Theme 3
Markets and business behaviour

Edexcel

Course companion 3

Oligopoly
Contestability
Business growth
Objectives
Why some firms remain small
Demergers

Name: ____________________________________ Set: ________________

Contents

Specification

3.4.4 Oligopoly
a) Characteristics of oligopoly: high barriers to entry and exit (studied in previous course companion); high market concentration ratio; interdependence of firms; product differentiation
b) Calculation of n-firm concentration ratios and their significance
c) Reasons for collusive and non-collusive behaviour
d) Overt and tacit collusion; cartels and price leadership
e) Simple game theory: the prisoner's dilemma in a simple two firm/two outcome model
f) Types of price competition: price wars, predatory pricing, limit pricing
g) Types of non-price competition

Starter Activity

Make a list of 15 different chocolate bars. Who owns and produces these bars?

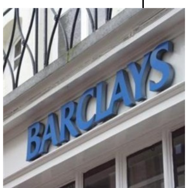
How do manufacturers of chocolate bars compete with each other?

Market concentration Calculation of n-firm concentration ratios and their significance

Market concentration is the degree to which the output of an industry is dominated by its largest producers.

Market share: the proportion of sales in a market taken by a firm or a group of firms.

Concentration ratio: The combined market share of the X largest firms in the industry. For instance, a five firm concentration ratio of 60 per cent shows that the five largest firms in the industry have a combined market share of 60 per cent.



If the ratio is **high,** the market is described as **highly concentrated**, and the market structure **oligopoly** (or monopoly).

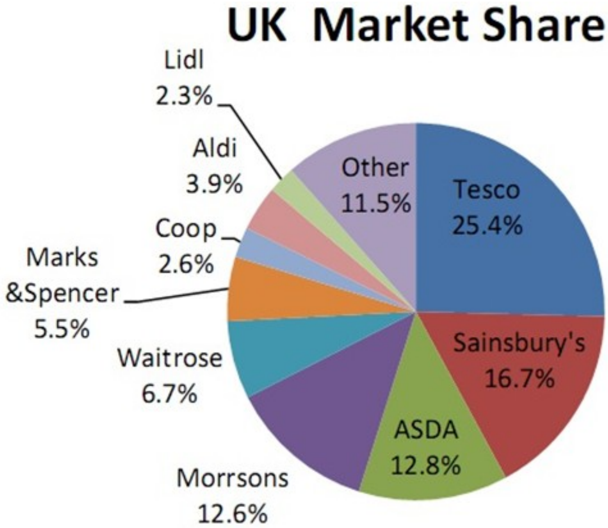
The number of firms in an industry is less important in studying the **behaviour** of the industry than the **economic power** of individual producers within the industry. Therefore concentration ratio calculates **how important** are the **top few companies** in the market in terms of market share, how many workers they employ or some other measure.

Classwork: Using the pie chart of Bank market shares (Current accounts) (Source: Guardian Jan 2014), calculate:

- *Two firm concentration ratio*
- *Three firm concentration ratio*
- *Four firm concentration ratio*
- *Five firm concentration ratio*

Class work: Using the pie chart of the UK grocery sector market shares (2013 Nielsen Data), calculate:

- *Two firm concentration ratio*
- *Three firm concentration ratio*
- *Four firm concentration ratio*

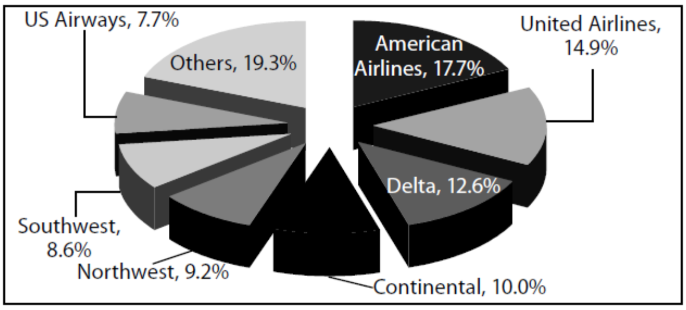


Market concentration can depend on how **widely** or **narrowly** a market is **defined**, if a market is defined more narrowly, then there are likely to be fewer producers, e.g.

- Transport
- Air transport
- Air transport to Isles of Scilly

Question 1

The following chart shows the percentage market shares of the US Airline Industry in 2006.



(Source: Adapted from 'Up in the Air' by David Jonas 31 March 2007
http://www.procurement.travel/news.php?cid=airline-procurement-strategy.Mar-07.31)

Which of the following can be deduced from the above information?

(1)

A The four firm concentration ratio is 64.5 per cent

B The US airline industry is monopolistically competitive

C The US airline industry is highly concentrated

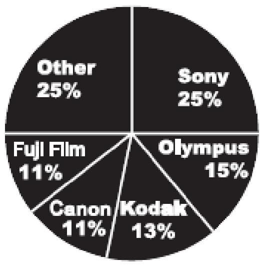
D The US airline industry is a natural monopoly

E There are low sunk costs in the US airline industry.

Answer

Question 2

The US digital camera market



Source: Deutsche Bank 2003

The chart shows the percentage shares of the US digital camera market in 2002.

Which of the following can be inferred from the data?

A The market has an oligopolistic structure.

B Barriers to entry are likely to be very low.

C It is unlikely that significant economies of scale exist in the market.

D The three firm concentration ratio is below 50%.

E The market is characterised by monopolistic competition.

(a) Answer

(1)

Oligopoly: a market where a **small number** of **interdependent** firms compete with each other.

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Characteristics of oligopoly

- **Dominated** by a **few firms**, note: alongside a few large producers, there may be a larger number of very small firms, i.e. **high concentration ratio**
- Firms are **interdependent** when the actions of one firm will have an impact on other firms, a firm's **decisions on price, output** and **other competitive activities** may have **immediate effects upon other competitors**. Each firm must react to rivals decisions and try to **anticipate** their future actions, i.e. firms must deal with **uncertainty**
- *Class discussion: Give examples of competitive activities by one firm which would have an effect on other competitors:*

- **High barriers to entry and exit**: factors which make it difficult or impossible for firms to enter or exit an industry and compete with existing firms. Therefore **supernormal profits** can remain.
- **Product differentiation:** aspects of a good or service which serve to distinguish one product from another such as product formulation, packaging, marketing or availability.

Coca-Cola is the largest soft drinks manufacturer in the world. It sells over 500 different brands of sparkling and still drinks, including Coca-Cola itself, the original drink which started the company. In the USA, Coca-Cola had 42 per cent of the cola market compared to 31 per cent for Pepsi Cola in 2013. Traditionally, Coca-Cola and Pepsi have engaged in a fiercely competitive fight for market share both in the USA and worldwide. Market share gained by Pepsi has come at the expense of market share lost by Coca-Cola and vice versa. However, both companies in recent years have come under pressure from manufacturers of what are sold as healthier soft drinks from water to fruit juices to vitamin drinks. Both companies have responded by bringing out their own 'healthier' drinks brands or by buying up small rising companies. For example, in 2014, Coca-Cola launched Coca-Cola Life, a product with natural sweeteners and containing two thirds of the calories of a regular Coke.

Source: with information from © the *Financial Times* 11.6.2014, All Rights Reserved.

Explain why the soft drinks market might be categorised as oligopolistic by discussing (a) concentration (b) interdependence; (c) barriers to entry; (d) product differentiation.

Oligopoly Pricing Game

You represent **one** firm in an industry of 3 identical firms competing for the market. The demand for your product is assumed to be relatively inelastic. The firm can choose to sell at a high price (H) or a low price (L).

