

The Economic and Fiscal Impact of Low Pay in Greater Manchester

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1 Introduction

1.1 This report was commissioned by New Economy from the National Institute of Economic and Social Research as part of a wider project about low pay in Greater Manchester.

1.2 This report provides a quantitative, descriptive analysis of low pay in Greater Manchester, focusing on those receiving tax credits (Working Tax Credit, Child Tax Credit or both). It uses a combination of time-series, cross-section and longitudinal analysis to explore the following questions:

- What are the trends in spending on tax credits in Greater Manchester, nationally and in other major cities?
- What are the characteristics of the families and individuals that benefit from tax credits?
- Which industries/sectors and types of firms rely most heavily on tax credits to support employee incomes in Greater Manchester and nationally?
- What is the fiscal and economic impact of low pay? What is the economic case for reducing reliance on tax credits?
- What are the flows into and out of tax credits when analysed over time?
- What are the wages/hours thresholds that are likely to lift substantial numbers of families (and ideally individuals) clear of the need to rely on tax credits?
- What is the evidence for the contention that tax credits amount to an incentive for employers to adopt what might be called 'low road' business models and workforce strategies?
- What should the city region do to address the issue most effectively and in light of potential further fiscal devolution? What 'asks' should Greater Manchester make to the UK Government to effect change at a national level?

1.3 The report is structured as follows:

- Section 2 briefly outlines the UK tax credit system.
- Section 3 presents data on trends in tax credit spending for Greater Manchester and compares them to developments in the UK as a whole and other city-regions across the UK.
- Section 4 provides further detail on the characteristics of tax credit recipients, family and household types, and the industries and occupations they work in.
- Section 5 provides data and analysis on flows into and out of tax credits, focusing on in-work tax credits.

- Section 6 examines the incidence of working tax credit (WTC), in particular whether the tax credit benefits only workers, or whether some share of the tax credit goes on to benefit employers via lower wages.
- Section 7 summarises the research and makes some high-level suggestions for the direction of policy development.

2 The UK tax credit system

2.1 The UK tax system includes two main types of tax credit: working tax credit (WTC) and child tax credit (CTC). CTC is available to all families with qualifying dependent children¹, whether they are in- or out-of-work. WTC is only available to those in work who satisfy a minimum work requirement that depends on their circumstances. For households with children the requirements are as follows:

- Lone parents must work at least 16 hours a week.
- Couples with children must work a total of at least 24 hours a week with one person working at least 16 hours.

2.2 WTC is also available to childless individuals and couples who satisfy one of three criteria:

- They are aged over 25 and work at least 30 hours a week.
- They are aged over 60 and work at least 16 hours a week.
- They are disabled (qualifying) and work at least 16 hours a week.

Figure 1: Tax credit eligibility by household type

	Children	No children
In-work	WTC, CTC	WTC
Out-of-work	CTC	neither

2.3 WTC and CTC awards are calculated based on the elements for which a family is eligible. The basic element of WTC is available to all families. In 2012-13, the last year for which finalised award data is available, the basic element of WTC was £1,920 annually.² Disabled workers and severely disabled adults are also eligible for additional payments (£2,790), as are individuals or couples who work at least 30 hours weekly (£790), and lone parents or couples with children (£1,950). The basic CTC for one child was £3,235, plus £2,690 for each additional child. Each disabled child received an additional £260 annually. Finally, eligible families that pay for childcare are eligible for a subsidy of 70% on childcare costs of up to £175 weekly for one child, or £300 weekly for two or more children.

¹ Qualifying dependent children are either aged under 16, or aged 16-19 but in qualifying education or training.

² We focus on 2012-13 data, as this is the most recent year for which finalised award data with regional breakdowns is available.

- 2.4 Tax credits are phased out using a taper of 41%, ie the amount of the tax credit is reduced by 41p for each pound earned beyond the threshold. For families or individuals who are in work and receive WTC the phase out begins at an annual labour income of £6,420. For families that receive CTC only the phase-out begins at an annual income of £15,860. The phase out leads to different maximum income levels to receive WTC and/or CTC. For a childless individual working 40 hours a week at the 2012-13 minimum wage of £6.19 an hour (generating an annual labour income of £13,000 or £250 weekly) leads to a complete phase out of tax credits. For a childless couple tax credits are received up to a combined annual income of about £17,700, corresponding to a total of 55 hours of weekly minimum wage work between the two partners.
- 2.5 Families with children can earn substantially higher incomes and retain some CTC income. For example, a lone parent with two children can earn up to £30,300 before losing CTC eligibility. At an annual labour income of £20,000 a lone parent with two children would still be eligible for roughly £4,200 in CTC.
- 2.6 In annexe 1 we present tables calculating tax credit eligibility for seven types of household:
- Single, childless adult aged 25 or older
 - Single, childless disabled adult
 - Childless couple
 - Lone parent with one child
 - Lone parent with two children
 - Couple with one child
 - Couple with two children
- 2.7 The examples cover annual incomes ranging from £6,190 (equivalent to 20 hours a week at the minimum wage over 50 weeks) to £20,000 (40 hours a week at £10 an hour).
- 2.8 Over the next few years tax credits, along with various other in- and out-of-work benefits including Housing Benefit, will be replaced by Universal Credit. The basic principles underlying tax credits, to incentivise work by the payment of benefits that are steadily withdrawn as earnings increase, will remain. The objective is to improve both the incentive structure (by ironing out various kinks and anomalies that arise out of the interaction between the current structure of tax credits, housing benefit, and other benefits) and the administration (by introducing a single point of claim). In addition, in-work conditionality will be introduced, meaning claimants on relatively low earnings will be required to show that they are making reasonable efforts to increase hours and/or earnings. However, the introduction of Universal Credit (now in operation for some claimants, but still a very small minority) has been repeatedly delayed due to IT issues and the timetable of its introduction remains uncertain. A full

description of Universal Credit and some of the key structural and incentive issues is provided in *Resolution Foundation (2015)*.³

³ D Finch (2015): Making the most of UC: Final report of the Resolution Foundation review of Universal Credit, London: Resolution Foundation.

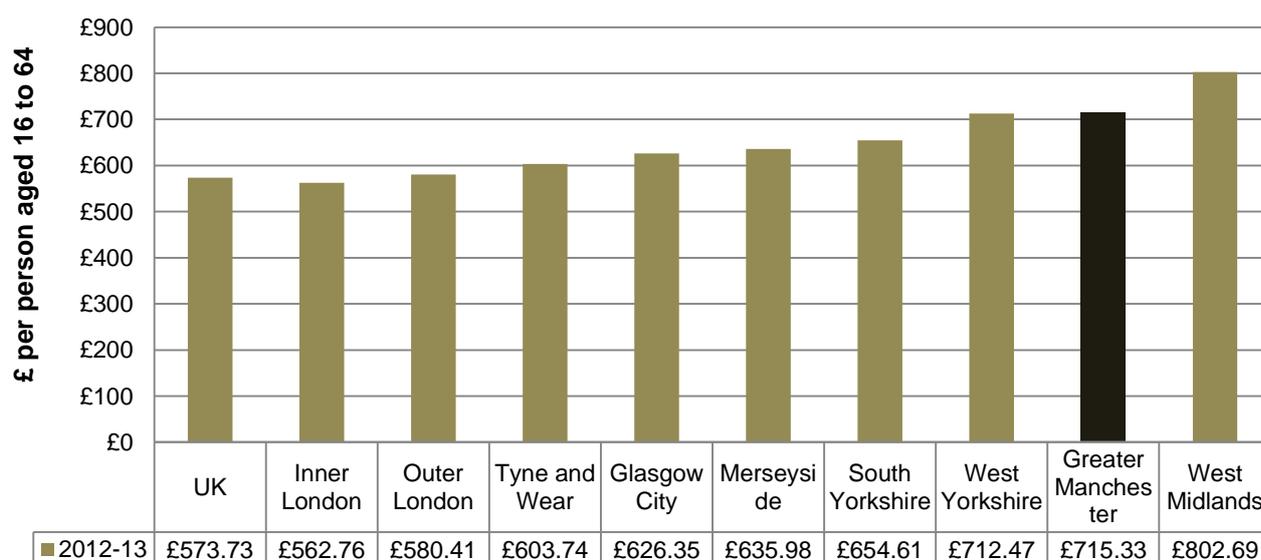
3 Trends in tax credit spending

3.1 This section presents data on trends in tax credit spending for Greater Manchester and compares them to developments in the whole of the UK and other city-regions. We begin with a snapshot of tax credit spending in the fiscal year 2012-13, the most recent year for which comprehensive data is available. We then go on to discuss the development of tax credit spending since the mid-2000s.

2012-13 Snapshot

3.2 Total spending on tax credits in Greater Manchester was £1,556m in financial year (FY) 2012-13, the last year for which detailed geographic data is available.

Figure 2: Tax credit spending per working aged adult, 2012-13

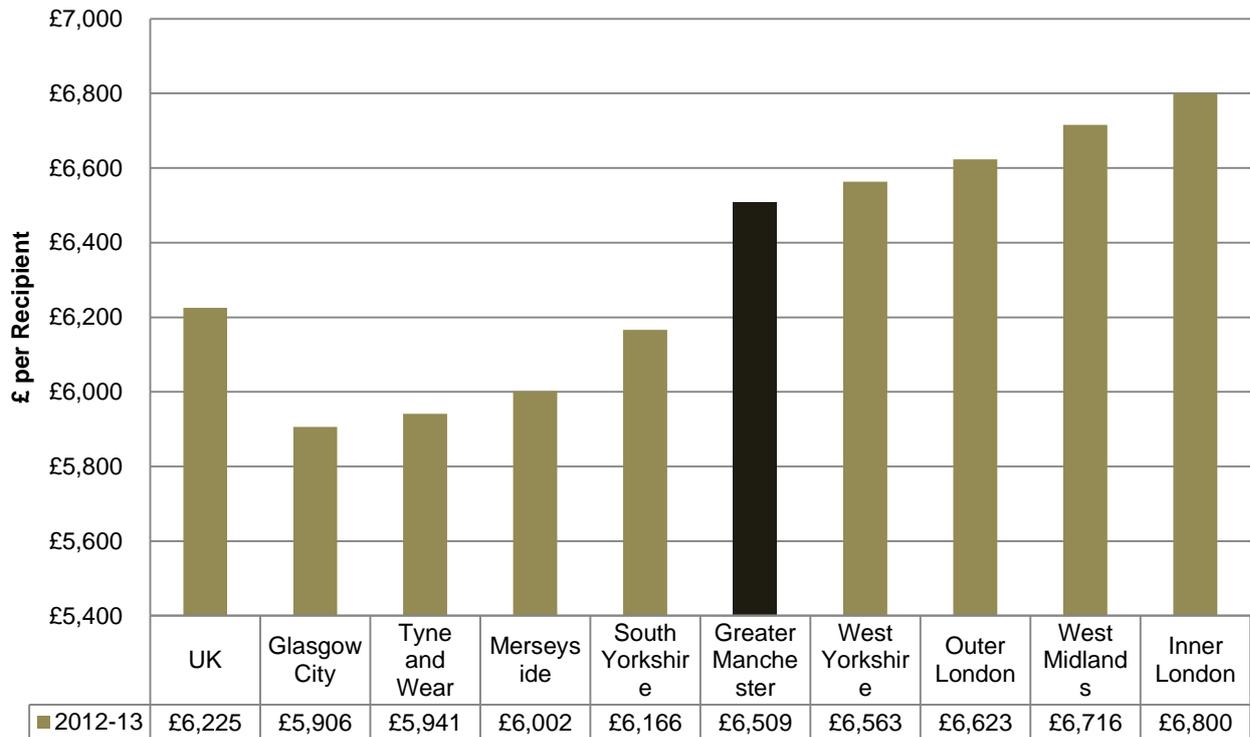


Source: HMRC, own calculations

3.3 In order to compare Greater Manchester's tax credit spending to other regions in the UK and to the UK as a whole we break tax credit spending down into the number of claimants per 1,000 working aged persons (aged 16 to 64) and the average amount received. The charts below show the results. The number of claimants in Greater Manchester is 19% higher than the national average, but is broadly in line with the claimant rates in other large northern metropolitan areas such as West Yorkshire and Merseyside. The average amount claimed in 2012-13 was about £6,509, 5% higher than the national average of £6,225, and also substantially higher than the below-UK

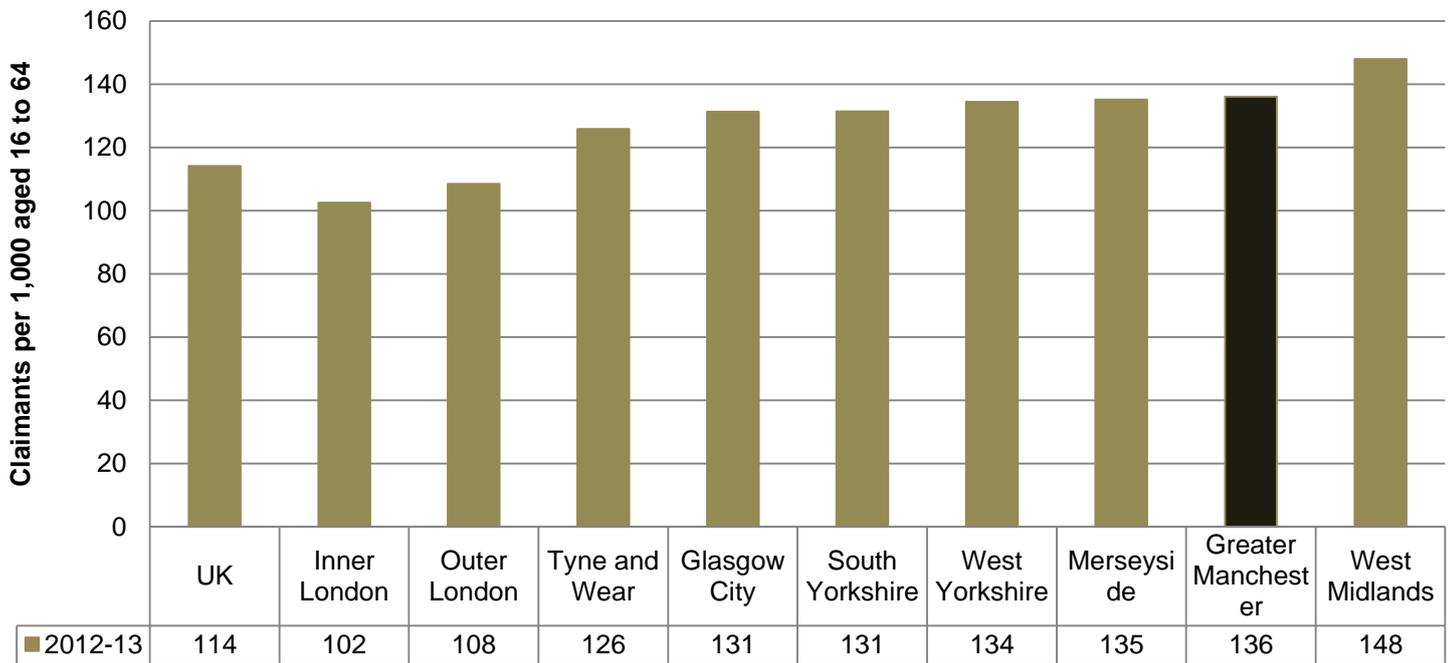
average areas of Glasgow, Tyne and Wear, Merseyside and South Yorkshire, but below London and the West Midlands.

