1 India is having bumper wheat harvests aided by government subsidies. Wheat is used by millers to producer flour, an important ingredient in many food items, such as bread, baked goods, pasta and noodles. At the same time, increasing affluence in the country has led to a growing middle class.

Using economic analysis, discuss the likely impact of these events on producers and consumers in India. [25]

Suggested Answer

Introduction

Subsidies to wheat farmers → lowers cost of production for wheat and subsequently flour and food items which uses wheat → rise in supply of these goods

Rising affluence → increase in demand for food and hence flour and wheat (derived demand)

Impact of above events on producers and consumers in India depends on relative extent of increase in demand and supply and elasticities of demand of various goods, wheat, flour and food items

Market for wheat

- Increase in supply

Government subsidies to farmers (producers of wheat) → lowers cost of production → more incentive to produce wheat → increase in supply of wheat → price of wheat falls, quantity of wheat increases

Demand for wheat inelastic – main input in the production of flour

Fall in price of wheat → Qd increase less than proportionately → Fall in TR for wheat farmers / TE for flour millers

- Increase in demand

Rise in demand for food → rise in demand for wheat → price of wheat and quantity of wheat increases

Supply of wheat inelastic – agricultural product, gestation period

Increase in quantity of wheat less than proportionate to the increase in price

- Overall impact depends on extent of increase in supply versus increase in demand and PED and PES

Possible scenario: increase in supply (bumper harvests) > increase in demand, with demand and supply being inelastic → fall in price might outweigh the effect of an increase in quantity → fall in TR for farmers

Market for intermediate good (e.g. flour)

- Increase in supply

Flour millers (using wheat as an important input in production process) → receives a lower price of wheat → cost of producing flour falls → supply of flour increases → fall in price of flour, increase in quantity of flour

Impact of TR of flour miller depends on PED

Demand for flour likely to be inelastic (Importance of flour as an ingredient in the production process of a number of food items) → fall in TR

- Increase in demand

Rise in demand for food → rise in demand for flour → price of flour and quantity of flour increases

- Overall impact depends on extent of increase in supply versus increase in demand and PED and PES

Compare impact on relative price and quantity of flour to discuss outcome on TR

Market for food items

- Increase in supply

Flour is an important ingredient in the production of food items such as bread and baked goods → cost of production of such items likely to fall significantly → greater incentive for producers, e.g. bread manufacturers and bakeries, to increase supply → fall in price of bread and baked goods, quantity of bread and baked goods increases
Impact on TR of food manufacturers / TE of consumers depends on PED
Demand for food items that are basic necessities more inelastic → fall in TR/TE
Demand for food items that are luxury goods more elastic → rise in TR/TE

- Increase in demand

Rising affluence → increase in income → demand for normal goods e.g. food, increases both extent depends on YED (based on nature of good)

(i) Market for luxury goods (high end food products, e.g. pasta)

Demand for luxury goods (high-end food items) appeals to those in middle-income which has acquired finer tastes in food, YED > 1 → increase in demand more than proportionate to increase in income

Overall impact: might see greater increase in demand as compared to increase in supply → rise in price and quantity → rise in TR / TE

(ii) Market for basic necessities (e.g. bread)

Demand for basic necessities, YED < 1 → increase in demand less than proportionate to increase in income

Might see smaller increase in demand as compared to increase in supply → fall in price and increase in quantity results

Overall impact on TR/TE: depends on whether fall in price outweighs increase in quantity

(iii) Market for inferior goods (low-end food products)

Demand for inferior goods, YED < 0 → fall in demand as income rises

With fall in demand and increase in supply → fall in price and but direction of change in quantity depends on extent of fall in demand versus increase in supply

Overall impact on TR/TE: if fall in demand greater than increase in supply → fall in TR/TE