Profit for different H and L combinations

Price combination	**Price**	**Profit**	**Price**	**Profit**	**Price**	**Profit**
HHH	H	25	H	25	H	25
HHL	H	-35	H	-35	L	95
HLL	H	-50	L	35	L	35
LLL	L	7	L	7	L	7

Study the profit possibilities and try to make as much profit as possible for your firm through a series of price-setting decisions. The winner in each industry is the most successful profit maker.

You must make your pricing decision in each period WITHOUT communication with the other firms in your industry

Decision number	Price (H or L)	Industry outcome	Profit	Cumulative profit
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				

Now follow teacher instructions for last 10 decisions

Decision number	Price (H or L)	Industry outcome	Profit	Cumulative profit
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				

Typical market conduct in Oligopolistic markets

Price stability: Prices in oligopolistic markets seem to change far less than in perfectly competitive markets, even when costs change.

Predatory pricing: an anti-competitive strategy in which a firm sets price below average variable cost in an attempt to force a rival or rivals out of the market and achieve market dominance.

Limit pricing: when a firm, rather than short run profit maximising, sets a low enough price to deter new entrants from coming into its market.

Price war: a situation where several firms in a market repeatedly lower their prices to outcompete other firms; the objective may be to gain or defend market share.
To avoid price wars, non-price competition is often preferred:

Non-price competition: is all forms of competitive action other than through the price mechanism.

Class discussion: Give examples of non-price competition:

Brand: a name, design, symbol or other feature that *distinguishes* a product from other similar products and which makes it *non-homogeneous.*
A branded good is one produced by a particular firm which *appears* to possess **unique characteristics.**

Examples?

The Marketing Mix – 4 Ps

Question 1

Table 1

% of the market

	USA	Western Europe	UK	France	Latin America	China
Wrigley	54	43.2	89.4	37.9	5.7	54.9
Cadbury Schweppes	25.4	21.4	2.0	49.5	69.7	3.1
Other	20.6	35.4	8.6	12.6	24.6	42

In the UK, Wrigley is the dominant seller of chewing gum. Wrigley is also the world's number one manufacturer of gum, but it isn't dominant in every market. In France, or Latin America, for example, Cadbury Schweppes is the market leader.

Cadbury Schweppes increased its competitive challenge to Wrigley two years ago when it bought the US number two gum manufacturer, Adams. Cadbury Schweppes is twice the size of Wrigley and has a formidable distribution system worldwide. It can push gum through the same sales channels as its other confectionery products. Equally, Wrigley, which relies for 90 per cent of its sales on gum, is renowned for its ability to get the product to consumers. In the fast growing but undeveloped Chinese market, for example, sticks of Wrigley Doublemint gum are sold at small kiosks in rural areas.

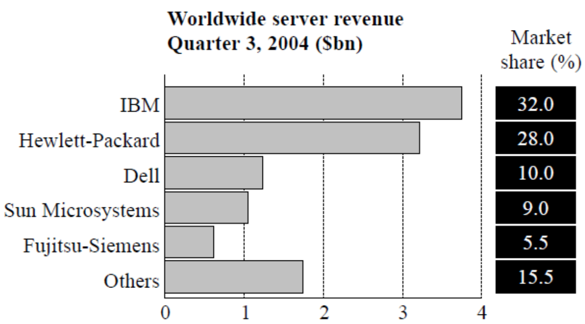
Another way Cadbury Schweppes hopes to compete with Wrigley is on product development. Gum is a highly versatile product which can be made in a wide range of flavours and textures. Different packaging also can add value to the product for the consumer and allow the manufacturer to charge higher prices.

Source: adapted from the *Financial Times*, 19.10.2005.

(a) Why could the market for chewing gum be said to be oligopolistic?

Question 2

Worldwide Computer Server Revenue and Market Share (Quarter 3) 2004



Source: *Financial Times*, 23 December 2004

The chart shows the global revenue and market share for major companies in the computer server market. From the data it can be inferred that

A the market for computer servers is monopolistically competitive

B the five firm concentration ratio is 74.5%

C the market for computer servers is perfectly competitive

D the price and output decisions of IBM will affect the price and output decisions of other firms in the market

E there is a low market concentration ratio

Question 3

In the market for bank current accounts, the three biggest challengers are on track to open at least two million accounts this year. TSB, Nationwide and Santander are trying to take away customers from the top four high-street banks including Lloyds Banking Group, Barclays, Royal Bank of Scotland and HSBC. Current accounts are important because it is easier to sell mortgages, savings accounts and credit cards to current account customers. With a fixed pool of savings and credit card borrowing, for example, one bank's extra customer can easily be another bank's loss.

Source: adapted from © the *Financial Times* 2.6.2014, All Rights Reserved.

Explain, using the example of banks, what is meant by interdependence in a market.

Reasons for collusive and non-collusive behaviour- definitions

Collusion: Collective agreements between producers which restrict competition.
Collusive oligopoly: when firms in an oligopolistic industry form a cartel and collude, typically to restrict output and raise prices and profits.
Non-collusive or competitive oligopoly: when firms in an oligopolistic industry compete amongst themselves and there is no collusion.
Competitive oligopoly: exists when the rival firms are **interdependent** in the sense that they must take account of the reactions of one another when forming a market strategy but **independent** in the sense that they decide their strategies without co-operation or collusion.
Uncertainty is a characteristic of competitive oligopoly e.g. reactions of rivals to increased price may be unpredictable.

Non-collusive oligopoly: The kinked demand curve theory

Kinked demand curve theory: the theory that oligopolists face a demand curve that is kinked at the current price, demand being significantly more elastic above the current price than below. The effect of this is to create a situation of price stability.

- Used to illustrate how a competitive oligopolist may be affected by rivals' reaction to price and output decisions.
- The theory originally developed to explain alleged price rigidity and absence of price wars in oligopolistic markets.

The Kinked demand curve model

- Why is there no point in raising the price?

- Why is there no point in cutting the price?

- Given the kink in the demand curve there will be two different marginal revenue curves
- This causes a 'discontinuity' in the firm's marginal revenue curve at price P1.
- A change in MC may cause no change in profit maximising price.

Criticisms of kinked demand model

- Initial price/output not explained.
- Competitive oligopolists seldom respond to price changes in the manner assumed in the theory.
- In a buoyant market firms may follow price rises.
- Research shows oligopoly prices tend to be stable when demand conditions change in predictable/cyclical way but oligopolists raise/lower prices quickly and by significant amounts when production costs change substantially and when unexpected shifts in demand.
- A doubtful model but it does illustrate how oligopolists are **interdependent** and are affected by **uncertainty.**

Overt and tacit collusion; cartels and price leadership

Cartel: an agreement between firms on price and output with the intention of maximising their joint profits.

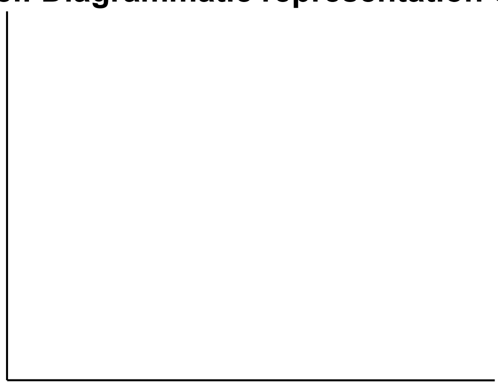
Overt (or formal) collusion: when firms make agreements among themselves to restrict competition, typically by reducing output, raising prices and keeping potential competitors out of the market. **Overt** collusion: suggests communication has taken place between the firms, e.g. at least verbal agreement. E.g. cartels.