Figure 3: Tax credits, average amount claimed, 2012-13



Source: HMRC

Figure 4: Tax credit claimants per 1,000 working aged, 2012-13

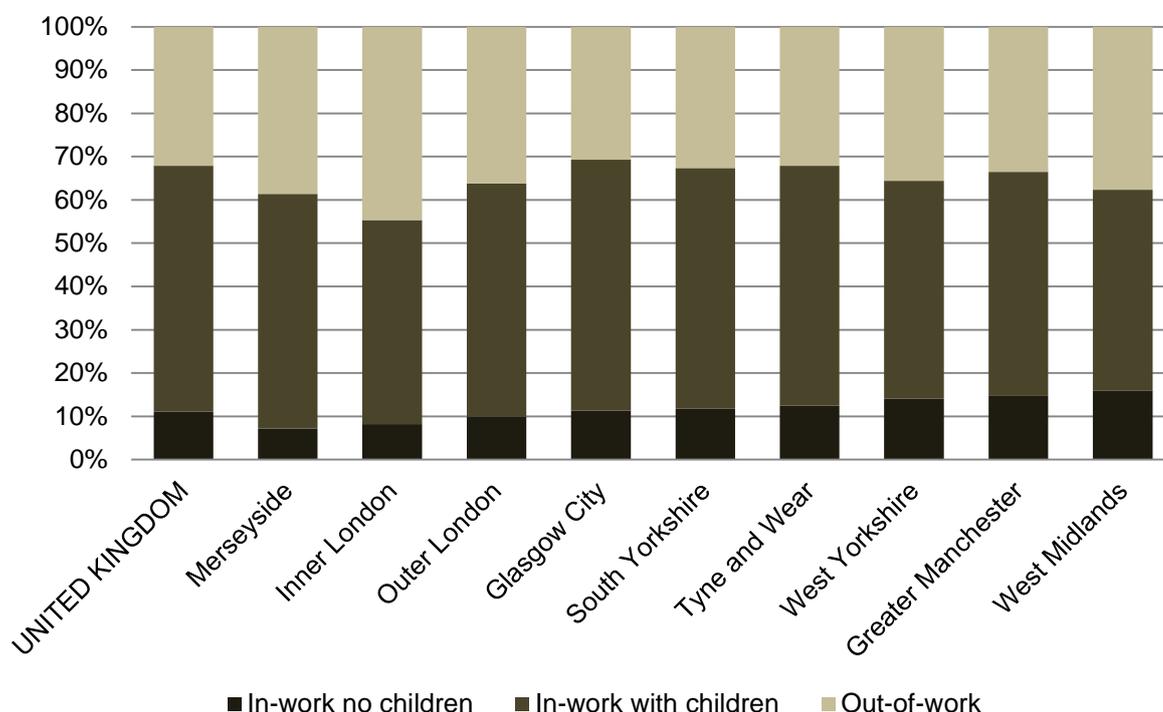


Source: HMRC

3.4 Combining the two measures shows that Greater Manchester has a tax credit bill 25% higher than the national average at £715 per working-aged person compared to £574 for the UK. This is surpassed only by the West Midlands at £803. Taking into account its working age population, Manchester spends substantially more on tax credits than most other major metropolitan areas, including Glasgow, Merseyside and Tyne and Wear.

3.5 Finally, the chart below breaks down the recipients of tax credit into those in- and out-of-work, and into those with and without children. It allows us to compare Greater Manchester to the rest of the UK and other major metropolitan areas. In Greater Manchester 69.5% of tax credit spending goes to those in work (4.1% without children and 65.4% with children), in line with the UK average of 69.1%. Among major metropolitan areas only West Yorkshire spends a greater share on those in work.

Figure 5: Shares of spending on each type of tax credit recipient, 2012-13

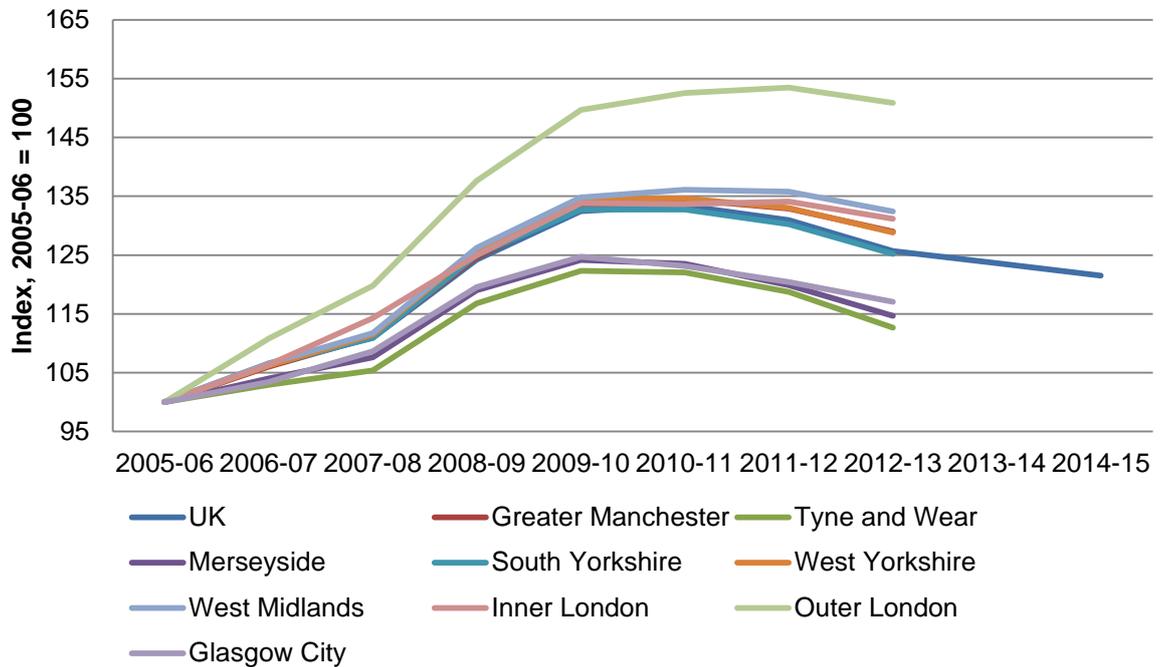


Source: HMRC

How has tax credit spending evolved?

- 3.6 In this section, we will assess how tax credit spending in Greater Manchester has evolved over the past decade, and compare its evolution to the UK averages and other major metropolitan areas.
- 3.7 Tax credit spending across the UK follows a similar pattern (see chart below). Spending on tax credits rose in real terms between 2005-06 and 2009-10. After the coalition government took power tax credit spending stabilised, and began to decline gradually beginning in 2011-12.

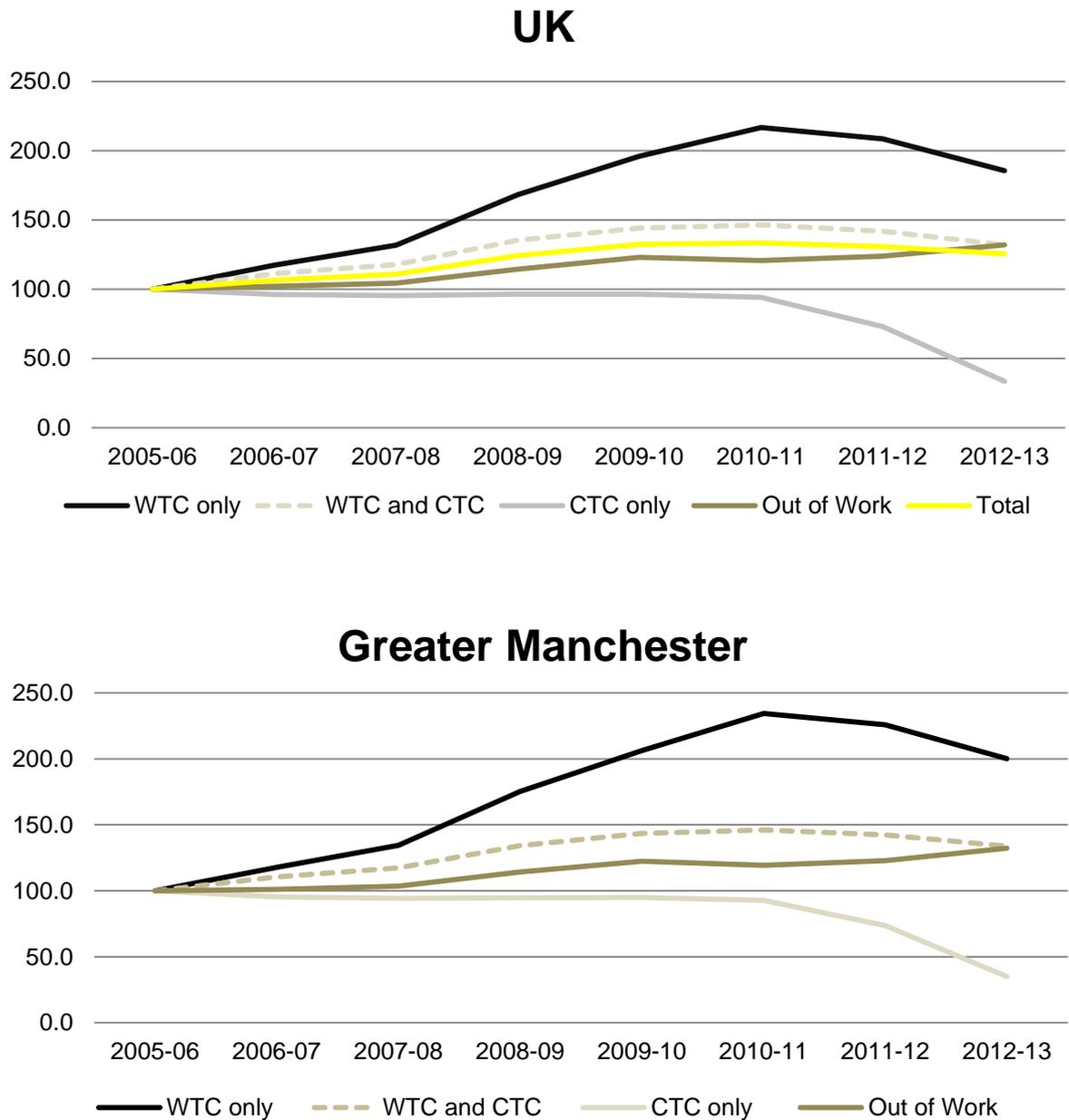
Figure 6: Total real spending on tax credits (2005-06=100)



Source: HMRC

3.8 Total nominal spending on tax credits in Greater Manchester rose from £974m to £1,556m between FY 05-06 and FY 12-13 an increase of 59%. This translates into a real terms increase of 29%, roughly in line with the 26% increase in the UK as a whole. Spending on tax credits broadly followed a similar pattern in several other metropolitan counties, rising by between 25% and 32% in real terms over the same time period. These include West Midlands (Birmingham), West Yorkshire (Leeds) and South Yorkshire (Sheffield), as well as Inner London. Tax credit spending in a second group of northern metropolitan areas such as Tyne and Wear (Newcastle), Merseyside (Liverpool) and Glasgow City posted considerably smaller gains of between 12 and 17%. Real terms tax credit spending rose most quickly in Outer London, posting a total gain of 51% over the same 2005-06 to 2012-13 time period.

Figures 7 and 8: Real spending on tax credits by category, 2005-06=100



Source: HMRC.

3.9 There were, however, large changes in the spending on different types of tax credits. WTC paid to childless families rose most quickly, doubling in real terms in Manchester between 2005-06 and 2012-13 and increasing by 85% in the UK as a whole (Table 1). While Merseyside and West Yorkshire also posted gains close to the national average WTC-only spending in Inner and Outer London nearly tripled over the same period. On the other side of the spectrum, WTC-only spending in Tyne and Wear, South Yorkshire and Glasgow increased at a slower rate than the national average.

Table 1: Total spending on childless WTC recipients, millions of 2012-13 £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2005-06	£640.8	£32.6	£19.7	£19.5	£18.3	£25.7	£27.7	£17.5	£20.6	£11.1
2006-07	£751.5	£38.4	£22.2	£23.0	£22.2	£30.9	£34.0	£21.4	£26.0	£13.5
2007-08	£845.2	£43.8	£23.8	£26.2	£24.3	£35.2	£39.5	£25.4	£30.6	£15.4
2008-09	£1,078.5	£57.1	£30.6	£33.5	£30.9	£45.5	£50.5	£37.2	£45.8	£19.6
2009-10	£1,255.9	£67.2	£32.9	£38.2	£34.9	£53.0	£59.3	£52.5	£66.9	£21.3
2010-11	£1,389.3	£76.4	£36.0	£45.1	£39.5	£58.6	£68.1	£56.6	£72.2	£21.8
2011-12	£1,337.4	£73.6	£34.7	£43.9	£37.7	£57.1	£66.2	£53.5	£68.2	£21.3
2012-13	£1,189.1	£65.2	£30.2	£38.6	£32.8	£51.3	£58.7	£48.0	£61.3	£19.2
Increase	86%	100%	53%	98%	79%	100%	112%	175%	197%	74%

Source: HMRC, own calculations

3.10 In contrast, by 2012-13 UK spending on tax credits to in-work families with children who receive only CTC had fallen to barely one-third of its 2005-06 level in real terms (Table 2). Spending on in-work families receiving CTC-only also fell by roughly two-thirds in Greater Manchester and in all other metropolitan areas studied with the exception of Inner London where spending fell by a bit more than half. The lion's share of the decline in spending came about due to tightened eligibility criteria and faster withdrawal of CTC as income increases, changes that began to take effect in FY 2011-12.⁴ As a result of the changes to CTC eligibility and tapering, most families with two children with incomes between £31k and £58k lost their eligibility for CTC, while most families with one child saw their income thresholds decline further to about £24k.

⁴ Until 2010-11, the family element of CTC, worth £545 annually, was not tapered until a threshold family income of £50k and then at a low rate of 6.7%. In 2011-12, the tapering threshold for the family element was reduced to £40k and the taper rate was increased to 41%. In 2012-13 the threshold was reduced further to £16,190, in line with the threshold for the child element, and the taper was maintained at 41%.

Table 2: Total spending on in-work families receiving CTC only, millions of 2012-13, £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	£9,004.9	£374.6	£153.8	£192.7	£202.0	£321.6	£387.1	£194.9	£569.3	£50.3
2005-06	£8,943.1	£371.7	£153.9	£190.6	£203.8	£320.0	£382.3	£190.9	£558.5	£49.3
2006-07	£8,607.4	£354.3	£143.7	£181.3	£197.3	£304.8	£366.1	£173.8	£529.1	£46.0
2007-08	£8,533.9	£350.8	£143.4	£179.2	£197.2	£303.5	£365.0	£176.2	£520.2	£45.8
2008-09	£8,625.9	£351.9	£143.0	£180.3	£198.4	£305.4	£366.5	£173.7	£527.9	£46.9
2009-10	£8,630.5	£352.9	£143.0	£178.9	£195.8	£305.0	£364.1	£186.2	£537.6	£48.7
2010-11	£8,412.8	£344.8	£139.8	£172.6	£188.5	£298.1	£358.2	£187.6	£530.3	£46.9
2011-12	£6,535.4	£274.2	£111.3	£133.2	£153.6	£238.3	£297.1	£163.3	£407.5	£38.0
2012-13	£2,992.1	£130.4	£47.0	£59.9	£71.4	£114.6	£148.6	£90.1	£188.4	£18.5
Increase	-67%	-65%	-69%	-69%	-65%	-64%	-62%	-54%	-67%	-63%

Source: HMRC, own calculations

- 3.11** Greater Manchester spending on lower income in-work families with children who are eligible for both WTC and CTC grew by about 34% in real terms between 2005-06 and 2012-13, which is in line with the 32% increase for the UK as a whole (Table 3). South and West Yorkshire, West Midlands and Glasgow City also posted spending gains for this category that were roughly in line with the national average, while Merseyside and Tyne and Wear posted somewhat smaller gains of less than 20%. Inner and Outer London were exceptional in that spending on these poorer in-work families with children increased more sharply (58% and 90% respectively).

