



The impact of Quantitative Easing on incomes  
of the over 50s and potential implications  
for consumption and GDP

August 2012





I sincerely hope that this research will make an important contribution to the current economic policy debate. It is important that the effects of Bank of England policies on Britain's 21million over 50s are seriously considered. Saga seeks, with this publication, to inform the public debate and ensure important issues are not overlooked by policymakers.

In an ageing population with an impaired banking system, it is possible that both conventional and non-conventional monetary policy may not work as intended and can even have negative impacts on growth, but policymakers have just automatically assumed that lower long-term and short-term interest rates must be a stimulus to the economy. After three years of rock bottom interest rates and a third round of gilt-buying for Quantitative Easing (QE), the economy is still flat-lining. It is, therefore,

important to seriously consider whether part of the reason for this ongoing economic weakness is the impact of monetary policy itself. Especially with our pension system which is underpinned by gilt yields, there is surely a risk that continued ultra-low interest rates may not have the expected effects on lending and spending.

The Saga Foundation has commissioned the Centre of Economics and Business Research (Cebr) to produce an analysis of potential policy impacts to add to the public debate following the Bank of England's recent research.

Cebr estimates that real incomes for the over 50s would have been 1.5% higher without QE. This group comprises 21million people and represents more than half of UK households and nearly half of total domestic consumption.

So far, policy easing has been predicated on future falls in inflation below the 2% official target, which have not materialised. This research suggests that the negative impacts of QE may have reduced UK GDP by as much as 0.5% in the past year, and that the impact of older households worried about their financial situation has played a major role in pushing the UK economy into recession.

Inflation has impacted all groups of the population, and the cumulative effects over time on real incomes can be significant.

Cumulative inflation: Q1 2008 – Q2 2012

Age 75+	19.7%
65-74	20.1%
50-64	17.1%
30-49	11.0%
< 30	13.2%

Real income fall: Q1 2008 – Q2 2012

Age 75+	- 7%
65-74	- 11%
50-64	- 8.8%
30-49	- 3.9%
< 30	- 4.3%

QE has reduced annuity rates and drawdown pensions – and thereby lowered tax revenues too. With record numbers reaching retirement age this year and next, and nearly half a million people buying annuities, the current monetary situation is (permanently) lowering many older citizens' income.

This study only focuses on the impact of QE on inflation, real incomes, consumption and defined contribution pensions. Further negative effects arise from the impact of QE on defined benefit pensions too, as falling gilt yields have caused final salary scheme deficits to soar, forcing firms to put more money into their pension funds. This means less money to invest in their business, less growth and less employment as firms cannot expand and banks are often refusing to lend to companies with big deficits.

It is clear that more work is urgently required to assess not only any benefits but also the costs of the policy of QE.

So, what could the authorities do instead of QE to stimulate our economy? We believe that there are other policies that could be more effective in generating growth and employment. Firstly, a temporary tax break for capital spending projects for say 12 or 18 months would encourage businesses (many of whom have plenty of cash after raising cheap money on the corporate bond markets but they have just been sitting on the funds) to start capital expenditure that they might be considering in the medium term and bring it forward.

Secondly, the Government could introduce meaningful incentives for house building, since there is a clear shortage of housing which is hampering social and geographical mobility. For example, building aspirational housing suitable for older generations to downsize to would both stimulate growth and help the housing market.

Thirdly, we would like to see the Government harnessing the power of pension fund assets to invest directly in infrastructure and small business loan schemes, with a Government underpin to reduce risk. So far, all the credit and lending schemes have relied on banks as a transmission mechanism and lower lending rates as the incentive, whereas the major problems are not the interest rates charged, but the added fees and conditions and the general over-cautious attitudes of weak banks.

Policymakers do have other ways to spend billions of pounds instead of gilt-buying which undermines our whole pension system.

I hope this research will be of interest to policymakers, and stimulate further thought about the real impact of monetary policy in the current economic environment. We do not seek to suggest there are easy answers, merely to highlight important issues for public debate. Of course it is for policymakers to decide what to do, however this research aims to provide useful information for further consideration in future policy decisions.

Dr Ros Altmann  
Director-General, Saga

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This briefing note presents an evaluation of hitherto unquantified impacts of the Bank of England’s quantitative easing (QE) monetary policy on the real economy of the United Kingdom. The transmission mechanisms considered here are those relating to real incomes and consumption expenditure, with special emphasis on the group of the over 50s, which make up about half of UK households and account for nearly half the consumption expenditure in the economy.

The results presented on income in the first section of this report evaluate how the higher inflation, resulting from quantitative easing, has affected purchasing power among UK households. It also looks at the effect of quantitative easing on annuity and drawdown income among pensioners.

The second section of this report utilises survey data and consumption statistics to derive an estimate of the impact of higher inflation and falling real incomes on consumption expenditure of the over 50s and GDP.

The third section of this report uses an alternative, marginal propensity consume approach to estimate the fall in consumption expenditure and GDP impact.

### Key findings

- We estimate that real incomes among the over 50s might have been 1.5% higher without QE.
- Since the UK first entered recession in the first half of 2008, real incomes have been affected more for the over 50s than other age groups. This largely reflects the fact that this age group failed to benefit significantly from lower mortgage interest payments when the Bank of England cut its Bank Rate to 0.5%. In addition, the cut in the Bank Rate led to a significant reduction in savings income for this age group, further eroding real incomes. Between Q1 2008 and Q2 2012, real incomes are estimated to have fallen for different age group households as follows (by age of household reference person):

Age 75+	7.0%
65-74	11.0%
50-64	8.8%
30-49	3.9%
< 30	4.3%

## Introduction

- Given the estimated falls in real incomes between Q1 2008 and Q2 2012, we calculate that consumption among the over 50s has declined as much as 5.8% in real terms over this time period, constituting a 1.6 percentage point drag on GDP. This compares with a 3.9% decline in consumption for the average UK household over the time period.
- **Falling spending by older households as a result of declining real incomes may have led to a downward drag of as much as 1.6 percentage points on GDP and played a major role in pushing the UK economy into recession. We estimate that GDP will be £24.7 billion lower in 2012 as a result of this downward drag.**
- We estimate an overall drag on GDP of 0.5 percentage points as a result of the negative consumption effect (through high inflation) of QE across all UK households. **We estimate that GDP will be £7.7 billion lower in 2012 as a result of this downward drag.**
- Using a Marginal Propensity to Consume analysis we estimate that QE in particular, through the erosion of real incomes, has led to a 1.0% decline in consumption among the over 50s, constituting a 0.3 percentage point drag on GDP.
- Pensioners with income drawdown policies have seen a sharp decline in drawdown income as a result of falling gilt yields. The fall in gilt yields is in part a result of the impact of QE on government bond prices.
- Pensioners with £100,000 in income drawdown in 2012 would now need an additional £40,000 to £50,000 in their pension fund to offset the falls in drawdown income and be able to withdraw the same income as would have been possible with a £100,000 pension fund three years ago.
- Annuity rates have also fallen significantly following the introduction of QE depressing incomes of recent retirees with defined contribution pensions.