Tacit (or informal) collusion: when firms co-operate without any formal agreement having been reached or even without any explicit communication between the firms having taken place. Firms monitor each other's behaviour closely, unwritten rules developed which define ways in which firms may or may not compete. An example is price leadership.

Price leadership: When one firm, the **price leader**, sets its own prices and other firms in the market set their prices in relationship to the price leader.

Firms who market to consumers that they are "never knowingly undersold" or who claim to be monitoring and matching the cheapest price in a given geographical area are involved in **tacit collusion.**

Cartel: Diagrammatic representation of joint profit maximisation



Cartels

- Cartel agreements are usually secret, verbal and often informal.

- Typically cartels may agree on: prices, output levels, discounts, credit terms, which customers they will supply, which areas they will supply, who should bid for a contract (bid rigging)
- The above types of cartel are prohibited by the **Competition Act (1998),** any business found to be a member of a cartel can be **fined up to 10% of its worldwide turnover.**
- The **Enterprise Act (2002)** makes it a **criminal offence** for an individual to dishonestly take part in certain specified cartels with a punishment of up to 5 years imprisonment and/or an unlimited fine.

Example of collusion: OPEC
OPEC (Organisation of Petroleum Exporting Countries)

- A permanent, intergovernmental Organization, created in 1960
- Members: Iran, Iraq, Kuwait, Saudi Arabia, Venezuela, Qatar, Libya, United Arab Emirates, Algeria, Nigeria, Ecuador and Angola
- OPEC's objective is to **co-ordinate** and unify petroleum policies among Member Countries, in order to secure **fair and stable prices** for petroleum producers; an efficient, economic and **regular supply** of petroleum to consuming nations; and a **fair return on capital** to those investing in the industry.
- **Reduce output** to achieve **higher prices**
- At regular meetings, OPEC sets quotas (maximum limit) on production for members, which are below what they would otherwise supply.
- Attempt to maximise its **long-term** revenues from the sale of oil

http://news.bbc.co.uk/1/hi/world/americas/7787295.stm
Listen to video clip from OPEC Meeting **Dec 2008:**

1. What challenges faced the OPEC cartel?

2. What actions did they take?

3. Describe the disagreement between Saudi Arabia and Iran/Venezuela

Credible threat (or promise): one that is believable to rivals because it is in the threatening player's interest to carry it out.

OPEC & oil prices 2015/6
How is the oil price set?

http://www.telegraph.co.uk/finance/newsbysector/energy/11321739/Saudi-Arabia-bets-its-future-on-Berlin-or-Bust-oil-strategy.html
Watch the video clip and note factors affecting oil price.

How US shale oil production has forced prices down

http://www.bbc.co.uk/news/business-35219765

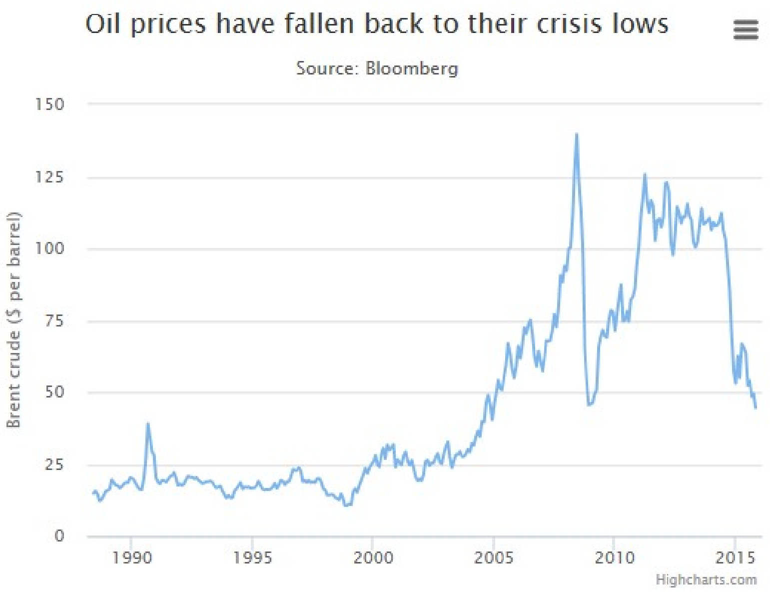
1. What happened to oil prices during 2015?

2. Why did OPEC not cut their production levels?

3. What has happened to the shale oil producers?

Oil nations feel the strain of Opec's continuing price war

Andrew Critchlow, Telegraph, 18/10/15

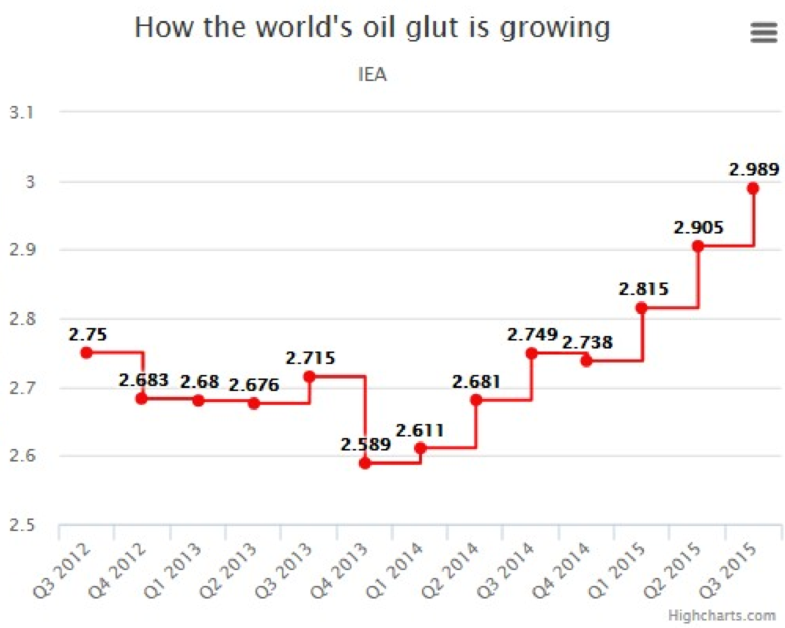


Almost a year ago Rafael Ramirez, Venezuela's oil minister, emerged from a tense OPEC meeting. Ramirez had remonstrated angrily with his counterpart from Saudi Arabia, Ali al-Naimi, about the urgent need for the group of major oil producers to push up the price of crude back to a level around $100 per barrel.

Al-Naimi is the main architect for Opec's current policy of allowing oil prices to weaken naturally to win back market share from US shale oil producers and its other major rival Russia. With the support of Arab Gulf allies in Qatar, the UAE and Kuwait, Al-Naimi convinced Opec last November that it could no longer afford to surrender market share to its rivals by cutting its own production to defend higher prices. So far the strategy has held together even though it has failed to significantly reduce oil production outside Opec member countries.

Lower oil prices have crippled Venezuela's economy, where a 22pc spike in food price inflation in August has meant the country is even struggling to feed itself. Ramirez said he wants Opec to cut production by introducing a series of price bands starting at $70 per barrel. This puts Venezuela and its close allies within Opec, including Algeria, Nigeria and Iran, on a collision course with Al-Naimi and his Gulf Arab clique.

According to Opec's former president, Abdullah bin Hamad al-Attiyah, a change in policy is unlikely without any cuts in production being matched by countries outside the group such as Russia and Mexico. "Opec has no choice because they no longer have the tools to be a global "swing producer" anymore," Al-Attiyah said, due to Opec's falling share of the world market, down to just over 30pc from almost 60pc 20 years ago.