Table 3: Total spending on in-work families receiving both WTC and CTC, millions of 2012-13, £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2005-06	£11,889.2	£661.9	£256.0	£317.0	£302.2	£572.1	£683.0	£545.4	£680.0	£139.4
2006-07	£13,241.4	£731.4	£270.5	£345.2	£334.5	£627.3	£756.4	£624.2	£828.9	£152.5
2007-08	£14,004.6	£777.4	£279.6	£360.8	£357.8	£669.9	£808.8	£703.3	£938.4	£162.8
2008-09	£16,101.6	£888.8	£313.7	£407.6	£407.5	£773.4	£935.0	£818.7	£1,153.4	£182.8
2009-10	£17,131.6	£949.4	£327.3	£427.5	£426.8	£819.1	£995.1	£893.0	£1,272.7	£191.7
2010-11	£17,417.5	£966.9	£329.5	£426.9	£428.0	£819.6	£1,016.5	£909.8	£1,331.9	£191.0
2011-12	£16,861.4	£943.2	£314.7	£404.3	£410.9	£797.5	£1,000.6	£910.7	£1,347.4	£182.7
2012-13	£15,685.5	£885.4	£288.4	£377.5	£377.3	£743.5	£935.6	£860.3	£1,290.4	£172.2
Increase	32%	34%	13%	19%	25%	30%	37%	58%	90%	24%

Source: HMRC, own calculations

3.12 Finally, spending on CTC for out-of-work families increased by about 32% in real terms for both Greater Manchester and the UK as a whole between 2005-06 and 2012-13 (Table 4). Real terms spending increases for CTC for out-of-work families were also broadly in line with national averages in Tyne and Wear, South and West Yorkshire, West Midlands and Outer London, while spending on this group grew by less than 15% in Merseyside, Inner London and Glasgow City.

Table 4: Total spending on out-of-work families receiving CTC, £m, 2012-13

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2005-06	£6,742.5	£358.1	£142.2	£218.2	£157.4	£260.0	£440.6	£616.6	£662.3	£104.1
2006-07	£6,887.5	£362.1	£143.4	£215.1	£159.2	£266.6	£453.5	£621.7	£690.0	£99.3
2007-08	£7,033.9	£371.1	£144.6	£218.4	£159.7	£270.7	£461.3	£637.3	£716.7	£101.0
2008-09	£7,713.5	£409.0	£158.7	£236.2	£181.8	£300.7	£513.0	£645.8	£763.4	£106.9
2009-10	£8,296.0	£438.4	£168.4	£242.9	£200.5	£327.8	£553.1	£659.7	£803.5	£109.2
2010-11	£8,142.8	£427.6	£163.9	£235.1	£197.2	£324.5	£541.9	£635.4	£784.2	£105.6
2011-12	£8,350.4	£440.3	£165.8	£239.7	£204.5	£335.0	£555.6	£639.5	£795.1	£107.7
2012-13	£8,901.3	£474.0	£176.4	£248.9	£223.7	£365.6	£597.2	£664.7	£842.3	£113.0
Increase	32%	32%	24%	14%	42%	41%	36%	8%	27%	9%

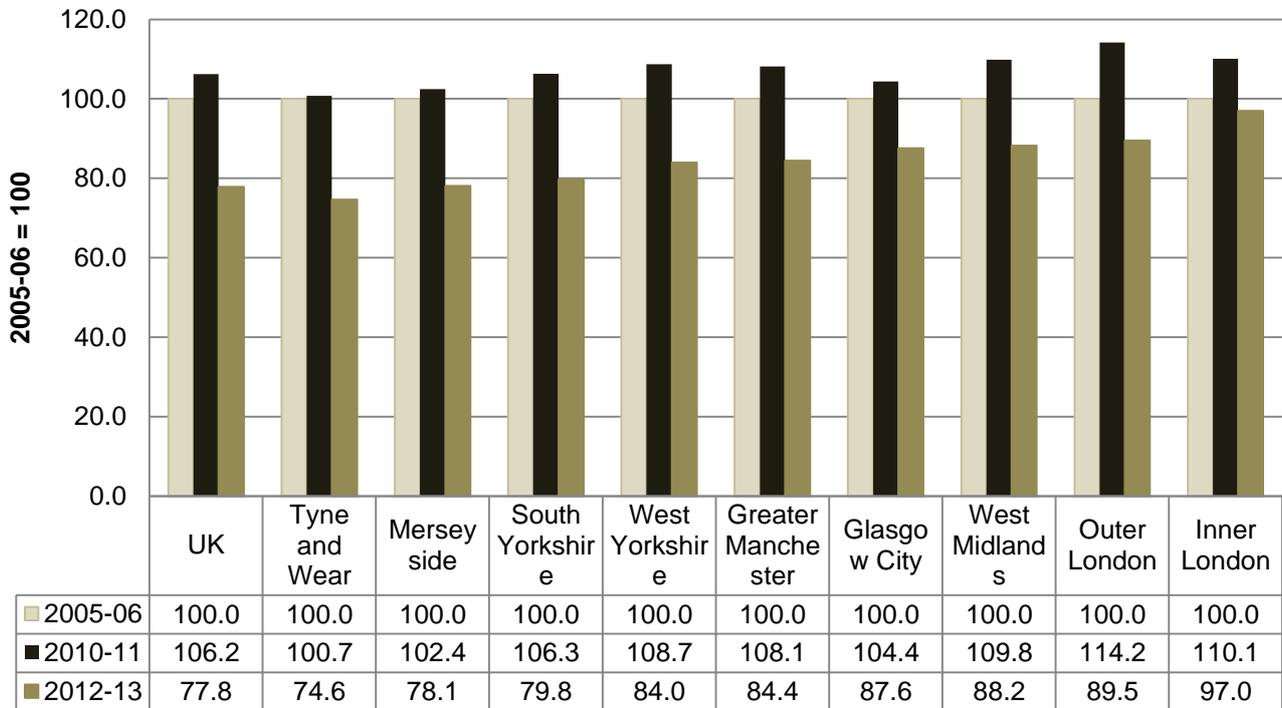
Source: HMRC, own calculations

3.13 To better understand these spending patterns we will now set about breaking down total tax credit spending into the number of recipients and the average tax credit received. We will also perform this decomposition for different types of recipients, primarily differentiating between those in and out-of-work, and between those with and without children.

Trends in the number of tax credit recipients

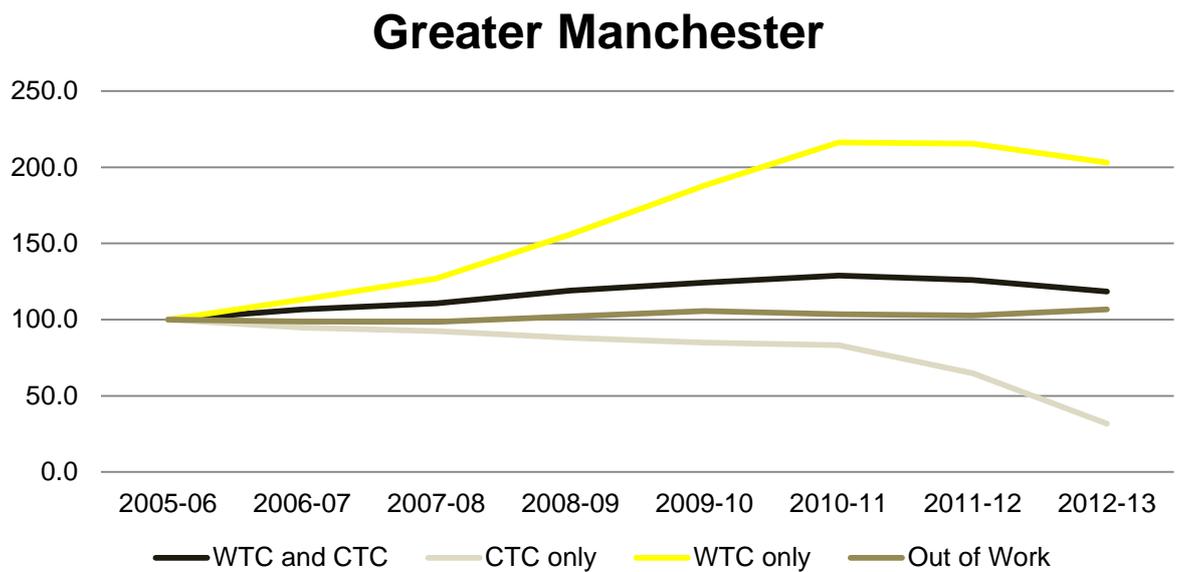
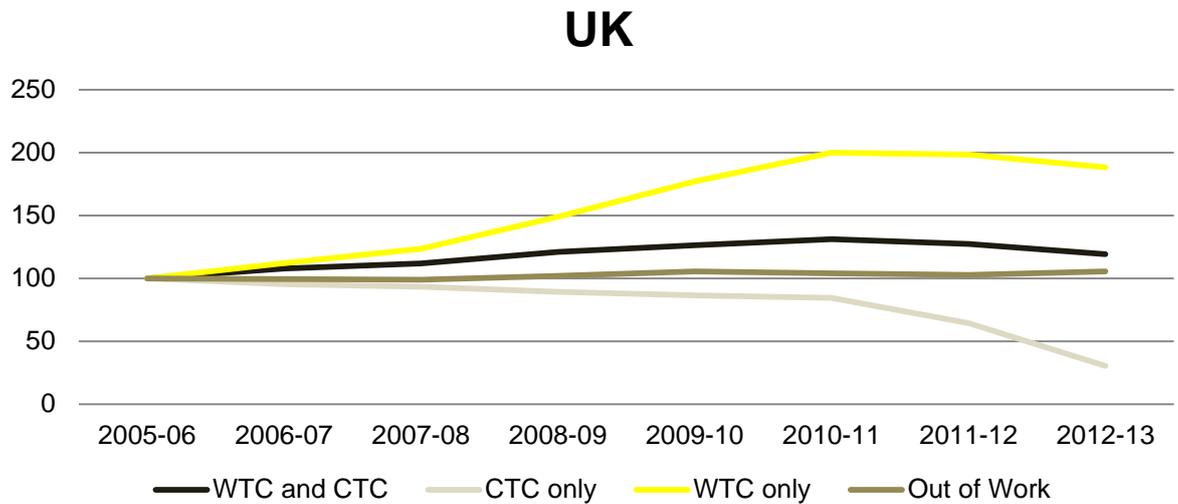
3.14 The total number of tax credit recipients (including both in- and out-of-work tax credits) in Greater Manchester declined by 16% between 2005-06 and 2012-13. This is roughly in line with the UK-wide decrease of 22%. The chart below displays a 'hump-shaped' progression as the total number of tax credit recipients rose during the recent financial crisis, peaking in 2010-11, before beginning to fall in the wake of tightened eligibility criteria for CTC beginning in 2011-12.

Figure 9: Trends in total number of tax credit recipients, geographic breakdown, 2005-06=100



3.15 Underlying this overall decline in the number of tax credit recipients is a great variance in trends across different types of recipients (see the following two charts). While childless families receiving WTC roughly doubled between 2005-06 and 2012-13 the number of higher income families receiving CTC-only declined to less than one-third of its 2005-06 level by 2012-13. The number of out-of-work families receiving CTC-only remained roughly constant, while in-work families on incomes low enough to qualify for both CTC and WTC increased by 22% in Greater Manchester. This is very similar to the 23% increase in CTC and WTC recipients for the UK as a whole.

Figures 10 and 11: Trends in numbers of tax credit recipients, 2005-06=100



Source: HMRC.

3.16 Most notably, since 2004-05 the numbers of childless individuals and couples in receipt of tax credits has more than doubled in Greater Manchester, rising from 11,830 recipients to 28,000 in 2012-13 (Table 5). This is broadly in line with the UK increase of 119% over the same time period, and with the increases in Merseyside, West Yorkshire and the West Midlands, which all lie between 120 and 160%. Only Tyne and Wear and South Yorkshire displayed a smaller increase of only 68% and 95% respectively. The number of childless WTC recipients in Inner and Outer London more than tripled.

Table 5: Individuals and couples without children claiming WTC only, thousands

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	234.0	11.8	8.0	7.5	7.3	9.5	10.0	4.8	6.4	3.8
2005-06	272.0	13.8	8.8	8.6	8.2	11.0	11.9	6.7	8.0	4.9
2006-07	305.0	15.6	9.3	9.5	9.3	12.5	14.1	8.0	9.9	5.6
2007-08	336.0	17.5	9.7	10.5	9.9	14.0	16.0	9.6	11.9	6.2
2008-09	405.0	21.5	11.6	12.7	11.8	17.2	19.4	13.4	16.9	7.5
2009-10	482.1	25.9	13.0	14.9	13.6	20.5	23.3	18.9	24.6	8.4
2010-11	543.7	29.8	14.4	17.7	15.7	23.1	27.0	21.0	27.3	9.0
2011-12	539.8	29.7	14.3	18.0	15.3	23.2	27.1	20.8	26.8	9.0
2012-13	512.0	28.0	13.4	17.0	14.3	22.0	25.8	20.0	25.9	8.7
Increase	119%	137%	68%	126%	95%	133%	157%	315%	307%	130%

Source: HMRC and own calculations.

3.17 At the same time the number of families with children receiving CTC-only has declined sharply across the UK (Table 6). Although the number of in-work families with children claiming CTC had already been falling gradually between 2004-05 and 2010-11 the large drop in in-work CTC recipient families was largely due to the reduction in the numbers of working families on higher incomes who had been eligible for child tax credit until 2010-11. Most families with incomes above £50,000 had their child tax credits withdrawn in 2011-12. Beginning in 2012-13 working families with two children, earning more than £32,300 annually lost eligibility for CTC.

Table 6: In-work families with children claiming CTC only, thousands

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	2,829.0	117.8	50.4	61.1	65.0	100.8	117.7	60.4	180.3	16.6
2005-06	2,765.0	114.8	49.6	59.4	63.8	98.2	114.3	58.7	175.0	16.1
2006-07	2,637.0	108.9	46.1	56.0	61.1	93.3	107.9	52.5	164.0	14.9
2007-08	2,581.0	106.2	45.1	54.8	59.8	91.4	106.2	52.4	159.6	14.8
2008-09	2,471.0	101.1	42.7	51.9	57.1	87.0	101.3	48.6	152.2	14.2
2009-10	2,389.9	97.6	41.2	50.1	54.4	84.4	97.7	50.4	150.2	14.0
2010-11	2,337.6	95.6	40.1	48.6	52.9	82.8	95.9	51.1	148.2	13.7
2011-12	1,779.7	74.3	31.0	36.8	42.0	64.4	77.7	43.8	111.6	10.9
2012-13	841.6	36.5	13.6	17.1	20.1	31.8	39.9	24.9	53.3	5.4
Decrease	-70%	-69%	-73%	-72%	-69%	-68%	-66%	-59%	-70%	-68%

- 3.18** As a result, the number of families claiming CTC-only declined by 69% in Greater Manchester, from 117,800 to 36,500. This is in line with the UK-wide decline of 70%, from 2.8m to 842,000, and with declines in most other major metropolitan areas, which lie between 66% and 73%. Only Inner London displayed a somewhat smaller decline in the number of families claiming CTC-only of 59%.
- 3.19** The number of lower income families with children claiming both WTC and CTC in Greater Manchester has increased by 22% between 2004-05 and 2012-13. This in line with the 23% increase across the UK as a whole (Table 7). Other metropolitan areas displayed widely divergent increases, ranging from 3% in Tyne and Wear and 11% in Merseyside on the one hand, to 50% in Inner London and 84% in Outer London on the other.

Table 7: In-work families with children claiming both WTC and CTC, thousands

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	1,444.0	79.0	32.6	39.3	37.5	66.9	78.0	60.2	77.1	17.4
2005-06	1,496.0	81.4	33.2	40.4	38.7	69.5	81.9	63.3	83.9	17.9
2006-07	1,614.0	86.8	34.1	42.5	41.4	74.0	88.1	69.3	97.8	18.8
2007-08	1,672.0	90.2	34.5	43.5	43.1	77.2	92.3	76.1	108.1	19.6
2008-09	1,810.0	96.9	36.4	46.2	46.1	83.5	100.1	83.7	124.7	20.7
2009-10	1,891.9	101.2	37.3	47.5	47.6	86.7	104.4	90.0	135.4	21.2
2010-11	1,963.9	105.0	38.2	48.5	48.9	88.8	108.7	94.3	145.0	21.6
2011-12	1,903.7	102.5	36.5	46.4	46.9	86.2	106.2	95.0	147.0	21.0
2012-13	1,782.6	96.5	33.7	43.7	43.3	80.8	99.7	90.4	141.8	20.0
Increase	23%	22%	3%	11%	16%	21%	28%	50%	84%	15%

Source: HMRC and own calculations.

