



**EVIDENCE FOR THE CONSULTATION ON THE REFORM TO  
RETAIL PRICES INDEX METHODOLOGY**

**Submission from the  
National Pensioners Convention**

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Dear RPI Consultation Team

## **NPC EVIDENCE FOR THE CONSULTATION ON THE REFORM TO RETAIL PRICES INDEX METHODOLOGY**

### **Introduction**

The National Pensioners' Convention (NPC) is Britain's biggest independent organisation of older people, representing around one thousand local, regional, and national pensioner groups with a total of 1.5 million members. The NPC is run by and for pensioners and campaigns for improvements to the income, health and welfare of both today's and tomorrow's pensioners and this response is based on the views and experiences of our members. We wish to submit these views to the RPI Consultation Team.

### **Consultation**

Pensioners currently have to deal with conflicting Price Indices, used extensively to represent levels of inflation. Some occupational pensions are linked to CPI, some to RPI, and the state pension to the triple lock. Many price increases are linked to RPI such as utilities, rail fares etc. Also, government bonds are linked to RPI. What we need is a universal inflation index that compensates pensioners fairly, still maintaining the triple lock, and ensures that price increases are on the same basis.

Most of the documents covering Price Indices, that originate from the ONS just consider CPI, CPIH and RPI and are clearly assuming that CPI and CPIH are correct and RPI is flawed with an upward bias. They base this observation simply on the use of Carli in the RPI and Jevons in the case of the CPI and the CPIH which apart from the inclusion of Housing in CPIH are essentially the same

Much of the arguments used in this submission are based on private observations contained in correspondence. Fortunately, the Approved Judgment of the BT Pic versus the BT Pension Trustees Court Case of 19 January 2018 <sup>1</sup> gives a ready source for this information and we are using this document as the main source of reference material.

*1. The Approved Judgment of the High Court of Justice Chancery Division in the case between British Telecommunications PLC (The Appellant) and BT Pension Scheme Trustees (Respondents) dated 19 January 2018, endorsed by the Court of Appeal heard in the Chancery Division of the Royal Courts of Justice whose Approved Judgment was dated 4th December 2018*

## **ORIGINS OF THE CONSUMER PRICE INDEX (CPI) AND THE RETAIL PRICE INDEX (RPI)**

### **The CPI Index**

CPI was introduced in 1996 as the harmonised index of consumer prices (HCIP) in response to EU regulation <sup>2</sup>. However, in a paper titled, "On the variations in the inflation experience of UK households (December 2014)" the ONS stated that:

"CPI is not a suitable measure of inflation experienced by the median household <sup>3</sup>."

Following on from a consultation in 2015 the United Kingdom Statistics Authority (UKSA) issued a paper: "measuring consumer prices: the options for change (dated June 2015)" and stated that:"

The CPI was compiled solely for comparison between EU countries.... It was not designed to measure inflation from a household perspective <sup>4</sup>. "

More importantly the paper went on to state:

"Nearly all EU countries, and all the major ones, used their own national indices as their main operating index. The UK would therefore be out of line with most international practice if it adopted the CPI or a close derivative such as CPIH as its main operating index".

The case for the CPI is therefore very insecure.

### **The RPI Index**

RPI is the UK's oldest price index. According to a paper produced by the ONS in 2010, it began life as a compensation index, developed as an aid to protect ordinary workers from price increases associated with the First World War. RPI was made an official inflation measure in 1956 <sup>5</sup>.

In the same ONS paper as that referred to in reference 3 it is stated that:

"the exclusion of the top 4% of households by income, and of pensioners mainly dependent on state benefits, means that it (The RPI) is noticeably closer in practice to a household weighted index than the CPI"

The argument used by the ONS that the RPI is flawed with an upward bias needs to be examined.

*2. Reference 1. Paragraph 106*

*3. Reference 1. Paragraph 162*

*4. Reference 1. Paragraph 161*

*5. Reference 1. Paragraph 105*

## **WHICH IS THE BETTER MEASURE OF INFLATION**

In her response to the National Statistician's 2012 Consultation Dr Ros Altmann, the Director-general of Saga at the time of the Court Case, made the following point <sup>6</sup>.

"with all statistics there is no perfect measure, all are estimates, and whilst the ONS suggest that RPI is wrong, there was a real possibility that the CPI measure might be under-recording domestic inflation.

Later in his judgement the Judge added weight to this statement with:

" any index can do no more than provide an estimate of the increase in cost of living as experienced by any given household, or even type of household. Thus, it is impossible to say that RPI is wrong and CPI is right, or even that RPI is more wrong (or right) than CPI, as an estimate of the likely increase in cost of living for pensioners under the Scheme. <sup>7</sup>"

(That is the BT Pension Scheme being discussed in the Court Case)

There is clearly some doubt as to which of CPI and RPI is the most suitable to calculate inflation and therefore other factors need to be considered.

## **OTHER FACTORS INFLUENCING SUITABILITY**

### **First consider a weakness in the RPI.**

In the BT Court Case, the judge stated that:

"It is common ground that the Carli formula fails. ...the time reversal (or Chain Linking) test <sup>8</sup> "

Thus when the index, taken over two consecutive periods, is the same as the product of the Indices taken over each of the separate periods. This is usually illustrated by an example were the cost of an item returns to the value it had at the start of the first period.

However, satisfying the requirements of Chain Linking does not mean an Index gives the correct value of inflation. Besides Jevons, Dutot and actual Inflation, the formulae for Laspeyres, Paasche and Lowe indices all fit the requirements of Chain Linking as do probably many more indices. Hence if Chain Linking was the main criterion for obtaining a correct value of inflation many different values of inflation would all be correct at the same time.

