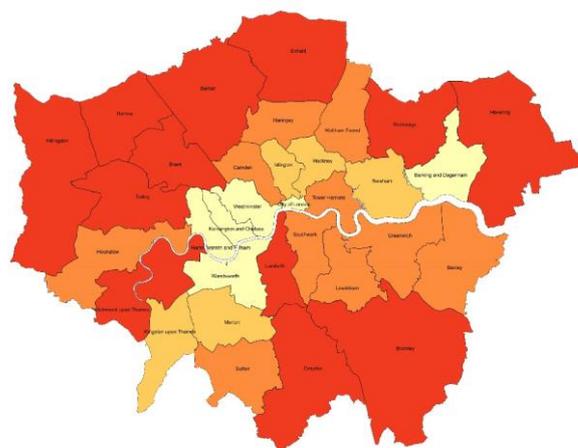
Council tax

The local authorities expected to raise the most by 2020/21 through council tax are Surrey (£21.5m), Kent (£20.4m) and Essex (£19.5m). The local authorities expected to raise the least are Rutland (£0.8m), the City of London (£0.2m) and Isles of Scilly (£0.0m).

Council tax funding, 2030/31 - Local Authorities in England



Council tax funding, 2030/31 - Local Authorities in London



Council tax funding, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Surrey	21.5
2	Kent	20.4
3	Essex	19.5
4	Hampshire	18.6
5	Hertfordshire	17.9
6	Lancashire	14.2
7	West Sussex	13.3
8	Norfolk	11.7
9	Devon	11.7
10	Oxfordshire	10.8

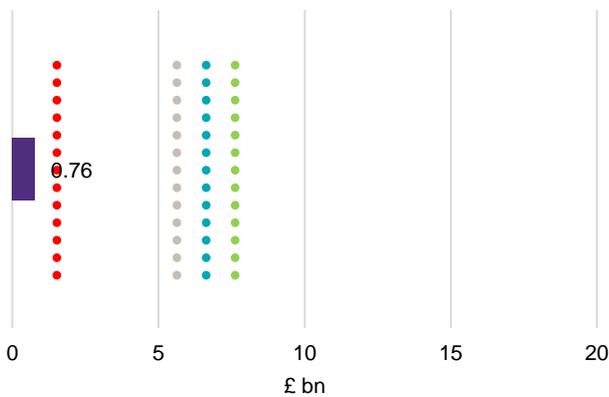
Council tax funding, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	Blackpool	1.6
144	Middlesbrough	1.6
145	Knowsley	1.5
146	Blackburn with Darwen	1.5
147	Halton	1.4
148	Darlington	1.4
149	Hartlepool	1.2
150	Rutland	0.8
151	City of London	0.2
152	Isles of Scilly	0.0

Business rates

This funding option analyses the additional funding raised by a 3% increase in the business rate. This option would only raise half of the funding needed to maintain the current system at 15/16 levels to 2020/21. To maintain the current system at 15/16 levels to 2030/31 business rates would need to increase by over 22%.

Funding raised in 2020/21 - In current prices



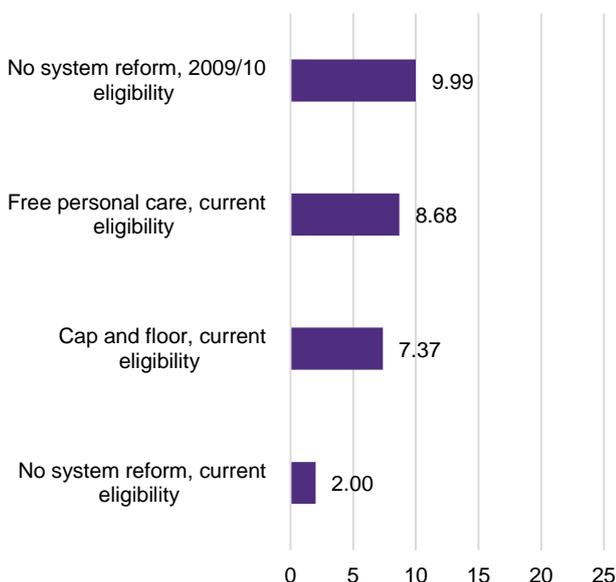
Funding raised in 2030/31 - In current prices



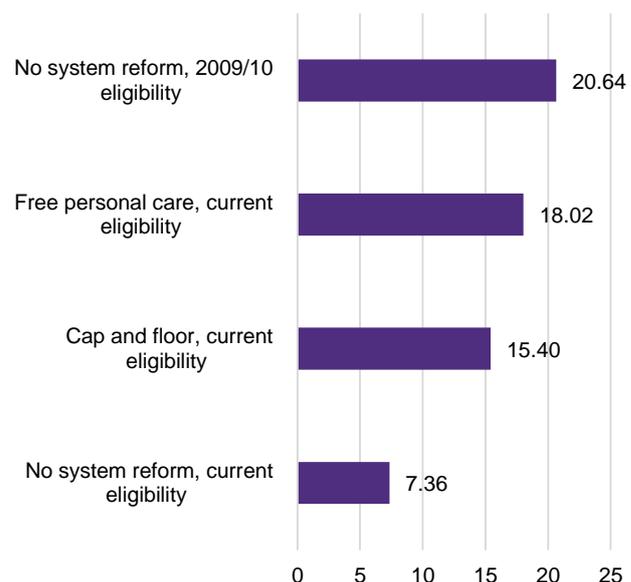
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



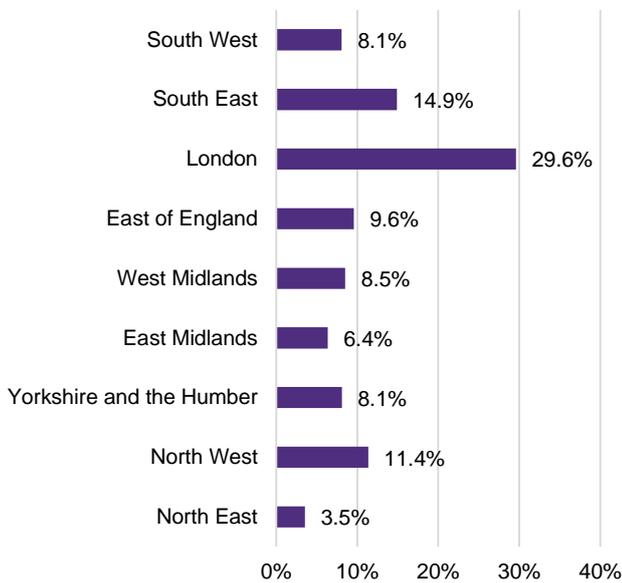
Multiple of funding required to close funding gap



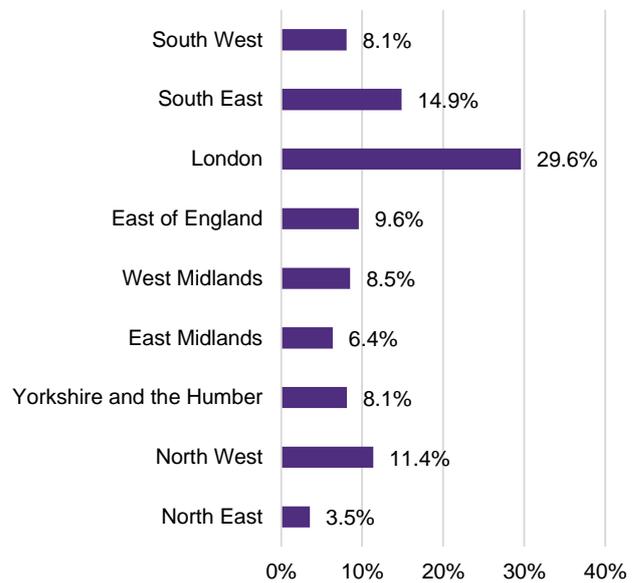
Business rates

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority in 2020/21 and 2030/31. The region that raises the largest proportion by 2020/21 and 2030/31 is London (29.6%). This is nearly double of the amount raised by the next closest region, the South East (14.9%).

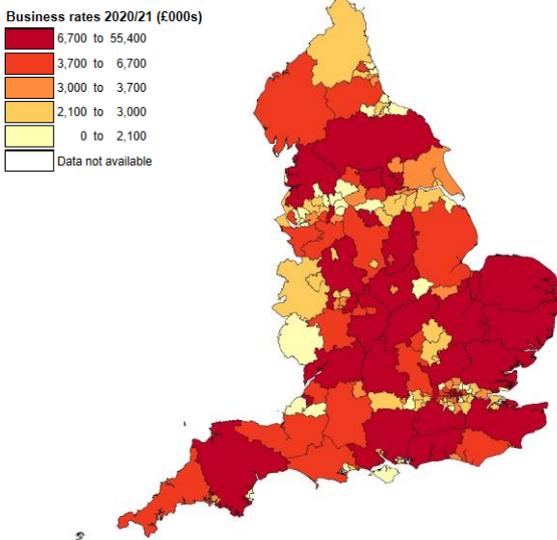
Proportion of total funding raised by region, 2020/21



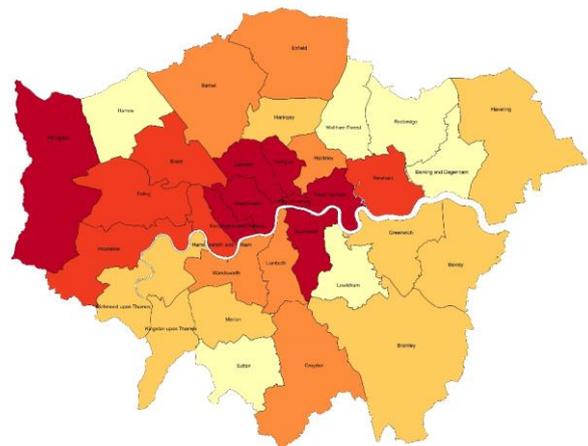
Proportion of total funding raised by region, 2030/31



Business rate funding, 2020/21 - Local Authorities in England



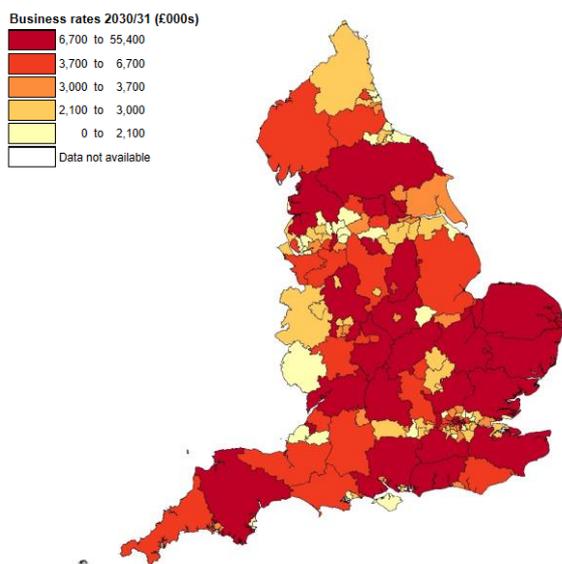
Business rate funding, 2020/21 - Local Authorities in London



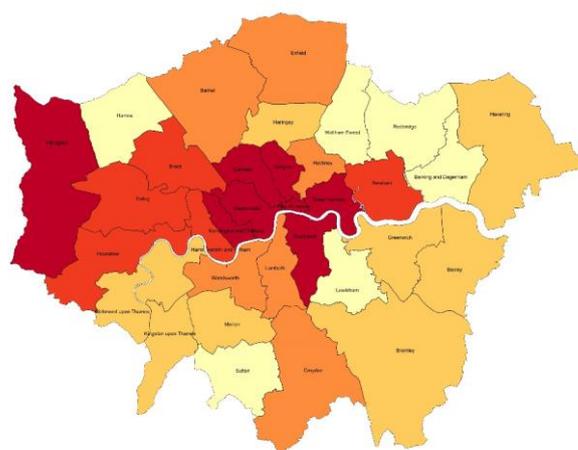
Business rates

The local authorities that raise the most through business rates by 2020/21 are expected to be Westminster (£55.3m), the City of London (£29.8m) and Kent (£17.8m). The authorities that raise the least through business rates are Redcar and Cleveland (£0.6m), Rutland (£0.3m) and the Isles of Scilly (£0.0m).

