



ECO.MIC16 The Poverty Trap and the Equity-Efficiency Trade-Off in Redistribution

AQA 7136 · Calculators not allowed · about 105 minutes

Total Marks

--

Name: _____ Date: ____ / ____ / ____

Answer all questions. Full sentences are required for explanations and the essay. Time guidance: 105 minutes total.

- 1** Multiple choice, household incentives context: A single-parent household receives means-tested benefits which are withdrawn as earnings rise. Which of the following describes the poverty trap?

- ☐ A. A situation where higher earnings lead to a larger rise in disposable income than expected, encouraging more work
- ☐ B. A situation where increases in gross earnings are largely offset by higher taxes and benefit withdrawal, leaving little or no extra disposable income
- ☐ C. A situation where benefits are paid irrespective of income
- ☐ D. A situation where public spending is so low it causes absolute poverty

(Total for Question 1 is 1 mark)

- 2** Define the term 'poverty trap' as used in UK redistributive policy debates, naming the mechanisms involved.

(Total for Question 2 is 2 marks)

- 3** State what is meant by the marginal rate of benefit withdrawal (taper rate) for a means-tested benefit in a UK context.

(Total for Question 3 is 2 marks)

- 4** Explain, with two linked reasons, why a high combined effective marginal tax rate (EMTR) weakens the incentive of a low-income household to increase their paid hours.

(Total for Question 4 is 4 marks)

- 5** Numeric calculation: A low-income household faces the following marginal deductions on an extra £1 of gross pay: income tax 20%, employee national insurance 12%, and means-tested benefit withdrawal at a taper rate of 50%. Calculate the household's effective marginal tax rate (EMTR) on that extra £1, showing each step and the resulting net extra disposable income. Whole-number percentages are used and no calculator is allowed.

(Total for Question 5 is 4 marks)

- 6** Explain two reasons why the poverty trap tends to be concentrated among households with part-time or intermittent work patterns rather than those in continuous full-time employment.
- (Total for Question 6 is 4 marks)
-
- 7** State, in one sentence, what is meant by the equity-efficiency trade-off in redistributive policy.
- (Total for Question 7 is 2 marks)
-
- 8** Explain briefly how progressive income tax and generous means-tested benefits together can reduce incentives to save.
- (Total for Question 8 is 3 marks)
-
- 9** State one policy, other than lowering taper rates, that could help a household escape the poverty trap, and give one short reason why it would help.
- (Total for Question 9 is 2 marks)
-
- 10** Explain how tapering benefit withdrawal more gradually (a lower marginal withdrawal rate) differs in effect from providing a small universal basic income paid to all households, in terms of both equity and work incentives.
- (Total for Question 10 is 4 marks)
-
- 11** Numeric follow-up: Using the same starting EMTR components as Question 5, suppose the government reduces the means-tested benefit taper from 50% to 30% while income tax remains 20% and national insurance 12%. Calculate the new EMTR and the net extra disposable income from an extra £1 of gross pay. State whether this reduces the disincentive compared with the original EMTR, briefly.
- (Total for Question 11 is 3 marks)
-
- 12** Data extract, small case comparison: Two fictional households, Household A and Household B, face the following marginal deductions on each extra £1 earned: Household A: income tax 20%, NI 12%, benefit taper 30%. Household B: income tax 20%, NI 12%, benefit taper 60%. Explain how the data show that Household B faces a larger disincentive to increase earnings than Household A. Use the figures in your explanation.
- (Total for Question 12 is 9 marks)

13 Policy evaluation: Consider the proposal to reduce marginal benefit withdrawal rates (tapers) as a primary policy to help households escape the poverty trap. In your answer, analyse how lower withdrawal rates would affect work incentives and public finances, consider alternative policies such as in-work subsidies, childcare support, training, and a universal basic income, and reach a supported judgement. Where helpful, refer to marginal-rate calculations or distributional trade-offs.

Evaluate whether reducing benefit withdrawal rates is the best way to help households escape the poverty trap.