Marking Scheme

Level	**Knowledge, Application, Analysis**	Marks
L3	For an answer that uses appropriate economic analysis (with changes in demand and supply and application to elasticities) to support arguments about the likely impact of government subsidies and increasing affluence on both economic agents (producers and consumers)	16-21
L2	For an answer that gives a descriptive explanation of about the likely impact of government subsidies and growing affluence on both economic agents (producers and consumers) OR For an answer that uses economic analysis (with changes in demand and supply only) to support arguments about the likely impact of government subsidies and growing affluence on both economic agents (producers and consumers) OR For an answer that uses economic analysis to support arguments about the likely impact of government subsidies and growing affluence on one of the economic agents (producers or consumers) OR For an answer that uses economic analysis (but with either changes in demand or supply only) to support arguments about the likely impact of government subsidies and growing affluence on both economic agents (producers and consumers)	10-15
L1	For an answer that shows some basic but largely unexplained knowledge of likely impact of government subsidies and growing affluence on market(s)	1-9
	Evaluation	
E2	For an answer that uses economic analysis to support evaluative comments about impact on both economic agents	3-4
E1	For an answer that gives unsupported evaluative comment(s) or supported evaluative on one of the economic agents (producers or consumers)	1-2

2 (a) Explain the factors affecting the price and output decisions of firms in monopolistic competition and oligopoly. [10]

(b) Discuss the extent to which the behaviour of the firms in these market structures is dependent on the actions of other firms. [15]

Suggested Answer for part (a)

Introduction

The price and output decisions (Conduct) of the two market structures are affected by the characteristics (Structure) and/or Performance (Profits) of the two market structures.

Degree of Barriers to Entry, Mutual Interdependence and Short Run Equilibrium

Barriers to entry (BTE) - obstacles that protect a firm from potential competitors, e.g. high initial start-up capital or licenses granted by the government

Monopolistic Competition

Very weak BTE → large number of firms, each controlling an insignificant amount of market share

Actions of one firm are unlikely to affect its rivals to any great extent → when each firm makes its decisions it does not worry how its rivals will react

Firms act independently

Assume that all firms aim to profit maximise and produce at the output level where its MC (additional cost incurred for producing one more unit of output) equals its MR (additional revenue earned for selling one more unit of output) → short run equilibrium of the monopolistic competitive firm as seen in Figure 1(a) where MR = MC_1 → output QA and price PA

Oligopoly

Substantial BTE → large number of firms, each controlling an insignificant amount of market share

Each firm's behaviour will affect their rivals significantly

Firms are mutually interdependent

Possible for firms to either compete or collude

A **competitive** oligopolistic firm faces a kinked demand curve as seen in Figure 1(b) due to the mutual interdependence

When an oligopolistic firm cuts its price, its rival will follow suit to prevent losing customers to it and if it raises price, however, its rivals will not follow suit since, by keeping their prices the same, they will gain its customers → oligopolists would prefer not to change price unless costs changes substantially

As long as cost changes within the gap as seen from MC1 to MC2 → oligopolist will keep its output at Q_1 and price at P_1