## Section I – The impact of Quantitative Easing on real incomes

This section of the report assesses the impact of quantitative easing on real incomes. It calculates how real incomes have fared for different age groups in recent years, and then analyses the impact of quantitative easing on inflation and real incomes for these age groups.

### Real incomes have fallen more for the over 50s than the rest of the population

- Since the UK entered recession in 2008, real incomes (deflated using RPI-based price indices<sup>1</sup>) have fallen more significantly for the over 50s than the population as a whole.
- This predominantly reflects the fact that RPI-based inflation (i.e. inflation including mortgage interest payments), was much higher for over 50s than the rest of the population during the recession. This is because, for this age group, mortgage interest payments constitute a far lower proportion of total expenditure. Consequently, this age group saw little to no decline in the cost of living as interest rates were cut. In contrast, those aged 30-49 experienced deflation during the recession as mortgage interest payments declined.
- In addition to this, inflation has been higher among pensioners than younger age groups since September 2011, when steep rises in gas and electricity prices pushed up the cost of living significantly more among this age group.
- Quantitative easing during the recession also placed upward pressure on inflation.
- Between Q1 2008 and Q2 2012, real incomes are estimated to have fallen for different age group households as follows (by age of household reference person):

Age 75+	7.0%
65-74	11.0%
50-64	8.8%
30-49	3.9%
< 30	4.3%

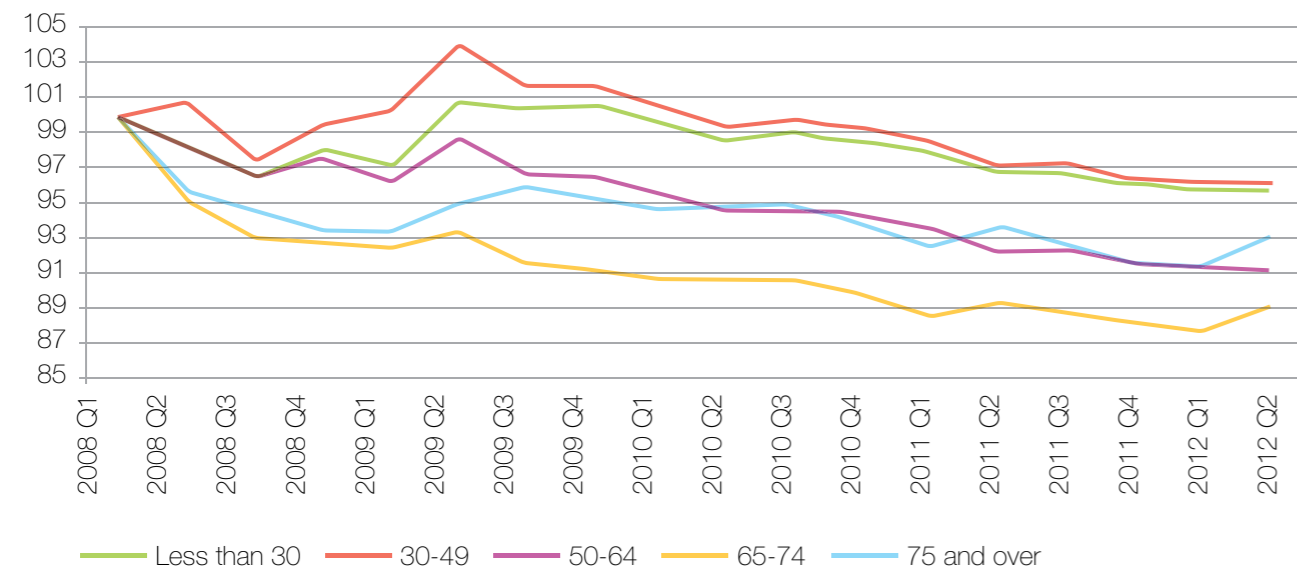
- Between Q1 2008 and Q2 2012, prices are estimated to have risen for different age group households as follows (by age of household reference person):

Age 75+	19.7%
65-74	20.1%
50-64	17.1%
30-49	11.0%
< 30	13.2%

<sup>1</sup> We have used data from the Family Expenditure Survey to estimate experienced inflation rates for different age groups based on their expenditure patterns.

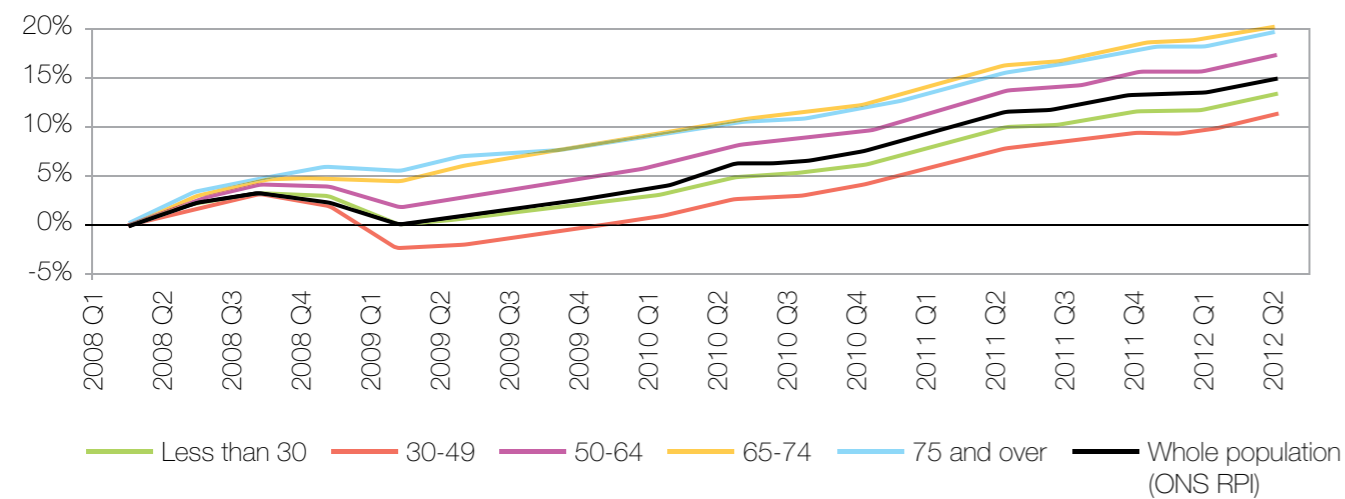
## The impact of Quantitative Easing on real incomes

Figure 1: Household gross real incomes, deflated by RPI-based price indices (Q1 2008 = 100), by age of household reference person