Business rate funding, 2030/31 - Local Authorities in England



Business rate funding, 2030/31 - Local Authorities in London



Business rate funding, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Westminster	55.3
2	City of London	29.8
3	Kent	17.8
4	Hampshire	16.2
5	Camden	16.0
6	Essex	15.7
7	Hertfordshire	15.4
8	Surrey	15.2
9	Birmingham	13.8
10	Tower Hamlets	13.1

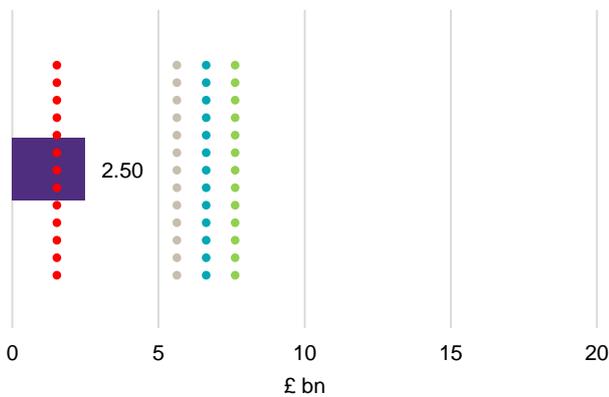
Business rate funding, 2021 – Bottom 10 authorities

#	Local Authority	(£m)
143	Middlesbrough	1.4
144	Knowsley	1.3
145	Torbay	1.2
146	Isle of Wight	1.2
147	Darlington	1.1
148	Hartlepool	1.1
149	South Tyneside	1.0
150	Redcar and Cleveland	0.6
151	Rutland	0.3
152	Isles of Scilly	0.0

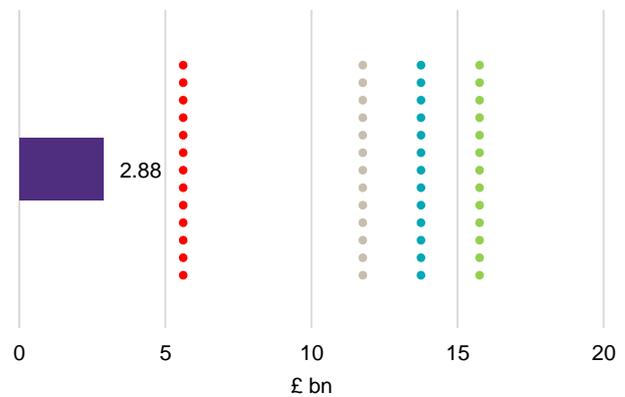
Corporation tax

This funding option analyses the additional funding raised by a 1% increase to the corporation tax rate. By 2020/21 this option would raise enough to maintain the current system at 15/16 levels, but would raise less than half of the amount needed for the cap and floor reform scenario. By 2030/31 this option would raise just over half the amount needed to maintain the current system at 15/16 levels.

Funding raised in 2020/21 - In current prices



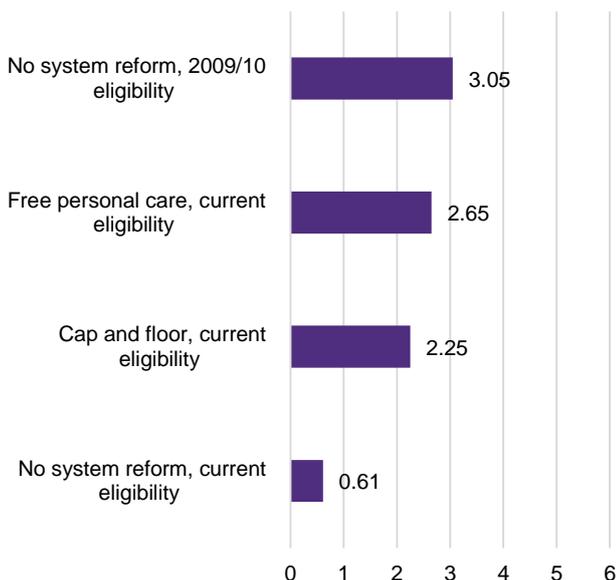
Funding raised in 2030/31 - In current prices



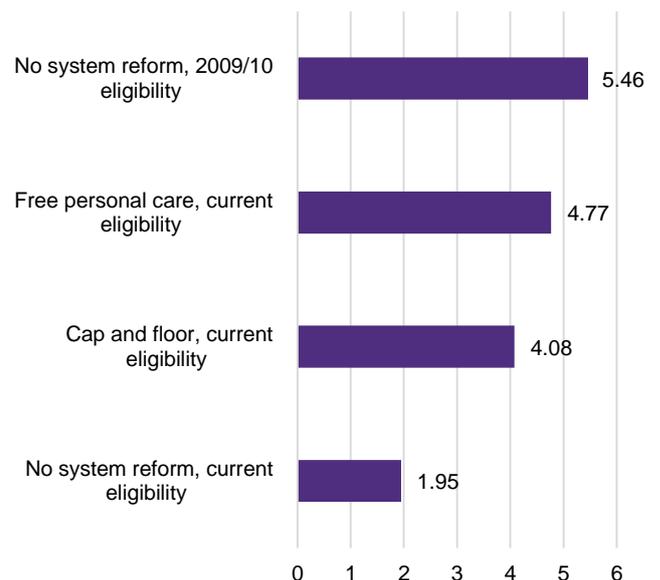
- ● ● ● Reforms - Cap and floor
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- ● ● ● Current System - Maintain 2015/16 levels
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Multiple of funding required to close funding gap



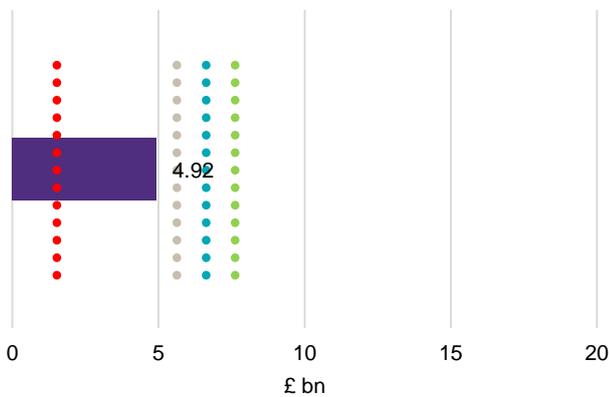
Multiple of funding required to close funding gap



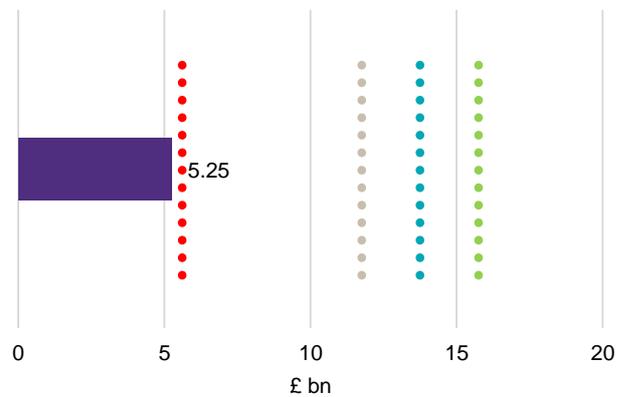
Change in NI rates

This funding option analyses the additional funding raised by a 0.5% increase to national insurance rates. The 0.5% increase is applied to the employee main rate, employee additional rate and employer rate. By 2020/21 this option would raise enough to maintain the current system at 15/16 levels, but would not raise enough for the cap and floor demand scenario. By 2030/31 the scenario would not quite raise enough to maintain the current system at 15/16 levels.

Funding raised in 2020/21 - In current prices



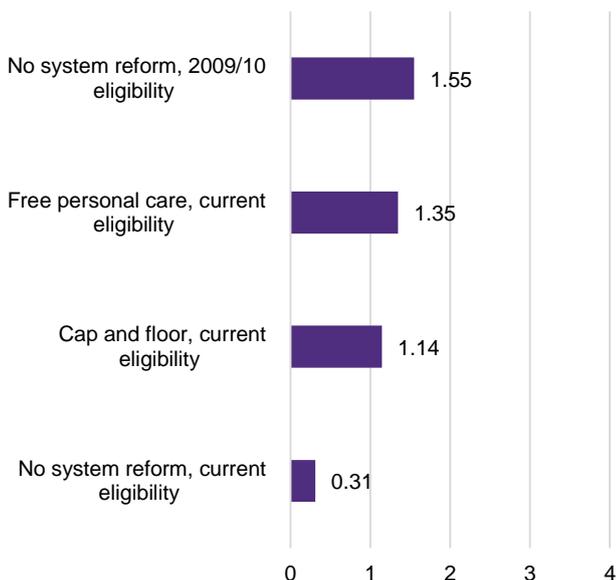
Funding raised in 2030/31 - In current prices



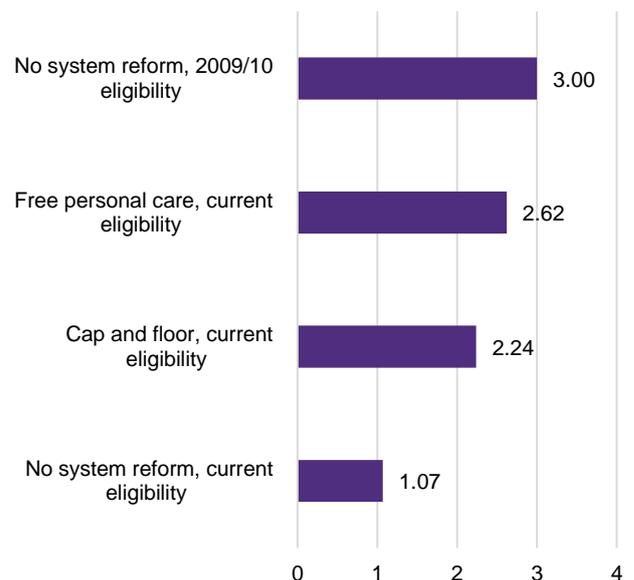
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



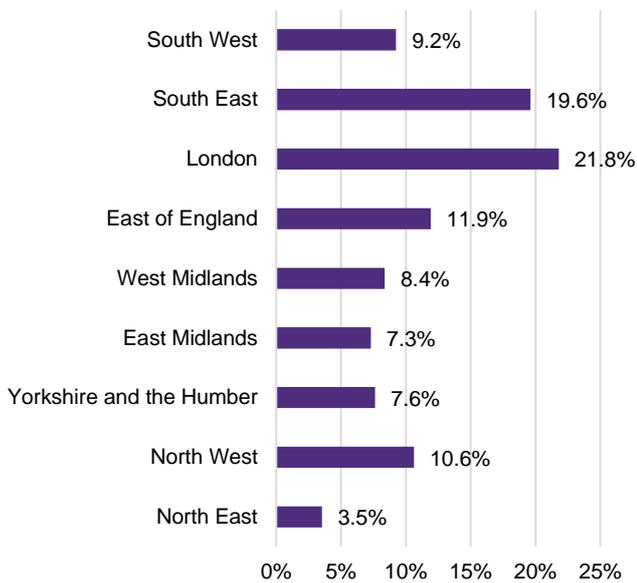
Multiple of funding required to close funding gap



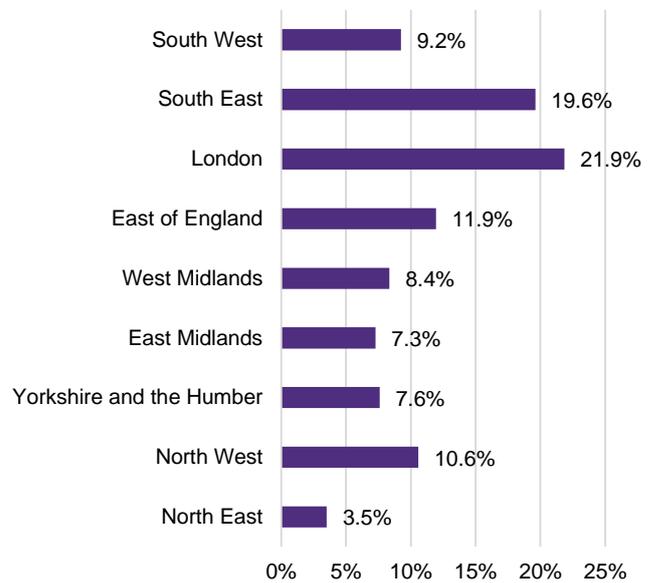
Change in NI rates

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority area in 2020/21 and 2030/31. The regions that would raise the most by 2020/21 are London (21.8%), the South East (19.6%) and East of England (11.9%).