- 3.20** Finally, the number of out-of-work families with children claiming CTC has remained broadly stable, rising by only 6% UK-wide between 2005-06 and 2012-13. In Greater Manchester the rise was 7% (Table 8). No major metropolitan area experienced increases in excess of 13%, and a few – Glasgow City, Inner London and Merseyside – even saw the number of out-of-work families claiming CTC fall over the time period.

Table 8: Out-of-work families claiming CTC, thousands

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2005-06	1,406.0	73.1	30.6	46.3	32.7	52.7	85.7	123.6	134.9	23.5
2006-07	1,399.0	72.2	30.1	44.7	32.4	52.7	86.0	121.4	136.7	22.0
2007-08	1,392.0	72.1	29.5	43.8	31.5	52.1	85.2	120.8	137.8	21.5
2008-09	1,434.0	74.7	30.5	45.0	33.6	54.3	89.1	115.7	138.1	21.6
2009-10	1,484.6	77.3	31.2	44.8	35.5	57.3	92.7	114.6	140.7	21.4
2010-11	1,462.0	75.7	30.5	43.6	34.9	57.0	91.2	111.3	138.2	20.8
2011-12	1,444.9	75.2	29.8	42.9	34.8	56.7	90.4	108.5	135.6	20.4
2012-13	1,484.1	78.0	30.6	43.0	36.7	59.7	93.8	109.3	138.8	20.6
Change	6%	7%	0%	-7%	12%	13%	9%	-12%	3%	-12%

Source: HMRC and own calculations.

Trends in average benefits claimed

3.21 The average tax credit spending per recipient family in Greater Manchester increased by 53% between 2005-06 and 2012-13, slightly below the UK-wide increase of 61%. In contrast, the per family spending increases within each class of recipient were much more modest. It ranged from a slight drop for the childless and modest gains of 15% (WTC/CTC) and 12% (CTC-only) for families, to a 24% increase for the out-of-work in Greater Manchester over the same time period (Figures 12 and 13). Numbers for the UK were very similar.

Figure 12: UK trends in real terms tax credit spending per family, by category, 2005-06=100

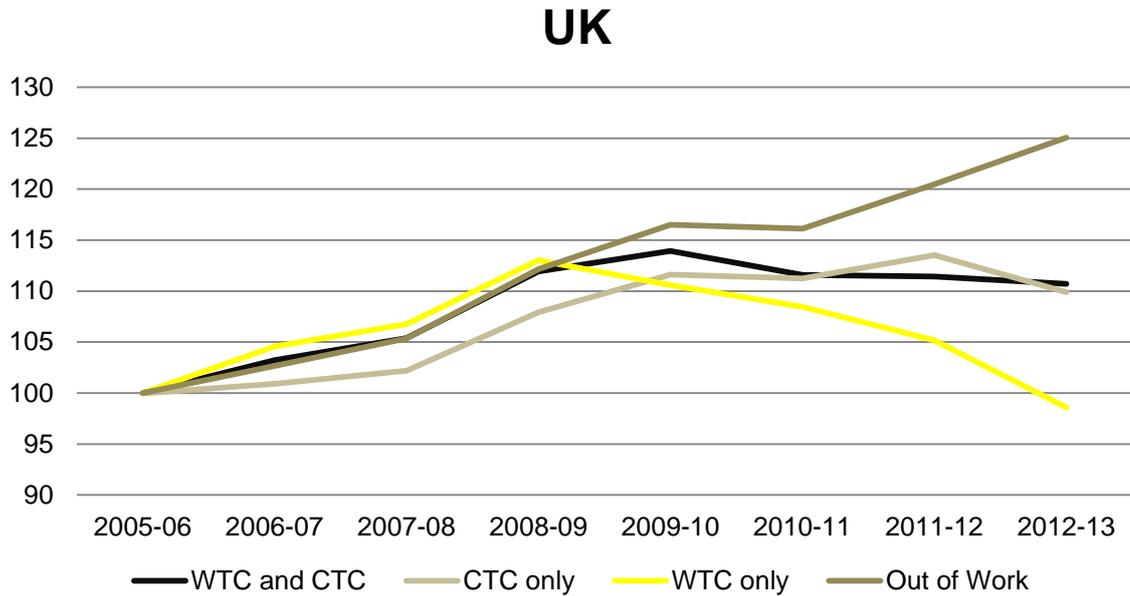
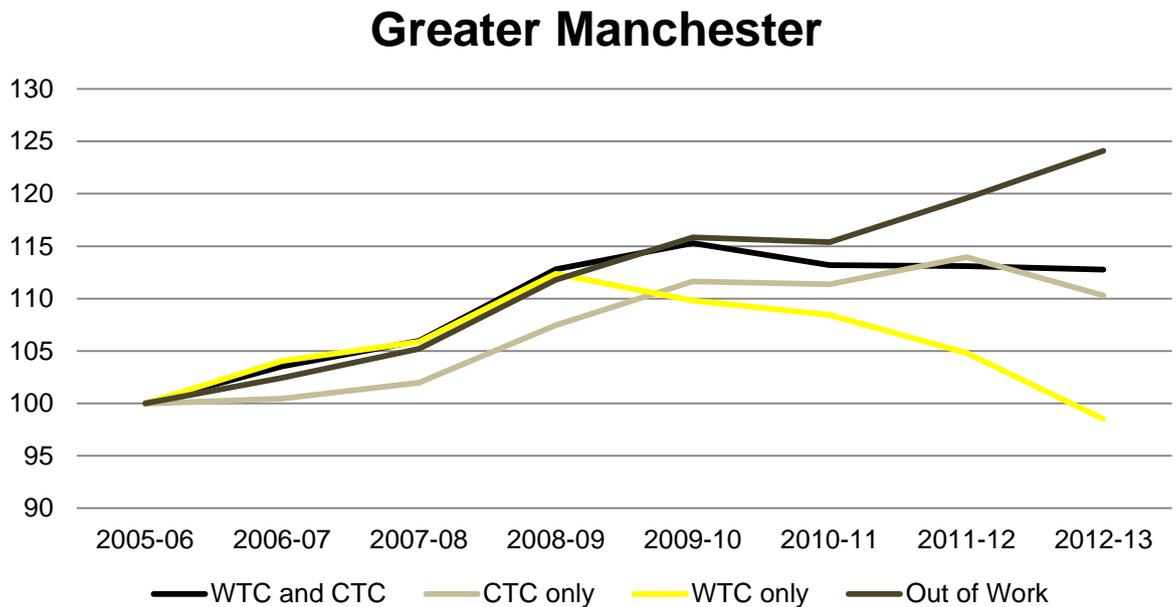


Figure 13: Trends in real terms tax credit spending per family, by category, 2005-06=100



Source: HMRC, own calculations

3.22 This would indicate the increases in spending per family were due in part to a composition effect, as the numbers of higher income CTC claimants dropped the

numbers of lower income families claiming the larger CTC and WTC benefits increased. This interpretation is supported by the finding that the increases in spending per family were sharpest in the last two years, when tightened eligibility criteria for CTC led to tax credits being concentrated among families with lower incomes, who also have higher claims.

- 3.23** The real terms increases in tax credit spending per family were uniform across the UK, as evidenced by the tables below. This would indicate that most of the regional variation in trends in total tax credit spending was due to differences in the evolution of numbers of claimants, both overall and within the different groups.

Table 9: Average spending per family, childless recipients of WTC only, real 2012-13, £

Spending per family	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	£2,323	£2,321	£2,200	£2,277	£2,198	£2,307	£2,310	£2,514	£2,472	£2,159
2005-06	£2,356	£2,364	£2,238	£2,270	£2,223	£2,336	£2,335	£2,620	£2,589	£2,260
2006-07	£2,464	£2,460	£2,405	£2,415	£2,376	£2,463	£2,417	£2,675	£2,617	£2,422
2007-08	£2,515	£2,504	£2,461	£2,499	£2,448	£2,517	£2,471	£2,647	£2,575	£2,497
2008-09	£2,663	£2,657	£2,637	£2,646	£2,628	£2,649	£2,599	£2,783	£2,709	£2,624
2009-10	£2,605	£2,596	£2,534	£2,566	£2,569	£2,587	£2,545	£2,780	£2,721	£2,533
2010-11	£2,555	£2,564	£2,503	£2,548	£2,519	£2,536	£2,521	£2,698	£2,646	£2,421
2011-12	£2,478	£2,479	£2,426	£2,438	£2,463	£2,460	£2,442	£2,573	£2,545	£2,364
2012-13	£2,323	£2,330	£2,253	£2,270	£2,293	£2,331	£2,275	£2,399	£2,369	£2,213
Increase	0.0%	0.4%	2.4%	-0.3%	4.3%	1.0%	-1.5%	-4.6%	-4.2%	2.5%

Source: HMRC, own calculations

Table 10: Average spending per family, out-of-work families receiving CTC only, real, 2012-13, £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2005-06	£4,796	£4,897	£4,646	£4,712	£4,808	£4,934	£5,139	£4,989	£4,908	£4,427
2006-07	£4,923	£5,016	£4,768	£4,809	£4,918	£5,060	£5,275	£5,121	£5,048	£4,520
2007-08	£5,053	£5,151	£4,903	£4,985	£5,068	£5,194	£5,413	£5,277	£5,199	£4,691
2008-09	£5,379	£5,474	£5,205	£5,245	£5,406	£5,536	£5,756	£5,580	£5,528	£4,959
2009-10	£5,588	£5,671	£5,397	£5,422	£5,647	£5,721	£5,967	£5,756	£5,711	£5,104
2010-11	£5,570	£5,649	£5,375	£5,392	£5,651	£5,694	£5,942	£5,709	£5,675	£5,078
2011-12	£5,779	£5,855	£5,564	£5,586	£5,877	£5,908	£6,146	£5,894	£5,863	£5,281
2012-13	£5,998	£6,077	£5,766	£5,788	£6,096	£6,124	£6,367	£6,082	£6,069	£5,486
Change	25%	24%	24%	23%	27%	24%	24%	22%	24%	24%

Source: HMRC, own calculations

Table 11: Average spending per family, in-work families receiving both WTC and CTC, real 2012-13, £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	£7,816	£7,995	£7,573	£7,730	£7,696	£8,083	£8,195	£8,508	£7,949	£7,642
2005-06	£7,947	£8,136	£7,710	£7,856	£7,818	£8,228	£8,340	£8,621	£8,101	£7,797
2006-07	£8,204	£8,424	£7,927	£8,116	£8,083	£8,479	£8,583	£9,011	£8,478	£8,110
2007-08	£8,376	£8,623	£8,097	£8,294	£8,305	£8,678	£8,762	£9,240	£8,680	£8,316
2008-09	£8,896	£9,177	£8,615	£8,820	£8,845	£9,262	£9,338	£9,777	£9,250	£8,823
2009-10	£9,055	£9,381	£8,774	£9,001	£8,967	£9,447	£9,532	£9,922	£9,400	£9,043
2010-11	£8,869	£9,208	£8,626	£8,801	£8,752	£9,230	£9,352	£9,648	£9,186	£8,843
2011-12	£8,857	£9,202	£8,621	£8,712	£8,761	£9,251	£9,422	£9,586	£9,166	£8,702
2012-13	£8,799	£9,175	£8,559	£8,639	£8,714	£9,202	£9,384	£9,516	£9,100	£8,611
Increase	13%	15%	13%	12%	13%	14%	15%	12%	14%	13%

Source: HMRC, own calculations

Table 12: Average spending per family for in-work families receiving CTC only, real 2012-13, £

	UK	Greater Manchester	Tyne and Wear	Merseyside	South Yorkshire	West Yorkshire	West Midlands	Inner London	Outer London	Glasgow City
2004-05	£3,183	£3,179	£3,051	£3,154	£3,105	£3,192	£3,289	£3,229	£3,158	£3,023
2005-06	£3,234	£3,238	£3,104	£3,211	£3,196	£3,258	£3,345	£3,249	£3,192	£3,074
2006-07	£3,264	£3,253	£3,116	£3,236	£3,230	£3,269	£3,393	£3,309	£3,226	£3,101
2007-08	£3,306	£3,303	£3,183	£3,272	£3,299	£3,323	£3,438	£3,365	£3,260	£3,103
2008-09	£3,491	£3,481	£3,352	£3,474	£3,475	£3,509	£3,618	£3,576	£3,468	£3,312
2009-10	£3,611	£3,616	£3,470	£3,571	£3,599	£3,613	£3,726	£3,694	£3,579	£3,478
2010-11	£3,599	£3,606	£3,485	£3,552	£3,563	£3,600	£3,735	£3,672	£3,579	£3,426
2011-12	£3,672	£3,691	£3,591	£3,621	£3,658	£3,701	£3,824	£3,728	£3,652	£3,487
2012-13	£3,555	£3,572	£3,458	£3,503	£3,554	£3,605	£3,725	£3,619	£3,534	£3,420
Increase	12%	12%	13%	11%	15%	13%	13%	12%	12%	13%

Source: HMRC, own calculations

4 Characteristics of tax credit recipients

- 4.1 This section of the report provides detailed information on tax credit recipients in Greater Manchester, other metropolitan counties, Greater London and the UK. We start by looking at individual, family and household characteristics, then switch focus to look at industries, occupations and jobs. Except where stated, in each case we look at the share of each group who are tax credit recipients.

Data

- 4.2 This part of the analysis uses the 2013 Annual Population Survey (APS). The APS is the largest employment survey available for the UK, and combines waves one and five of the UK's quarterly Labour Force Survey (LFS) with annual local data for England, Scotland and Wales.⁵ As such it is much larger than the raw LFS, so much more suitable for analysis at sub-regional level. Each year of the APS contains around 300,000 observations on respondents aged 16 or over and provides very rich information on social and socio-economic indicators for individuals and their households.
- 4.3 Because we are interested in family and household characteristics we use the APS household sample, which contains detailed information on both. This dataset is around three times the size of the LFS household sample, and covers around 168,000 families and 156,000 households (300,000 individuals aged 16+).⁶ In LFS/APS jargon, a family unit can be a single person, or a married/cohabiting couple, or a married/cohabiting couple and their never-married children. Households typically consist of one family unit, but in a few cases consist of more than one (around 1% of cases in the 2013 data).

⁵ For more details see Office for National Statistics. (2015) Labour Force Survey User Guide Volume 6: Annual Population Survey. Newport: ONS.

⁶ For more details see Office for National Statistics. (2008) Labour Force Survey Guide Volume 8: Household and family data. Newport: ONS.

Setup

- 4.4 We have restricted the sample to those aged 16 or over and used APS household-level weights to gross up the raw data to national and sub-regional totals. Note that because of differences in ONS weighting we will end up with slightly different counts compared to the individual-level LFS analysis in sections 5 and 6. We have also suppressed any underlying cells with less than 100 observations to minimise sampling error.⁷ We focus on three key areas, using metropolitan counties as proxies for city-regions: the Greater Manchester metropolitan county (GM), other metropolitan counties (GM plus other city-regions such as Birmingham, Sheffield, Liverpool and Leeds)⁸ and Greater London. We also provide comparators for the UK as a whole. The bulk of the analysis is done in shares, for easy comparisons between GM and other areas. Counts data is available on request.
- 4.5 Table 13 gives information on overall tax credit receipt and on Child Care Tax Credit (CCTC) receipt in 2013 (the APS does not ask directly about WTC receipt). We can see that in counts, tax credit receipt in GM is under half that of Greater London. However, in shares, GM has a higher share of people receiving tax credits than the capital, other metropolitan areas or the UK average. For those tax credit recipients claiming CCTC, the picture is similar: counts in GM are just over half the London total, but the city-region has a larger share of people in receipt of CCTC than our other study areas.