Saudi Arabia's power within Opec comes from its vast oil reserves and production, which it has increased significantly since last November. It pumps around 10.5m barrels per day (bpd) of crude and has the capacity to increase output by 12.5m bpd if it so chooses, which gives it tremendous power alone to influence world oil markets. “Even Saudi Arabia cannot play as the ‘swing producer’ anymore and they won’t, because they will lose more of their market share,” said Al-Attiyah. The oil price war, which Al-Naimi effectively started, has also put the kingdom’s finances under severe strain at a time when it is fighting a full scale war in Yemen and funding opposition groups fighting in Syria. Russia is the world’s biggest oil producer just ahead of Saudi Arabia and neither side is willing to surrender market share to the other. Freed from the shackles of embargoes, Iran’s oil ministry predicts the country could increase exports by around 1m bpd by the middle of next year. Although Saudi Arabia’s finances are under severe strain from the collapse in export revenues it can still fall back on its $655bn (£423bn) of foreign assets while Russia and Iran will feel the impact of another year of weak oil prices more acutely.

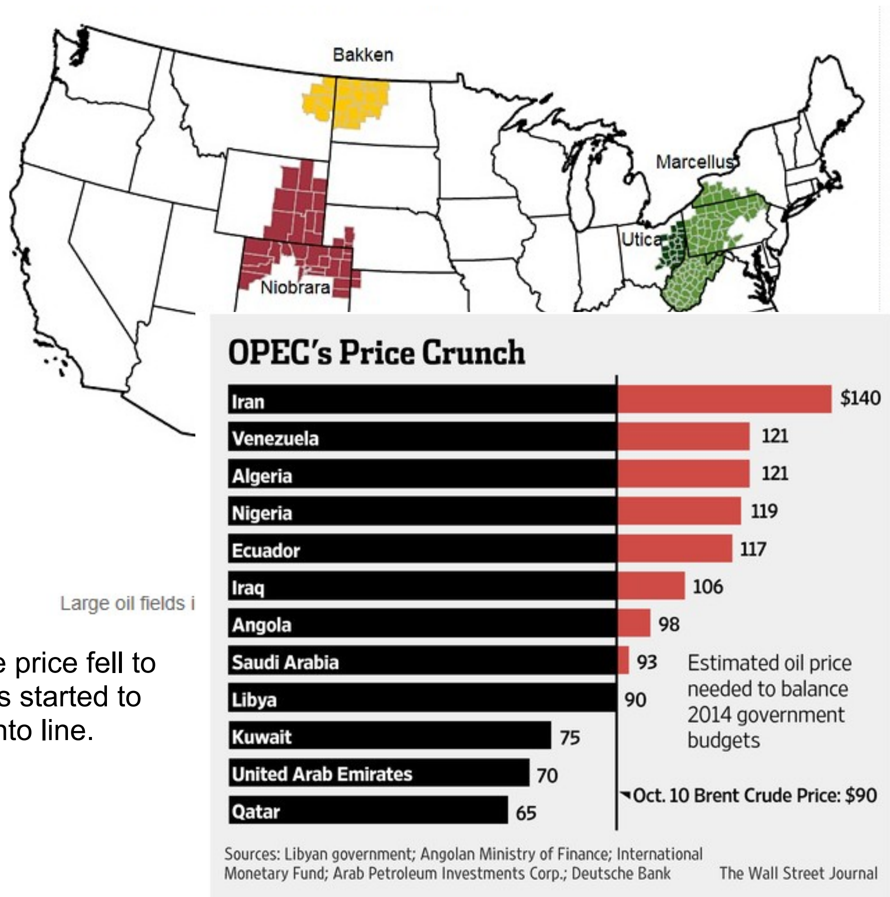
A 60pc slump in oil prices since last November has caused havoc but the main target of Opec ‘s campaign, shale oil in the US, has so far proved to be remarkably resilient. Hardest hit have been the high cost producers in areas such as the North Sea where prices below $50 per barrel have placed the entire offshore industry at risk.

It's now becoming clear: there is no grand OPEC strategy

Ben Wright, Telegraph, 21 Dec 2015

About a year ago, Saudi Arabia increased oil production in an attempt to maintain market share, the other Opec countries followed suit, and the world was flooded with cheap crude. The received wisdom is that the club of 13 oil-producing countries is trying to squeeze higher-cost producers like the US shale industry.

US oil production has almost doubled in the past four years from around 5.5m barrels a day in 2011 to a peak of 9.7m in April this year. The recent oil glut has merely forced shale producers to become more efficient. The increase in output has been achieved, despite a reduction in the number of rigs, thanks to a startling rise in productivity – up by 30pc a year between 2007 and 2014. The US energy revolution has been financed with cheap debt. US shale production has also started to tail off a little in recent months. But even if there is a financial reckoning, and a number of shale companies go bust, their operations will merely be taken over by better-run rivals. Experts now believe that the Permian Basin in Texas is capable of producing up to 6m barrels a day – more than Ghawar, the world’s biggest field, in Saudi Arabia. And shale production is relatively flexible – shut it down for a while and it will bounce right back as soon as prices start rising.



OPECs fractious meeting last month highlighted internal wrangling that can be traced all the way back to the 1980s. To protect themselves from the disruption of the Iran-Iraq war, many countries decided to wean themselves off their dependency on Middle Eastern oil, leading to a boom in exploration everywhere from Alaska via the Gulf of Mexico to the North Sea. Prices fell through the floor and Opec’s market share plummeted from 50pc to 29pc. Saudi Arabia’s answer was to turn off the taps. There was just one problem: the other Opec countries went behind its back and kept pumping. The furious Saudis switched from one extreme to another, producing so much oil that the price fell to the point at which other Opec members started to feel the pinch and, in due course, fell into line.

Might something similar be happening now? It increasingly looks like the reason Saudi Arabia hasn't limited production is because it doesn't trust the other Opec countries to reduce their own quotas. It's widely believed that Saudi Arabia's production costs are so low that it can continue to make money until the price of oil hits $20.

Questions

1. What are the causes of the recent fall in oil prices?
2. Why have OPEC not cut production quotas to stop prices falling?
3. Why is this a risky strategy for Saudi Arabia and other OPEC members?
4. To what extent is the OPEC cartel able to control the oil market and achieve their objectives?

Conditions required for an effective cartel

For a cartel to function effectively a number of conditions must apply:

Class discussion: Explain why each of the following conditions makes it easier for a cartel to operate effectively:

1. An agreement must be reached
2. Easier if **fewer firms**
3. **Barriers to entry** protect existing firms in the long run.
4. Each firm's **output can be easily monitored**

5. Easier in **stable, mature industries** where market demand not too variable.

6. Easier if similar **production methods** and **average costs**

7. Demand is fairly **price inelastic**

8. Easier if there is a **dominant firm**

Formal collusion is illegal in the EU, USA and many other countries.

European lift manufacturers operate cartel

The European Union's top anti-trust regulator yesterday slapped a record 992m Euro fine on ThyssenKrupp and four other life manufacturers for violating competition laws. The five companies operated a cartel in the lift industry. This was both for the installation of new lifts and for service contracts on existing lifts.

The cartel covered Germany, the Netherlands, Belgium and Luxembourg between at least 1995 to 2004. The firms co-ordinated their bids to ensure that one chosen firm would win a specific contract. When deciding whose 'turn' it was to win a contract and at what price, company employees met in bars and restaurants. They travelled to the countryside and even abroad to avoid detection. They also used pre-paid mobile phones to avoid tracking.

Both the public sector and the private sector were hit. Contracts signed included those for the European Commission headquarters in Brussels as well as hospitals and government buildings. 'The result of this cartel is that taxpayers, public authorities and property developers have been ripped off big time', said EU spokesman Jonathan Todd. 'These companies ensured, by rigging the bids and sharing the markets, that the price paid for the installation and the maintenance were way above what they would have been if there had been a competitive market.'