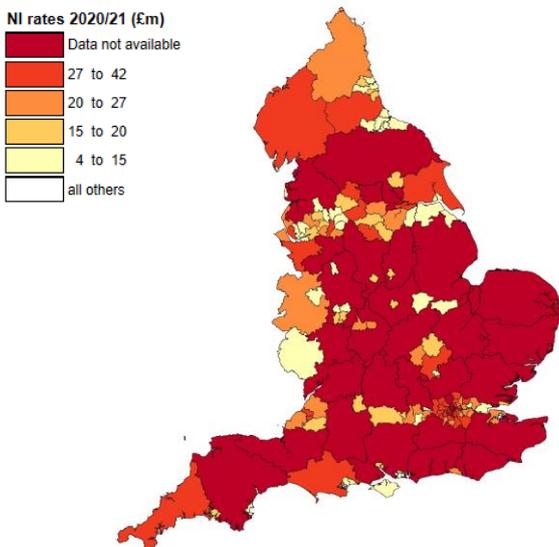
Proportion of total funding raised by region, 2020/21



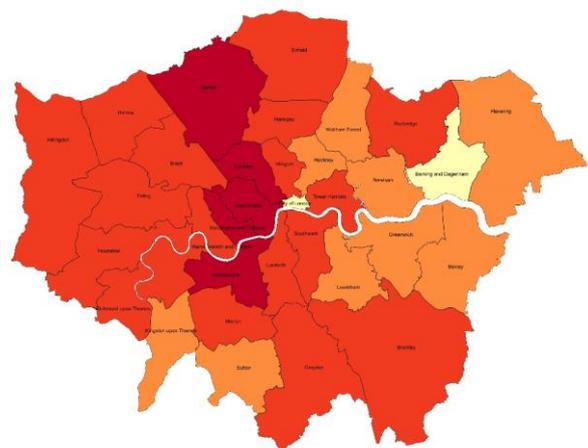
Proportion of total funding raised by region, 2030/31



Funding raised by change in NI rates, 2020/21 - Local Authorities in England



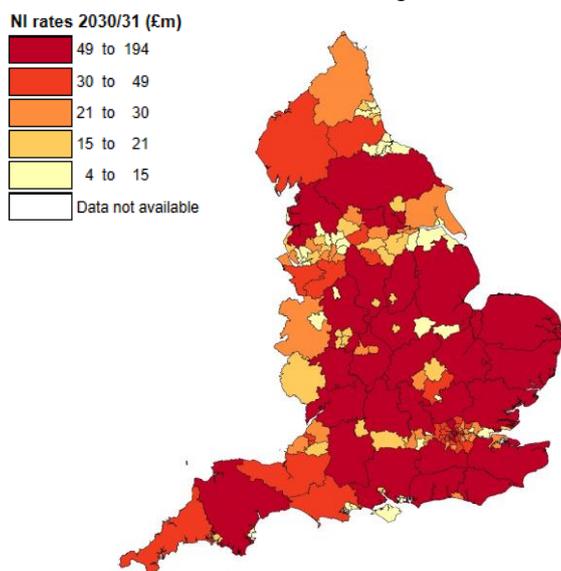
Funding raised by change in NI rates, 2020/21 - Local Authorities in London



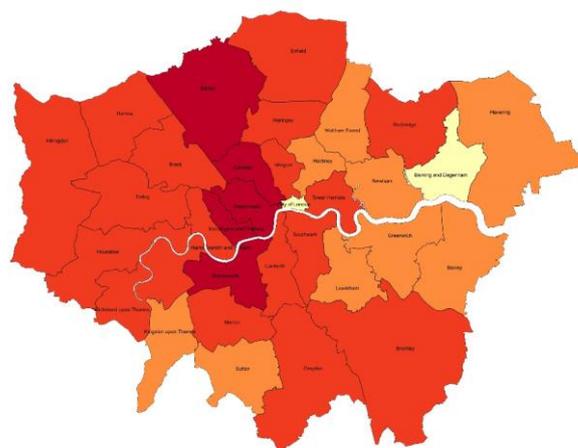
Change in NI rates

The local authority areas that are expected to raise the most by 2020/21 are Surrey (£179.2m), Essex (£147.9m) and Hertfordshire (£146.5m). The local authority areas expected to raise the least are Blackpool (£7.1m), Hartlepool (£5.9m) and Rutland (£4.2m).

Funding raised by change in NI rates, 2030/31 - Local Authorities in England



Funding raised by change in NI rates, 2030/31 - Local Authorities in London



Funding raised by change in NI rates, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Surrey	179.2
2	Essex	147.9
3	Hertfordshire	146.5
4	Hampshire	143.1
5	Kent	140.9
6	Lancashire	87.8
7	West Sussex	84.3
8	Oxfordshire	78.0
9	Buckinghamshire	74.8
10	Kensington and Chelsea	71.8

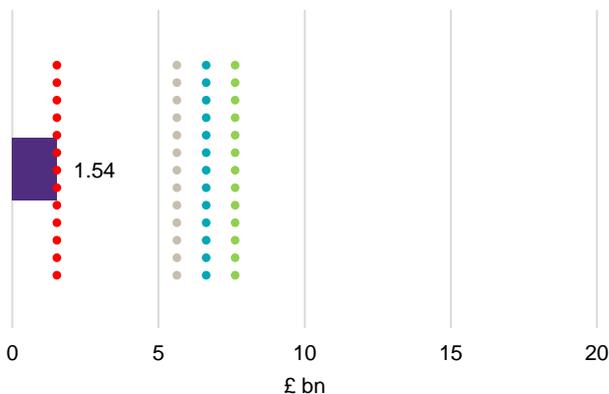
Funding raised by change in NI rates, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	Halton	8.5
144	City of London	7.9
145	Torbay	7.9
146	Middlesbrough	7.3
147	Blackburn with Darwen	7.3
148	Darlington	7.2
149	Blackpool	7.1
150	Hartlepool	5.9
151	Rutland	4.2
152	Isles of Scilly	-

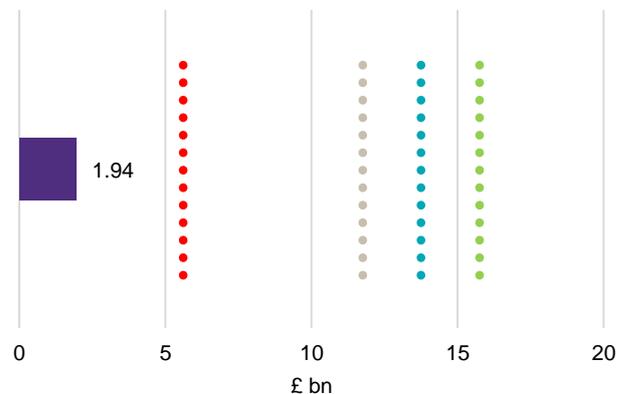
Charging NI to over 65's

This funding option analyses the additional funding raised by the introduction of national insurance collection for the working population aged over 65. By 2020/21 this option would raise 99% of the funding required to maintain the current system at 15/16 levels. By 2030/31 this option would raise less than a third of the amount required to maintain the current system at 15/16 levels.

Funding raised in 2020/21 - In current prices



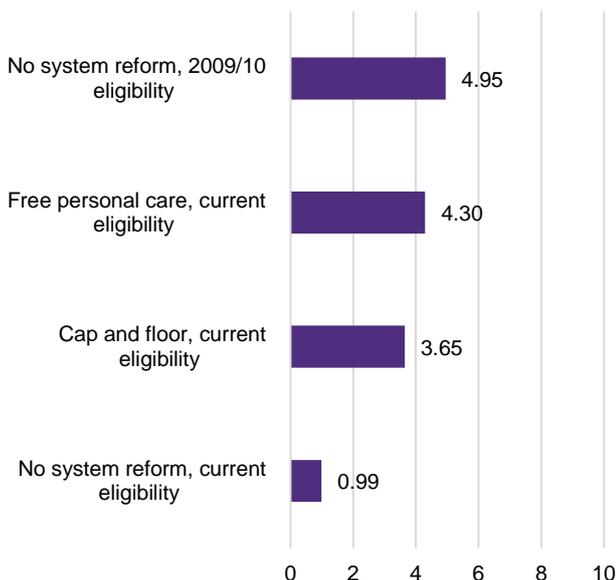
Funding raised in 2030/31 - In current prices



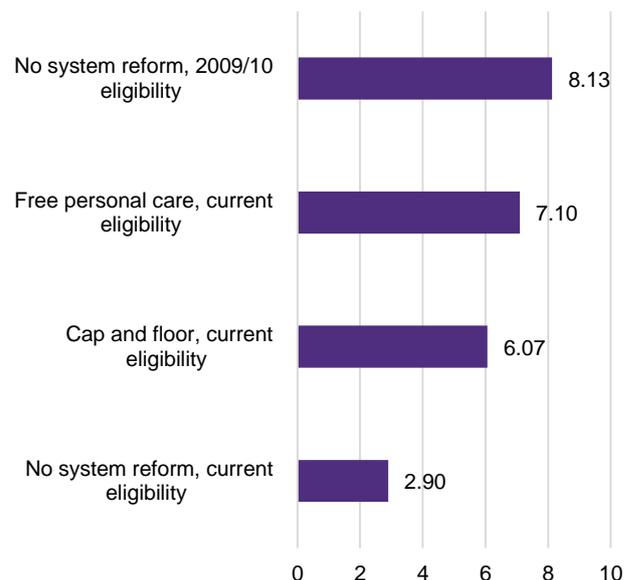
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



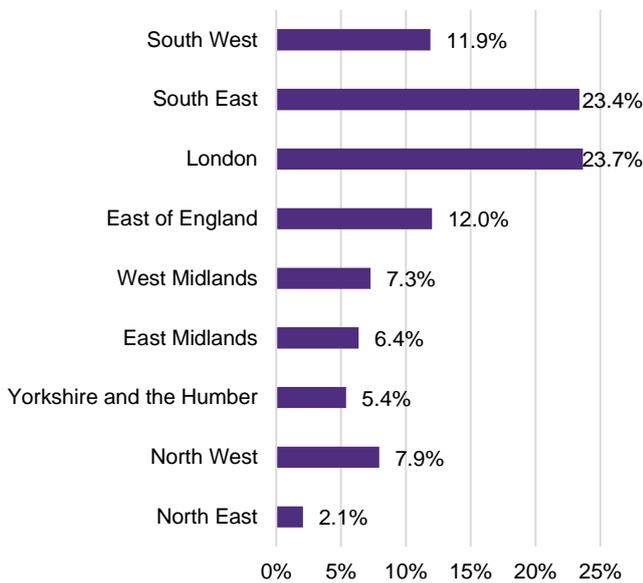
Multiple of funding required to close funding gap



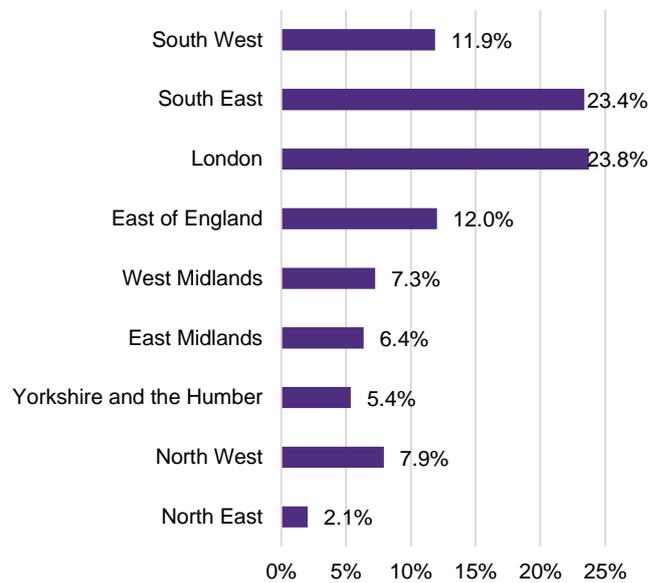
Charging NI to over 65's

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority areas in 2020/21 and 2030/31. By 2020/21 London (23.7%) is anticipated to raise the most, followed by the South East (23.4%) and the East of England (12.0%). The East Midlands (6.4%), Yorkshire and Humber (5.4%) and the North East (2.1%) are expected to raise the least.