⁷ The raw sample sizes are 15,609 observations (Greater Manchester), 27,179 observations (Greater London), 73,455 (Met counties), 295, 804 (UK).

⁸ The full list of Met counties is Tyne and Wear (Newcastle-Gateshead), South Yorkshire (Sheffield), West Yorkshire (Leeds), West Midlands (Birmingham), Greater London, Greater Manchester, Merseyside and Strathclyde.

Table 13: Overall tax credit and child care tax credit receipt, 2013⁹

	UK		Greater Manchester		Mets		London	
Tax credit recipient	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
No	46,608,774	91.6	1,922,361	89.8	9,951,772	90.1	5,833,102	91.8
Yes	4,292,138	8.4	219,553	10.2	1,097,219	9.9	520,047	8.2
<i>Total</i>	<i>50,900,912</i>	<i>100</i>	<i>2,141,914</i>	<i>100</i>	<i>11,048,991</i>	<i>100</i>	<i>6,353,149</i>	<i>100</i>
Of which Child Care Tax Credit	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>	<i>Number</i>	<i>%</i>
No	3,708,153	89.3	184,812	87.5	950,611	89.9	455,283	90.3
Yes	443,631	10.7	26,370	12.5	106,809	10.1	49,130	9.7
<i>Total</i>	<i>4,151,784</i>	<i>100</i>	<i>211,182</i>	<i>100</i>	<i>1,057,420</i>	<i>100</i>	<i>504,413</i>	<i>100</i>

Source APS 2013

Individual, family and household characteristics

4.6 Table 14 looks at how family types differ in tax credit receipt, focusing on three types of family: childless couples, lone parents, and couples (married or unmarried) with children. We can see that GM has more tax credit recipients in each family type than the UK as a whole or London. Tax credit receipt is particularly high in lone parent families: just over 30% of lone parent families receive tax credits across the UK and almost 33% in Greater Manchester.

Table 14: Tax credit recipients by family type, 2013

Tax credit recipient	% Childless family			
	UK	Greater Manchester	Mets	London
No	98.9%	98.5%	98.8%	98.9%
Yes	1.1%	1.5%	1.2%	1.1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Tax credit recipient	% Lone parent family			
	UK	Greater Manchester	Mets	London
No	69.5%	67.2%	67.6%	73.3%
Yes	30.5%	32.8%	32.4%	26.7%

⁹ Notes to table:

All figures grossed up using APS household weights

TC base = 15,609 observations (GM), 27,179 observations (London), 73,455 (Mets), 295,804 (all)

CCTC base = tax credit recipients.

Underlying cells with less than 100 observations suppressed (=.)

<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Tax credit recipient	% Couple with children			
	UK	Greater Manchester	Mets	London
No	87.7%	85.2%	85.6%	88.8%
Yes	12.3%	14.8%	14.4%	11.2%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in Table above

- 4.7 Table 15 looks at tax credit receipt across age bands. Some of these results are suppressed due to small underlying sample sizes, but we can get a fairly decent picture nonetheless. Nationally tax credit recipients are concentrated in those aged 25-54. Tax credit receipt peaks in the 35-39 age group, with nearly 19% of 35-39 year olds across the UK receiving tax credits. In Greater Manchester this is 22%. GM and the other metropolitan areas follow this broad picture, but GM has a higher share of tax credit recipients in these age groups than the national average. Receipt among 35-44 year olds is slightly higher in the metropolitan areas as a whole.

Table 15: Tax credit recipients by age band (%), 2013

Tax credit recipient	UK												
	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-99	Total
No	99.7	98.3	92.5	86.4	82.4	81.2	82.6	87.8	93.0	96.4	97.9	99.7	91.6
Yes	0.3	1.7	7.5	13.6	17.6	18.8	17.4	12.2	7.0	3.6	2.1	0.3	8.4
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Tax credit recipient	Greater Manchester												
	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-99	Total
No	99.8	98	91.4	83.7	79.5	78.0	80.7	85.5	91.2	97.4	96.6	99.5	89.8
Yes	.	.	8.6	16.3	20.5	22.0	19.3	14.5	8.8	.	.	.	10.2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Tax credit recipient	Mets												
	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-99	Total
No	99.6	98.2	91.1	84.1	78.7	76.8	80.2	86.2	92.2	96.4	97.6	99.6	90.1
Yes	.	.	8.9	15.9	21.3	23.2	19.8	13.8	7.8	3.6	2.4	.	9.9
Total	100	100	100	100	100	100	100	100	100	100	100	100	100
Tax credit recipient	London												
	16-17	18-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-64	65-99	Total
No	99.8	99.3	95.5	91.5	88.1	83.8	83.1	86.9	91.5	95.7	98.0	99.7	91.8
Yes	.	.	4.5	8.5	11.9	16.2	16.9	13.1	8.5	.	.	.	8.2
Total	100	100	100	100	100	100	100	100	100	100	100	100	100

Source: APS

4.8 Table 16 looks at socio-economic status, using the ONS NS-SEC classification system based on occupation groups.¹⁰ As one would expect, tax credit receipt is concentrated in intermediate and routine occupations. In GM there are higher shares of people on tax credits in these groups than in the national average, and particularly in routine and semi-routine groups. Shares of tax credit recipients in these groups are also higher than in London, and, with one exception, the metropolitan areas as a whole.

Table 16: Tax credit receipt by socio-economic groups, 2013

% NS-SEC Group receiving tax credits	UK	Greater Manchester	Mets	London
Higher managerial and professional	.	.	2.2%	1.8%
Lower managerial and professional	6.1%	7.4%	7.2%	4.7%
Intermediate occupations	11.6%	14.1%	13.2%	11.7%
Small employers, own account workers	12.6%	16.0%	14.8%	13.9%
Lower supervisory and technical	9.3%	.	9.6%	10.1%
Semi-routine occupations	16.6%	18.1%	18.4%	15.5%
Routine occupations	14.5%	16.5%	16.4%	16.1%
Never worked, unemployed, N.E.C.	5.5%	7.4%	6.9%	7.2%
<i>All</i>	<i>8.4%</i>	<i>10.3%</i>	<i>9.9%</i>	<i>8.2%</i>

Source: APS. Notes as in tables above

4.9 Table 17 looks at tax credit receipt among those with degrees. In 2013 almost 22% of APS respondents have a degree. In Greater Manchester the share is slightly lower at 20.6%. Of those with degrees very few are on tax credits, but GM has the highest share of our four study areas. Conversely we also looked at those on tax credits with learning difficulties or disabilities, but sample sizes are too small to report any results.

Table 17: Tax credit recipients with degrees, 2013

Degree holders / % tax credits	UK	Greater Manchester	Mets	London
No	95.2%	93.9%	94.3%	95.9%
Yes	4.8%	6.1%	5.7%	4.1%
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Source: APS. Notes as in Table 4.1.

4.10 Table 18 looks at country of birth. Among the UK migrant population around 11.6% of people receive tax credits. Greater Manchester has a higher share of migrant tax credit recipients than this, just over 16% of the city region's migrant 16+ population,

¹⁰ More details are available here: <http://bit.ly/1xRNnHA>.

which is also higher than in Greater London (11.3%). Analysis by arrival year or origin country (eg EU or non-EU) is, frustratingly, not possible below national level due to small sample sizes, so at this point we can only speculate about what might lie behind this. In general migration flows are highly urbanised, and the migrant population is typically higher in large urban areas such as London and GM (although A8 and A2 arrivals have slightly broken with this pattern in the UK).¹¹ In London it is possible that a larger share of migrant workers are involved in the informal economy or being paid cash in hand. London is also likely to be the primary destination for recent migrants, who may have a poorer understanding of the tax credit system, while GM may have more established non-UK born populations who are more integrated into the UK and UK labour markets.

Table 18: Tax credit receipt and migrant status, 2013

% born outside UK / Tax credit recipient	UK	Greater Manchester	Mets	London
No	88.4%	83.8%	85.1%	88.7%
Yes	11.6%	16.2%	14.9%	11.3%
<i>Total</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>

Source: APS. Notes as in tables above.

4.11 Table 19 looks at those claiming housing benefit and council tax credit, and shows tax credit receipt among these groups. Among both these groups of benefit claimants, GM has much lower claim rates of tax credit receipt than the UK average, and especially London, though still higher than the metropolitan areas as a whole.

¹¹ See for example McCollum, D. (2013). Investigating A8 migration using data from the Worker Registration Scheme: temporal, spatial and sectoral trends. *Local Economy*, 28(1), 35-50.

Table 19: Tax credit receipt, housing benefit and council tax benefit, 2013

Housing benefit recipient / tax credit claimant, %	UK	Greater Manchester	Mets	London
No	56.6%	59.0%	61.3%	50.8%
Yes	43.4%	41.0%	38.7%	49.2%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Council tax benefit recipient / tax credit claimant, %				
No	59.6%	61.6%	63.5%	52.9%
Yes	40.4%	38.4%	36.5%	47.1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above

4.12 Table 20 looks at health conditions and tax credit receipt in our four study areas. People with a current and/or work-limiting disability make up just over 13% of the UK's tax credit recipients. In GM this is somewhat higher at close to 15.5%. The GM figure is also slightly higher than in the other metropolitan areas as a whole, and higher than in London. Analysis of those with long-term limiting health problems is not possible for GM due to small sample sizes, but is shown for other areas for information.

Table 20: Tax credit receipt and health, 2013

long term limiting health problem / % tax credit recipients	UK	Greater Manchester	Mets	London
No	91.2%	90.3%	90.1%	89%
Yes	8.8%	.	9.9%	11%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Has current a/o work-limiting disability / % tax credit receipt				
No	86.9%	84.5%	85.5%	85.9%
Yes	13.1%	15.5%	14.5%	14.1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above.

4.13 Table 21 looks at employment status. Among those in work (either as employed or self-employed), GM has a slightly higher than average share of people also getting tax credits, and a substantially higher share of in-work recipients than in London. GM has the highest shares of self-employed tax credit recipients in the four study areas. As such, the share of recipients among the unemployed in GM is lower than in the UK as a whole, although it is higher than in London. GM also has the highest rates of tax credit receipt among the economically inactive.

Table 21: Tax credit receipt and employment status, 2013

Tax credit recipient / % Employed or self-employed	UK	Greater Manchester	Mets	London
No	90.9%	89.2%	89.2%	92.1%
Yes	9.1%	10.8%	10.8%	7.9%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
% Self-employed				
No	88.6%	86.0%	86.6%	88.9%
Yes	11.4%	14.0%	13.4%	11.1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
% ILO unemployed				
No	86.2%	86.6%	84.6%	87.7%
Yes	13.8%	13.4%	15.4%	12.3%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
% Not seeking work or unavailable				
No	93.3%	91.1%	92.2%	92.0%
Yes	6.7%	8.9%	7.8%	8.0%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in Table 4.1.

4.14 Table 22 switches the focus to the household level and looks at the number of earners in each household, focusing on households with at least one working-age adult.¹² GM has a higher share of tax credit recipients in all household types (two-earner, one-earner, or workless) than the national average. Shares of two-earner and one-earner households receiving tax credits are slightly lower in GM than in the other metropolitan areas as a whole, but higher than in London. Conversely, while over 17% of workless households in GM are claiming tax credits, the share in Greater London is higher at just over 18%.

¹² Analysis without the age ceiling produces very similar results.

Table 22: Tax credit receipt and household earners, 2013

Working age household, two earners / % tax credit receipt	UK	Greater Manchester	Mets	London
No	92.9%	92.0%	91.8%	94.5%
Yes	7.1%	8.0%	8.2%	5.5%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Working age household, one earner / % tax credit receipt				
No	84.7%	82.3%	82.1%	86.7%
Yes	15.3%	17.7%	17.9%	13.3%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Working age household, no adult employed / % tax credit receipt				
No	85.0%	82.6%	84.0%	82.0%
Yes	15.0%	17.4%	16.0%	18.0%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above. Base = households with at least one adult aged 16-64.

Industry, occupation and job characteristics

- 4.15** Table 23: looks at tax credit receipt by industry for those in work, both the self-employed and employees. The analysis is done at one-digit industry level using SIC 2007 codes, which are the most recent available. At GM level a number of cells are suppressed, so we can only get a partial picture. However, future analysis could try to break down the largest industry cells further, assuming underlying sample sizes permit this.
- 4.16** We can see that at national level, tax credit recipients are concentrated in: wholesale and retail; accommodation and food services; administrative and support services; health and social work; education, and other service sector activities. The very limited information available for GM also suggests clustering in education and health and social work, and that these groups take a larger share in GM than in London or the UK as a whole.

Table 23: Tax credit recipients in work by sector, 2013

Sector, main job / % tax credit recipients	UK	Greater Manchester	Mets	London
A Agriculture, forestry and fishing	9.9%	.	.	.
B Mining and quarrying	2.6%	.	.	.
C Manufacturing	6.6%	.	7.6%	.
D Electricity, gas, air cond supply	4.2%	.	.	.
E Water supply, sewerage, waste	7.3%	.	.	.
F Construction	6.6%	.	6.7%	.
G Wholesale, retail, repair of vehicles	12.2%	12.8%	14.5%	11.2%
H Transport and storage	9.6%	.	12.5%	.
I Accommodation and food services	14.4%	.	17%	16.4%
J Information and communication	3.4%	.	.	.
K Financial and insurance activities	4.8%	.	7.9%	.
L Real estate activities	7.6%	.	.	.
M Prof, scientific, technical activity	4.6%	.	6.7%	.
N Admin and support services	12.4%	.	14.3%	13.1%
O Public admin and defence	5.9%	.	6.6%	.
P Education	10.9%	12.9%	11.2%	11.2%
Q Health and social work	12.5%	15.2%	15%	9.9%
R Arts, entertainment and recreation	8.8%	.	.	.
S Other service activities	12.4%	.	15.8%	.
T Households as employers	16.0%	.	.	.
U Extraterritorial organisations	1.0%	.	.	.
<i>All employed or self-employed</i>	<i>9.3%</i>	<i>11.2%</i>	<i>11.2%</i>	<i>8%</i>

Source: APS. Base = employed and self-employed. All figures grossed up using APS household weights. Underlying cells with less than 100 observations suppressed (=).

4.17 Table 24 looks at occupational groups. For the same reasons as the industry analysis this is done at one-digit SOC level, which gives the largest nine occupational classes. Overall, tax credit recipients are bunched into a few occupational groups: administrative and secretarial; caring/leisure and other service occupations; sales and customer service; process/plant/machine operatives and elementary occupations. GM has the biggest shares of workers in these groups on tax credits, apart from sales and customer service (highest in the other metropolitan areas) and process/plant/machine operatives (highest in London). As with the industry results future work could try breaking down the largest occupational cells further at GM level.

Table 24: Tax credit recipients in work by occupations, 2013

Occupation in main job / % tax credit receipt	UK	Greater Manchester	Mets	London
1 Managers, Directors And Senior Officials	4.9%	.	6.1%	.
2 Professional Occupations	3.6%	.	4.5%	2.7%
3 Associate Professional And Technical Occupations	5.6%	.	6.4%	4.4%
4 Administrative And Secretarial Occupations	10.1%	10.9%	11.9%	8.4%
5 Skilled Trades Occupations	8.4%	11.1%	8.9%	9.2%
6 Caring, Leisure And Other Service Occupations	18.7%	22.1%	20.7%	18.0%
7 Sales And Customer Service Occupations	13.5%	13.0%	16.1	12.5%
8 Process, Plant And Machine Operatives	10.5%	.	12.7%	13.8%
9 Elementary Occupations	14.7%	17.1%	16.0%	16.2%
All employed or self-employed	9.1%	10.8%	10.8%	7.9%

Source: APS. Notes as in tables above

4.18 Table 25 looks at full-time and part time workers. Tax credits are considerably more prevalent among part-time workers for obvious reasons. Among part-time workers GM has a larger share on tax credits than the national average and London, but very slightly less than the other metropolitan areas as a whole.