6. Reference 1. Paragraph 135

7. Reference 1. Paragraph 211

8. Reference 1. Paragraph 113

### **Next consider a weakness in the CPI.**

In the National Statistician's consultation of 2012, it is claimed that:

"the only weakness identified in respect of Jevons was that if any one observation out of the set of observations is zero, their geometric mean is zero, whatever the value of the other observations<sup>9</sup>"

This weakness is frequently glossed over, but it is a fundamental weakness that results from using accumulative mean to represent an arithmetic situation. The fact that when we have a large number of items, all with real values the use of the Jevons methodology means that it only takes one item with a zero value for the influence on the index of the contributions from all the other items to be wiped out.

The fact that Jevons can have such an outcome is clearly a major problem. For this reason alone, the use of CPI should be questioned. It cannot be argued that it is not realistic for one item to have a zero value. Should the production of a perishable item greatly exceed the demand for that item and the appropriate storage space for that item is limited that item may be given away should the sell by date be approached. This will enable shelf area to be cleared for fresh stock. Although not applicable to pensioners a recent example is a barrel of oil that was quoted as having zero cost. This was a result of the Coronavirus Lockdown reducing the use of cars causing petrol stocks to begin to exceed the available storage capacity because oil extraction was continuing.

### **The Mathematical Difference Between CPI and RPI**

Both Jevons and Carli use averages of 'Price Relatives', the Carli directly and Jevons when the function is reduced by simplification.

Providing each item has a positive value and all values are not the same:

"for a given set of data, a Geometric Mean will always produce the same or a lower number than an Arithmetic Mean<sup>10</sup>."

This can be readily proved using mild '0' Level Mathematics.

In a working paper by Donald Hirsch for the Centre for Research in Social Policy entitled "Inflation and the Minimum Income Standard" and referring to reference 6 the paper pointed out that:

"there are some circumstances (.....) in which CPI appears to be underestimating inflation to a greater extent than RPI over-estimates it,<sup>11</sup>"

9. Reference 1. Paragraph 129

10. Reference 1. Paragraph 110

11. Reference 1. Paragraph 156

## **USE OF INFLATION INDICES**

In the section describing the origins of the RPI it was quite clear that at its origin it was a compensation index, developed as an aid to protect ordinary workers from price increases <sup>5</sup>. This continued to be the case until 2010.

In 2010 the new Chancellor of the Exchequer stated in his Emergency Budget that the RPI did not reflect changes in purchasing practice. He claimed that because the CPI always gives a lower value than the RPI it would better reflect these changes in purchasing practice. The example used by the chancellor was that if there were associated items such as Kellogg's Cornflakes and Tesco's Cornflakes purchasers would move from the dearer item to the cheaper one.

After a few years everybody who is going to change to Tesco's Cornflakes will have changed. At this stage when there are no more cheaper alternatives to be had the index should have reverted to the RPI.

## **CONCLUSION**

In spite of what was said in the emergency budget of 2010 the majority of the population, including MPs, currently still believe that the protecting of pensioners' standard of living is an important use of the inflation index.

It appears more than just possible that the CPI gives a value of inflation less than the real value .and certainly less than that obtained by the RPI. Hence it could be that the use of the CPI leads to accumulative reduction in the real value of pensioner's incomes and therefore their standard of living.

Referring to evidence in his judgment, much of which we have quoted above, the Judge stated that:

"On the basis of the evidence I have summarised above, I consider that there are reasonable grounds to conclude that Jettisoning RPI would lead to such a material risk for the pensioners <sup>12</sup>

Without any further evidence the only way of safeguarding pensioners' standard of living is to retain the RPI until a suitable alternative is available.

*(continues...)*

5. Reference 1. Paragraph 105  
12. Reference 1. Paragraph 210

## WHAT NEXT - A HISTORIC REVIEW?

It is clear from the judgment in the BT Plc versus the BT Pension Trustees Court Case of 19 January 2018 <sup>1</sup> that there is a wealth of evidence to support the need to question the use of CPI and the RPI, or their derivatives as measures of inflation.

Over many years we, the NPC Pensions and Incomes Working Party, have also read and discussed many documents issued by the ONS and others and have no confidence in the arguments that were used to support replacing RPI with CPIH as an index, nor those for applying CPIH methodology to calculate RPI. We believe there is considerable doubt as to whether the CPI or the RPI or their derivatives are satisfactory measures of inflation

When one proposes an important Mathematical relationship, one would normally try to check its validity by comparison with past experience.

Inflation is understood by the typical household as being a general rise in monetary costs caused by a fall in the purchasing power of the monetary unit, such as the pound, over an accounting period, usually a year. A household sees this as an increase over a year in their total expenditure and it is measured by the price of all the items purchased times their quantity and not merely the price of the goods they buy. Such a calculation would give a near to actual inflation value and we consider it would have general acceptance by pensioners.

The mathematical representation of such a procedure gives an uprating rate that is the sum of the price times quantity for all of the items in the basket at the end divided by the sum at the start and is:

$$\frac{\sum_{i=1}^{i=t} p_i q_i}{\sum_{i=1}^{i=0} p_i^0 q_i^0}$$

Where there are 'n' different items in the basket and at the start of the accounting period (time '0') the total cost (price 'p' times quantity 'q') of the i th, item is  $p_i^0 q_i^0$ . At time 't', the end of the accounting period, the total cost, of the i th, item is  $P_i t q_i$ .

This formula exactly matches the requirements of the chain linking test.

The ONS must have all the required data to test the CPI and RPI values against a set of historic near to actual inflation values calculated as explained above. This would be a sort of Peer Review of the ONS's own work and should be undertaken without reference to their current weighting methods.

We would therefore suggest the Treasury commissions the ONS to undertake and publish a review to compare past values of CPI and RPI with actual historic inflation values.

Yours sincerely

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