Source: Cebr analysis

Figure 2: Estimated increase in household prices compared with Q1 2008, RPI-based price indices, by age of household reference person



Source: Cebr analysis

## The impact of Quantitative Easing on real incomes

Table 1: Household gross real incomes, deflated by RPI-based price indices (Q1 2008 = 100), by age of household reference person

	Under 30	30-49	50-64	65-74	75 and over
<b>2008 Q1</b>	100.0	100.0	100.0	100.0	100.0
<b>2008 Q2</b>	98.0	100.7	98.2	95.2	95.8
<b>2008 Q3</b>	96.5	97.5	96.6	93.0	94.4
<b>2008 Q4</b>	97.9	99.5	97.6	92.6	93.5
<b>2009 Q1</b>	97.1	100.3	96.3	92.5	93.5
<b>2009 Q2</b>	100.8	104.1	98.6	93.3	95.0
<b>2009 Q3</b>	100.5	101.8	96.7	91.6	95.8
<b>2009 Q4</b>	100.5	101.6	96.4	91.1	95.2
<b>2010 Q1</b>	99.7	100.5	95.5	90.6	94.7
<b>2010 Q2</b>	98.6	99.4	94.5	90.5	94.9
<b>2010 Q3</b>	98.9	99.7	94.7	90.4	94.7
<b>2010 Q4</b>	98.5	99.2	94.2	89.7	93.9
<b>2011 Q1</b>	98.0	98.5	93.4	88.6	92.6
<b>2011 Q2</b>	96.8	97.2	92.3	89.1	93.5
<b>2011 Q3</b>	96.6	97.1	92.2	88.6	92.7
<b>2011 Q4</b>	96.1	96.5	91.5	88.0	91.7
<b>2012 Q1</b>	95.8	96.2	91.2	87.7	91.4
<b>2012 Q2</b>	95.7	96.1	91.2	89.0	93.0

Source: Cebr analysis

## The Impact of Quantitative Easing on Real Incomes

Table 2: Estimated increase in household prices compared with Q1 2008, RPI-based price indices, by age of household reference person

	Under 30	30-49	50-64	65-74	75 and over	Whole population (ONS cumulative RPI)
2008 Q1	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
2008 Q2	2.0%	1.8%	2.4%	2.7%	3.0%	2.0%
2008 Q3	3.2%	3.0%	3.9%	4.3%	4.7%	3.0%
2008 Q4	2.6%	1.8%	3.5%	4.7%	5.7%	2.1%
2009 Q1	0.0%	-2.4%	1.8%	4.5%	5.6%	-0.1%
2009 Q2	0.6%	-2.1%	3.0%	6.0%	6.7%	0.7%
2009 Q3	1.5%	-1.2%	4.0%	6.9%	7.3%	1.6%
2009 Q4	2.3%	-0.2%	5.0%	7.8%	8.1%	2.7%
2010 Q1	3.1%	0.7%	6.0%	8.8%	8.9%	3.9%
2010 Q2	4.7%	2.4%	7.8%	10.5%	10.2%	5.9%
2010 Q3	5.2%	2.9%	8.4%	11.0%	10.6%	6.3%
2010 Q4	6.1%	4.0%	9.5%	12.2%	11.7%	7.5%
2011 Q1	7.7%	5.7%	11.4%	14.2%	13.5%	9.4%
2011 Q2	9.7%	7.6%	13.4%	16.1%	15.4%	11.3%
2011 Q3	10.4%	8.3%	14.2%	16.9%	16.4%	11.9%
2011 Q4	11.3%	9.2%	15.3%	18.2%	17.9%	13.0%
2012 Q1	11.7%	9.6%	15.7%	18.7%	18.4%	13.5%
2012 Q2	13.2%	11.0%	17.1%	20.1%	19.7%	14.7%

Source: Cebr analysis

## The impact of Quantitative Easing on real incomes

### QE has led to a decline in annuity and drawdown income for pensioner households

As the graph below shows, quantitative easing has created downward pressure on 15-year gilt yields:

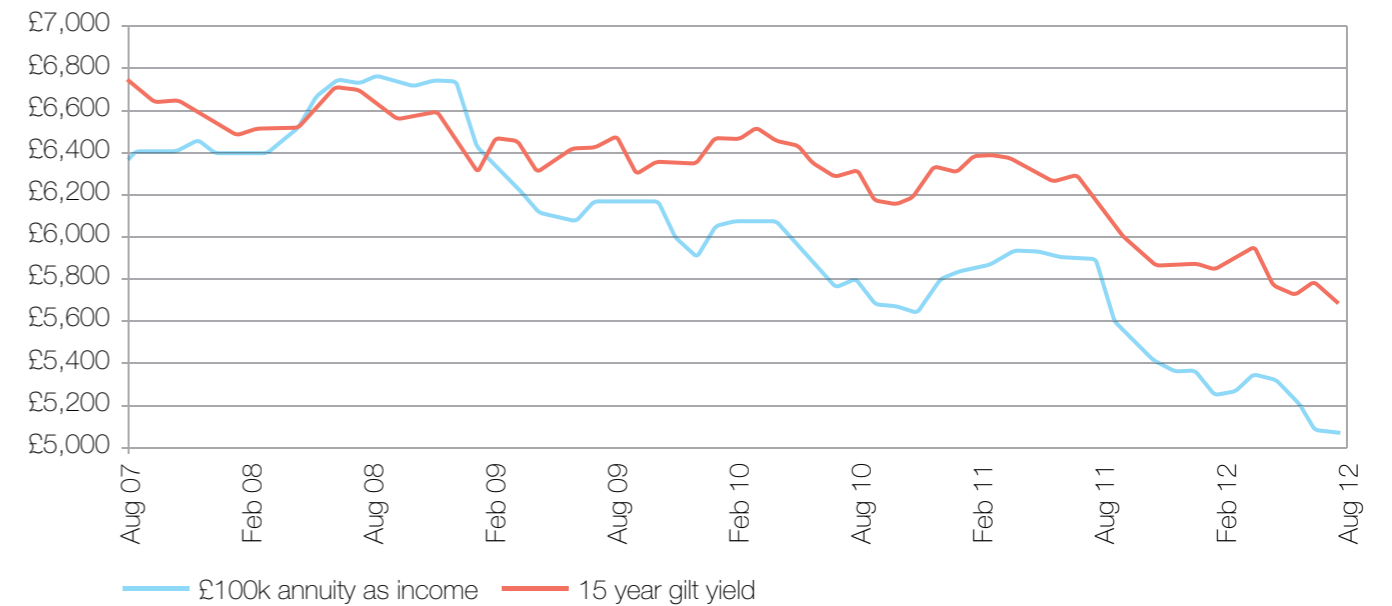
Figure 3: Stock of assets purchased under QE versus 15-year gilt yield