(Total for Question 13 is 25 marks)

Mark scheme · ECO.MIC16 The Poverty Trap and the Equity-Efficiency Trade-Off in Redistribution

Question 1

- **B1** Correct option B, which states that higher gross earnings are largely offset by taxes and benefit withdrawal, producing little extra disposable income
- **Answer: B**

Question 2

- **B1** a definition that identifies the poverty trap as where increases in earned income produce little or no rise in disposable income
- **B1** explicit mention of the mechanisms, such as means-tested benefit withdrawal and marginal tax rates reducing the net gain from extra earnings
- **Answer: The poverty trap occurs when increases in earned income are largely offset by taxes and the withdrawal of means-tested benefits, so the household gains little extra disposable income, reducing the incentive to increase work effort.**

Question 3

- **B1** statement that the marginal rate of benefit withdrawal is the proportion of an extra pound of income that is lost due to reduced benefit entitlement
- **B1** explicit statement of units, e.g. a 50% taper means 50p of benefit is withdrawn for each extra pound earned
- **Answer: The marginal rate of benefit withdrawal is the percentage of each extra pound earned that is taken away by a reduction in means-tested benefits, for example a 50% taper withdraws 50p of benefit for every extra £1 of gross earnings.**

Question 4

- **M1** identifies that EMTR is the sum of income tax, national insurance and benefit withdrawal on an extra pound
- **A1** explains that a higher EMTR means a smaller marginal increase in disposable income, reducing the financial reward for extra hours
- **M1** identifies behavioural effect, e.g. substitution effect or reduced marginal benefit of labour
- **A1** develops by linking the reduced financial reward to likely choices, such as preferring leisure, informal work or reducing hours because the net gain is too small
- **Answer: A high EMTR, being the sum of income tax, national insurance and benefit withdrawal on an extra pound, means each extra pound earned yields only a small rise in disposable income, so the financial reward for extra hours is small. Behaviourally, this reduces the incentive to work more as households substitute leisure or non-declared work for paid hours when the marginal monetary gain is tiny.**

Question 5

- **M1** 20% of £1 = £0.20 tax deducted
- **M1** 12% of £1 = £0.12 national insurance deducted
- **M1** 50% of £1 = £0.50 benefit withdrawn
- **A1** $EMTR = 20\% + 12\% + 50\% = 82\%$, net extra disposable income = $£1 - £0.82 = £0.18$
- **Answer: Tax £0.20, NI £0.12, benefit withdrawal £0.50; total deductions £0.82, so EMTR = 82% and the household keeps £0.18 of the extra £1.**

Question 6

- **M1** reason 1: means-tested benefits are designed to taper as earnings rise, so small increases from part-time to slightly-more hours can cause large benefit losses
- **A1** development: part-time workers often cross thresholds where benefits withdraw quickly, so each additional hour reduces net income substantially
- **M1** reason 2: intermittent workers face fixed costs of work, such as childcare and travel, which make the net gain from extra hours smaller
- **A1** development: these fixed costs combined with high EMTRs can make additional paid hours financially unattractive for those with unstable hours
- **Answer: Part-time and intermittent workers often face rapid benefit withdrawal for small earnings increases, so small extra hours can cut benefits sharply and reduce net gains. They also incur fixed work-related costs like childcare and travel which further reduce the net benefit of extra hours, making them more susceptible to the poverty trap.**

Question 7

- **B1** statement that equity-efficiency trade-off means greater redistribution to improve fairness can reduce incentives for work, saving or investment, harming economic efficiency
- **B1** explicit link: redistribution improves equity but can reduce efficiency by lowering incentives
- **Answer: The equity-efficiency trade-off is the idea that policies which redistribute income to achieve greater fairness can reduce incentives to work, save or invest, thereby lowering economic efficiency.**

Question 8

- **M1** progressive income tax reduces after-tax returns to additional income, lowering the reward to saving from current income
- **M1** means-tested benefits may be withdrawn as assets or additional income rise, reducing the incentive to accumulate savings
- **A1** combined effect: lower after-tax returns and risk of losing means-tested support make saving less attractive, reducing capital accumulation and long-run growth incentives
- **Answer: Progressive tax reduces the after-tax return on income, while means-tested benefits that are withdrawn when income or assets rise reduce the payoff from saving. Together they lower the incentive to build savings, which can reduce capital accumulation.**

Question 9

- **B1** identifies a valid policy, e.g. improving access to affordable childcare, in-work tax credits, or training and skills provision
- **B1** gives a short reason why it helps, e.g. affordable childcare reduces the fixed cost of working more, increasing the net gain from extra hours
- **Answer: Example: subsidised childcare, because it cuts a major fixed cost for working parents, increasing the net benefit from working additional hours and making employment more attractive.**

Question 10

- **M1** identifies that lowering taper rates reduces EMTRs only for benefit recipients, improving work incentives at the margin for them
- **A1** develops: a lower taper increases net gain from extra earnings, encouraging labour supply among low-income households
- **M1** identifies that a universal basic income (UBI) gives payments to everyone, so it changes equity by raising incomes universally rather than targeting the poorest
- **A1** develops: UBI may have smaller work disincentive effects for recipients if it replaces means-tested withdrawal, but it is costly and less targeted, so its equity impact differs from a tapered benefit reform
- **Answer: Lowering taper rates directly reduces EMTRs for benefit recipients, improving marginal work incentives for the poorest, whereas a UBI gives everyone a payment, changing the pattern of redistribution and costing more. UBI may remove some withdrawal disincentives if it replaces means-tested benefits, but it is less targeted and affects equity differently.**

