1.11 Wage Determination and the Labour Market

AQA 7136 · Calculators not allowed · about 75 minutes · Write-in edition

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer all questions. Full sentences are required for questions worth 4 marks or more. Label any diagrams clearly and show your working for calculations. Time guidance: 75 minutes.

1 Elasticity of labour demand. A local employer finds that when the hourly wage for gardeners rises from £9 to £10, the quantity of labour demanded falls from 120 hours per week to 108 hours per week. Calculate the wage elasticity of labour demand using the midpoint method and state whether demand is elastic or inelastic.

(Total for Question 1 is 4 marks)

2 Evaluate the view that introducing a national minimum wage will always cause unemployment. In your answer, analyse the assumptions behind the simple competitive model that predicts unemployment, consider alternative labour market structures such as monopsony, consider empirical and sectoral differences, and reach a supported judgement. You should use diagrams where appropriate.

(Total for Question 2 is 25 marks)

3 Define marginal revenue product (MRP) of labour for a firm selling in a competitive product market, context: a UK bakery hiring bakers.

(Total for Question 3 is 2 marks)

4 Explain two determinants of the supply of labour to the occupation of junior nurses in the UK, excluding wage level. Context: NHS junior nursing posts.

(Total for Question 4 is 2 marks)

5 Calculate the marginal revenue product (MRP) of an additional worker at a British small manufacturer. Given the extra worker increases output by 8 units per day and the firm sells each unit at £12 in a competitive product market.

(Total for Question 5 is 4 marks)

6 State and briefly explain what happens to the quantity of labour demanded in a competitive labour market if the market wage rises from £10 to £12 per hour, other factors constant, for a fast-food outlet in London.

(Total for Question 6 is 2 marks)

7 A monopsony employer in a small rural town hires delivery drivers. Explain, with a diagram described in words, how introducing a minimum wage set above the monopsony wage but below the competitive marginal revenue product wage can affect employment and wages. State what must be drawn and the expected result.

(Total for Question 7 is 6 marks)

8 State two ways a trade union can influence wages and employment in a specific industry, context: a railway workers union negotiating with a regional operator.

(Total for Question 8 is 4 marks)

Mark scheme · 1.11 Wage Determination and the Labour Market

Question 1

calculate percentage change in quantity demanded: (108 - 120) / ((108 + 120)/2) x 100 = -12 / 114 x 100 = -10.526...%, awrt -10.53%	**M1**
calculate percentage change in wage: (10 - 9) / ((10 + 9)/2) x 100 = 1 / 9.5 x 100 = 10.526...%, awrt 10.53%	**M1**
elasticity = % change in Q / % change in wage = -10.53% / 10.53% = -1.0, so elasticity magnitude 1.0	**A1**
conclusion: demand is unit elastic in magnitude, so neither elastic nor inelastic conventionally; state as unit elastic	**B1**

Answer: Using midpoint method: %Q = -10.53%, %W = 10.53%, elasticity = -1.0. Demand is unit elastic (magnitude 1.0).

Question 2

Level 1 Basic statements about minimum wages and unemployment with little application, limited development and no sustained analysis. Diagrams, if present, are poorly labelled or incorrect. Judgement, if any, is unsupported.	**1-5**
Level 2 Clear explanation of the simple competitive model in which a minimum wage above equilibrium causes unemployment. Some use of diagrams with basic labelling. Some consideration of alternative views or evidence, but analysis is limited and the conclusion is partial.	**6-10**
Level 3 Detailed analysis of reasons why a minimum wage might lead to unemployment in a competitive market, and reasons why it might not. Diagrams are correctly drawn and labelled. Discussion includes monopsony, search frictions, productivity and empirical evidence. A clear and supported judgement is reached, considering magnitude and context.	**11-15**
Level 4 Comprehensive evaluation showing balance. Explains multiple mechanisms and empirical nuances, such as labour market heterogeneity, monopsony effects, effects on hours and informal employment, and dynamic responses. Diagrams and quantitative reasoning used to support points. Judgement is well supported and qualified.	**16-20**
Level 5 Thorough, well-structured argument with sophisticated analysis and synthesis. Covers assumptions, short-run versus long-run effects, distributional impacts, monopsony and bargaining, and empirical literature or plausible illustrative evidence. Integrates diagrams and evaluates policy design features. Final judgement is balanced, justified and explicitly linked to analysis.	**21-25**

Indicative content:

- Competitive labour market model: supply and demand, minimum wage set above equilibrium creates excess supply (unemployment), diagram showing wage floor, surplus of labour measured by difference between quantity supplied and quantity demanded
- Assumptions behind competitive model: perfect competition, instant adjustment, homogeneous labour, no search costs, employers pay wage equal to MRP, these assumptions may not hold
- Monopsony model: monopsonist sets wage below competitive level, a minimum wage can increase both wages and employment if set between monopsony wage and competitive wage; diagram showing supply, ME, and MRP
- Search and matching frictions, efficiency wage and insider outsider models: wages and employment determined by bargaining, so outcomes differ from simple supply and demand predictions
- Empirical and sectoral considerations: low-paid sectors, evidence that modest minimum wages have small employment effects, heterogeneity across regions and sectors, firms may absorb costs via prices or lower profits, reduction in turnover and productivity effects
- Short run versus long run: short-run adjustment costs, possible reduction in hours or job sharing, long-run effects on labour supply, training and automation
- Measurement and distributional effects: even if some unemployment rises, policy reduces poverty for many low-paid workers; consider unintended consequences like increased informal work or reduced fringe benefits
- Policy design matters: level of minimum wage relative to median wage, exemptions, phased introduction, regional differentiation, tax and benefit interactions
- Judgement should weigh models, empirical evidence and practical policy design. Conclude that minimum wage does not always cause unemployment; effect depends on market structure, size of increase and context, and in many realistic settings modest increases do not lead to significant unemployment

Question 3

MRP of labour = marginal physical product of labour (MPL) multiplied by marginal revenue (MR), showing the extra revenue from hiring one more worker	**B1**
for a firm in a competitive product market, MR equals price, so MRP = MPL x price, expressed in money per additional worker	**B1**

Answer: MRP = MPL x MR; in a competitive product market MR equals price, so MRP = MPL x price, the extra revenue from one more worker.

Question 4

identifies one determinant and explains it, e.g. training places and qualifications: more funded training increases supply to the occupation **B1**

identifies a second determinant and explains it, e.g. non-wage aspects such as shift patterns or working conditions: better conditions increase willingness to supply labour to nursing **B1**

Answer: E.g. an increase in funded training places raises the supply of qualified junior nurses; improved working conditions or more flexible shifts increase the willingness of trained nurses to work those posts, raising occupational supply.

Question 5

identify MRP = MPL x price = 8 x £12 **M1**

MRP = £96 per day **A1**

state the unit and interpretation: £96 is the extra revenue earned per additional worker per day **M1**

clear final answer with units, awrt £96 per day **A1**

Answer: MRP = 8 x 12 = £96 per day, the extra revenue from hiring the additional worker.

Question 6

states that quantity of labour demanded falls when wage rises, since firms face a higher cost of hiring **B1**

brief explanation: at higher wage some previously profitable hirings have MRP < wage, so firms reduce employment **B1**

Answer: Employment falls: a rise in wage from £10 to £12 raises the cost of labour so the fast-food outlet reduces the number of workers employed because some workers' MRP is now less than the wage.

Question 7

diagram description: upward-sloping labour supply S, monopsonist marginal expenditure curve ME lying above S, and labour demand (MRP) curve downward-sloping **B1**

shows monopsony equilibrium where ME intersects demand at employment Lm and wage Wm read from supply at that employment **B1**

shows a horizontal minimum wage line set above Wm but below the competitive wage where demand equals supply; marks new employment Lmw where demand intersects the minimum wage **B1**

explains that under monopsony a modest minimum wage can raise both wages and employment because it prevents employer setting wage below marginal revenue product **B1**

states expected result: wage rises to the minimum level and employment increases from Lm to Lmw, up to the point where MRP equals the mandated wage **B1**

acknowledges boundary: if minimum wage is set too high above MRP it can reduce employment, so placement matters **B1**

Answer: Diagram: supply S, ME above it, demand MRP downward. Monopsony chooses Lm at ME=MRP paying Wm from S. Minimum wage horizontal above Wm shifts outcome to higher wage and higher employment Lmw where wage intersects demand, because employer can now hire more at mandated wage. If set too high, employment may fall.

Question 8

identifies one method, e.g. collective bargaining to negotiate higher wages, and explains effect on wage level **B1**

explains possible employment effect, e.g. higher negotiated wages may reduce employment if operator faces higher labour costs and reduces hiring or uses more automation **B1**

identifies second method, e.g. organising strikes or threats of industrial action to increase bargaining power **B1**

explains effect, e.g. strikes can raise wages or force employer concessions but may reduce short-run output and could harm long-run employment prospects if firm loses revenue or market share **B1**

Answer: E.g. the union uses collective bargaining to secure higher wages, which raises wage levels but may reduce employment if the operator cuts staff; the union may use strikes to increase bargaining power, which can win concessions but reduce short-term output and risk longer-term job losses if the operator is weakened.