Source: Bank of England, Macrobond, Better Retirement Group

And this fall in gilt yields has led to a decline in the average income someone approaching retirement can expect from an annuity:

Figure 4: Annual income from purchasing a £100,000 annuity versus 15-year gilt yield



Source: Saga, Macrobond, Better Retirement Group

Note: Annuity income relates to a male aged 65 purchasing a £100,000 joint life 2/3rds

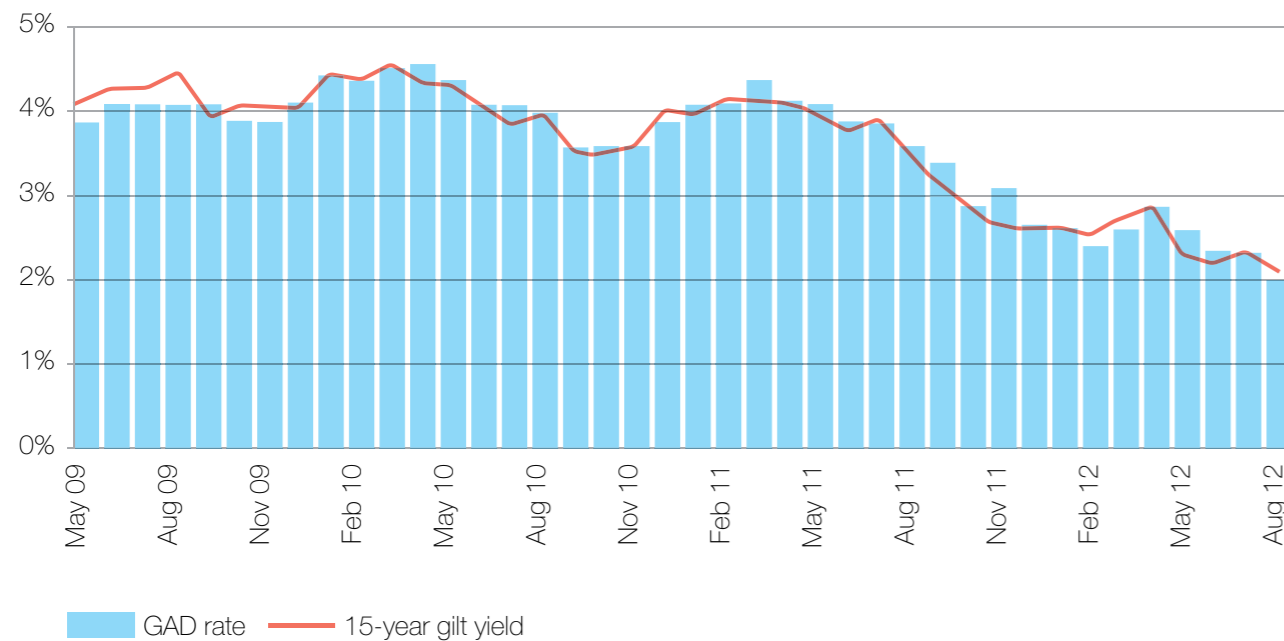
Between August 2009 and August 2012, the average annual income a 65 year old male retiree can expect from purchasing a £100,000 annuity has fallen from £6,177 to £5,067 – a fall of 18.0% over three years. This is a permanent loss of future income for those approaching retirement.



## The impact of Quantitative Easing on real incomes

Among pensioners already retired, quantitative easing has also had an effect. Individuals using a capped income drawdown plan as a source of income have been affected by the decline in gilt yields associated with QE and rock bottom interest rates. The Government Actuary Department (GAD) rates used to calculate the maximum drawdown pension that can be taken from a pension fund are linked to changes in 15-year gilt yields, as these are supposed to best reflect annuity rates. This is reflected in the graph below:

Figure 5: GAD rate versus 15-year gilt yield



Source: HMRC, Macrobond, Better Retirement Group

The GAD rate fell from 4.0% in August 2009 to 2.0% in August 2012, which has led to a sharp decline in the maximum income that can be drawn down. For example, for a male aged 65 with a £100,000 pension fund, the maximum annual income that could be drawn in August 2012 was £5,300. On the basis of GAD rates in August 2009, a 100% GAD rate drawdown would have been £6,600, so the 2012 rate is 19.7% lower than with the August 2009 GAD rates.

In addition to the decline in gilt yields, many pensioners with drawdown plans have also been impacted by government changes to the maximum amount that can be drawn for a given GAD rate. From April 2011, the maximum amount of income that may be drawn is 100% of the single life annuity that somebody of the same sex and age could purchase based on GAD rates. Prior to this, the maximum amount was 120% of the GAD rate. Taking this into account as well as the fall in GAD rates, the maximum capped drawdown for a male aged 65 with a £100,000 pension fund has fallen from £7,920 in August 2009 to £5,300 in August 2012 – a decline of 33.1%.

<sup>2</sup>Joint life 2/3rds, guaranteed 5 years, level payments annuity

## The impact of Quantitative Easing on real incomes

Table 3 below outlines how the maximum drawdown has changed for a range of age groups, and for male and female pensioners. The table also shows the increase in savings required to offset the loss of drawdown income due to lower GAD rates.

Table 3: Maximum capped drawdown from a £100,000 pension fund

	Male – by age			Female – by age		
	65	70	75	65	70	75
August 2009	£7,920	£9,000	£10,800	£7,440	£8,520	£9,960
August 2012 (GAD rate reduced to 2.0%)	£5,300	£6,200	£7,700	£4,900	£5,800	£7,000
% change in maximum drawdown	-33.1%	-31.1%	-28.7%	-34.1%	-31.9%	-29.7%
Increase in value of pension fund required to maintain August 2009 income	£49,434	£45,161	£40,260	£51,837	£46,897	£42,286