Question 11

- **M1** sum deductions: $20\% + 12\% + 30\% = 62\%$ EMTR
- **A1** net extra disposable income = $\text{£}1 - \text{£}0.62 = \text{£}0.38$
- **B1** states that this reduces the disincentive compared with the original EMTR of 82%, since the household now keeps $\text{£}0.38$ rather than $\text{£}0.18$ of the extra $\text{£}1$
- **Answer: New EMTR = 62%, net keep £0.38; this reduces the disincentive compared with the original EMTR of 82% (keeps £0.18).**

Question 12

- **Level 1** (1-3): Basic statements using the data: identifies that Household B has a higher taper and therefore higher deductions, with limited or no quantitative comparison.
- **Level 2** (4-6): Clear quantitative comparison: calculates EMTRs and net gains, and explains that Household B keeps less of each extra $\text{£}1$, reducing incentive to work.
- **Level 3** (7-9): Detailed quantitative analysis and applied evaluation: computes EMTRs and net extra income for both households, explains behavioural implications for labour supply, and considers the broader context such as fixed costs of work or non-monetary factors.
- **Indicative content:**
 - Compute EMTR for Household A: $20\% + 12\% + 30\% = 62\%$, net keep $\text{£}0.38$ of each extra $\text{£}1$
 - Compute EMTR for Household B: $20\% + 12\% + 60\% = 92\%$, net keep $\text{£}0.08$ of each extra $\text{£}1$
 - Compare: Household B keeps 8p per extra $\text{£}1$, Household A keeps 38p, so B faces a much smaller marginal reward for extra work
 - Behavioural implication: with only 8p net gain, B is less likely to increase hours, move to paid work, or accept overtime, compared with A
 - Contextual evaluation: mention fixed costs such as childcare or transport which make tiny net gains especially unattractive, and note distributional fairness and fiscal cost considerations of reforms

Question 13

- **Level 1** (1-5): Basic and general statements about reducing withdrawal rates with limited analysis or development, little or no evaluation, and no clear judgement.
- **Level 2** (6-10): Clear explanation of effects of lower withdrawal rates on EMTRs and incentives, some analysis of public cost or distributional consequences, limited evaluation of alternatives and tentative judgement.
- **Level 3** (11-15): Well developed analysis with quantitative reasoning and reasoned evaluation: examines incentive effects, fiscal costs, equity-efficiency trade-offs, compares alternatives and offers a supported judgement that balances effectiveness, cost and fairness.
- **Level 4** (16-20): Thorough and balanced evaluation that includes detailed analysis of behavioural responses, fiscal and administrative feasibility, distributional outcomes, likely magnitude of effects and possible unintended consequences; reaches a well-argued conclusion.
- **Level 5** (21-25): Excellent evaluation: integrates quantitative examples (such as EMTR changes and likely net income gains), considers time lags, labour market heterogeneity, political and practical constraints, and provides a nuanced, evidence-based conclusion on whether lowering withdrawal rates is the best approach or part of a package.
- **Indicative content:**
 - Lowering taper rates reduces EMTRs and increases the net gain from extra earnings, directly improving work incentives for benefit recipients; example: reducing taper from 50% to 30% lowered EMTR from 82% to 62% in Questions 5 and 11
 - Fiscal cost: lower withdrawal rates increase benefit outlays or reduce savings from withdrawals, requiring higher taxation or reallocation of spending; consider the budgetary trade-off
 - Equity-efficiency trade-off: lower tapers improve incentives (efficiency) but may reduce progressivity if targeted poorly; discuss how lower tapers could be combined with higher top rates or alternative funding
 - Alternatives: in-work subsidies or targeted tax credits increase net pay for workers without permanently raising benefit bills for non-workers; childcare support reduces fixed costs of work; training raises employability and earnings potential
 - Universal basic income: removes tapering and simplifies administration but is costly and less targeted, with different incentive effects depending on design
 - Behavioural and administrative issues: potential for people to game the system, stigma reduction with simpler schemes, and the importance of fixed costs which taper reduction alone may not address
 - Magnitude and timing: supply-side policies like training take time; taper reduction can act quickly but may have limited impact if fixed costs remain large; assess which households are most affected
 - Supported judgement could argue that reducing withdrawal rates is a useful and direct tool, but not necessarily the best sole policy; a package combining lower tapers with childcare, in-work support and training is likely more effective and cost-efficient