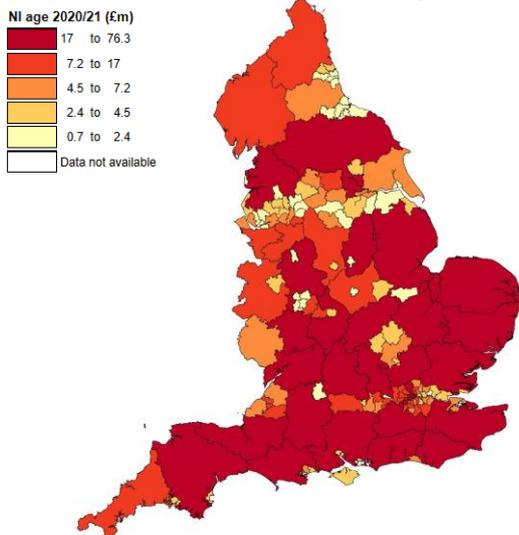
Proportion of total funding raised by region, 2020/21



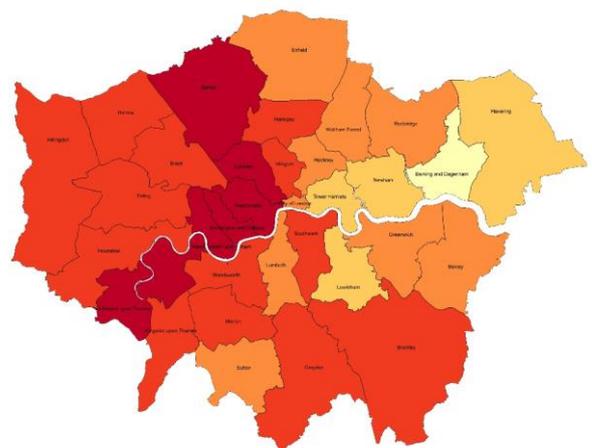
Proportion of total funding raised by region, 2030/31



Funding raised by charging NI to over 65's, 2020/21 - Local Authorities in England



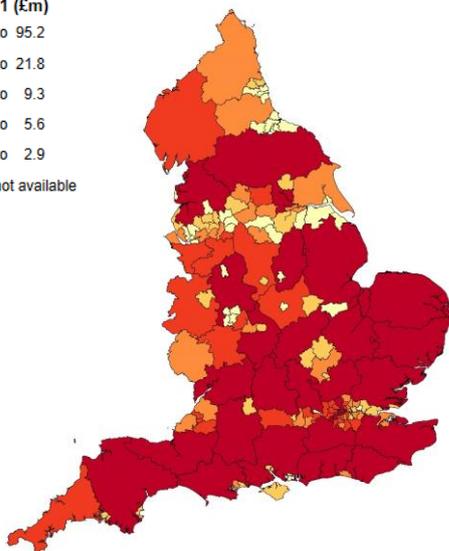
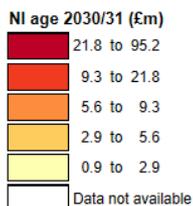
Funding raised by charging NI to over 65's, 2020/21 - Local Authorities in London



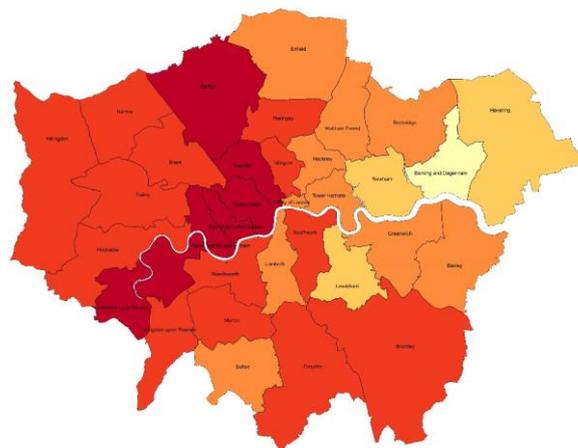
Charging NI to over 65's

The local authority areas expected to raise the most funding through the introduction of NI to over 65's by 2020/21 are Surrey (£74.9m), Hampshire (£59.0m) and Essex (57.3m). The local authority areas expected to raise the least are Hartlepool (£0.90m), Blackpool (£0.80m) and Stoke-on-Trent (£0.79m).

Funding raised by charging NI to over 65's, 2030/31 - Local Authorities in England



Funding raised by charging NI to over 65's, 2030/31 - Local Authorities in London



Funding raised by charging NI to over 65's, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Surrey	74.9
2	Hampshire	59.0
3	Essex	57.3
4	Kent	50.9
5	Camden	45.6
6	Hertfordshire	42.0
7	Devon	38.0
8	West Sussex	34.0
9	Buckinghamshire	33.6
10	Oxfordshire	28.9

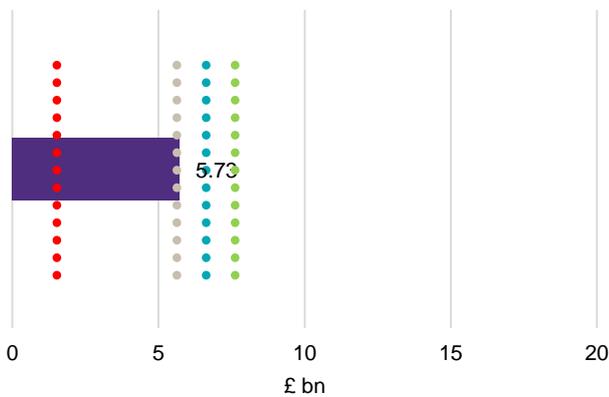
Funding raised by charging NI to over 65's, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	Halton	1.36
144	Knowsley	1.35
145	Rotherham	1.28
146	Middlesbrough	0.96
147	Redcar and Cleveland	0.95
148	Blackburn with Darwen	0.91
149	Hartlepool	0.90
150	Blackpool	0.80
151	Stoke-on-Trent	0.79
152	Isles of Scilly	-

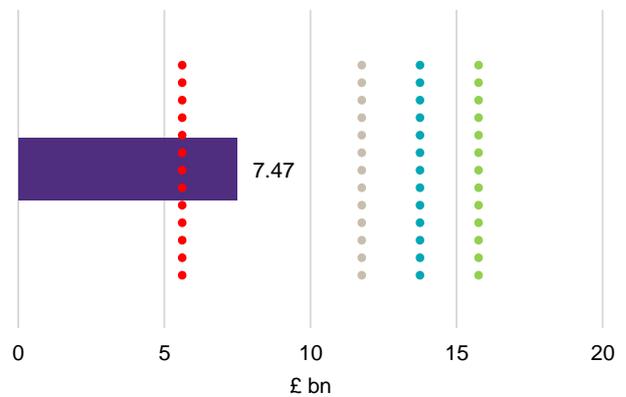
Lump sum contribution at 65

This funding option analyses the additional funding raised by the introduction of a lump sum contribution of £10,000 at the age of 65. By 2020/21 this scenario would raise enough to maintain the current system at 15/16 levels and the cap and floor scenarios. By 2030/31 this option would raise enough to maintain current system at 15/16 levels, but would no longer fund the cap and floor scenario.

Funding raised in 2020/21 - In current prices



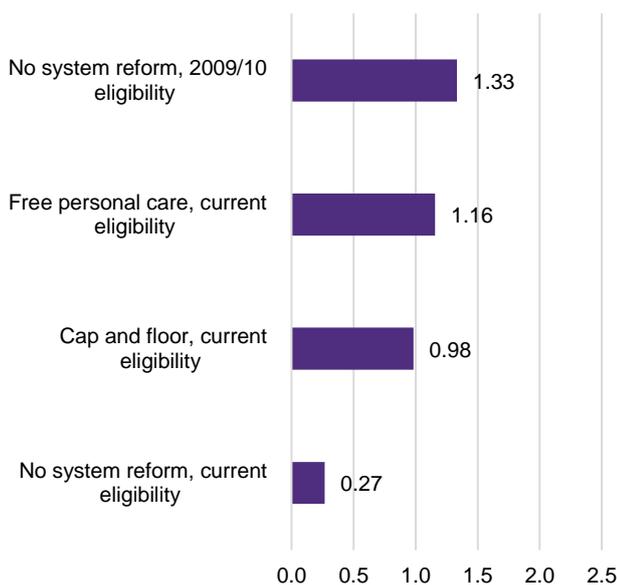
Funding raised in 2030/31 - In current prices



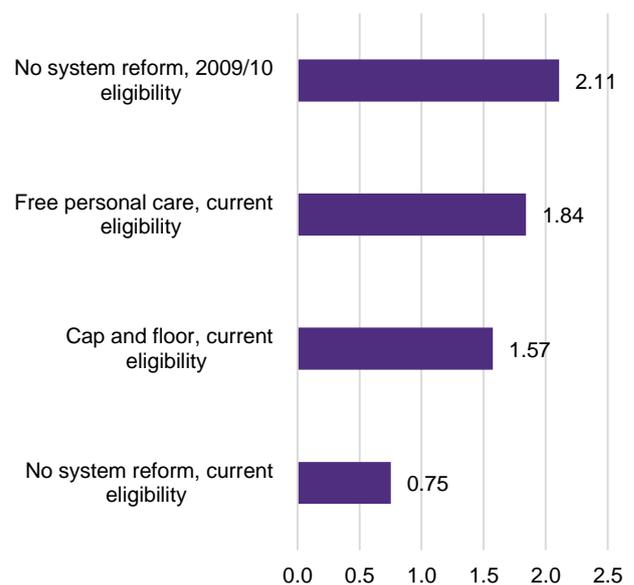
- Reforms - Cap and floor
- Current System - Maintain 2015/16 levels
- Reforms - Free personal care
- Current System - restore 2009/10 levels

- Reforms - Cap and floor
- Current System - Maintain 2015/16 levels
- Reforms - Free personal care
- Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



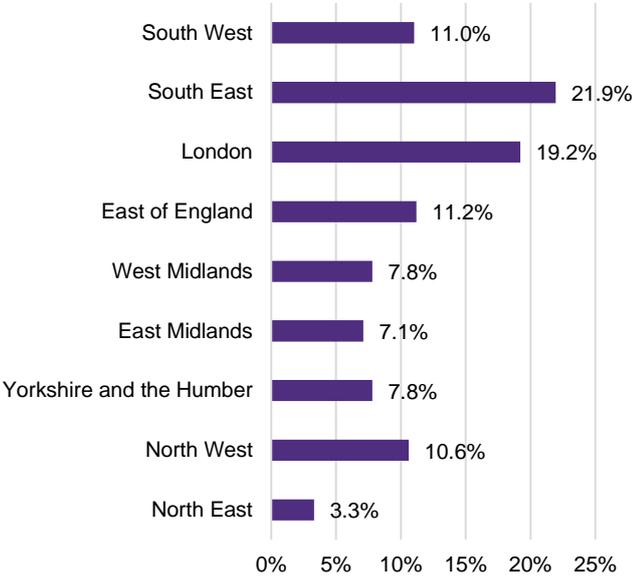
Multiple of funding required to close funding gap



Lump sum contribution at 65

The charts and maps below illustrate the proportion of funding raised by region and the amount by local authority area in 2020/21 and 2030/31. By 2020/21 the region that will raise the most will be the South East (21.9%), followed by London (19.2%) and the East of England (11.2%). The picture will be the same for 2030/31.