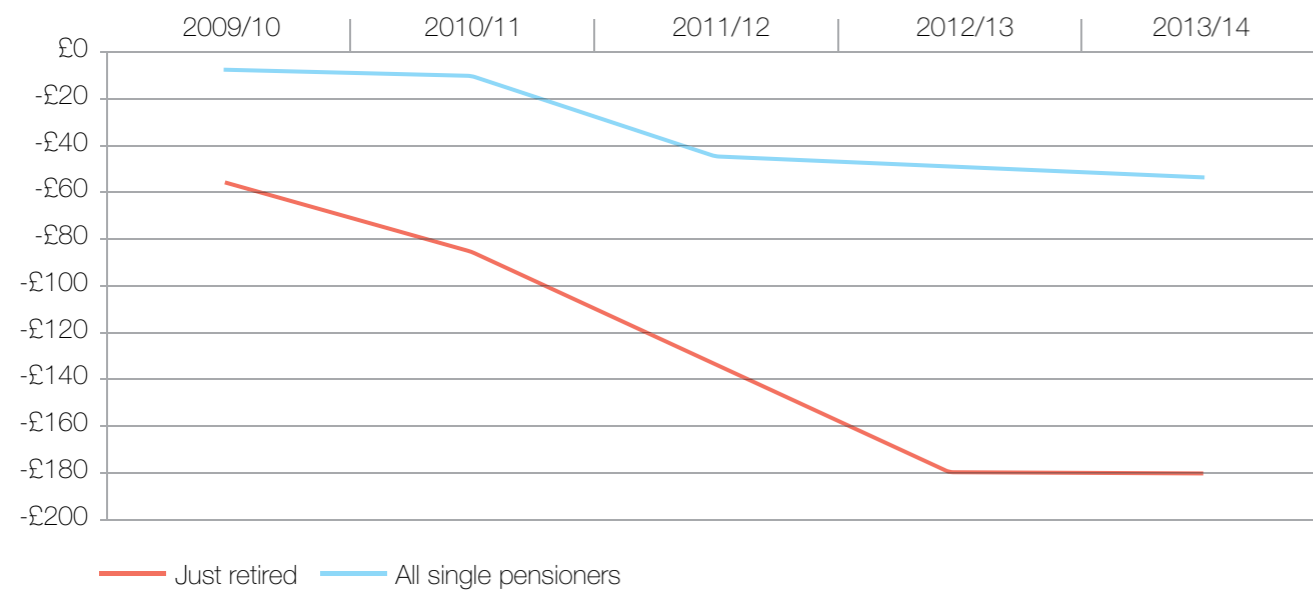
Source: HMRC

Pensioners with £100,000 in income drawdown in 2012 would need an additional £40,000 to £50,000 in their pension fund to offset the falls in drawdown income and be able to withdraw the same income as would have been possible three years ago – a huge increase in required pension savings.

As most pensioner households do not hold annuities or drawdown policies, the annual impacts are smaller than when looking at an individual household purchasing an annuity or drawdown policy for the whole pensioner population. Pensioners just retiring and middle-to-high income pensioners have been hard hit by lower gilt yields in recent years, with those just retiring seeing their annuity income permanently lower as a result, and middle-to-high income individuals with drawdown policies seeing their maximum drawdown reduced. The losses to pensioner households will grow over time, as more people come up to retirement and decide to purchase annuities.

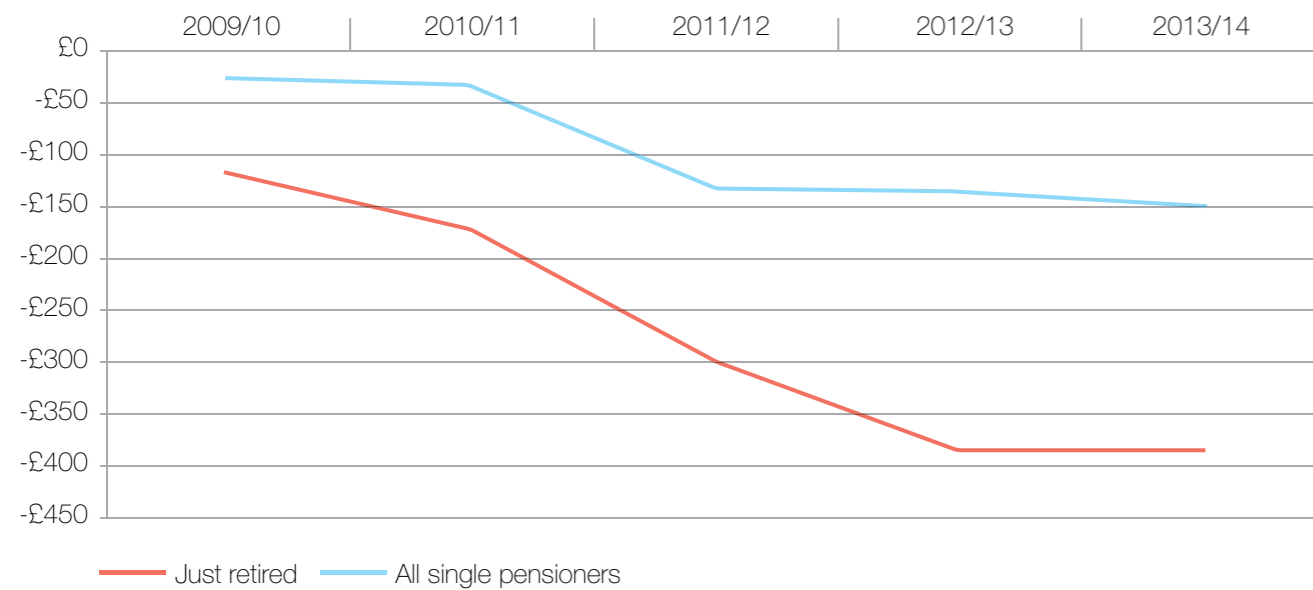
## The Impact of Quantitative Easing on Real Incomes

Figure 6: Annual £ loss in pensioner income between 2009/10 and 2013/14 as a result of lower gilt yields and lower capped drawdown – single pensioner households



Source: Cebr analysis

Figure 7: Annual £ loss in pensioner income between 2009/10 and 2013/14 as a result of lower gilt yields and lower capped drawdown - pensioner couples



Source: Cebr analysis

## The impact of Quantitative Easing on real incomes

Table 4: Estimated average annual loss in pensioner income as a result of lower annuity and drawdown income