Particularly of concern was that long term maintenance contracts had been signed at inflated prices. The European Commission urged those with contracts to renegotiate them. Customers may also be able to sue their lift contractor for damages in the wake of the ruling.
Source: adapted from the Financial Times, 22/2/07; news.bbc.co.uk 21/2/2007 (From Anderton)

1. How did the lift manufacturers restrict competition?

2. Discuss whether market efficiency was affected by the actions of the cartel.

Question 1

Which of the following is the most likely consequence of an oligopolistic market structure?

A Periods of tacit collusion.

B An absence of non-price competition.

C A tendency of firms to make only normal profits in the long run.

D A falling concentration ratio over time.

E Productive and allocative efficiency.

Answer ☐ **(1)**

Question 2

Firms tendering for a private finance scheme from the government verbally agree with each other to fix a higher price than if there were independent bids. This is an example of:

(1)

A tacit collusion

B overt collusion

C symmetric information

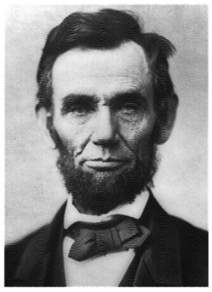
D monopolistic competition

E regulatory capture.

Answer ☐

Evaluation of collusion

Class work: Discuss the benefits of collusion:



Advantages	Evaluation: Disadvantages/limitations/what does success depend on?

Game theory

Simple game theory: the prisoner's dilemma in a simple two firm/two outcome model

"When I am getting ready to reason with a man I spend one-third of my time thinking about myself and what I am going to say, and two-thirds thinking about him and what he is going to say"
Abraham Lincoln

Game theory: the analysis of situations in which players are **interdependent.**

- **Interdependence** means that the actions of one firm will directly affect all other firms in the industry.
- In game theory the best move for a player depends upon **how other players will react.**
- A player may have **incomplete information** about the others **intentions**

Theorists

Game theory is a way of modelling the behaviour of firms in oligopoly: It is about **strategy**.

Class work exercise: The Prisoners' Dilemma

- Two prisoners are being questioned over their guilt or innocence of a crime.
- They can either confess to the crime (thereby implicating their accomplice) and accept the consequences, or deny all involvement and hope their partner does likewise.
- The 'pay-off' is measured in terms of years in prison as shown below (Prisoner A, Prisoner B)
- No communication is permitted between the two suspects – each must make an **independent** decision, but must take account of the **likely behaviour** of the other, this highlights the **uncertainty** that is important in oligopoly.

		Prisoner B	
		Confess	**Deny**
Prisoner A	**Confess**	(5,5)	(1,10)
	Deny	(10,1)	(2,2)

1. Comment on the best strategies for each player and the likely outcome in this game

2. If they are now allowed to communicate and they then agree to collude by choosing to both deny the crime, is this likely to be a stable outcome?

Prisoners' dilemma: a game where, given that neither player knows the strategy of the other player, the optimum strategy for each player leads to a worse situation than if they had known the strategy of the other player and been able to co-operate and co-ordinate their strategies.

Payoff matrix: in game theory, shows the outcomes of a game for the players given different possible strategies.

Duopoly: an industry where there are only two firms

Game theory seeks to analyse **strategic behaviour** of and between firms, it illustrates the **interdependence** between firms, and can be applied to price competition or non-price competition:

- Enter a price war or keep prices constant
- Engage in R and D or not
- Advertise or not

Class work: Pricing game

- Two businesses in a duopoly are making simultaneous decisions about pricing.
- The pay-offs (profit in £m) are shown in the table below (firm Y, firm X)

		Firm X	
		£2	**£1.80**
Firm Y	**£2**	10, 10	5,12
	£1.80	12, 5	8,8

1. Comment on the best strategies for each player and the likely outcome in this game

2. What might be the outcome if the firms collude? Is this likely to be a stable outcome?

The **MAXIMIN strategy** is to charge a lower price i.e. this will **maximise the minimum possible profit:** the worst outcome is the least bad (most **cautious** approach)

The **MAXIMAX strategy** is also to cut price (hoping the other firm will not cut price): This is aiming for **maximum possible profit** and is a more **optimistic** approach (less cautious)

This is a **dominant strategy** game as both maximax and maximin strategy lead to the same outcome, cutting price.

Note: When asked to use game theory in an exam question, you are expected to draw a simple pay-off matrix similar to the pricing game above (you can make up numbers to support your analysis).

Nash equilibrium (after John Nash)

- This is the equilibrium outcome of a game where there is no collusion (cut price in the last example).

Russell Crowe playing the part of mathematician and game theorist John Nash in A Beautiful Mind.

- This is the outcome of all players (firms) making their optimal decision based on their assumptions about rival reactions.
- It is an 'equilibrium' situation as there is no reason for firms to change their strategy.

Video clip from A Beautiful mind illustrating Nash's theory:
http://www.youtube.com/watch?v=2d_dtTZQyUM&feature=related

Class work: The production game

- Two businesses in a duopoly are making simultaneous decisions about how much output to supply to the market.
- Production levels will influence market supply and directly affect the price and eventual profits.
- The pay-offs (in profits £m) from production decisions are shown in the table below:

		Firm B	
		Low	**High**
Firm A	**Low**	(100,100)	(25,200)
	High	(200,25)	(50,50)

What is the likely outcome of this game?

(a) Without collusion

(b) With collusion?

Class work: Investment game

- Two firms have the choice of whether to invest money in installing new filters to reduce carbon emissions.
- The pay-offs measured in terms of profits from this choice are shown in the table below:

		Firm B	
		Install	**Don't install**
Firm A	**Install**	(15,15)	(5,20)
	Don't install	(20,5)	(10,10)

1. In the example above, the best strategy for each firm is to?

2. What are the social consequences of decisions not to install filters?

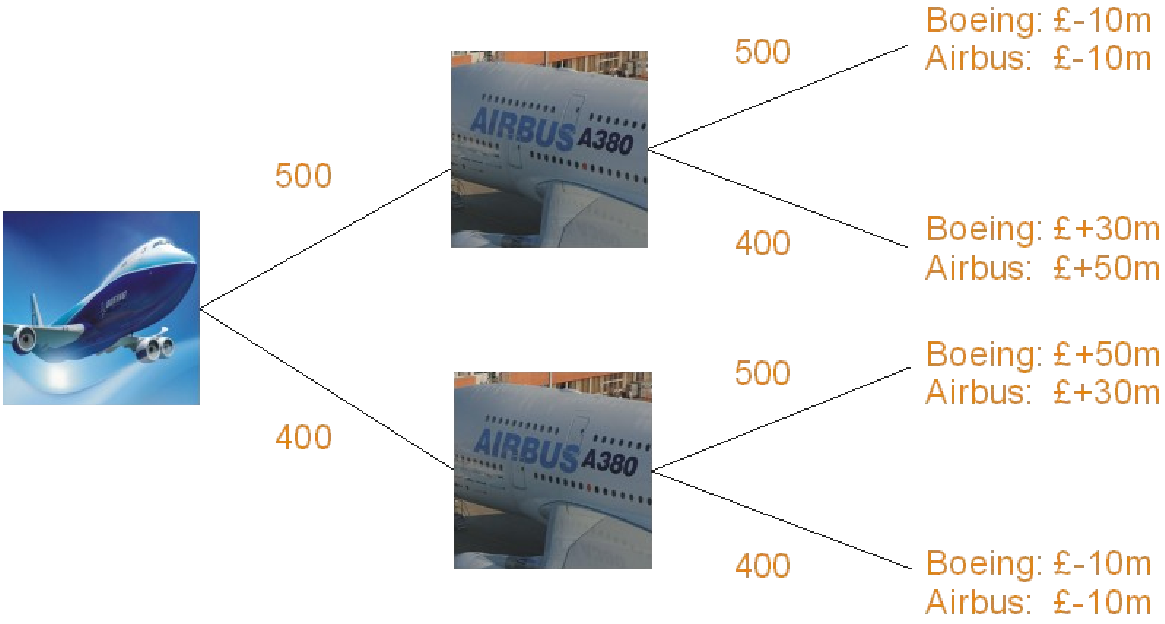
3. Can you think of government policy interventions that might incentivise firms to make the investment?