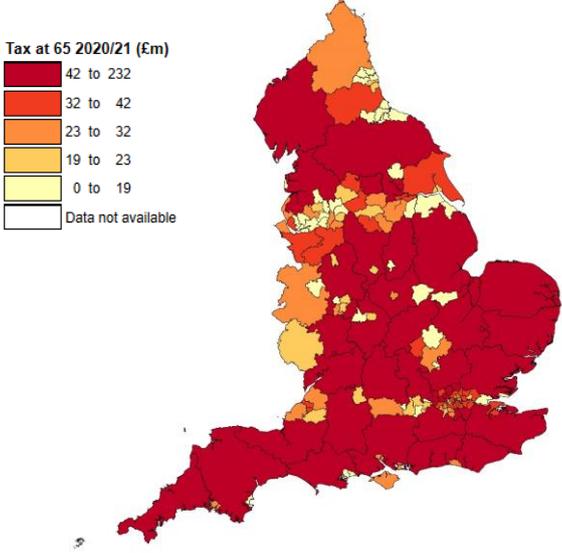
Proportion of total funding raised by region, 2020/21



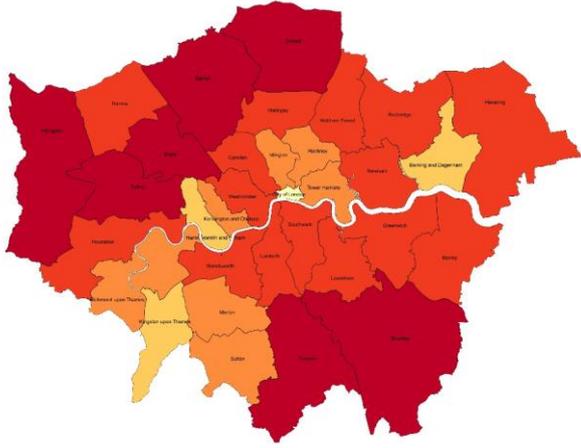
Proportion of total funding raised by region, 2030/31



Funding raised by a contribution at 65, 2021/21 - Local Authorities in England



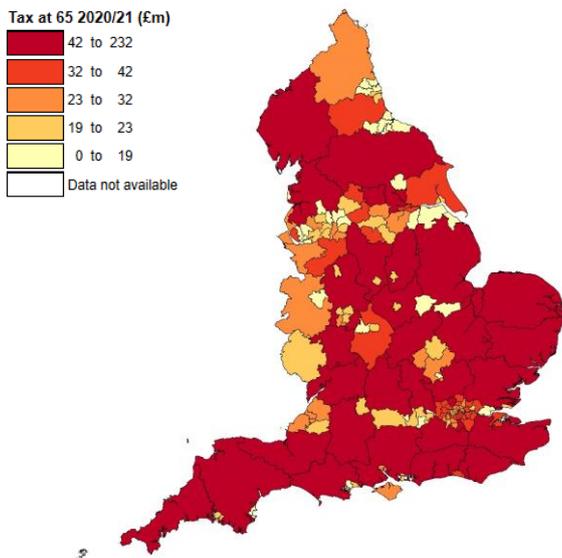
Funding raised by a contribution at 65, 2021/21 - Local Authorities in London



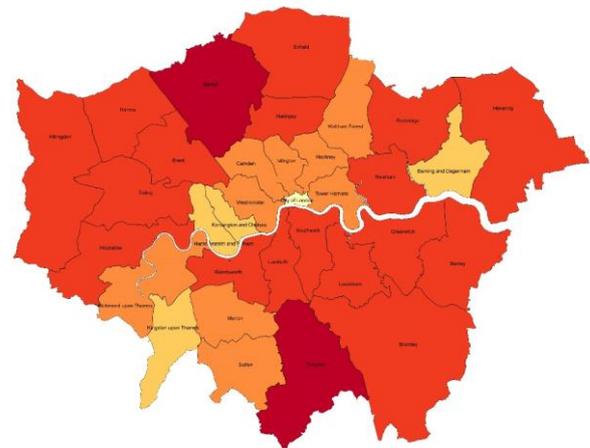
Lump sum contribution at 65

By 2020/21 the local authority areas that raise the most will be Kent (£224.2m), Hampshire (£203.1m) and Essex (£157.6m). The local authority areas anticipated to raise the least are Rutland (£3.64m), City of London (£1.57m) and Isles of Scilly (£0.35m).

Funding raised by a contribution at 65, 2030/31 - Local Authorities in England



Funding raised by a contribution at 65, 2030/31 - Local Authorities in London



Funding raised by a contribution at 65, 2020/21 – Top 10 authorities

#	Local Authority	(£m)
1	Kent	224.2
2	Hampshire	203.1
3	Essex	157.6
4	Surrey	156.8
5	West Sussex	132.3
6	Hertfordshire	110.7
7	Lancashire	107.6
8	Norfolk	106.9
9	Devon	100.0
10	East Sussex	93.7

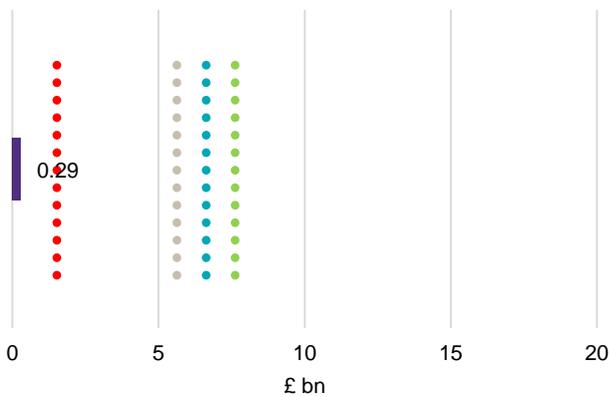
Funding raised by a contribution at 65, 2020/21 – Bottom 10 authorities

#	Local Authority	(£m)
143	Halton	11.80
144	Blackburn with Darwen	11.46
145	South Tyneside	11.30
146	Redcar and Cleveland	9.86
147	Middlesbrough	9.11
148	Darlington	7.11
149	Hartlepool	6.68
150	Rutland	3.64
151	City of London	1.57
152	Isles of Scilly	0.35

Inheritance tax

This scenario analyses the additional funding raised by an increase in inheritance tax of 2%. By 2020/21 this scenario would raise less than 20% of the funding required to maintain the current system at 15/16 levels. By 2030/31 inheritance tax would need to be raised by over 26% to maintain the current system at 15/16 levels.

Funding raised in 2020/21 - In current prices



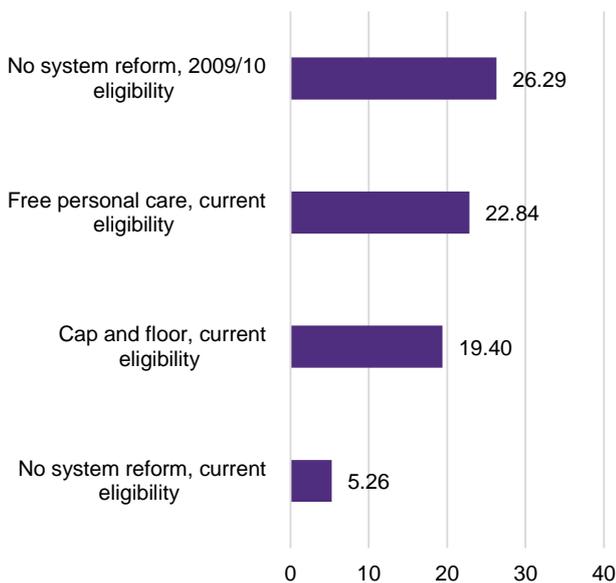
Funding raised in 2030/31 - In current prices



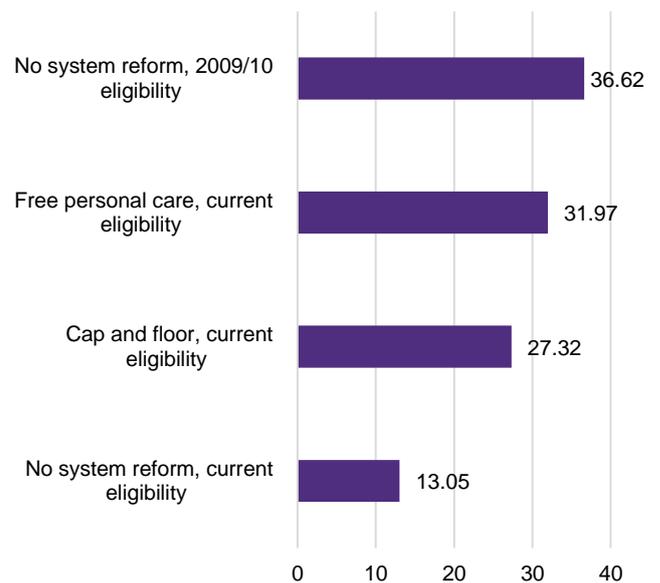
- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

- ● ● ● Reforms - Cap and floor
- ● ● ● Current System - Maintain 2015/16 levels
- ● ● ● Reforms - Free personal care
- ● ● ● Current System - restore 2009/10 levels

Multiple of funding required to close funding gap



Multiple of funding required to close funding gap



**Further distributional
analysis**

Adult social care population adjusted spend

Across England's local authorities there are large spend differences, with the highest rate nearly three times the lowest.

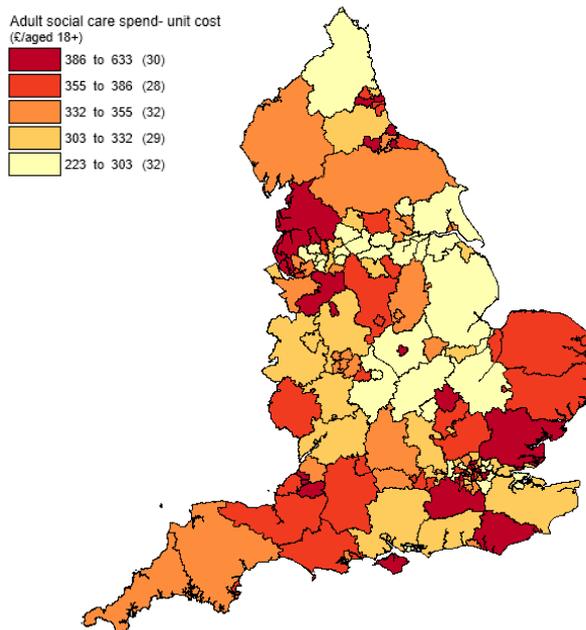
The chart and tables illustrate the 2016 population adjusted spend on adult social care in each authority.

The heat map to the right shows the adult social care spend per head of population over 18 across England's local authorities. While the two tables below show the 10 authorities with the greatest and least population adjusted adult social care spend.

The local authorities with the largest spend per head of population over 18 are the City of London (£632.18), Knowsley (£522.54) and the Isle of Wight (£450.71).

While the local authorities with the lowest adult social care population adjusted spend are Bromley (£262.97), Leicestershire (£260.83) and Hounslow (£223.67).