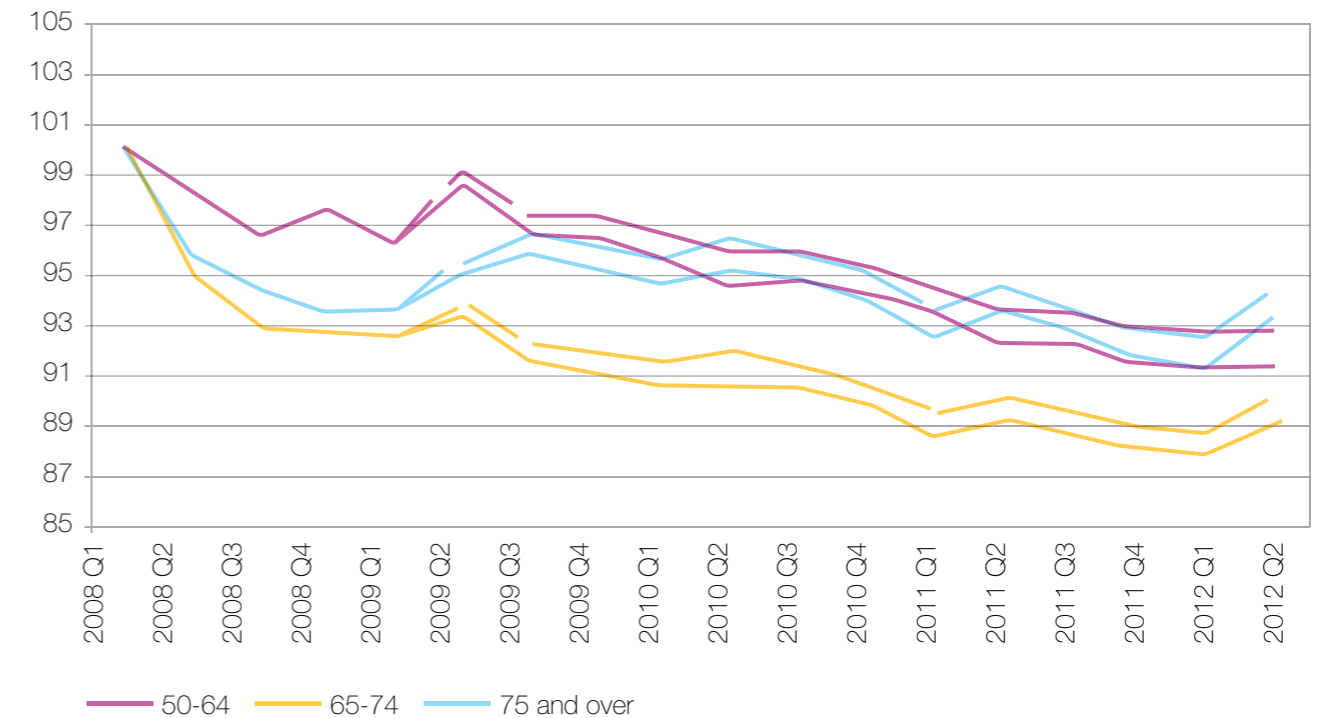
	Just retired single pensioners	All single pensioners	Just retired pensioner couples	All pensioner couples
2009/10	-£58.08	-£7.96	-£119.03	-£24.34
2010/11	-£85.58	-£10.75	-£171.67	-£32.54
2011/12	-£136.02	-£44.37	-£300.81	-£132.58
2012/13	-£181.49	-£48.80	-£387.87	-£135.27
2013/14	-£181.49	-£54.08	-£387.87	-£149.42

Sources: Cebr analysis

### Quantitative easing has contributed to the decline in real incomes

- Bank of England estimates<sup>3</sup> suggest that the first round of QE in the UK had a peak effect on annual CPI inflation of about 1.25 percentage points, with the peak occurring in March 2010.
- Based on this estimate of the impact of QE on inflation, we have modelled how real incomes among the over 50s would have fared had no QE occurred.
- Overall our analysis suggests that, in Q2 2012, real incomes among the over 50s would have been 1.5% higher had QE not taken place – this is illustrated graphically below. This reflects the fact that QE has had an upward effect on prices in the UK.

Figure 8: Household gross real incomes, deflated by RPI-based price indices (Q1 2008 = 100), by age of household reference person – dashed lines illustrate Cebr's estimate of real incomes under a "no QE" scenario.



Source: Cebr analysis

<sup>3</sup>Bank of England Working Paper No. 443 – "Assessing the economy-wide effects of quantitative easing".



## Section II – Estimated changes in consumption expenditure of the over 50s – a survey-based approach

This section quantifies the possible consumption impact of the current macroeconomic climate facing the over 50s. In the absence of empirical data – the ONS releases a detailed break-down of spending by different demographic groups at the end of November for the preceding year – we have used survey data as a basis for the estimate. The following section explains the estimation approach and the underlying assumptions, followed by a more detailed explanation of sources. We then present the estimates.

### Sources, approach and assumptions

The basic approach is to combine an analysis of historical consumption data and the results of a survey of spending of the over 50s. The survey in question is the Saga Populus Panel Survey with over 10,000 respondents, which questions participants about which essential and non-essential items they have cut back on.

Using the latest edition of the survey, we matched the spending items in the survey with those of the Office for National Statistics' final consumption expenditure classification. Combined with the detailed responses expressed in the share of people cutting back their spending on a given item, this provides an empirical assessment of the proportion of over 50s' consumption affected by cut-backs. Some assumptions here are, firstly, that people actually do as they claim in the survey and, secondly, that those cutting back are well reflected in the age group averages reported in the ONS data.

In order to determine the extent of the decline for each consumption category by different demographic groups, we have analysed publicly available tables from the Office for National Statistics' Family Spending report up to end 2010. To determine a reasonable extent of change in consumption for various goods and services, we have calculated the average fall in consumption during times of falling expenditure for the over 50s between 2001 and 2010 and taken this as an estimate of the reduction of consumption spending.

To arrive at summary statistics for the final consumption expenditure of the over 50s, the consumption figures are weighted by the relative share in the number of households for the 50-64, 65-74 and 75+ age groups.

Finally, the overall consumption share of the different categories is taken into account to derive an aggregate number for the impact of reduced spending.

## Estimated changes in consumption expenditure of the over 50s – a survey-based approach

### Results

Table 5 outlines the key results of the computations. In column (A), the table lists the share of survey respondents that have said that they have cut back on a spending category. For example, a weighted 27.4% of over 50s have reduced their spending on alcohol and tobacco. The exact survey items have been allocated to the relevant items within a spending category and column (B) quantifies the proportion of the category that the reduction applies to, in the example of alcohol and tobacco to the entire money spent on that category. Column (C) displays our estimate of the average fall in consumption during times of falling expenditure based on the ONS Family Spending tables. Column (D) then lists the share of a given category in the overall spending of the over 50s, with all items summing to 100%. In column (E), we have calculated the estimated reduction in spending on a given category. Finally, column (F) shows the product of the columns (A)-(E), multiplying one with the other. Given this step we can sum the results of column (F) to give the overall estimate of the spending impact according to our methodology.

Table 5: Summary measures of the spending impact of over 50s by expenditure category<sup>4</sup>

	(A) Survey respondents cutting down	(B) Portion of category affected	(C) Average decline in over 50s consumption during periods of falling expenditure	(D) Category share of expenditure	(E)=(A)x(B)x(C) Estimated fall in expenditure	(F)=(D)x(E) Expenditure fall as share of total expenditure
<b>Food &amp; drink</b>	78.00%	88.65%	0.50%	14.36%	0.35%	0.05%
<b>Alcohol &amp; tobacco</b>	27.41%	100.00%	6.10%	3.06%	1.67%	0.05%
<b>Clothing &amp; footwear</b>	56.00%	100.00%	5.70%	5.13%	3.19%	0.16%
<b>Housing</b>	63.22%	23.37%	0.40%	13.54%	0.06%	0.01%
<b>Household goods</b>	50.00%	22.09%	8.30%	8.56%	0.92%	0.08%
<b>Health</b>	n/a			1.71%		
<b>Transport</b>	75.00%	72.49%	11.50%	15.53%	6.25%	0.97%
<b>Communication</b>	19.00%	91.69%	5.20%	3.07%	0.91%	0.03%
<b>Entertainment</b>	45.42%	36.74%	5.20%	15.76%	0.87%	0.14%
<b>Education</b>	n/a			1.53%		
<b>Hospitality</b>	78.28%	91.36%	3.10%	9.06%	2.22%	0.20%
<b>Miscellaneous</b>	36.00%	5.30%	3.40%	8.66%	0.06%	0.01%
<b>Total fall in expenditure</b>						1.69%

Source: Saga Populus Panel Survey, Office for National Statistics, Cebr

<sup>4</sup>There is no Saga survey data on health and education expenditure, so these categories have been omitted from the analysis.