Table 25: Tax credit recipients in work: full-time/part-time workers, 2013

Full time or part time work / % Tax credit recipient	UK		Greater Manchester		Mets		London	
	Full time	Part time	Full time	Part time	Full time	Part time	Full time	Part time
No	93.7%	82.4%	92.1%	78.9%	92.3%	78.8%	95.0%	81.8%
Yes	6.3%	17.6%	7.9%	21.1%	7.7%	21.2%	5.0%	18.2%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above. Those on Work Programme or Apprenticeships not shown.

4.19 Table 26 looks at tax credit receipt among those earning the national minimum wage or less. This is hard to get at reliably in the APS/LFS, since not everyone answers the questions and answers may not be accurate. I have used the hour pay variable (gross hourly pay), which in theory should be more accurate for low-paid (hourly paid) workers than asking for gross annual pay (which also needs breaking down by working time). Having said that, a few of the reported hourly rates are so low as to be

barely credible (less than 50p an hour), so this result has to be interpreted with some caution.¹³

- 4.20 Across the UK around 21% of those who earn the minimum wage or less also get tax credits. In GM this is higher at 23.07%.¹⁴ The share of minimum wage recipients who are also tax credit recipients is slightly higher than GM among the metropolitan areas as a whole (24.45%) but it is lower in London than in GM (22.58%).

Table 26: Tax credit recipients in work, estimated minimum wage receipt, 2013

Minimum wage / % Tax credit recipient	UK	Greater Manchester	Mets	London
No	78.6%	76.9%	75.6%	77.4%
Yes	21.4%	23.1%	24.5%	22.6%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above. Base = employed, self-employed or on Government schemes, who answer hour pay question. Minimum wage calculated separately for age groups and apprentices (proxied by those on government schemes).

Table 27: Tax credit recipients in work: overtime, 2013

Paid overtime / % Tax credit recipient	UK	Greater Manchester	Mets	London
No	91.1%	89.2%	89.6%	91.1%
Yes	8.9%	10.8%	10.4%	8.9%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>
Unpaid overtime / % tax credit receipt				
No	91.5%	89.6%	90.0%	91.7%
Yes	8.5%	10.4%	10.0%	8.3%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above

- 4.21 Table 4.15 looks at tax recipients and overtime. The APS includes information on overtime, shift work and piece work. However, only the former provides a robust sample size among those on tax credits at GM level. We can see that in GM, the share of people doing paid or unpaid overtime who also get tax credits is the highest in our four study areas. The GM picture is close to the other metropolitan areas, but higher than London or the national average.

¹³ Despite its drawbacks, LFS/APS data is the best data available here. ASHE data gives more reliable wage information, but has no information on tax credit receipt.

¹⁴ Looked at the other way around, APS figures for 2013 suggest that 10.7% of tax credit recipients in the UK earn the minimum wage or less. The figure for GM is the same.

4.22 Finally, table 28 looks at employers' offer to their workers, specifically whether they have offered training or education opportunities in the past three months. Of those with employers making such an offer GM has a higher share of people on tax credits than the UK average. The share is also higher than in London although it is a little lower than in the other metropolitan areas as a whole.

Table 28: Tax credit recipients in work: employer training offer, 2013

Employer has offered training in the last three months / tax credit receipt, %	UK	Greater Manchester	Mets	London
No	90.5%	88.9%	88.4%	92.0%
Yes	9.5%	11.1%	11.6%	8.1%
<i>Total</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>	<i>100%</i>

Source: APS. Notes as in tables above

4.23 The LFS, although not the APS, provides information on workplace union coverage and influence. Further analysis could explore this for tax credit recipients, providing sample sizes are robust to work with at the GM level.

5 Characteristics of tax credit recipients

- 5.1 This section of the report provides data and analysis on flows into and out of tax credits, looking at in-work tax credits for Greater Manchester, other northern Metropolitan Counties, London and the UK as a whole. We distinguish between three major demographic groups with distinctive patterns of flows onto and out of in-work tax credits: the childless, lone parents and couples with children. We also examine differences in the labour market and demographic characteristics between families that exit in-work tax credits and families which remain on them.

Data and setup

- 5.2 This part of the analysis relies on both second- and fifth-quarter longitudinal data from the Labour Force Survey (LFS). In order to increase sample sizes we pool across the four datasets, beginning in the fiscal year 2012-13, and aggregate using the longitudinal weights provided by the LFS (variable LGWT). The LFS longitudinal datasets only include individuals aged 16 to 69, but includes information on the numbers and ages of other children living in the family.
- 5.3 The LFS asks whether an individual receives tax credits, defined as either WTC or CTC, but does not distinguish between in-work and out-of-work tax credits.¹⁵ As a result, we need to attribute in- or out-of-work tax credit status to each individual. We assume that all childless individuals in receipt of tax credits are receiving WTC, an in-work tax credit, in line with eligibility criteria. We also assume that all individuals who report themselves to be employed are receiving in-work tax credits. The remaining group, the unemployed or inactive with children under the age of 19 in the family, are assumed to be receiving out-of-work tax credits.¹⁶ To avoid double-counting¹⁷, we restrict attention to heads of families and adult children of heads of families.
- 5.4 The second-quarter longitudinal data is used to capture the dynamics of tax credit receipt from one quarter to the next. Flows can be calculated most accurately from the second-quarter longitudinal datasets as they involve a larger number of cases (133,315 in total, of which 6,096 are in-work tax credit recipients). This larger sample size also makes it feasible to examine some regional differences, although not at the metropolitan county level. We also use this data to compare the labour market

¹⁵ While WTC requires minimum hours of work CTC is also paid to out-of-work families with children.

¹⁶ We are not able to observe whether a 16-19 year old is in full-time qualifying education or not. We assume that all 16-19 year olds are in full-time qualifying education, which might lead us to mislabel some individuals as having children when in fact they are childless for tax credit purposes.

¹⁷ The issue is that in a one-earner family, both the head and their spouse are coded as being tax-credit recipients. The inactive spouse would therefore, spuriously, be counted as an out-of-work tax credit recipient. As there is no information allowing us to link spouses, we must discard data on spouses of family heads to avoid this pitfall.

characteristics (hours, wages, weekly incomes) of those who stay on in-work tax credits with those who exit and stay in employment. However, no wage, income or hours data is collected for the self-employed.¹⁸ Also, data on hours worked is collected each quarter, but information on wages and weekly incomes is only available in the first and fifth waves of the LFS so an individual's wage/income data for contiguous quarters is not available. Results on wages and weekly incomes based on second-quarter longitudinal data should be treated with caution, as they are a) not based on the full sample and b) the groups sampled in the first and second quarters are disjunct.

- 5.5** The fifth-quarter longitudinal data is used to capture the dynamics of tax credit receipt from one year to the next. Although the number of cases is substantially smaller (17,854), the wage and income data collected is truly longitudinal as it refers to the same individuals. However, the smaller sample size makes it inadvisable to undertake regional analysis or to look at some of the demographic groups.

Flows out of tax credits

- 5.6** Overall, 5.2% of individuals in our sample receive in-work tax credits, while another 2.3% receive out-of-work child tax credit. There is, however, great diversity in the patterns of in-work tax credit use across three demographic groups: the childless, lone parents and couples with children.
- 5.7** The childless have very low rates of in-work tax credit receipt and transition out of tax credits at the highest rates. Quarter-to-quarter 19.2% of childless in-work tax credit recipients exit to no tax credits (Table 30), while the childless year-to-year exit rate is 47.5%, more than twice the exit rate of 23% for the whole sample. Focusing on those who leave for work-related reasons by restricting the sample to those who are neither disabled nor undergo a change in couple status nor have a child leads to a quarter-to-quarter exit rate from WTC for the childless of 20.5% (Table 5.5). One factor supporting the high exit rates might be the low incomes at which the childless cease to be eligible for in-work tax credits (see tables in Annexe), which make it easy for full-time employees to earn incomes high enough to graduate from WTC.

¹⁸ In our sample, about one-third of childless in-work tax credit recipients are self-employed.

Table 29: In-work tax-credit receipt, all. Based on first-quarter status

	All	Childless	Lone Parents	Couples with Children
UK	5.2 %	1.2 %	45.1 %	7.7 %
Greater Manchester	4.9 %	.	38.5 %	8.3 %
London	6.6 %	1.8 %	42.5 %	10.7 %
Northern Met Counties	6.1 %	1.4 %	43.7 %	10.0 %

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

Table 30: Quarter-to-quarter exit rates from in-work tax credits to no tax credits, all

In-work tax credits → None	All	Childless	Lone Parents	Couples with Children
UK	11.5 %	19.2 %	2.9 %	19.1 %
Greater Manchester	.	.	.	.
London	8.4 %	.	.	.
Northern Met Counties	12.4 %	24.8 %	.	20.1 %

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.8 Lone parents, in contrast, have very high rates of in-work tax credit receipt: nearly half of lone parents in the UK receive in-work tax credits. Another 34.4% of lone parents receive out-of-work child tax credits, leaving only 20.5% of lone parents who do not receive tax credits at all. This may in part reflect the relatively high income thresholds for lone parents: a lone parent with two children could earn up to £32,300 in 2012-13 and still be eligible for in-work tax credits. It may also reflect high levels of part-time work among lone parents, who are eligible for tax credits if they work at least 16 hours a week, rather than 30 hours for the childless.

5.9 In addition, lone parents exit in-work tax credits at much lower rates than other groups (Table 30). Only 2.9% of UK lone parents on in-work tax credits make the transition to no tax credits quarter-to-quarter, while an additional 8.3% of lone parents on in-work tax credits exit to out-of-work tax credits each quarter. There are too few observations to estimate the year-to-year exit rates from in-work tax credits for lone parents.

5.10 In the UK 7.7% of couples with children receive in-work tax credits. At the same time, transition rates in this group are quite high: year-on-year 31.5% of in-work tax credit recipients cease to receive any tax credits at all. The corresponding quarter-to-quarter exit rate for couples with children is 19.1%. A majority of recipient couples with children have young families: 62.9% of stayers and 60.7% of exiters have a youngest

child aged four or younger. This seems to indicate that many couple families receive tax credits temporarily while children are young, perhaps while one parent remains out of the labour force to care for them. When the second parent rejoins the labour force family incomes might rise beyond the tax credit threshold of £32,300 for a couple family with two children. In this sense in-work tax credit might be acting as a subsidy to low-moderate income one-earner families.

Table 31: Activity after exit to no tax credit from in-work tax credits, all

	UK	Greater Man	Northern Mets	London
Employment	85.0 %	.	79.8 %	.
Unemployment	.	.	.	.
Inactivity	10.4 %	.	14.2 %	.

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

Table 32: UK-wide year-to-year exit rates out of in-work tax credits, full sample

	All	Childless	Lone Parents	Couples with Children
In-work tax credits → None	23.0 %	47.5 %	.	31.5 %
Share exiting to employment	81.5 %	.	.	97.0 %

Source: LFS longitudinal data and own calculations.

Notes: Transition rates measured using LFS fifth-quarter longitudinal data. Year-to-year tax credit exit is defined as being a recipient of tax credits in Q1 and no longer being a recipient in Q5 (i.e. one year later). Data obtained by pooling the fifth-quarter longitudinal datasets whose first quarter lies in the FY 2012-13, and whose last quarter lies in FY 2013-14, for a total pooled sample size of 17,854 cases. See Annexe 2 for sub-sample sizes. Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

Labour market characteristics of ‘exiters’ and ‘stayers’

5.11 We now compare the labour market characteristics (hours worked, wages and weekly incomes) of those who remain on tax credits with those who exit using second-quarter LFS longitudinal data. In order to focus attention on the labour market dynamic we exclude any individuals who are undergoing some form of demographic change (ie a change in couple status or in the number of children) and the disabled. Table 33 shows that transition rates out of in-work tax credits are very similar for this smaller group to those for the full sample.

Table 33: Quarter-to-quarter exit rates from in-work tax credits to no tax credits, non-disabled and no change in couple status or number of children

In-work tax credits → None	All	Childless	Lone Parents	Couples with Children
UK	11.0 %	20.5 %	2.1 %	19.4 %
Greater Manchester	.	.	.	.
London	.	.	.	.
Northern Met Counties	11.8 %	.	.	20.4 %

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.12 Not surprisingly, we found that exiters already worked substantially longer hours (37 rather than 30.9 hours weekly) at somewhat higher pay (£9.37 for exiters, £8.33 for stayers in the second-quarter flows) before leaving in-work tax credits. Using the fifth-quarter data we can interpret the pay differences as average pay increases across individuals. On average, exit was associated with a reduction in hours and a barely perceptible increase in pay (Table 5.6). This might be linked to the predominance of family heads from couples with children among the sample of exiters. A reduction in hours of the head along with stable earnings might be consistent with tax credit exit if it is associated with the entry into the labour market of a second earner in the family.

Table 34: Labour market characteristics of individuals who stay on in-work tax credits and who exit to no tax credits, full sample

		Period 1	Period 2	Period 1	Period 5
Stayers	Weekly pay	243	265	246	257
	Weekly hours	30.9	31.0	28.9	30.5
	Hourly pay	£8.33	£8.70	£8.64	£8.99
Exiters	Weekly pay	329	401	378	386
	Weekly hours	37.0	37.7	40.3	37.4
	Hourly pay	£9.37	£10.70	£9.56	£9.81

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.13 Once again, we found great diversity across demographic groups. For the childless, hours of both stayers and exiters are quite similar and are consistent with full-time employment (Table 35). This might indicate that tax credit receipt for this group is mainly linked to low pay rather than part-time work. Unfortunately, we do not have sufficient observations to look at fifth-quarter flow data nor to reliably estimate the hourly wages or weekly pay of those childless who exit tax credits to employment but no tax credit.

Table 35: Labour market characteristics of individuals who stay on in-work tax credits and who exit to no tax credits, childless

		Period 1	Period 2
Stayers	Weekly pay	230	253
	Weekly hours	35.5	36.0
	Hourly pay	£6.97	£7.56
Exiters	Weekly pay	.	.
	Weekly hours	34.3	36.7
	Hourly pay	.	.

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.14 Lone parents who stay on tax credits tend to work part-time at relatively low wages (Table 36). Lone parents who stay on tax credits, the vast majority, work on average just over five hours daily, consistent with a pattern of working during school hours. This might indicate that providing incentives for or assistance in increasing working hours beyond school hours might be of use in increasing exit rates of lone parents. Once again we have insufficient data to reliably estimate the average wages required for lone parents to exit tax credits.

Table 36: Labour market characteristics of individuals who stay on in-work tax credits and who exit to no tax credits, lone parents

		Period 1	Period 2
Stayers	Weekly pay	217	225
	Weekly hours	26.1	26.0
	Hourly pay	£8.41	£8.65
Exiters	Weekly pay	.	.
	Weekly hours	29.9	32.6
	Hourly pay	.	.

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.15 Family heads in couples with children who receive tax credits seem to work full-time, similarly to the childless (Table 5.9). Those who exit do work longer hours on average than those who stay. However, somewhat puzzlingly, exit from tax credits seems to be associated with a decrease in hours for the head of family and in the truly comparable fifth-quarter data only a very slight increase in weekly pay.

Table 37: Labour market characteristics of individuals who stay on in-work tax credits and who exit to no tax credits, couples with children

		Period 1	Period 2	Period 1	Period 5
Stayers	Weekly pay	308	349	315	322
	Weekly hours	36.6	36.8	34.6	37.0
	Hourly pay	£8.44	£9.12	£8.74	£8.86
Exiters	Weekly pay	341	429	409	426
	Weekly hours	38.4	38.5	42.1	39.1
	Hourly pay	£9.21	£10.88	£9.86	£10.23

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.16 It is also somewhat puzzling that the tax credit exit incomes are so low, since a couple with one child would still be eligible for a modest amount of tax credits if an income of £429 or £426 were earned over the entire year. This might indicate that the exit from tax credits is associated with the entry to the labour market of a second earner, or with an increase in the second earner's pay or hours. Unfortunately, the LFS longitudinal data is individual, so it is not possible to check whether tax credit exit coincides with a spouse or partner entering work or increasing their hours.

