

One inflation rate, two households

Teacher guidance and answers | Original TBS classroom practice

Use this lesson after students have met the idea of inflation and index numbers. Students build a weighted price index from a small basket, calculate the inflation rate, then compare two households with different spending patterns and judge whether one index protects pensioners. The tasks are planned to take about 55 minutes and have not been trialled in a classroom. The minutes include brief answer checking but not handing out materials or a full plenary; allow about 65 minutes in the timetable. Suited to Year 12 or Year 13 classes studying Edexcel 9EC0 Theme 2.

Curriculum fit

Pearson Edexcel Level 3 Advanced GCE in Economics A (9EC0), Specification Issue 2, October 2016, Theme 2, section 2.1.2 Inflation (printed page 12): (a) inflation, deflation and disinflation; (b) the process of calculating the rate of inflation in the UK using the CPI; (c) the limitations of CPI in measuring the rate of inflation; (d) the RPI as an alternative measure. Checked against the archived Issue 2 specification; please confirm the specification for your cohort with your exams officer. This is a TBS lesson, not a Pearson resource; it is not endorsed by Pearson and uses no Pearson exam questions or mark schemes.

Simplifications: the real UK CPI uses hundreds of items, weights updated each year and a different averaging method; this lesson uses four categories and weights out of 1,000 to show the principle. All figures are fictional. The answers are indicative teaching guidance only. There is no official mark tariff, level descriptor or AO allocation for these tasks and no grade claim is made.

Lesson plan (about 55 minutes of tasks, estimated)

Stage	Minutes	What happens
Starter: rising, falling or slowing?	5	Match three terms.
Task 1: price relatives	8	Four price relatives from the basket.
Task 2: the official index	10	Weighted index and inflation rate.
Task 3: two households	12	Pairs: one household each, then compare.
Task 4: how good is one index?	8	Limitations of CPI, RPI, the pension gap.
Task 5: decide	8	Written judgement.
Exit ticket	4	Two quick questions.
Total	55	

45-minute version: starter 4, Task 1 6, Task 2 8, Task 3 10, Task 4 6, Task 5 7, exit ticket 4. Task 3 already runs in pairs; ask for about 60 words in Task 5. This timing has not been trialled. The 45 minutes are task time only, so in a real 45-minute period, with handing out and feedback, move the exit ticket to homework.

Answers: starter, Task 1 and Task 2

Indicative guidance for teachers. This is not an exam board mark scheme and carries no marks or grades.

Starter: (i) deflation; (ii) inflation; (iii) disinflation.

Task 1a	Price relative	Working
Food and drink	108.0	$86.40 / 80.00 \times 100$
Housing and energy	115.0	$172.50 / 150.00 \times 100$
Transport	102.0	$61.20 / 60.00 \times 100$
Recreation and eating out	96.0	$120.00 / 125.00 \times 100$

Task 1b: recreation and eating out, because its price relative is below 100 (96.0), so this year's prices are 4% lower than the base year.

Task 2	Weight	Price relative	Weight x relative
Food and drink	150	108	16,200
Housing and energy	300	115	34,500
Transport	150	102	15,300
Recreation and eating out	400	96	38,400
Total	1,000		104,400

Task 2a: official index = $104,400 / 1,000 = 104.4$, so the rate of inflation is 4.4%. Common errors: averaging the four relatives without weights (105.25); dividing by 4 instead of 1,000; forgetting that the base is 100.

Answers: Task 3 and Task 4

Task 3a	Weighted total	Index	Inflation
Pensioner household	$250 \times 108 + 400 \times 115 + 50 \times 102 + 300 \times 96 = 27,000 + 46,000 + 5,100 + 28,800 = 106,900$	106.9	6.9%
Student household	$200 \times 108 + 150 \times 115 + 250 \times 102 + 400 \times 96 = 21,600 + 17,250 + 25,500 + 38,400 = 102,750$	102.8	2.8%

The student index is 102.75 before rounding; accept 102.75 or 102.8 and 2.75% or 2.8%.

Task 3c: the households spend different shares of their budgets. The pensioner household puts 400 of 1,000 on housing and energy, which rose most (15%). The student household puts 400 on recreation and eating out, where prices fell 4%, and 250 on transport, up only 2%. If a student's Task 1 relatives are wrong, give the class 108, 115, 102 and 96 before Task 3.

Task 4a, accept any two: the weights reflect an average household, not this one; the basket and weights are updated only once a year, so new spending patterns are missed; it is hard to allow for quality changes and new products; households switch to cheaper substitutes when prices rise; the CPI leaves out some housing costs such as mortgage interest payments and council tax; prices are sampled, so local differences are missed.

Task 4b, one difference is enough: RPI includes some housing costs that CPI leaves out, such as mortgage interest payments and council tax; or RPI uses a different averaging formula and usually gives a higher figure.

Task 4c: $6.9 - 4.4 = 2.5$ percentage points. The pension buys less than last year for this household: its real value falls even though it rises in money terms.

Answers: Task 5 and exit ticket

Task 5: indicative decision guidance

A well supported answer takes a position and uses figures. Example response (not a mark scheme): I only partly agree. The official CPI rose 4.4%, so a 4.4% rise protects a household that spends like the average. But the pensioner household spends 400 of every 1,000 on housing and energy, which rose 15%, so its index rose 6.9%. A 4.4% rise leaves it 2.5 percentage points behind, so its pension buys less. The CPI is built from an average household's weights, which is its main limitation here. A pensioner index would protect pensioners better, although it would cost the government more.

Strong answers recognise that the CPI does protect the average household, then show with figures why it may not protect pensioners, and reach a conditional judgement. Credit answers that note a CPI-linked rise would over-compensate a household that spends like the student household (2.8%). Look for correct figures, a limitation tied to the case and a conclusion that depends on the evidence. Do not award a grade or percentage from these tasks.

Answers: exit ticket

- a. $(118.0 - 112.5) / 112.5 \times 100 = 5.5 / 112.5 \times 100 = 4.9\%$ (4.888...). Common error: $118.0 - 112.5 = 5.5\%$.
b. Disinflation: prices are still rising, but more slowly (2% rather than 4%). It is not deflation, because prices have not fallen.

Sources and limits

Curriculum source: Pearson Edexcel Level 3 Advanced GCE in Economics A specification, Issue 2, October 2016, Theme 2, section 2.1.2 (printed page 12). The specification verifies the topic scope only. The tasks, figures, weights, timings and guidance are original TBS teaching design.