## Estimated changes in consumption expenditure of the over 50s – a survey-based approach

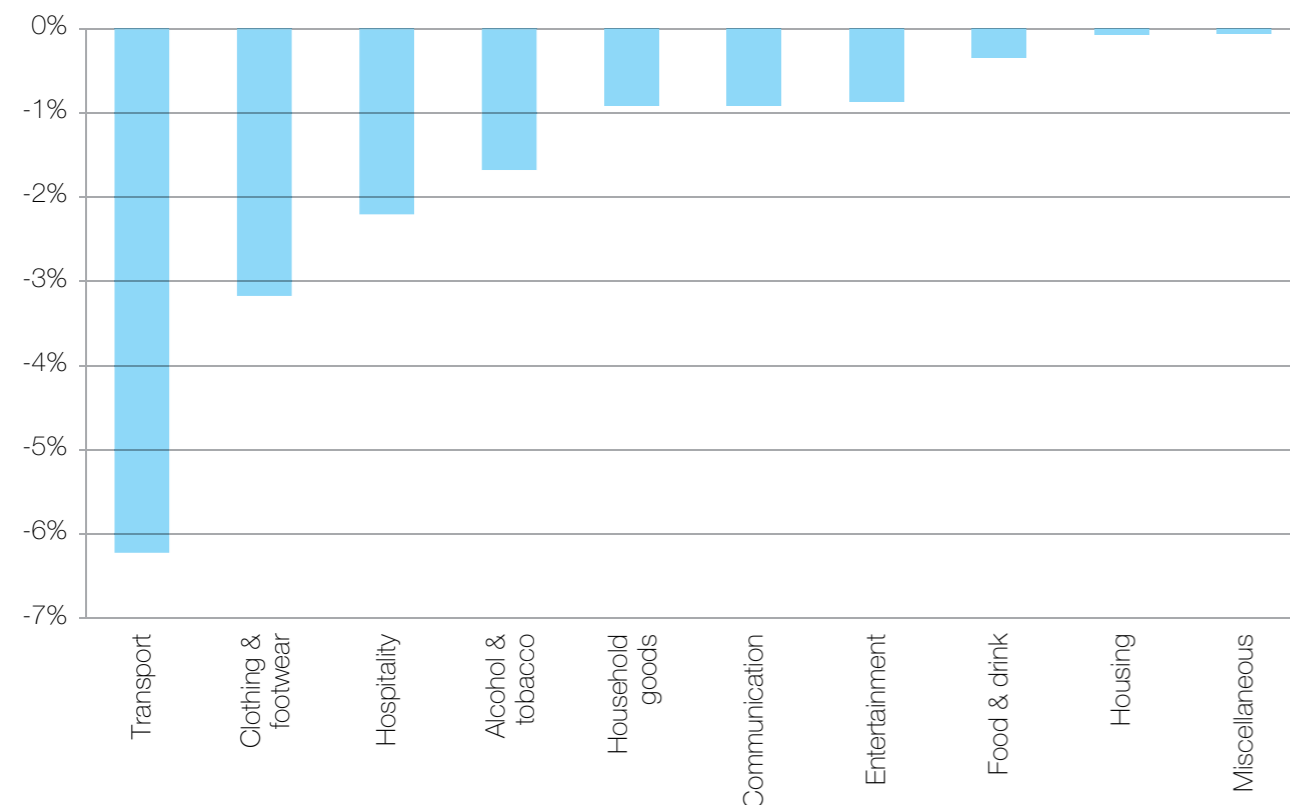
### Impact on the economy over the past year

Overall, according to the calculation method outlined above, we estimate a reduction in final domestic consumption expenditure of 1.7% over the past year for the demographic of the over 50s. Given that they make up slightly over half – 53.1% – of the households in the economy and also account for nearly half – 46.0% – of the spending as calculated by multiplying the number of households by their weekly expenditure, if correct this would have a major impact on the economy.

With 46.0% of household-number weighted spending power cutting back 1.7%, and household consumption expenditure making up 60.0% of GDP according to the latest data, we would expect a downward drag of 0.5 percentage points on GDP from this alone.

In other words, falling spending by older households worried about their financial situation has played a major role in pushing the UK economy into recession if these calculations are borne out by facts – something that will become clear towards the end of this year when the ONS releases the relevant figures for 2011. For illustrative purposes, Figure 9 shows the estimated reduction in spending by category, as in (E) in Table 5 in more detail.