Benefits from increases in wages, hours and participation

5.17 In this section we provide a first-pass approximation of the potential benefits to workers and the fiscal impact from increasing the National Minimum Wage (NMW) to the Living Wage, which is £7.85 outside London and £9.15 in the capital. We go on to compare them to the potential benefits from increasing hours or participation of various groups of tax credit recipients.

5.18 We begin by noting that in the UK only 22.3% of in-work tax credit recipients earn less than the Living Wage.¹⁹ Table 39 gives the potential impact of increasing wages to the relevant living wage for individuals working 30 hours weekly.²⁰ The reduction in tax credit is uniform at 41p for each additional £1 gross wages, until the family has exhausted their tax credit eligibility. We assume that all currently employed at the NMW would retain their jobs and hours. In that sense the estimates should be

¹⁹ In London, the figure is 17.4%, while outside of London it rises to 22.9%. For GM the figure is 23.16%

²⁰ The living wage experiments for London assume a childless and single-person household. For London, if the living wage household included either children or a workless partner, then fiscal benefits to the living wage would increase by an additional £447 to £2,923 per household. For the rest of the UK, however, results do not depend on household composition.

interpreted as upper bounds on the fiscal benefits and benefits to individuals of increasing wages to the Living Wage.

- 5.19** We found the fiscal gain from increased tax and NI revenues and reduced tax credit expenditures would be £1,445 per head for the UK outside London, rising to £2,476 for London. We estimate that about 637,000 tax credit recipients earn less than the living wage in the UK outside London, while about 62,000 Londoners earn less than the London living wage. This would lead to an annual fiscal benefit of about £920.5m for the UK outside London, and £153.5m for London. We also estimate that there are about 37,000 tax credit recipients in Greater Manchester who earn less than the Living Wage, leading to a fiscal benefit for Greater Manchester of up to £53.5m if it were adopted.

Table 39: Scenario: raising the national minimum wage to the UK living wage

	Minimum Wage	UK Living Wage	London Living Wage
(1) Wage	£ 6.50	£ 7.85	£ 9.15
(2) Hours	30	30	30
(4) Annual Gross	£ 10,140	£ 12,246	£ 14,274
(5) Income tax	0	£ 329	£ 735
(6) NI	£250	£ 503	£ 746
(7) WTC	£ 1,245	£ 382	£ 0
Annual net income (4)-(5)-(6)+(7)	£ 11,135	£ 12,045	£ 12,794
(8) Net gain to worker		£ 910	£ 1,658
(9) Gross hourly wage increase		£1.35	£2.65
(10) Net hourly wage increase		£ 0.58	£1.06
Fiscal benefits			
(11) Increase in income tax	0	£ 329	£ 735
(12) Increase in NI	£250	£ 253	£ 496
(13) Loss in WTC		£ 863	£ 1245
(14) Fiscal gain per head (11)+(12)+(13)		£ 1,445	£ 2,476
(15) Number of cases UK / London		637,000	62,000
Annual fiscal benefit (14)*(15)		£ 920.5m	£153.5m
(16) Number of cases Greater Manchester		37,000	-
Annual fiscal benefit Greater Manchester (16)*(15)		£53.5m	-

- 5.20** Now, we examine the potential impact of policies which would increase the hours worked or participation rates of some groups of tax credit recipients. As childless tax credit recipients already work full-time on average, as do heads of household of couple families with children, we do not consider further hours increases for these groups. Instead, we focus on lone parents and second earners in couple families with children. Here we focus on the per-family fiscal benefits, as it is difficult to estimate how large the increase in labour supply would be.
- 5.21** First, we provide a first-pass estimate of the potential benefits from bringing more lone parents into full-time work, increasing their hours from 26 (the current average among in-work tax credit recipients) to 40 hours. The second column assumes that wages would remain constant, while the third column allows for a 20% increase in gross wages, which is consistent with a 20% part-time wage penalty. Table 40 presents the results. The fiscal benefits from reduced tax credit expenditure and increased income tax and NI revenues would be substantial at £4,515 per head for constant wages, rising to £7,107 per head if increasing hours to full-time also results in a wage increase. However, the net wage accruing to the lone parent for the additional hours worked is only £2.30 per hour, rising to £3.63 in the wage increase case. This highlights the high marginal tax rates which WTC/CTC recipients face, as their tax credits are withdrawn at a rate of 41p for each additional £1 earned. It is not clear how successful any efforts to induce people to increase hours worked at such low effective marginal wage rates would be.

Table 40: Scenario: increasing lone parents' hours to full-time

	Status Quo Ave	Full-time	Full-time, wage incr.
(1) Wage	£ 8.53	£ 8.53	£ 10.24
(2) Hours	26.1	40	40
(4) Annual Gross	£ 11,555	£ 17,742	£ 21,291
(5) Income tax	£ 191	£ 1,428	£ 2,138
(6) NI	£419	£ 1,162	£ 1,588
(7) WTC/CTC	£ 7,970	£ 5,434	£ 3,979
Annual net income (4)-(5)- (6)+(7)	£ 18,914	£ 20,586	£ 21,544
(8) Annual net gain to worker		£ 1,672	£ 2,630
(9) Net marginal wage		£ 2.30	£ 3.63
Fiscal benefits			
(11) Increase in income tax		£ 1,237	£ 1,947
(12) Increase in NI		£ 742	£ 1,168
(13) Loss in WTC		£ 2,536	£ 3,992
(14) Fiscal gain per head (11)+(12)+(13)		£ 4,515	£ 7,107

5.22 Single-earner families make up 38% of couples with children who receive WTC and/or CTC. Next, we provide first-pass estimates of the potential benefits from inducing more second earners from couples with children into work. We also consider the potential impact of inducing part-time second earners to increase their hours to full-time. We consider three scenarios. In all three, we assume that the first earner has hours and wages in line with the averages for heads of couple family units with children who stay on tax credits (Table 5.9). We take the status quo to be a single earner, described in the first column. In the first alternative scenario, the second earner begins to work at the same hours and wages as the average lone parent tax credit recipient from the previous table. The second scenario assumes that the second earner would work full-time, but at the same wage, while the third scenario also allows for a 20% increase in gross wages to account for the presence of a part-time wage penalty. Table 41 presents the results. The fiscal benefits from reduced tax credit expenditure and increased income tax and NI revenues would be somewhat larger than for the lone parent scenarios, ranging from £5,398 to £10,918 per family. Once again there are work disincentives from benefit withdrawal, although not quite

as severe as in the lone parents' scenarios. The net wage accruing to the second earner ranges from £3.98 to £5.25 per hour. Once again, this highlights the high effective marginal tax rates which WTC/CTC recipients face.

Table 41: Scenario: increasing participation and hours of second earners in couples with children

	Single- earner [family head]	Dual, PT [spouse]	Dual, FT [spouse]	Dual, FT +wage [spouse]
(1) Wage	£ 8.78	£ 8.53	£ 8.53	£ 10.24
(2) Hours	36.7	26	40	40
(4) Annual Gross	£ 16,756	£ 11,555	£ 17,742	£ 21,291
(5) Income tax (individual)	£ 1,231	£ 191	£ 1,428	£ 2,138
(6) NI (individual)	£ 1,044	£ 419	£ 1,162	£ 1,588
(7) WTC/CTC (family)	£ 6,647	£ 1,101	£ 0	£ 0
Annual net family income (4)-(5)-(6)+(7)	£ 21,128	£ 26,526	£ 29,633	£ 32,046
(8) Annual net gain to 2 nd earner		£ 5,398	£ 8,505	£ 10,918
(9) Net marginal wage		£ 3.98	£ 4.09	£ 5.25
Fiscal benefits				
(11) Increase in income tax		£ 191	£ 1,428	£ 2,138
(12) Increase in NI		£ 419	£ 1,162	£ 1,588
(13) Loss in WTC		£ 5,546	£ 6,647	£ 6,647
(14) Fiscal gain per family [(11)+(12)+(13)]		£ 6,157	£ 9,238	£ 10,373

5.23 In summary, we find that the greatest fiscal benefits per family would be obtained by increasing the hours worked of second earners in couples with children. We also find that the disincentive effects for this group are smaller than for lone parents, primarily because of the high income tax thresholds from which they benefit. This seems to provide support for introducing a work allowance, as has been proposed for Universal Credit by the Resolution Foundation.²¹

Flows into in-work tax credits

5.24 New recipients of in-work tax credits can either enter from out-of-work tax credits or from non-receipt. In tables 42 and 43 we present the transition rates out of out-of-work tax credits and non-receipt into in-work tax credits. That is, the first row gives the share of out-of-work tax credit recipients who transit into in-work benefits each period. Overall, 7.1% of out-of-work tax credit recipients move into in-work tax credits each quarter, while only about 1% of non-recipients become recipients of in-work tax credits each quarter. Across demographic groups we note that transition rates for lone parents initially not on tax credits into in-work tax credits are higher than for other groups. Since unemployed or inactive lone parents qualify for child tax credit the group of non-recipients is composed of those employed and earning above the eligibility thresholds. The high transition rates between non-receipt and in-work tax credit receipt might indicate that lone parents' incomes are more vulnerable to dipping below the eligibility thresholds.

Table 42: Transition rates from out-of-work tax credits and no tax credits to in-work tax credits

	UK	Greater Man	London	Northern Mets
Out-of-work tax credits	7.1 %	.	.	6.3 %
No tax credits	1.0 %	.	.	1.3 %

1.1 ²¹ D Finch (2015): Making the most of UC: Final report of the Resolution Foundation review of Universal Credit, London: Resolution Foundation.

Table 43: Transition rates from out-of-work tax credits and no tax credits to in-work tax credits

	All	Childless	Lone Parents	Couples w Children
Out-of-work tax credits	7.1 %	0.0 %	6.8 %	8.8 %
No tax credits	1.0 %	0.3 %	8.4 %	2.9 %

Source: LFS longitudinal data and own calculations.

Note: Cells give the share of individuals on out-of-work or no tax credits in first quarter who transit to in-work tax credits in the 2nd quarter. Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.25 In Tables 44 and 45 we give the shares of entrants to in-work tax credits coming from out-of-work tax credits and non-receipt. All childless and the overwhelming majority of couples with children entering tax credits were previously non-recipients, while most lone parents are coming off of out-of-work tax credits.

Table 44: Entrants to in-work tax credits, by previous tax credit status

	UK	Greater Man	London	Northern Mets
Out-of-work tax credits	14.5 %	.	.	13.6 %
No tax credits	85.5 %	.	.	86.4 %

Table 45: Entrants to in-work tax credits, by previous tax credit status

	All	Childless	Lone Parents	Couples w Children
Out-of-work tax credits	14.5 %	0.0 %	57.5 %	5.1 %
No tax credits	85.5 %	100.0 %	42.5 %	94.9 %

Source: LFS longitudinal data and own calculations.

Note: Cells give the share of individuals on out-of-work or no tax credits in first quarter who transit to in-work tax credits in the second quarter. Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

5.26 In addition, new recipients of in-work tax credits can have previously been employed (but not claiming tax credits), unemployed or inactive. Tables 46 and 47 presents the share of entrants to in-work tax credits coming from each labour force status. Greater Manchester and the other metropolitan counties display similar patterns to the UK as a whole, with about three-quarters of new entrants to tax credits coming from employment. Cutting across demographic groups we find family heads of couples with children overwhelmingly enter in-work tax credits from employment. This is consistent with the notion that tax credit dynamics for this group is largely related to the exit and entry of second earners. The majority of lone parents, in contrast, enter in-work tax credits from unemployment or inactivity. This suggests that in-work tax credits might be playing a role in the recent increases in employment among participation among lone parents.

Table 46: Entrants to in-work tax credits, by previous labour market status

	UK	Greater Man	London	Northern Mets
Employment	75.7 %	74.7 %	65.6 %	72.7 %
Unemployment or Inactivity	24.3 %	25.3 %	34.4 %	27.3 %
Total	100.0 %	100.0 %	100.0 %	100.0 %

Table 47: Entrants to in-work tax credits, by previous labour market status

	All	Childless	Lone Parents	Couples with Children
Employment	75.7 %	71.9 %	38.2 %	88.4 %
Unemployment or Inactivity	24.3 %	28.1 %	61.8 %	11.6 %
Total	100.0 %	100.0 %	100.0 %	100.0 %

Source: LFS longitudinal data and own calculations.

Notes: Cells highlighted in yellow contain 50-100 observations, and data is not reported for cells with < 50 observations.

6 Incidence of working tax credit

- 6.1 This section examines whether WTC benefits only workers, or whether some share of the tax credit goes on to benefit employers via lower wages. We use a quasi-experimental approach and find that employers are only able to capture a very modest share of the WTC of low-wage workers.
- 6.2 Specifically, we use a regression discontinuity design (RDD) to examine to what extent WTC is captured by employers via lower wages. The quasi-experimental RDD exploits an arbitrary age cut-off for eligibility for WTC. Non-disabled childless workers are not eligible for WTC until they reach the age of 25. RDD is based on the assumption that workers aged 24 are otherwise quite similar to workers aged 25. If turning 25 has a statistically significant impact on wages after controlling for age, occupation, education, gender and other relevant factors, then we can infer that eligibility for WTC is related to that wage impact. In particular, if workers aged 25 and over have significantly lower wages than workers aged 24 and under, controlling for all other relevant factors including a linear or non-linear trend in age itself, then we can infer that employers are able to (partially) capture the WTC.
- 6.3 There is some evidence from other countries and time periods that employers are able to capture some share of the wage subsidy implicit in a WTC. This is not surprising in itself: the incidence of labour taxes and subsidies is generally shared by the demand and supply side, unless labour demand is either perfectly inelastic or perfectly elastic. The more elastic labour demand is the more of the subsidy can be captured by employers.
- 6.4 We estimate the wage equation using individual data from the APS. We restrict the sample to the non-disabled childless heads of family or adult children of family heads who are aged 20 to 29 and are not in full-time education. We drop outliers with hourly wages in excess of £30. We use the gross hourly wage variable HOURPAY as the dependent variable. Explanatory variables used are age (AGE), sex (SEX), employment length (EMPLN), major occupation group (SC10MMJ), sector (INDE07M), education (HIQUL11D), as well as dummies for part-time or temporary work and London and the south east. The regression discontinuity is captured by a dummy variable TC_ELIG which takes the value 1 for individuals aged 25 and over and 0 otherwise.
- 6.5
$$HOURPAY_i = const + \gamma AGE_i + \delta TC_ELIG_i + \beta X_i + u_i$$
- 6.6 We infer a negative impact on the wage, and hence some amount of capture of the WTC by employers, if the coefficient δ on the tax credit eligibility dummy is negative and significant. In an alternative specification we also restrict the sample to individuals with wages below £8. This is meant to capture the possibility that tax credits only impact on wages at the low end of the wage distribution where workers

might be eligible for tax credits. An hourly wage of £8 corresponds roughly to the upper wage limit for WTC eligibility in 2013-14: an individual working 30 hours (the minimum for WTC eligibility for this group) at £8 would have been eligible for £225 annually or about £19 monthly in tax credits.