First mover advantage

Simple game theory assumes that both players act simultaneously, however in reality one player may move first: To what extent does this give them an advantage?

Classwork: First mover advantage

- In this theoretical example, Boeing have the choice of developing a 500 or 400 seat aeroplane.
- Once they have made their decision, airbus must decide how to react.



1. Assuming perfect knowledge of the likely pay-offs, which plane will Boeing choose to manufacture?

2. As second-mover, which plane will Airbus manufacture?

3. To what extent does this model suggest there is an advantage in being first-mover?

(Note: the diagram above is **not** required in exams)

In terms of business strategy, first mover advantage is defined as follows:

First-mover advantage: A form of competitive advantage that a company earns by being the first to enter a specific market or industry. Being the first allows a company to acquire superior brand recognition and customer loyalty. The company also has more time to perfect its product or service. The first-mover advantage refers to the first significant company to move into a market, not merely the first company. For example, Amazon.com may not have been the first seller of books online, but was the first significant company to enter the online book market. First-mover advantage can be instrumental in building market share, but this may or may not lead to business success. Basically, being a first-mover only makes sense if the rewards justify the risks. Some industries reward first-movers with near-monopoly status and high margins. First-mover status must never be a strategy in and of itself, only the prelude to a larger and longer strategic plan.

It can be linked to game theory because the first mover determines the outcome, e.g. When RBS was fined for breaking competition laws – staff making loans had given pricing data to equivalent staff at Barclays. Barclays used this information to determine the pricing of its own loans before reporting RBS to the authorities in 2008. No action was taken against Barclays, as a reward for acting as an informant within the industry, voluntarily admitting to the competition authorities its own part in the affair. As a result, RBS was fined £28m for sharing price data, whilst Barclays faced no fine.

Some examples of first movers:

Spotify	Coca cola	Dyson
Hoover	ebay	Sony
Netflix	Sellotape	Amazon web services

Class discussion: What might be the advantages and disadvantages of being a first-mover?

First mover revision clip on tutor 2u:
http://www.tutor2u.net/economics/reference/first-mover-advantage

Question 1

The grid below shows the possible pricing strategies of two ice-cream companies Juju and APJ. Assuming that demand is price inelastic, which of the following strategies shown in the grid would maximise the revenue of the two firms?

(1)

		Juju's price	
		High	Low
APJ's price	High	**A**	**B**
	Low	**C**	**D**

A Both firms set a high price

B APJ sets a high price and Juju a low price

C Juju sets a high price and APJ a low price

D Both firms set a low price

E Both firms set a price to increase consumer surplus.

Answer

Question 2

The following matrix shows the possible revenue outcomes of two firms tendering building services to the government. Assuming Hanna Ltd and Jax Ltd have agreed a pricing strategy that will give each a revenue of £1000, what change in pricing strategy would increase the revenue for Hanna Ltd?

(1)

		Hanna Ltd	
		High price	Low price
Jax Ltd	High price	£1000 / £1000	£1200 / £600
	Low price	£600 / £1200	£800 / £800

A Both firms set a high price

B Hanna Ltd sets a high price and Jax Ltd sets a low price

C Jax Ltd sets a high price and Hanna Ltd sets a low price

D Both firms set a low price

E The firms engage in tacit collusion

Answer

Evaluation of game theory

Class discussion: Evaluate the strengths & weaknesses of game theory in helping us to understand oligopolistic behaviour:

Strengths of game theory	Weaknesses / limitations

Strategies to gain market share or increase profitability

- Frequently in the exam, you are asked to analyse and evaluate what a firm could do to improve **sales, market share** or **profits.**
- **Note:** If the question concerns ways to increase **profit,** then take care to distinguish between the **short run** and the **long run**, as some of the strategies below will **decrease short run profits.**

Types of price competition: Pricing strategies

1. **Predatory pricing**: an anti-competitive strategy in which a firm sets price below average variable cost in an attempt to force a rival or rivals out of the market and achieve market dominance (Illegal in UK/EU)
2. **Limit pricing:** when a firm, rather than short run profit maximising, sets a low enough price to deter new entrants from coming into its market (possibly by exploiting economies of scale).
3. **Price wars:** a situation where several firms in a market repeatedly lower their prices to outcompete other firms; the objective may be to gain or defend market share. E.g. in May 2002, a price war broke out in the UK tabloid newspaper market. The *Mirror* cut its price from 32p to 20p and the *Sun* from 30p to 20p. Three weeks later, the *Mirror* put its price back up again, followed by the *Sun*. Analysts and observers commented that the only gainers had been the readers who had enjoyed three weeks of lower prices. To avoid price wars, non-price competition is often preferred. However, sometimes price wars are used to drive out a weaker competitor in the market.
4. **Price discrimination**: charging a **different price** for the **same good or service** in different markets.

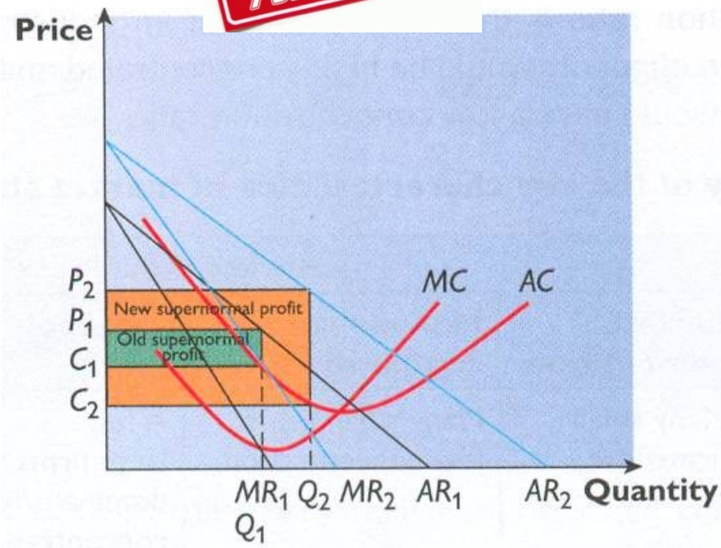
Types of non-price competition: Non-pricing strategies

5. **Branding**: name/design/symbol which distinguishes product from other similar products, supported by

advertising & packaging to create brand image, and schemes such as loyalty cards to build brand loyalty.

6. **Advertising** possibly including celebrity endorsement.
7. **New product development**: investment in research and development (R & D)
8. **New production methods**: investment in new technology to improve efficiency.
9. **Product/service quality and differentiation:** e.g. quality ingredients, ethical/environmentally friendly, free deliveries and installation, extended warranties for consumers and credit facilities, longer opening hours (e.g. supermarkets and petrol stations), extensive after-sales service
10. **Mergers/takeovers**
11. **Collusion:** formal (cartel) or tacit (e.g. price leadership)

Aim of many non-pricing strategies: to shift AR (demand) curve to the right or prevent it from falling as other firms try to increase their market share.