Authority adult social care spend – population adjusted spend (£)



Local Authority 2016 spend on Adult Social Care per head of population over 18 – Top 10 authorities

#	Local Authority	Adult social care population adjusted spend (£)
1	City of London	632.18
2	Knowsley	522.54
3	Isle of Wight	450.71
4	Greenwich	438.41
5	Richmond upon Thames	437.02
6	Haringey	435.02
7	Bristol, City of	426.95
8	Camden	424.7
9	East Sussex	422.51
10	Tower Hamlets	411.95

Local Authority 2016 spend on Adult Social Care per head of population over 18 – Bottom 10 authorities

#	Local Authority	Adult social care population adjusted spend (£)
142	Redbridge	279.21
143	Warwickshire	278.5
144	North Lincolnshire	277.73
145	Brent	275.48
146	Lincolnshire	275.46
147	Salford	274.94
148	Bexley	268.59
149	Bromley	262.97
150	Leicestershire	260.83
151	Hounslow	223.67

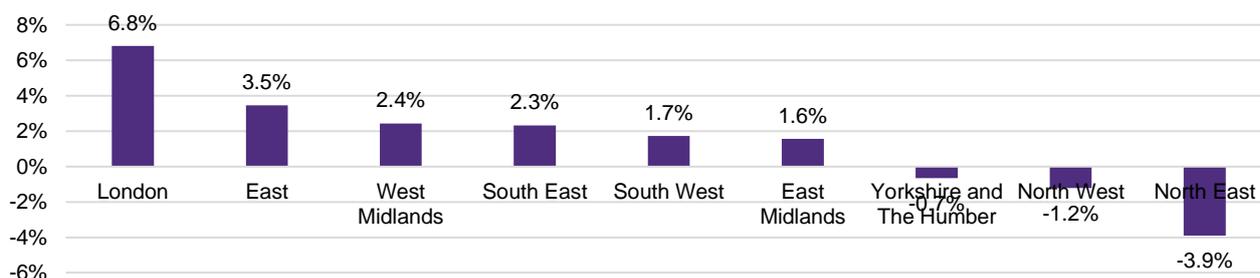
Population projections

Population projections are useful in estimating both the change over time in the older population groups most likely to have social care needs and those who the funding options are to have the largest impact.

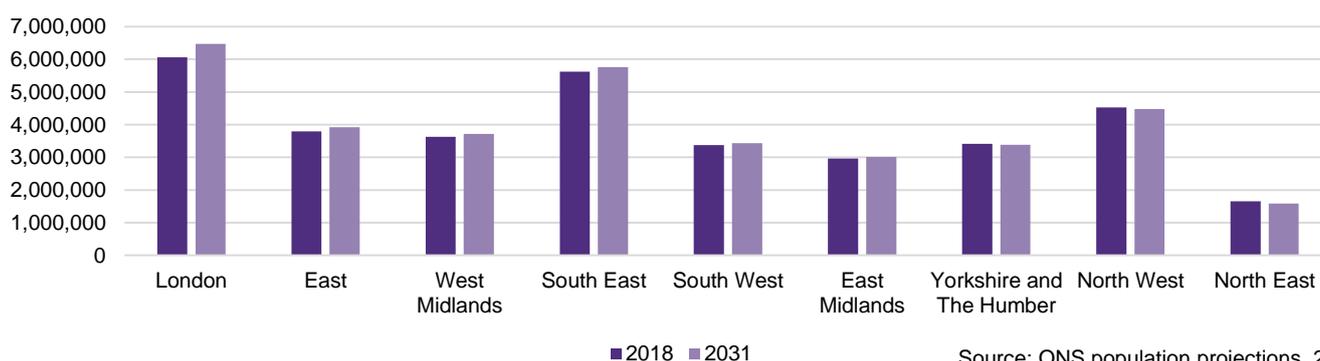
The first bar chart below shows the percentage change in working age population across England's regions. The second shows the projected number of working age population across England's regions in 2018 and 2031. This group will be the ones impacted most by any changes to income tax, introduction of an age related levy and changes to national insurance rates.

Six of the nine regions are expected to see an increase in the number of working age population between 2018-31. Three regions are set to see decline in their working age population over this period: North East (-3.9%), North West (-1.2%) and Yorkshire and the Humber (-0.7%). London is projected to have the largest number of working age population in 2018 (6.06m) and 2031 (6.47m), while also seeing the greatest growth in this group (6.8%) over the period. While the North East has the smallest working age population in both 2018 (1.65m) and 2031 (1.59m) and is also set to see the lowest growth in this group (-3.9%).

% change in working age population, 2018-2031



Working age population, 2018 & 2031



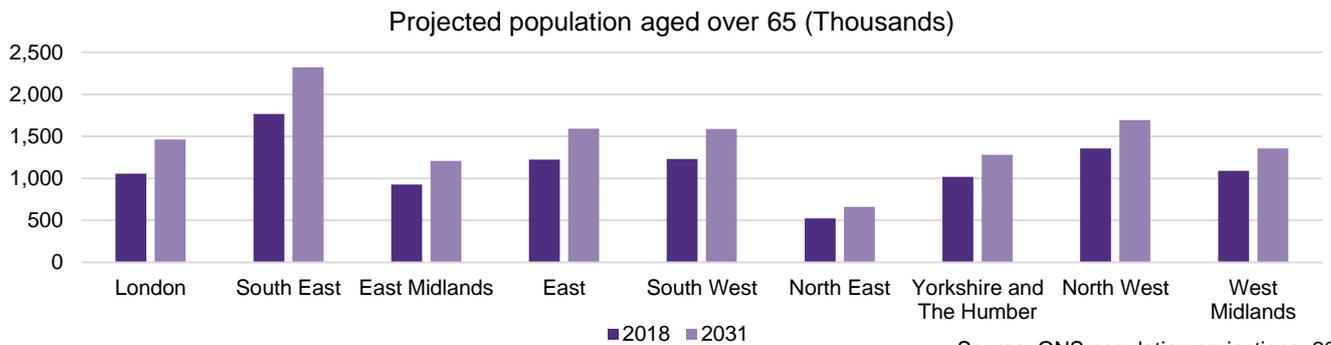
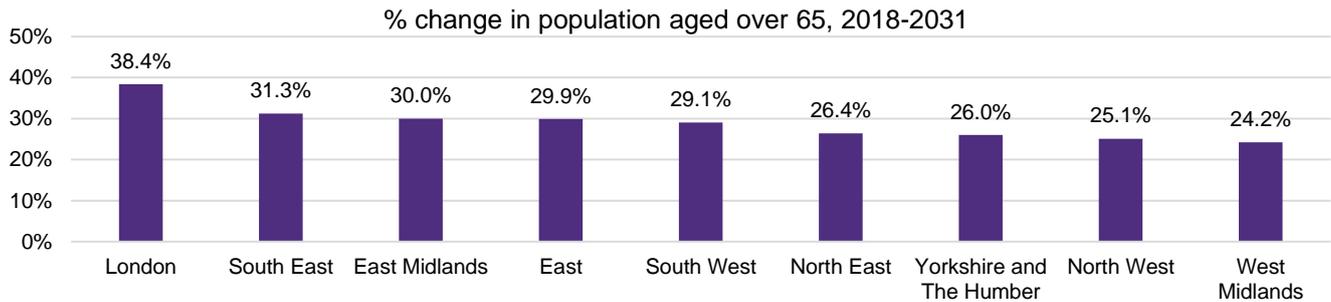
Source: ONS population projections, 2016

The next first bar chart on the next page shows the percentage change in population aged over 65 in England's regions. The second line chart on the next page shows the projected number of population aged over 65 across England's regions in 2018 and 2031. Of the nine regions, the South East is projected to have the highest number of over 65's in both 2018 (1.77m) and 2031 (2.32m). The North East is projected to have the lowest number in both 2018 (0.52m) and 2031 (0.66m).

London is set to see the greatest proportional increase, growing by 38.4% between 2018 (1.06m) and 2018 (1.46m). While the lowest proportional increase is expected in the West Midlands where the population aged over 65 is expected to increase by 24.2% between 2018 (1.09m) and 2031 (1.36m).

Population projections

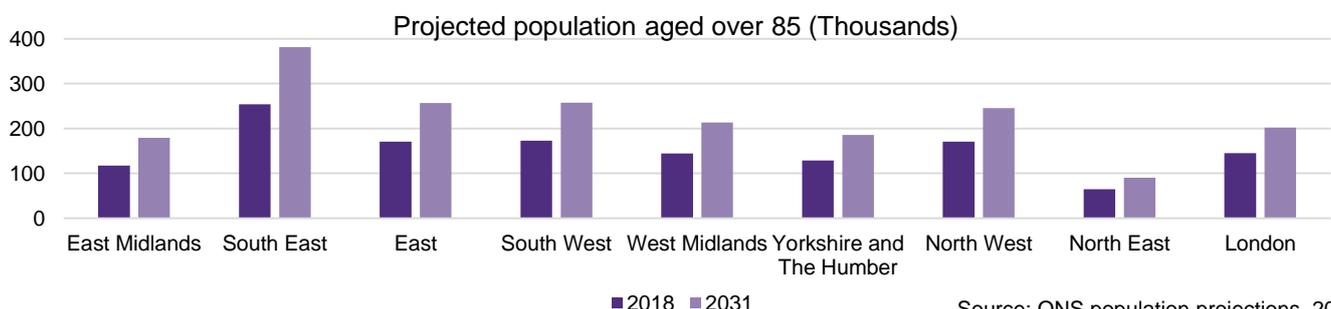
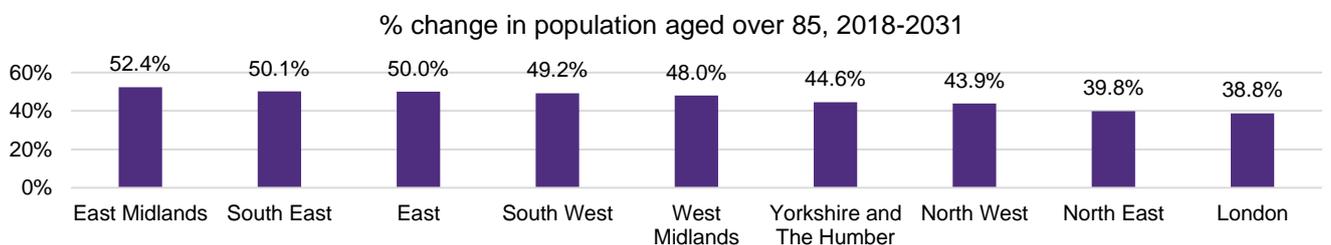
Growth in the population of those aged over 65 (29.1%) and over 85 (47.0%) far exceeds growth in the working age population in England (2.6% between 2018-2031)



Source: ONS population projections, 2016

The first bar chart below shows the percentage change in the number of population aged over 85 across England's regions. The second bar chart below shows the projected number of over 85's across England's regions. As with the population of over 65's, the South East is projected to have the greatest number aged over 85 in both 2018 (0.25m) and 2031 (0.38m). Similarly, the North East is projected to have the lowest number of over 85 in both 2018 (0.06m) and 2031 (0.09m).

The greatest proportional increase in the period is expected in the West Midlands, increasing by 52.4% between 2018 (0.12m) and 2031 (0.18m). The lowest proportional increase is expected in the London, increasing by 38.8% between 2018 (0.15m) and 2031 (0.20m).