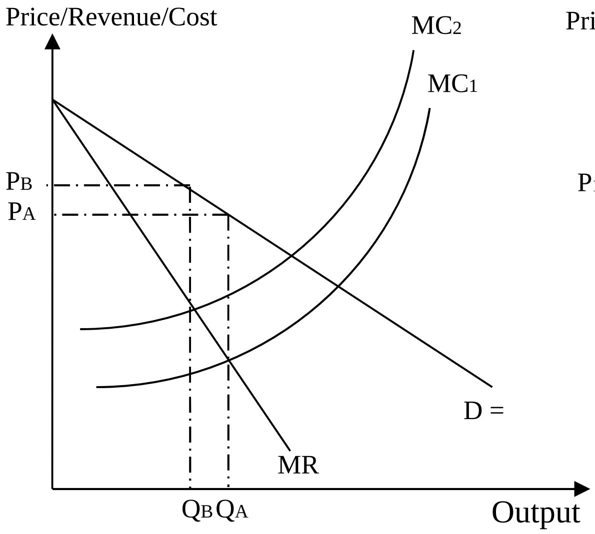


Figure 1(a)
Short run equilibrium of a monopolistic competitive firm

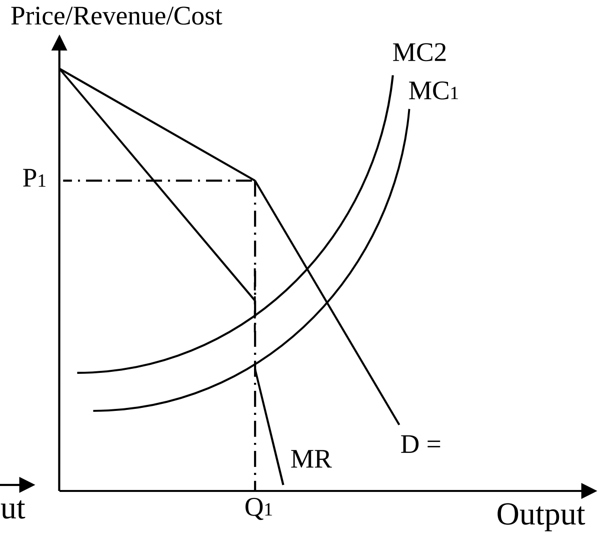
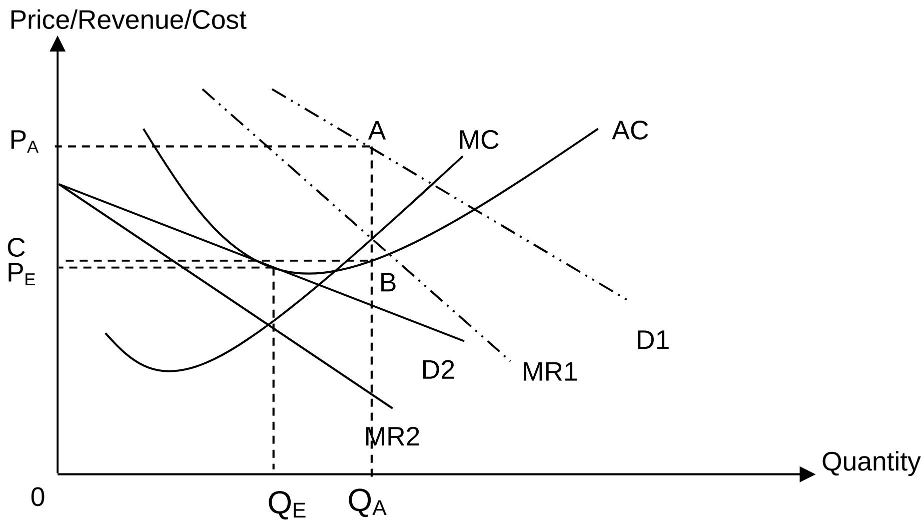


Figure 1(b)
Short run equilibrium of an oligopolistic firm

<u>Degree of Barriers to Entry and Long Run Equilibrium</u>

Degree of BTE linked to ability of firms to prevent the entry of new competitors in the long run → level of long run profit would be affected

<u>*Monopolistic Competition*</u>
Using Figure 2a:
Weak barriers to entry → firms can enter easily to compete away the supernormal profit → market share of the existing firm will be reduced represented by a fall in their demand and thus average revenue curve → until all the supernormal profits have been competed away, when demand for the firm falls from D1 to D2 with lower price at P_E and quantity at Q_E and earning only normal profits where P_E = AC



<u>Figure 2a: MC firm earning only normal profits in the long run</u>

<u>*Oligopoly*</u>

Using Figure 2b:
Strong barriers to entry → existing firm which earns supernormal profits in the short run may continue to earn high supernormal profits into the long run as potential competitors find it extremely difficult to enter the market → an oligopolistic firm retains its market share and produce Q1 at price P1 will continue to reap profits indicated by area P_1DEF

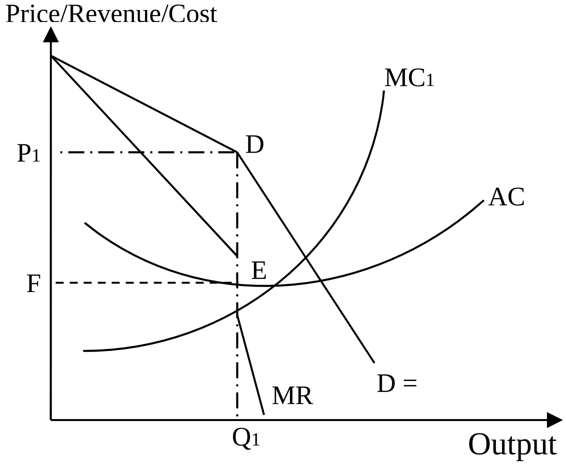


Figure 2(b) Long-run equilibrium of an oligopolistic firm

Note:
Also possible to look at the impact of collusion on price and output decisions of oligopolistic firms