Today, Apple is one of the most recognised brands in the world. At the core of its current success is the iPhone, a smartphone. In 2014, it had a world market share for smart phones of 12 per cent. In some geographical markets, it was much higher than this. In the US market, for example, it had a market share of around 33 per cent.

Its main competitor in 2014 was Samsung with its Galaxy range of smart phones. In 2014, Samsung enjoyed a higher market share than Apple worldwide. Arguably it achieved this because it was significantly cheaper than the iPhone. However, Apple is able to compete successfully on a number of fronts. Its phone and the software it carries is unique and widely recognised as amongst the best in the market. Very importantly, its technology has a loyal customer base willing to upgrade to new iPhone products as they come onto the market. It promotes its products. It also has strong distribution channels with iPhones selling in all major world markets including China.

Source: adapted from © the *Financial Times* 30.1.2015, All Rights Reserved.

Explain how Apple competes in the smartphone market.

Class work: Analyse & evaluate pricing & non-pricing strategies:

	Analyse step-by-step how the strategy might increase sales, market share and/or profit.	Evaluate disadvantages/limitations and factors affecting success
Pricing strategies:		

Predatory pricing		
Limit pricing		
Price discrimination	*Draw diagram for third degree price discrimination:*	
Non-pricing strategies:		
Branding		

Advertising	*Draw diagram showing shift in AR/MR:*	
New product development		
New production methods		
Product /service quality & differentiation		
Mergers/ takeovers	*To be studied later*	*To be studied later*
Collusion	*Use game theory matrix:*	

Other strategies include:

Penetration pricing: Penetration pricing is the pricing technique of setting a relatively **low initial entry price**, usually lower than the intended established price, to attract new customers. The strategy aims to encourage customers to **switch** to the new product because of the lower price.

Price skimming: Price skimming involves setting a **high price** before other competitors come into the market. This is often used for the launch of a new product which faces little or no competition – usually due to some technological features. Such products are often bought by "early adopters" who are prepared to pay a higher price to have the latest or best product in the market.

Cost-plus pricing: The technique adopted by firms of fixing a price for their products by adding a fixed percentage profit margin to the long-run average cost of production.

Product line pricing: Product line pricing is a product pricing strategy used when you have more than one product in a line. E.g. printers sold cheaply and cartridges at much higher price.

The UK bread market- 'the greatest thing since…'

Extract 1: Market Snapshot (UK Federation of Bakers)

•The UK Bakery market is worth almost £3.4 billion and is one of the largest markets in the food industry.
•Bread is one of the nation's favourite staple foods and is purchased by 99% of households in the UK.
•The three main bread manufacturers in the UK (Allied Bakeries, Hovis and Warburtons) account for almost 80% of the plant bread market by value.
•Plant manufactured products account for around three-quarters of all bakery products sold in the UK.
•White bread is UK consumers' favourite choice and accounts for 71% of total bread consumption in the UK. Brown and wholemeal accounts for 22% and other bread 7% of the total bread market.

Extract 2: Britain's bread industry turns stale (Telegraph December 2012)

Supermarkets, hit by shoppers' reluctance to purchase, are pressuring their suppliers for cheaper products. This winter, British bakeries also have to deal with a poor wheat harvest caused by wet weather, following on from a spike in grain prices after a drought in the US and a heat wave in Russia.
"Branded players have to make sure they improve their game to offer points of difference to retailers and consumers," Mr Clarke said of food suppliers. "You can't be all things to all people."
According to the Federation of Bakers, the bread industry is the second biggest food sector in the UK. It says that 11m loaves and packs are sold every day in the UK, with 80pc still made in bakeries and the rest in in-store bakeries. In total, the federation has nine member companies that control 47 bakeries across the country. However, with pressure and competition mounting from supermarket own-brands, analysts say bakeries must invest in new products while also cutting costs.
"The multi-billion-pound sliced bread market is a staple that the big five supermarkets are pricing aggressively to the point of having near loss-leaders. Bread producers are struggling with global input rises. It is essential for bread makers to innovate and broaden the brand appeal with new and exciting products to

help with more leverage over pricing. Whatever they try, however, it is simply tough out there as bread is mostly used as a commoditised product."

Extract 3: Sliced bread is no longer the greatest thing (Financial Times Nov. 2013)

Sliced bread is no longer the greatest thing to have hit British consumers, judging by falling sales, which are posing a growing problem for bread manufacturers. Premier Foods, the heavily indebted UK company, said on Wednesday that it had appointed bankers to search for outside investors for its Hovis, Mother's Pride and other bread brands, which have struggled during the recession.…the three main players have similar market shares and are battling it out for retailer space and consumer spend.

Premier Foods and Associated British Foods – which owns the Kingsmill, Sunblest and Allinson brands – both have a 32 per cent share of the bread market, while privately owned Warburtons has 25 per cent, according to Investec. The two largest bakers also manufacture private-label bread. The 123-year-old Hovis is one of the best-known foods brands in the UK, but it has suffered in the highly competitive £3.6bn domestic bakery market.

"Consumers have reduced their bread consumption, driven by tighter budgets and health concerns," said Tim Eales, director at market research group IRI, noting that some parts of the market were doing well. "Healthier breads are generally performing better, as well as those for special dietary needs, such as gluten-free."

Premier has cut costs by shutting three bakeries and two mills, which slashed the workforce by 10 per cent.

Extract 4: Feeling kneady: The rise of artisan baking (Independent January 2014)

He may have surprised the nation by unmasking himself as a secret baker but it seems that David Cameron is far from alone. Kitchens across the country are being turned into mini bakeries as Britain gets a taste for artisan bread.

Many … open their own high street bakeries, often replacing those forced out of business by supermarkets. The baking revival is no mere micro revolution: big retailers such as Tesco, Lidl and Marks & Spencer are overhauling in-store bakeries to drive sales of speciality loaves. And industrial beasts from Hovis to Warburtons, after years of sliding sales in the wake of the fad for Atkins-style low-carb diets, are giving their bread a makeover.… four out of 10 consumers would buy more bread if they believed in its health benefits.

In-store bakeries are getting a lot more sophisticated. Mintel figures show that in-store bakery purchases, which account for 15 per cent of total bread sales, rose by 6.5 per cent in the past 12 months. The Real Bread Campaign, called the supermarkets' push "flattering but annoying, because it is blurring the lines between loaves that just look rustic" and actual artisan bread, which is handmade. "Plus, they can undercut small bakers," he added. Government data shows that around 20,000 people are working in the industry but it is unclear how many artisan bakeries have recently opened. Mr Young says the Real Bread Campaign has around 2,000 members.

Questions:

1. Use the data to identify what type of market structure best describes the UK bread market. (4 marks)

2. Use a diagram to illustrate the impact on profit of Premier Foods of EITHER plant closures (Extract 3) OR falling wheat prices in 2013. (4 marks)

3. Why are supermarkets able to demand lower prices from their bread suppliers? (4 marks)

4. Explain and evaluate **two** (pricing and/or non-pricing) strategies of large bread manufacturers to maintain or increase their profits. (12)

BBC news 13 June 2016

Microsoft has revealed a slimmer version of its Xbox One console, the Xbox One S, which will launch in August.

The firm also announced another new console, Project Scorpio, which will offer virtual reality and 4K gaming.It will be released by Christmas 2017 but no details of a price were given.

The Xbox One S, however, will cost $299 (£210) and include support for High Dynamic Range (HDR) gaming, with extra levels of brightness and more colour.

Pictures of the device, which will also include 4K DVD and Blu-Ray playback, were leaked ahead of E3.One analyst said many gamers might not be ready to buy a new console so soon after the Xbox One's release.The Xbox One S will be released in August and will cost $299.