Figure 9: Estimated reduction in spending of over 50s by expenditure category



Source: Saga Populus Panel Survey, Office for National Statistics, Cebr

## Section III – Estimated changes in consumption expenditure – a marginal propensity to consume approach

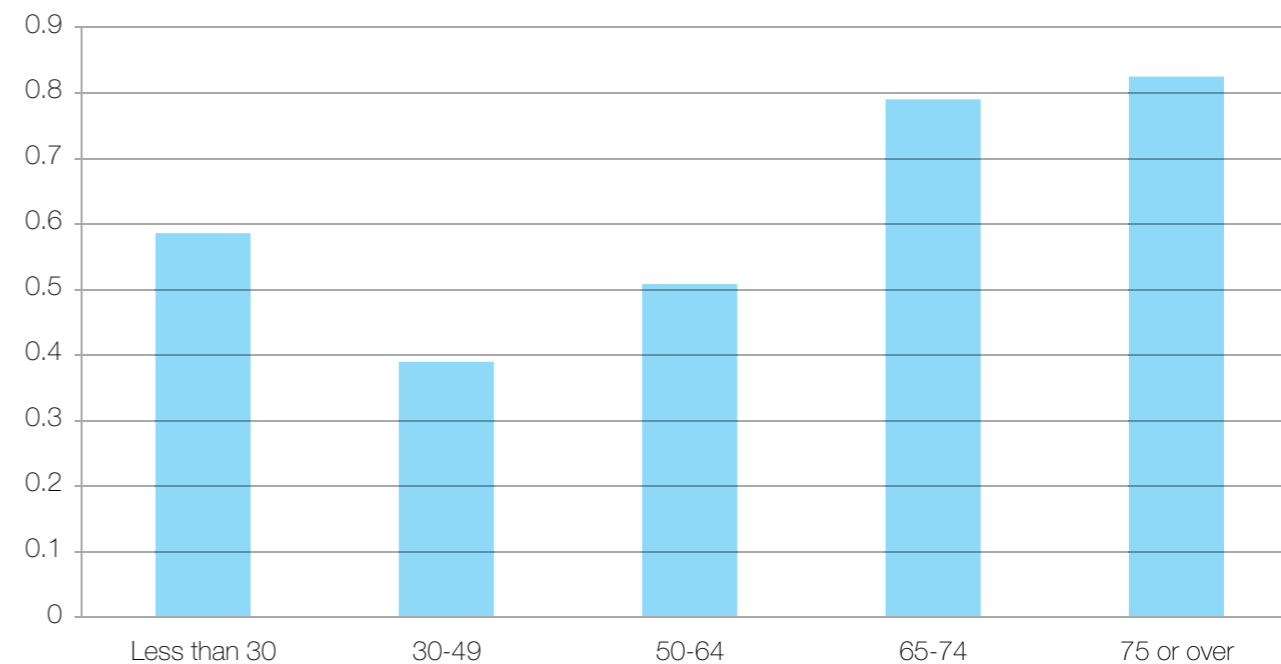
In this section of the report, we adopt an alternative marginal propensity to consume approach to estimating the fall in consumption across UK households.

Here, to estimate the fall in consumption across UK households, we make use of the estimates of the changes in household real incomes derived in the first section of this report.

We also need a measure of how much a change in income affects consumption. The concept that expresses the tendency to react to a change in income with a change in consumption is the marginal propensity to consume (mpc). A 2003 study of the Bank of England<sup>5</sup> estimated the mpc to be 0.58 for changes in income, meaning that households would spend 58 pence for each additional pound earned while saving the rest. Correspondingly, for a one pound decline in income, expenditure would be reduced by just 58 pence and saving by the remaining 42 pence.

To estimate the mpc for the over 50s, we have compared the change in consumption between 2000/01 and 2010 against the change in income over this time period, for different age groups (using ONS Family Expenditure Survey data). This gives the following estimate of the marginal propensity to consume for different age groups:

Figure 10: Estimated marginal propensity to consume for UK households, by age of household reference person



Source: Cebr analysis

<sup>5</sup>Fernandez-Corugedo, E., Price, S. and Blake, A. (2003) The dynamics of consumer expenditure: the UK consumption ECM redux. Working Paper No. 204, Bank of England.

The analysis shows that the marginal propensity to consume is highest among households where the reference person is aged 65 or above. This is likely to reflect the “life cycle” theory of consumption, with individuals spending a higher proportion of their income towards the end of their life cycle.

## Estimated changes in consumption expenditure – a marginal propensity to consume approach

### Changes in consumption since 2008

#### How falling real incomes have affected consumption across age groups

Given the estimated falls in real incomes between Q1 2008 and Q2 2012, outlined in Section I of this report, we estimate that **consumption among the over 50s has declined by 5.8% in real terms** over this time period. This compares with a 3.9% decline in consumption for the average UK household. Split by age, we estimate the following falls in consumption:

Less than 30	2.5%
30-49	1.5%
50-64	4.5%
65-74	8.7%
75 and over	5.7%
Total adult households	3.9%
Total over 50s	5.8%

#### Impact on GDP since 2008

The over 50s make up slightly over half – 53.1% – of the households in the economy and also account for nearly half – 46.0% – of the spending as calculated by multiplying the number of households by their weekly expenditure.

With 46.0% of household-number weighted spending power cutting back 5.8%, and household consumption expenditure making up 60.0% of GDP according to the latest data we would expect a **downward drag of 1.6 percentage points on real GDP as a result of falling real incomes among the over 50s since Q1 2008. We estimate that GDP will be £24.7 billion lower in 2012 as a result of this downward drag.**

## Estimated changes in consumption expenditure – a marginal propensity to consume approach

### Impact on consumption attributable to QE, based on estimated marginal propensities to consume

Given the 1.5% fall in real incomes outlined earlier as a result of QE and multiplying this by our estimated mpc for those aged 50 and over, we estimate that **consumption among the over 50s is 1.0% lower in real terms than would have been the case without QE**, slightly worse than the 0.9% fall seen for the average UK household. Split by age, we estimate the following falls in consumption attributable to QE:

Less than 30	1.0%
30-49	0.7%
50-64	0.9%
65-74	1.0%
75 and over	1.1%

#### Impact on GDP

With 46.0% of household-number weighted spending power cutting back 1.0%, and household consumption expenditure making up 60.0% of GDP according to the latest data we would expect a **downward drag of 0.3 percentage points on real GDP as a result of the fall in real incomes among the over 50s attributable to QE.**

**We estimate an overall drag on GDP of 0.5 percentage points as a result of the negative consumption effect (through high inflation) of QE in the whole population.**

## Conclusions

In summary, this analysis of Quantitative Easing highlights the potential negative effects on the UK economy via a reduction in real incomes and falling consumption, due to higher inflation and lower annuity and drawdown income. While QE has possibly supported the economy at a time of public spending cuts and ineffective standard interest rate policy, it is not a measure without costs.

While an exact quantification of the benefits and negative impacts of QE is highly uncertain, this research highlights the distributional consequences of current monetary policy in the United Kingdom and illustrates clearly that quantitative easing – the benefits of which are not certain – can have negative side-effects.

## Appendix I – Household expenditure by age of household reference person

	<b>Less than 30</b>	<b>30 to 49</b>	<b>50 to 64</b>	<b>65 to 74</b>	<b>75 or over</b>	<b>All house-Holds</b>
<b>Number of households (thousands)</b>	2,810	9,540	7,020	3,420	3,530	26,320
<b>Annual expenditure in 2010 (£ billions)</b>	66	284	189	65	44	648
<b>Share of total UK expenditure</b>	10.1%	43.9%	29.2%	10.0%	6.8%	100.0%
<b>Share of total households</b>	10.7%	36.2%	26.7%	13.0%	13.4%	100.0%

Source: ONS Family Spending, 2010

## Disclaimer

Whilst every effort has been made to ensure the accuracy of the material in this document, neither Centre for Economics and Business Research Ltd (Cebr) nor the report's authors will be liable for any loss or damages incurred through the use of the report.

### Authorship and acknowledgements

This report has been produced by Cebr, an independent economics and business research consultancy established in 1993, providing forecasts and advice to City institutions, government departments, local authorities and numerous blue chip companies throughout Europe. The main authors of this report are Scott Corfe, Charles Davis and Tim Ohlenburg

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