Table 48: Regression results, RD design for tax credit eligibility

Sample	Full Sample (1)	Full Sample (2)	Wage < £8.00 (3)	Wage < £8.00 (4)
AGE	0.372 [0.033]***	-0.532 [0.308]*	0.106 [0.018]***	0.842 [0.169]***
AGE ²	-	0.018 [0.006]***	-	-0.015 [0.003]***
Tax credit eligibility	-0.116 [0.167]	-0.044 [0.164]	-0.213 [0.089]***	-0.161 [0.088]*
SEX	-0.433 [0.097]***	-0.431 [0.097]***	-0.011 [0.053]	-0.013 [0.053]
London/SE	1.384 [0.104]***	1.382 [0.104]***	0.058 [0.064]	0.063 [0.064]
EMPLN	0.181 [0.028]***	0.183 [0.028]***	0.047 [0.015]***	0.044 [0.015]***
Temporary	-0.700 [0.171]***	-0.720 [0.171]***	-0.340 [0.093]***	-0.330 [0.092]***
PTWORK	-0.194 [0.150]	-0.223 [0.151]	-0.377 [0.066]***	-0.364 [0.066]***
Constant	-2.891 [0.776]	8.289 [3.746]**	3.357 [0.438]***	-5.397 [2.080]***
Education	YES	YES	YES	YES
Occupation	YES	YES	YES	YES
Sector	YES	YES	YES	YES
R ²	0.446	0.446	0.098	0.105

Standard errors are in brackets, *** indicates significance at the 2% level, ** 5% and * 10%.

- 6.7 Table 48 gives the results. Although the coefficient on the tax credit eligibility dummy is not significant for the full sample it is negative and significant for the sample restricted to low-wage workers. It is not surprising that we find no effect in the full sample. The majority of workers in the full sample earn wages that exceed eligibility thresholds for WTC, obscuring any capture by employers among the smaller set of low-wage WTC-eligible workers.
- 6.8 When we restrict wages to be below £8 hourly, therefore restricting the sample to WTC-eligible workers, we find that turning 25 and actually becoming eligible for WTC coincides with a small but statistically significant drop in hourly wages. To put this into perspective, we use the regression results to calculate fitted wages for a 24-year-old and a 25-year-old, both with an employment length of two years.²² While the 24-year-old would have a fitted wage of £6.27, the 25-year-old's fitted wage would be slightly lower at £6.21.²³
- 6.9 Our results indicate that employers are able to capture some share of the working tax credit paid to their workers. The results also indicate that the scale of employer capture is relatively low and in line with previous findings for the US and UK. The estimated reduction in wages is between 16.1p and 21.3p hourly. To put this into perspective, consider the case of an employee in 2013 earning £6.50 an hour, working 30 hours a week, 52 weeks a year. She would have been eligible for approximately £1,185 in tax credits annually, raising her effective gross hourly wage by 76p to £7.26. However, her original wage would have been between 16.1p and 21.3p higher in the absence of the tax credit. As a result, the employer captures between 21 and 28% of her WTC, leaving between 72% and 79% for the worker. This modest degree of employer capture is in line with results from other time periods and countries. Rothstein (2010) estimates that US employers of low-wage workers obtain about 36% of the benefits from the Earned Income Tax Credit (EITC), a working tax credit with a reasonably similar scale and structure to the UK WTC.²⁴ Leigh (2009) uses a quasi-experimental differences-in-differences strategy, and finds that wages of people who had not completed high school decline by 4% for every 10% increase in EITC subsidy, while the wages of high-school graduates drop by 2%. In contrast, there is no statistically significant effect on the wages of college graduates.²⁵ This is in line with our finding that it is only low-wage workers whose wages are affected by WTC eligibility. For the UK, Azmat (2014), using data from 1997-2003, estimates that

²² We use the specification restricting wages to <£8 and with a quadratic trend in AGE, whose results are reported in the fourth column of Table 48

²³ The 25 year old's wage increases by 10p hourly due to AGE advancing one year, but declines by 16p due to the tax-credit eligibility dummy.

²⁴ Rothstein, J. (2010), "Is the EITC as Good as a NIT? Conditional Cash Transfers and Incidence," *American Economic Journal: Economic Policy* 2(1), 177-208. See also Nichols, A. and J. Rothstein (2015), "The Earned Income Tax Credit (EITC)," NBER Working Paper 21211.

²⁵ Leigh, A. (2009), "Who Benefits from the Earned Income Tax Credit? Incidence among Recipients, Co-workers and Firms," *B.E. Journal of Economic Analysis and Policy (Advances)*.

low-wage employers captured about 30% of the benefits from the Working Families Tax Credit (WFTC), a predecessor to WTC.²⁶

- 6.10** Our results are preliminary however, and should be treated with some caution. In order to be fully confident in these results, one would need to explore robustness to other means of restricting the sample to lower wage workers, such as focusing on particular educational groups, or on low-wage occupations or industries.

1.2 ²⁶ Azmat, G. (2014), "Incidence, Saliency and Spillovers: The Direct and Indirect Effects of Tax Credits on Wages," forthcoming *Quantitative Economics*.

7 Key findings and policy implications

7.1 Some key findings of the research are:

- Tax credit spending in Greater Manchester is about £1.5bn a year. This represents a significant proportion of overall public spending in the Greater Manchester area, which is £27bn per year; including both departmental and benefit spend.
- Most tax credit spend is on families with children and most of these are in work. Lone parents, in and out of work, are particularly likely to be tax credit recipients. However, over the past few years, there has been an increase in the number of tax credits recipients without children, although they still are a relatively small proportion of the number of recipients and an even smaller proportion of overall spend.
- The characteristics of tax credit recipients are much as expected: they are more likely to be in routine or semi-routine occupations and to be working in relatively lower pay/lower productivity service industries, such as accommodation, food services, wholesale and retail. However, a significant proportion also work in health and social work or are self-employed. People receiving the minimum wage are, unsurprisingly, far more likely to be in receipt of tax credits, but still make up only a little over 20% of in work recipients. In other words more than three-quarters of recipients are earning more than the minimum wage. Recipients are much less likely to have degrees. Migrants (defined as people who were born abroad, not necessarily recent arrivals) are somewhat more likely than the UK-born to be claiming tax credits.
- There are very sharp differences in flows off and on tax credits between groups. On the one hand, the turnover of childless tax credit recipients is very high, with 20% exiting every quarter and half exiting tax credits every year. By contrast quarterly exit rates for lone parents are very low at 2.9%. This reflects two factors: income mobility (or volatility) is likely to be higher for childless workers (who are more likely to be young and more likely to be in full-time work) and tax credit entitlements are much larger for lone parents. So a very large increase in income is needed to move most lone parents entirely out of tax credit entitlement.
- The characteristics of tax credit recipients in Greater Manchester are not remarkably different from those nationally and even less different from those in other metropolitan regions outside London. However, there are a few differences worth remarking:
 - Those on the minimum wage are slightly more likely to be receiving tax credits, and those who are self-employed considerably more likely. Tax credit recipients are also more likely to be working in key public sector services, such as education and health. Perhaps related to this, they are slightly more likely to have been offered training recently.

- 7.2 What are the implications for policy development? In particular, does any of this mean there is scope for an ‘invest to save’ approach to tax credits where Greater Manchester invests in programmes designed to, among other objectives, reduce tax credit receipt and/or spend by boosting employment and/or incomes among current recipients. In return some of the savings on tax credit spending flows back to Greater Manchester. This descriptive analysis does not, and is not intended to, answer this question but it does suggest, tentatively, some directions for further work.
- 7.3 It should be noted that some of this policy discussion goes beyond the quantitative evidence presented earlier in this paper. We are not at this stage claiming that the proposals for discussion below have, as yet, a solid evidence base:
- It is important to recognise that tax credits are a ‘moving target’ in the sense that there is likely to be significant systemic change over the next few years. In the short term, the Government has stated its objective to reduce working-age welfare spending by £12 billion over the next two years. Since tax credits constitute the largest single item of working age welfare spend very significant cuts are almost inevitable. Over the medium term the introduction of Universal Credit will result in significant changes to the structure of the system and the incentives to those in-and out-of-work to move into work and change their hours and earnings. It should be noted that for most people the impacts will not be that large, and the basic tradeoffs here (between work incentives, supporting family incomes, and government spending constraints) will very much still remain, so most of the discussion here will remain relevant.
 - Following on from this, these basic trade-offs mean there is unlikely to be a magic wand. Tax credits ‘work’ in the sense they incentivise people with relatively low potential wages to enter the labour market, while still allowing the state to provide a basic safety net to those out of work. Our research, in line with the literature, shows while some of the incidence of tax credit is on the employer (that is, employers capture some of the money through lower wages) the proportion is not large. And there is no obvious or simple way of recouping that money for the taxpayer without a reduction in work incentives, and hence employment, for low-paid workers. Increasing wages and hours alongside improved productivity will reduce the tax credit bill as well as benefiting workers and employers, but that is much easier said than done.
 - Any policy or programme or programme must take account of the very differing characteristics of tax credit recipients. In particular, childless people in work are entitled to much smaller amounts and flow off and on tax credits relatively quickly, while the reverse is true of lone parents, both in or out of work. In addition, our analysis shows that the largest potential for savings to tax credit spend would result from lone parents increasing their earnings and hours and from second earners moving into work.

- This suggests that programmes or policies designed to promote upward income mobility for individuals (whether by moving into work, increasing hours or increasing earnings) would be best targeted at two groups. First, lone parents where the problem of getting stuck (on low pay or hours) is most severe, and second earners, who frequently drop out of the labour market and do not return since the financial incentives to do so are poor, a problem that is likely to be aggravated by Universal Credit. Obvious candidate policy priorities in this area include childcare, career and progression advice services and training.
- The introduction of the successor to the Work Programme and its links to tax credits is an obvious candidate for further investigation both for analysis and policy. Work Programme providers are of course incentivised to get people into work (with no criteria around pay levels) and into self-employment (which can be low paid and is particularly prevalent with Greater Manchester tax credit recipients). So it may well be the case that Work Programme 'success' has a knock-on impact on tax credit receipt. In light of Greater Manchester taking on a greater role in the commissioning of the new Work and Health Programme there might be a case for also assuming some responsibility for tax credit receipts for Work and Health Programme leavers to minimise any unintended incentives. In other words, Greater Manchester and/or other providers would capture some of the additional the benefits if Work and Health Programme leavers moved into 'good' jobs, rather than low pay or self-employment. But to make this work there would have to be very good information flows (between GM, DWP/HMRC systems, and providers) to ensure that those delivering the programme actually have information about the outcomes for participants that they are trying to influence.
- Incentivising (whether by carrot, stick or both) employers to increase pay would have some impact on tax credit spending, although it is important to note that most recipients are not on the minimum wage. The surprisingly large share of tax credit recipients in Greater Manchester who work in the education and health sectors suggest that there may be scope for work with these employers (who are likely to be large public sector employers) as a first step. This might then provide a base for engagement with large private sector employers (e.g. in the retail sector). We should not, however, assume that pay increases are likely to pay for themselves in terms of reduced tax credit spending (and/or increased tax revenue). Therefore, such an approach is likely to work better if alongside other initiatives to improve productivity (research by NIESR for the Low Pay Commission suggests higher wages for the low paid can indeed help incentivise improved productivity).²⁷
- Given the large number of tax credit recipients, and the scale of off- and on-flows to tax credits, considerable thought would need to be given as to how to measure the impact of any programme (which would, for the reasons above, be likely to be

²⁷ Riley, R. and Rosazza-Bondibene, C. (2015). The impact of the National Minimum Wage on UK Businesses, Report to the Low Pay Commission, London: National Institute of Economic and Social Research and Centre For Macroeconomics.

spread relatively thinly over a rather large target group) in a way which would permit rigorous evaluation of any savings.

Annexes

Annexe 1: Illustrative tax credit eligibility for seven household types

One adult works 20 hours at minimum wage, 50 weeks annually, gross annual wages £6,190

Element	Single	Single disabled	Couple	Lone parent 1 child	Lone parent 2 children	Couple 1 child	Couple 2 children
WTC basic	-	£1,920	£1,920	£1,920	£1,920	£1,920	£1,920
WTC disabled	-	£2,790	-	-	-	-	-
WTC couples/lone	-	-	£1,950	£1,950	£1,950	£1,950	£1,950
CTC family	-	-	-	£ 545	£ 545	£ 545	£ 545
CTC child	-	-	-	£2,690	£5,380	£2,690	£5,380
Tax credits	-	£4,710	£3,870	£7,105	£9,795	£7,105	£9,795

The taper: one adult works 20 hours at £10/hour, 50 weeks annually. Labour income £10,000

Element	Single	Single disabled	Couple	Lone parent 1 child	Lone parent 2 children	Couple 1 child	Couple 2 children
WTC basic	-	£1,920	£1,920	£1,920	£1,920	£1,920	£1,920
WTC disabled	-	£2,790					
WTC couples/lone	-		£1,950	£1,950	£1,950	£1,950	£1,950
CTC family	-			£ 545	£ 545	£ 545	£ 545
CTC child	-			£2,690	£5,380	£2,690	£5,380
(taper)	-	-£1468	-£1468	-£1468	-£1468	-£1468	-£1468
Total credits	-	£3,242	£2,402	£5,682	£8,372	£5,682	£8,372

**The taper: one adult works 32 hours at £6.19/hour, 50 weeks annually. Labour income
£9,904**

Element	Single	Single disabled	Couple	Lone parent 1 child	Lone parent 2 children	Couple 1 child	Couple 2 children
WTC basic	£1,920	£ 1,920	£1,920	£1,920	£1,920	£1,920	£1,920
WTC disabled		£ 2,790					
WTC couples/lone			£1,950	£1,950	£1,950	£1,950	£1,950
30 hours	£ 790	£ 790	£ 790	£ 790	£ 790	£ 790	£ 790
CTC family				£ 545	£ 545	£ 545	£ 545
CTC child				£ 2,690	£ 5,380	£2,690	£5,380
(taper)	-£1,428	-£ 1,428	-£ 1,428	-£1,428	-£1,428	-£1,428	-£1,428
Total credits	£ 1,282	£ 4,072	£ 3,232	£ 6,467	£ 9,157	£ 6,467	£ 9,157

**The taper: one adult works 40 hours at £10/hour, 50 weeks annually. Labour income
£20,000**

Element	Single	Single disabled	Couple	Lone parent 1 child	Lone parent 2 children	Couple 1 child	Couple 2 children
WTC basic	-	-	-	£ 1,920	£ 1,920	£ 1,920	£ 1,920
WTC disabled	-	-	-				
WTC couples/lone	-	-	-	£ 1,950	£ 1,950	£ 1,950	£ 1,950
CTC family	-	-	-	£ 545	£ 545	£ 545	£ 545
CTC child	-	-	-	£ 2,690	£ 5,380	£ 2,690	£ 5,380
(taper)	-	-	-	-£ 5,568	-£ 5,568	-£ 5,568	-£ 5,568
Total credits	-	-	-	£ 1,537	£ 4,227	£ 1,537	£ 4,227

Annexe 2: Longitudinal LFS samples sizes

Table A2.1: Sample sizes, pooled second-quarter longitudinal LFS, all

	All	Childless	Lone Parents	Couples with Children
UK	133,315	92,457	6,179	31,679
Greater Manchester	5,387	3,843	327	1,217
London	12,807	8,493	791	3,523
Northern Met Counties	27,362	19,736	1,567	6,059

Table A2.2: Sample sizes, pooled second-quarter longitudinal LFS, non-disabled, no change in couple status or number of children

	All	Childless	Lone Parents	Couples with Children
UK	103,514	72,172	4,609	26,733
Greater Manchester	4,097	2,889	222	986
London	10,491	6,898	622	2,971
Northern Met Counties	21,071	14,877	1,150	5,044

Table A2.3: Sample sizes, pooled second-quarter longitudinal LFS, receiving in-work tax credits in the first quarter, all

	All	Childless	Lone Parents	Couples with Children
UK	6,096	1,113	2,883	2,100
Greater Manchester	322	69	141	112
London	650	73	308	269
Northern Met Counties	1,509	274	704	531

Table A2.4: Sample sizes, pooled second-quarter longitudinal LFS, receiving in-work tax credits in the first quarter, non-disabled and no change in couple status or number of children

	All	Childless	Lone Parents	Couples with Children
UK	4,763	637	2,400	1,726
Greater Manchester	234	37	112	85
London	492	47	266	179
Northern Met Counties	1,178	161	582	435

Table A2.5: Sample sizes, pooled fifth-quarter longitudinal LFS, all

	All	Childless	Lone Parents	Couples with Children
UK	17,854	13,047	696	4,111