Source: ONS population projections, 2016

Population over 65

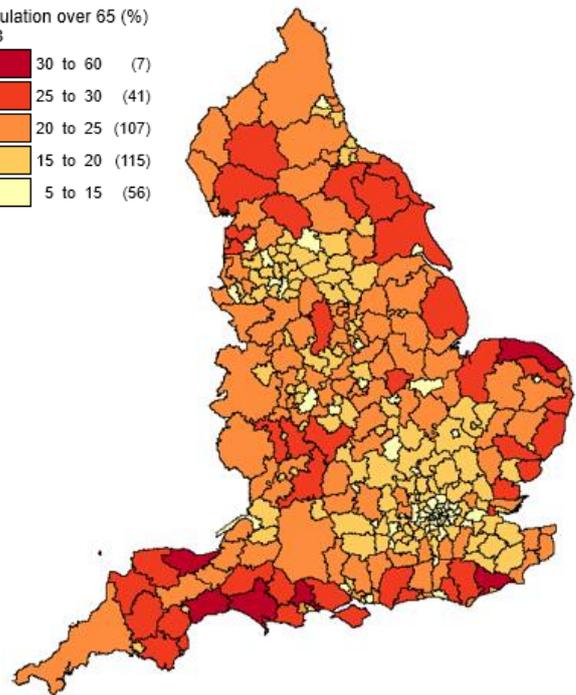
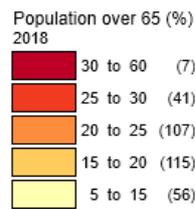
Analysing trends in the population aged over 65 is a useful proxy for anticipating where greatest need for adult social care is likely to be located.

The three heat maps show the proportion of population aged over 65 in each Local Authority in 2018, 2021 and 2031.

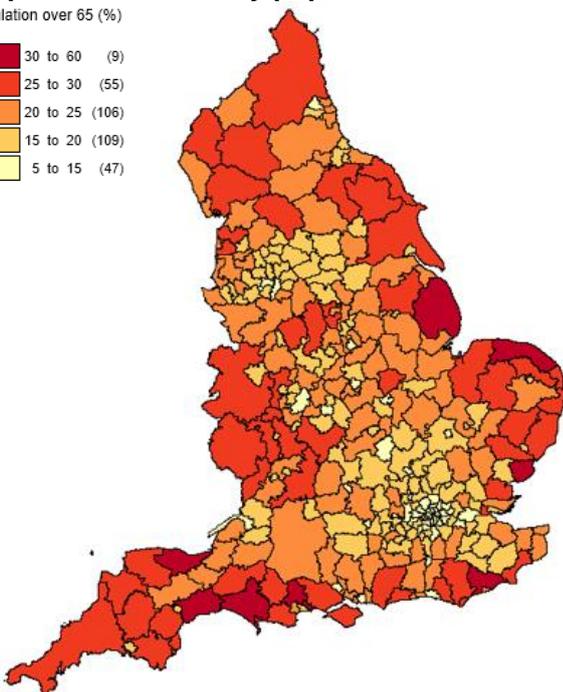
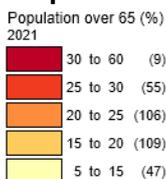
The heat maps show a clear increase over time in the proportion of population in authorities that are over 65. In 2018, 48 authorities had a percentage over 25%. In 2021 this increases to 64 authorities and in 2031 it rises to 138. Similarly, the number authorities that had a percentage over 30% in 2018 is 7. This increases to 9 in 2021 and then 54 in 2031.

The geographic distribution of authorities with the greatest percentage of population over 65 remain similar over time. There are high proportions of over 65's along much of England's coastline, including in the South West, South East, East of England, East Midlands, Yorkshire and Humber. There are also pockets of authorities with high proportions of over 65's in the West Midlands and Wales border, as well as the border of Scotland and the North West and North East.

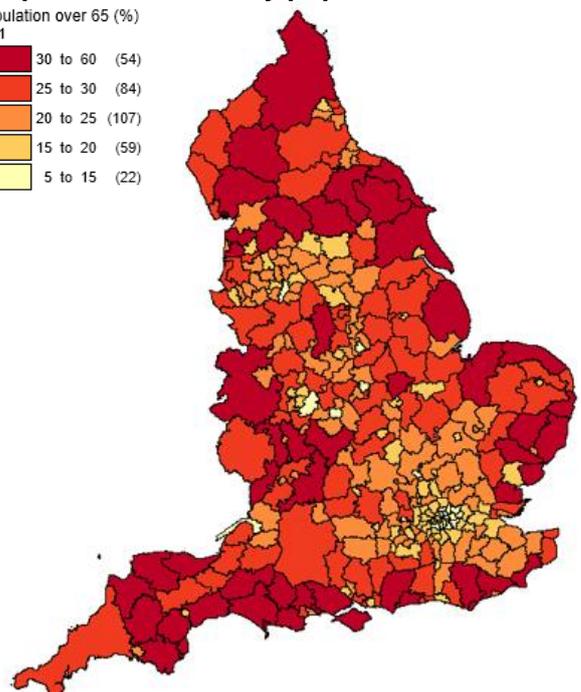
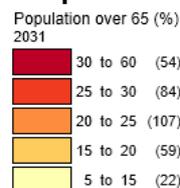
Proportion of authority population over 65 – 2018



Proportion of authority population over 65 – 2021



Proportion of authority population over 65 – 2031

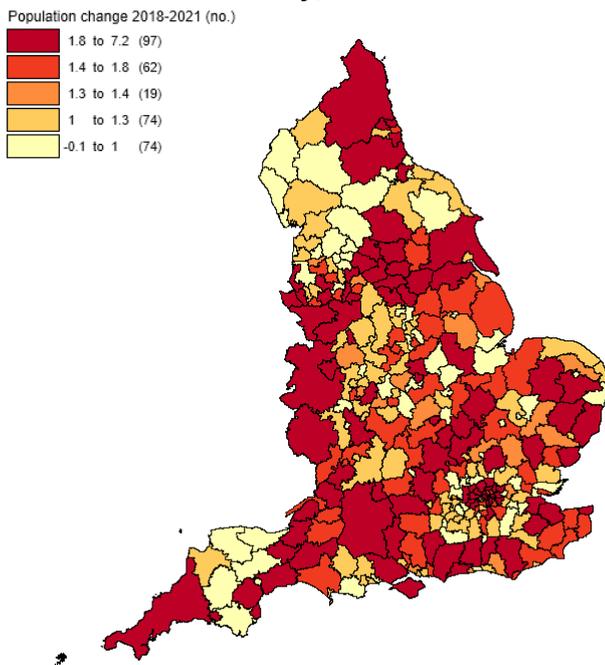


Source: ONS population projections, 2016

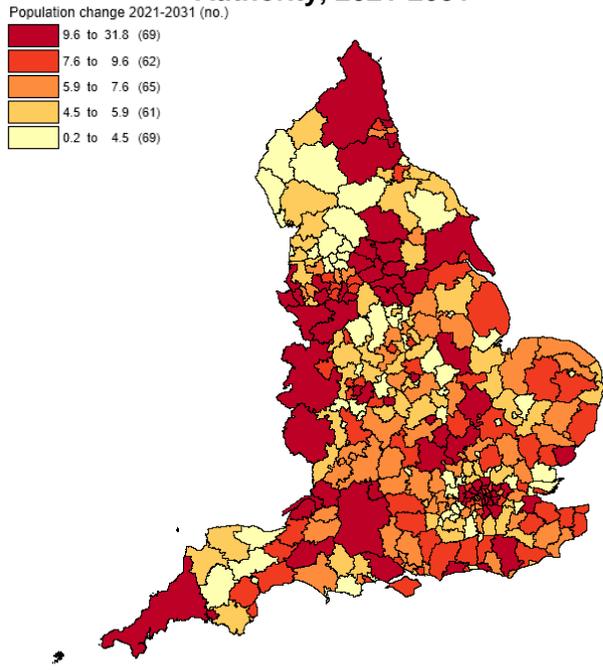
Population over 65

The heat maps below show the growth in the authority population of those aged 65+ between 2018-2021 and 2021-2031. There are expected to be pockets of high growth across all of England's regions. By 2021, the authorities with the greatest population of over 65's are Kent (17,628 people over 65), Essex (16,906 people over 65) and Hampshire (16,906 people over 65).

Growth rate in population aged over 65 by Local Authority, 2018-2021



Growth rate in population aged over 65 by Local Authority, 2021-2031



Authorities with greatest population of aged 65+ - 2021

#	Local Authority	Population over 65 in 2021
1	Kent	17,628
2	Essex	16,906
3	Hampshire	16,106
4	Lancashire	13,928
5	Surrey	12,330
6	Hertfordshire	11,822
7	Norfolk	11,401
8	Devon	10,505
9	West Sussex	10,418
10	Staffordshire	10,327

Authorities with greatest population of aged 65+ - 2021

#	Local Authority	Population over 65 in 2021
143	Kingston upon Thames	1,412
144	Hammersmith and Fulham	1,327
145	Reading	1,270
146	Darlington	1,255
147	Bracknell Forest	1,242
148	Slough	1,135
149	Hartlepool	1,063
150	Rutland	524
151	City of London	99
152	Isles of Scilly	28

Source: ONS population projections, 2016

Employment rate

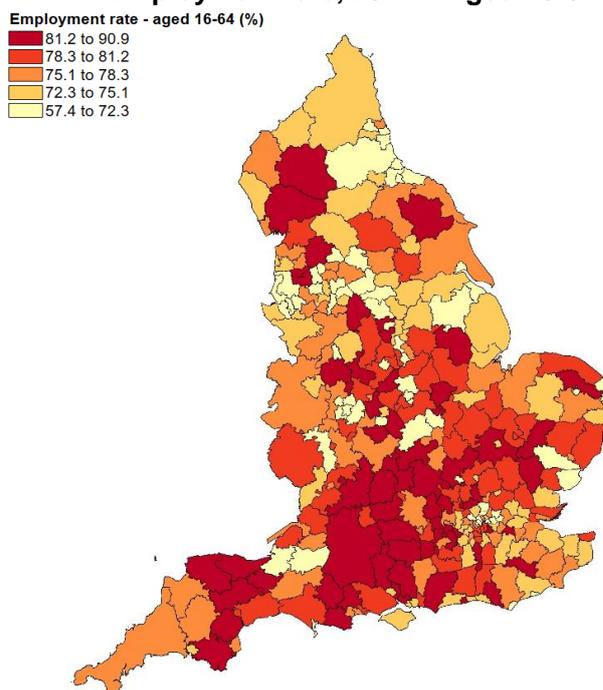
Analysing the employment rate is useful for identifying which areas are going to see greater impact through changes to income tax, introduction of an age related levy, changes to national insurance rates and national insurance for over 65's. The heat maps show the employment rate for the population aged 16-64, the population aged 50-64 and the population aged 65+.

The heat map to the upper right shows the proportion of the local authority population age 16-64 that are employed. The working age population will be the group most impacted by changes to income tax rates. While there is a large concentration of authorities with the highest 18-64 employment rates in the South West and South East, there also pockets across all of England's regions.

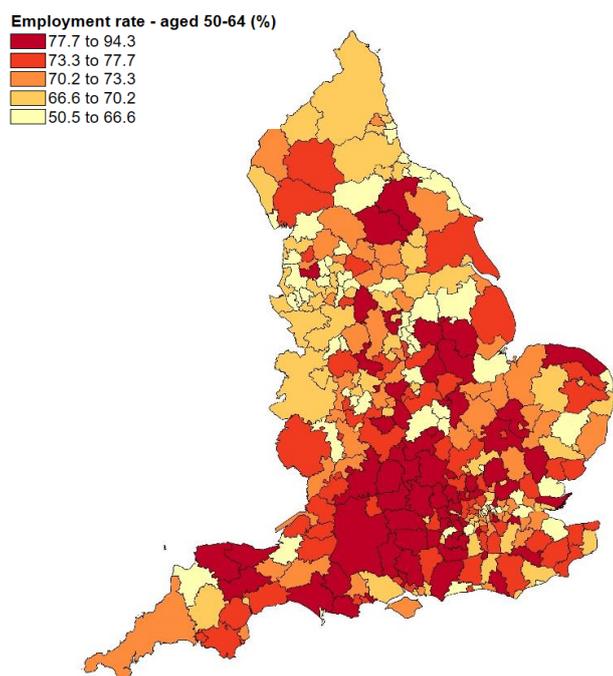
The heat map to the bottom left shows the proportion of local authority population aged 50-64 that are employed. This will be the group most impacted by the introduction of an age related levy. Again there is a large concentration of authorities with the highest 18-64 employment rates in the South West and South East, there also pockets across all of England's regions.