Marking Scheme

Level	**Knowledge, Application, Analysis**	Marks
L3	For an answer that uses appropriate economic analysis to explain the factors affecting price and output decisions of firms in monopolistic competition and oligopoly.	7-10
L2	For an answer that gives a descriptive explanation of the factors affecting the price and output decisions of firms in monopolistic competition and oligopoly. OR For an answer that uses economic analysis to explain the factors affecting either price or output decisions of firms in monopolistic competition and oligopoly. OR For an answer that uses economic analysis to explain the factors affecting the price and output decisions of firms in either monopolistic competition or oligopoly.	5-6
L1	For an answer that shows some basic but largely unexplained knowledge of factor affecting price and/or output decisions of firms in monopolistic competition and/or oligopoly	1-4

Suggested Answer for part (b)

Introduction

Firms in oligopolistic market are likely to be more dependent on the actions of competitors as compared to the firms in monopolistic competition due to the characteristics of the their firms in the two markets. In reality, there could be other factors that the firms take into account as well.

Firms in an oligopolistic market are more dependent on the actions of competitors

- Due to the presence of a few large dominant firms with each having significant market share and power
- Oligopolistic firms are easily affected by the actions of rival firms and thus would respond to competitors' actions
- Mutual interdependence → avoidance of price war as seen by the kinked demand curve → tends to focus on non-price strategies
- With the higher amount of supernormal profits earned, the oligopolistic firm has the availability of funds to spearhead research and development to create higher degree of product differentiation → resulting in a more price inelastic demand → it would be able to set price higher than its rivals
- In reality, the degree of mutual interdependence of oligopolistic firms largely depends on the degree of product differentiation
- Or mutual interdependency → tendency to collude if conditions are favourable

Firms in monopolistic competition are much less dependent on the actions of competitors

- MC firms could act more independently as competitors have insignificant market power and with differentiated products
- Using Figure 2a above, firm will make its pricing decision independently e.g. when its cost increases from MC1 to MC2, its corresponding equilibrium level of output and price will adjust accordingly to QB and PB

MC firms might be dependent on the actions of competitors due to:

(i) Lack of real product differentiation

- Similar range of products results in price elastic demand curve, leading to possible price wars

(ii) Proximity to rivals in the markets

- If firms are in close proximity, e.g they are located in the same shopping mall or neighborhood → may follow the pricing and promotional strategies of each other

Other factors (besides actions of other firms) can also affect the behavior of firms in these market structures

- Government policies, e.g. pricing regulation
- Contestability of markets
- Economic conditions

Marking Scheme

Level	**Knowledge, Application, Analysis**	Marks
L3	For a balanced answer that uses appropriate economic analysis to discuss the extent to which the behaviour of the firms in monopolistic competition and oligopoly is dependent on the actions of other firms	9-11
L2	For an answer that gives a descriptive explanation of the extent to which the behaviour of the firms in monopolistic competition and oligopoly is dependent on the actions of other firms OR For an answer that uses economic analysis to discuss the extent to which the behaviour of the firms in monopolistic competition or oligopoly is dependent on the actions of other firms	6-8
L1	For an answer that shows some basic but largely unexplained knowledge of the behaviour of the firms in monopolistic competition and oligopoly and dependence on actions of other firms	1-5
	Evaluation	
E2	For an answer that uses economic analysis to support evaluative comments about the extent to which the behaviour of the firms in monopolistic competition and oligopoly is dependent on the actions of other firms	3-4
E1	For an answer that gives unsupported evaluative comment(s) or supported evaluative on the extent to which the behaviour of the firms in monopolistic competition or oligopoly is dependent on the actions of other firms	1-2