The heat map to the bottom right shows the proportion of the local authority population aged over 65 that are employed. This will be the group impacted by the introduction of national insurance for over 65's. While the proportion of population over 65 that are employed is generally low across the country, there are pockets across most regions where this exceeds 15%.

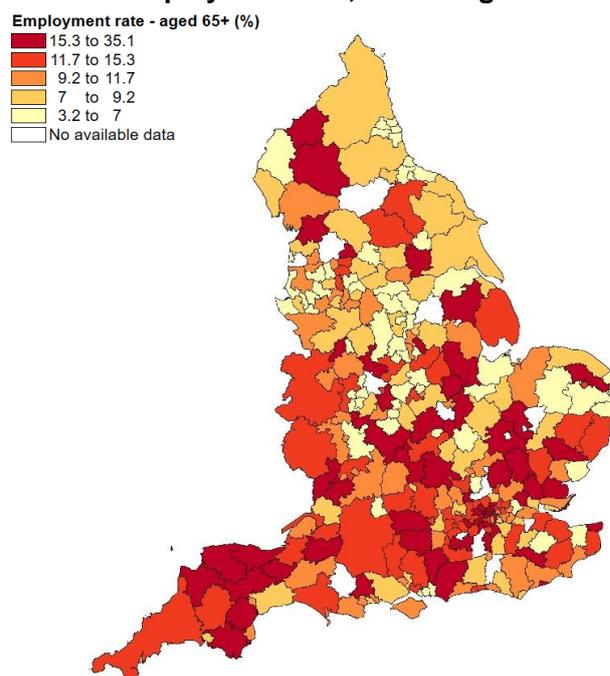
Employment rate, 2017 – Aged 16-64



Employment rate, 2017 – Aged 50-64



Employment rate, 2017 – Aged 65+



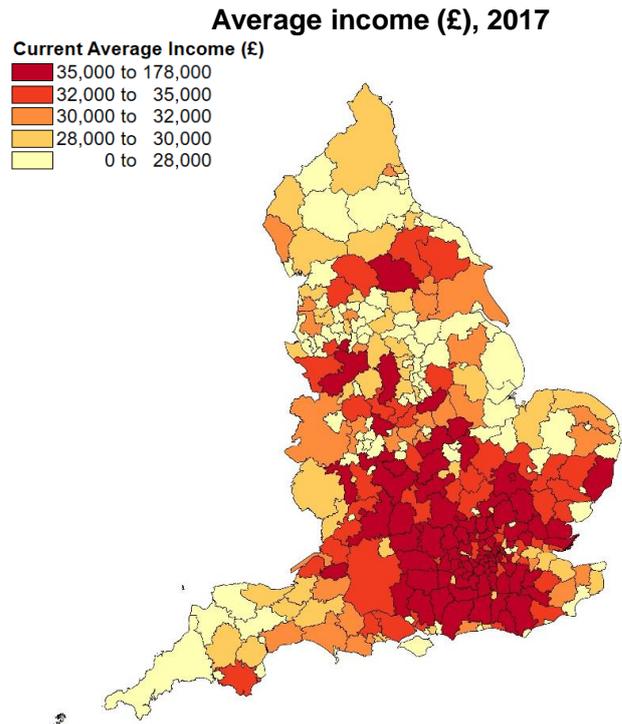
Source: Annual Population survey, 2017

Income

Average income is another factor that will impact the amount of revenue raised across regions for a number of funding options – Income tax changes, Age related levy and National insurance rate changes. The heat map below shows current average income across local authorities in England.

The heat map to the right shows current average income across local authorities in England.

There is a strong concentration of authorities with the highest average incomes in London, the South and South East. As a result, funding options like changes to income tax, national insurance rate changes and the introduction of an age related levy raise a significant proportion from London, the South and South East.



Model assumptions

Data sources

The following data sources were used in the model build.

#	Data	Source
1	Population Forecast	ONS - From Nomis 2 May 2018 Provides total population by council then followed by totals by age bandings in the following rows.
2	Income by age	Government statistics - https://www.gov.uk/government/statistics/distribution-of-median-and-mean-income-and-tax-by-age-range-and-gender-2010-to-2011 Provides average income by age brackets - used for age related levy
3	Source of Income by age, UK households	UK statistics used to determine the percentage of income from employment for over 65's
4	Income by Authority	Government statistics - https://www.gov.uk/government/uploads/system/.../NS_Table_3_14_1516.xlsx Provides mean and median income by source (self employment, employment and pension) as well as mean and median tax charge by authority across the UK
5	HMRC Ready Reckoner	HMRC Ready Reckoner, published April 2018, publication SS18 - https://www.gov.uk/government/statistics/direct-effects-of-illustrative-tax-changes Provides indicative impact of changes to different taxes
6	Tax distribution by tax brackets and regions	Government statistics - https://www.gov.uk/government/statistics/number-of-individual-income-taxpayers-by-marginal-rate-gender-and-age-by-country Provides the tax distribution for in each tax bracket for 2017-18 across England
7	Council tax	Council Tax for 2018-19 - Table 9 - https://www.gov.uk/government/statistics/council-tax-levels-set-by-local-authorities-in-england-2018-to-2019 Provides the current council tax Band D equivalent rates and dwellings for tax purposes
8	Business rates	Business rates for 2016-17 Provides the 2016/17 business rates collections by authority
9	Employment rates	Annual population survey, 2017 Employment rates by authority - Nomis on 2 May 2018 Note - No Employment data was available for Isle of Scilly - this was deemed to not be material
10	Household projections	Household projections - https://www.gov.uk/government/statistical-data-sets/live-tables-on-household-projections

Model assumptions

The assumptions used in the model for each funding option are listed below.

Income tax

Methodology and assumptions	
a	Data for the impact from income tax changes are taken from the HMRC ready Reckoner
b	Switches are used to toggle on or off which tax bracket is impacted
c	Pro-rate total impact to get England only by using Income by Council and District Authority in the UK by removing the proportion that would be related to Northern Ireland and Wales (as Scotland is not included in the ready reckoner)
d	Adjustment required is 95%
e	As HMRC data is per each percentage change - calculate the factor to gross up or down the change based on the input
f	Project the HMRC forecast beyond 2021 as constant as they will be adjusted later for inflation and changes in working population The model assumes that the tax collections are not adjusted for changes in the population.
g	Income is assumed to increase by AWE projections - Taken from the March 2018 OBR Forecast
h	The inflated tax impact is allocated across the Authorities based on the tax collections from the Income by Authority data.
i	The inflated distribution is then adjusted by the population forecast increase. It is assumed that the employment levels for each Authority remain constant.
j	The inflated and adjusted tax impact is then summarised by region

Age related levy

Methodology and assumptions	
a	Age Related levy calculations are divided into three age bands: 40-49, 50-64, and 65 or older. The calculation methodology for each age band is repeated on this worksheet.
b	The number of employed people within each Authority is based on the population forecast from 1 above and the employment rates by council and age bracket in data source 8.
c	The total impact from the levy is calculated based on the average salary for the age band. The average salary from the data source is for 2015/16 so would require three years of uplift for the 2018/19 average Salary.
d	The annual uplift to get from the 2015/16 average to the 2018/19 average is 2.0%
e	The average wage is then inflated by AWE for average wages beyond 2018/19
f	The levy is based on the employee and employer rates applied to the average 2018/19 wage for the total number of employed people.
g	As the average salary for each Authority varies, the Model uses a factor of the working population times the average salary which is then normalised to adjust the distribution.

Model assumptions

The assumptions used in the model for each funding option are listed below.

Council tax

Methodology and assumptions	
a	The Band D equivalent rates for each Authority for 2018/19 are taken from the data source 6.
b	The number of Band D equivalent dwellings is based on the projected Dwellings forecast. For modelling purposes we have assumed that the Banding mix of dwellings in each authority dwelling remains constant. The change in total dwellings is used to prorate the 2018/19 Band D Equivalent dwellings each year.
c	The user can enter the projected forecast council tax increase each year - these are currently set on the input page
d	The Band D Council Tax rates are uplifted by the inflation in the prior step plus any increase for social care funding as entered in the inputs page
e	It is assumed that any proposed increase for social care funding would also be uplifted by the annual increase by the council in the future.

Business rates

Methodology and assumptions	
	Note: The analysis on Business Rates is illustrative to show the potential funding that could be raised by changing the rates. We acknowledge that business rate collection and distribution varies between Authorities.
a	The business rates collection for the tax years 2015/16 and 2016/17 is based on the data source 7.
b	The data source is for the 2016/17 tax year. This is adjusted to the 2018/19 tax year based on the change from 2015/16 to 2016/17
c	The user can enter the projected forecast business rates increase each year - these are currently set on the input page
d	The base business rates are uplifted by the inflation in the prior step plus any increase for social care funding as entered in the inputs page
e	It is assumed that any proposed increase for social care funding would also be uplifted by the annual increase by the council in the future.

Corporation tax

Methodology and assumptions	
a	The impact is based on the information from the HMRC Ready Reckoner (data source 4).
b	The data is for the total corporation tax collected
c	The adjustment to reflect the portion of corporation tax from England only is... 89%
d	It is assumed that corporation tax collections will grow in line with GDP forecasts
e	No distributional analysis is completed for Corporation Tax as this is collected centrally

Model assumptions

The assumptions used in the model for each funding option are listed below.

National insurance rates

Methodology and assumptions

- a The model uses the projected impacts due to changes to NI Rates from the information from the HMRC Ready Reckoner (data source 4)
- b The model assumes that the average salaries will increase based on AWE and the NI collections will increase in line with this.
- c The total impact is allocated to the Authorities based on the normalised income distribution in 2015/16. The model assumes that the distribution remains constant
- d The impact in each Authority is then adjusted to reflect the change in the working population on the assumption that the employment rates and average salary remain constant over time.

National insurance for over 65's

Methodology and assumptions

- a The collection of NI from individuals stops when individuals reach retirement age (increases from 65 to 66 in 2018 and expected to move to 67 between 2026 and 2028). For modelling purposes we have assumed the change in retirement age will not impact the collections as people will work longer. Consequently, the model calculates the potential returns for all workers above the age of 65.
- b The working population over the age of 65 is calculated based on the total population over 65 from the population forecast (data source 1) and the employment rates for over 65's (data source 8)
- c The income and tax information in data source 2 and 3 reflect the total income and tax collected. As NI is only charged on employment income the model uses the following approach to calculate the total employment income for over 65.
- d The total income for the over 65's is based on the mean income from income by age uplifted to 2018/19 multiplied by the number of employed people in each age bracket over 65.
- e The source of income from the age groups over 65 is then used to determine the percentage of income that is attributable to employment.
- f The total employment income is the total income * the percentage from employment. This is multiplied by the number of people employed over 65 to get the total employment income
- g The model calculates the base 2018/19 NI charge for the individual based on the employment income.
- h The 2018/19 NI collections are expected to increase in line with AWE over time.

Model assumptions

The assumptions used in the model for each funding option are listed below.

Lump sum contribution at 65

Methodology and assumptions	
a	Assumed one off payment at Retirement Age per individual
b	Number of individuals aged 65 in each year based upon ONS Population Projections (Nomis 7 June 2018) analysed by area
c	Total contribution is (a) x (b) in each year multiplied by selected inflation factor
d	To indicate impact of distribution being based upon wealth this total amount is distributed across regions based upon Wealth by Region (source ONS Table 2.11 – Distribution of aggregate household total wealth, by region and wealth component: Great Britain July 2008 to June 2016)

Inheritance tax

Methodology and assumptions	
a	The impact is based on the information from the HMRC Ready Reckoner
b	The data is for the total inheritance tax collected – no information available to pro-rate for England only
c	It is assumed that the revenue generated will increase at c4% being the annualised growth in wealth for England over the period June 2014 to June 2016 per ONS Table 2.11 – Distribution of aggregate household total wealth, by region and wealth component: Great Britain July 2008 to June 2016.
d	No distributional analysis is completed for Corporation Tax as this is collected centrally



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