It's an unusual move to release a new version of a console "mid-cycle", or before a completely refreshed device is launched, according to games industry analyst Ed Barton of Ovum.
"We are in slightly uncharted waters," he told the BBC ahead of Microsoft's E3 event. "There's a risk of the market already being saturated."
However, Sony will also launch an upgraded version of its PS4 console in early 2017.
Piers Harding-Rolls at analysts IHS pointed out *the earlier release date for the Xbox One S could give it the edge in terms of sales.*

http://www.bbc.co.uk/news/technology-36522075

Using the above example, discuss the competitive behaviour of Microsoft in the games console market.

To what extent could Microsoft be seen as a first mover?

3.4.7 - Contestability

a) Characteristics of contestable markets
b) Implications of contestable markets for the behaviour of firms
c) Types of barriers to entry and exit (studied in earlier course companion)
d) Sunk costs and the degree of contestability

Contestable market: A market with **low entry** and **exit barriers.**

Characteristics of contestable markets:

- **Freedom of entry**
- **Freedom of exit: low sunk costs** (costs incurred when entering a market which are not recoverable if a firm leaves the industry).
- Firms **compete** with each other and do not collude
- Firms have **perfect knowledge**
- No significant **brand loyalty**

Note: The **number of firms** is **not important** to the theory, the market can have one or many firms. It does not matter whether the good is homogeneous or differentiated. The key characteristics are **low entry** and **exit barriers.**
Class discussion: How are the assumptions similar or different from previous models we have studied?

Classwork: Factors affecting contestability: Explain whether the following would make it more likely or less likely that there would be potential entrants to an industry:

Factor	Entrants more /less likely?	Reason
(a) The inability of firms in the industry to lease capital equipment for short periods of time		
(b) Very high second hand prices for capital equipment		
(c) Heavy advertising by existing firms in the industry		
(d) The existence of a natural monopolist which was highly inefficient and had high costs of production.		
(e) Patents held by an existing firm in the industry which were crucial to the manufacture of the product.		
(f) Government legislation which gave monopoly rights to a single producer in the industry.		

The theory of contestable markets argues that what is crucial in determining price and output is not whether an industry is **actually** a monopoly or competitive, but whether there is a **real threat** of competition.

Predictions of the model

- **Supernormal profit** can be earned in **short run.**
- If new entrant sees existing firms making **supernormal profits**, it will be worth their while to enter the market as long as **exit costs (sunk costs)** are low. Even if existing firms then

react by cutting prices to drive out the new entrant, the new entrant has still earned short run profits.

- **Hit-and-run competition**: when a firm enters an industry to take advantage of temporarily high profits and then leaves again as soon as the high profits have been exhausted.
- New entrants force price cuts so **only normal profit made in the long run.**
- ***Threat* of new entrants** encourages established firms to:
  - Keep prices down & *possibly* only make **normal profit** in short run.
  - **Produce as efficiently as possible**, taking advantage of any economies of scale and any new technology, and remaining x-efficient.

Efficiency:

- Long run firms will operate at bottom of average cost curve i.e. where **MC = AC**, therefore **productively efficient.**
- As they can only earn **normal profit** in the long run, **AR = AC,**
- Therefore because AR = AC and MC = AC, then **AR = MC** which indicates **allocative efficiency.**

Disadvantages of contestable markets

What might be the disadvantages of contestable markets?

Evaluation of theory

- Some argue extent of entry/exit barriers provide a better means of **predicting price/output behaviour** than number of firms/market concentration.
- But *few* markets *perfectly* contestable so *some* supernormal profit may remain in long run.

Implications of contestable markets for the behaviour of firms

- **Potential** or threat of competition may be more important for economic efficiency than **actual** competition.
- The theory implies that all markets (excluding natural monopolies) can be efficient as long as they are in contestable markets, for example, a monopolist may act as if it were in a perfectly competitive market if the market is contestable
- If a firm makes supernormal profit in a contestable market it may fear other firms coming in, therefore it may reduce price in order to force the competitor to leave

- It may also fear that the competitor may stay and reduce the firm's market share, these factors could lead to the use of non-pricing or pricing strategies and increasing barriers to entry by the incumbent firm.
- For example, to avoid hit and run tactics, instead of profit maximisation pricing, incumbent firms could price where AC = AR (e.g. limit pricing), to deter 'hit and run' entrants
- If an industry is contestable, incumbent firms might be forced to act as if they are in competition and be satisfied with normal profits because of the **threat** of hit and run tactics.

Hit and run tactics

This is when new firms can quickly enter an industry to take advantage of some of the supernormal profits and then get out quickly. This is possible when incumbent firms are charging high prices relative to cost.
New firms in the market must have no competitive disadvantage compared with incumbent firms.
They must have:
Access to the same technology
Perfect knowledge and ease of entry and exit

Influence on government policy

- Previously **monopoly power** defined by **number of firms** in the market and the **concentration ratios.** Policy makers balanced gains from economies of scale against monopoly abuse and consumer exploitation, using an **interventionist approach** to control monopoly power, i.e. **regulation.**
- **Contestable market theory**: monopoly defined by **ease of entry/exit**, used to justify policy of **non-intervention (free market approach)**: **deregulation** to **remove barriers to entry & exit**
- It shifts the emphasis of government competition policy away from number of firms towards reducing barriers to entry in an industry
- Contestable market theory implies that the government should consider each case by case where contestability is assessed because the market may be **self-regulating** if it is contestable.

How can we tell if a market is contestable?

Feature	Explain how each factor affects the level of contestability in the market:
High level of knowledge needed by new firms to enter the market/information asymmetry	
High levels of advertising expenditure and branding	
High level of capital needed to set up	
Fast changing technology	
Several new entrants have already broken into the market	
Possession of exclusive rights to raw materials or distribution facilities	
High level of profitability in the market	
Investigations being carried out by the competition authorities	
Limit pricing by incumbent firms	
The level of sunk costs	

Class work: **Impact of changing technological/economic environment:** Analyse whether each of the changes below would make markets more or less contestable, giving reasons:

Technological/economic Change	**More or less contestable?**	**Reason**
(a) Advertising costs are reduced due to: Internet and recession reducing demand for advertising agency services, and therefore reducing price.		
(b) Internet search engines/comparison websites improve consumer knowledge of goods/services available.		
(c) Technological changes reduce economies of scale		
(d) Credit crunch: Banking crisis makes it harder for businesses to get loans.		
(e) Economic uncertainty reduces the appetite for risk amongst entrepreneurs		

Exam questions on contestable markets often concern looking for evidence of contestability (or lack of contestability) in the extracts, i.e. to what ***extent*** is the market contestable?

10 The market for instant coffee

Figure 1: UK Instant coffee market shares, 2007–8

Coffee brand	**Market share (%)**
Nescafé	**51**
of which Nescafé original	25
Nescafé Gold Blend	13
other Nescafé	10
Nescafé Decaffeinated	3
Kenco	**17**
of which other Kenco	6
Kenco Really Smooth	4
Kenco Really Rich	4
Kenco Decaffeinated	3
Douwe Egberts	**5**
Carte Noire	**3**
Others (including supermarket own label brands)	**24**

Assess the extent to which the UK market for instant coffee is contestable. (10)

Contestability and barriers to entry

Consider the barriers to entry for these industries and degree of contestability:

	Barriers and degree of contestability
Mail services *examples of types of service and firms*	
Retail banks *Examples of firms*	
Web Search Software *Examples of firms*	
Online betting *Examples of firms*	
National Lottery *Firm?*	
Budget Hotels *Examples of firms*	

London taxis	

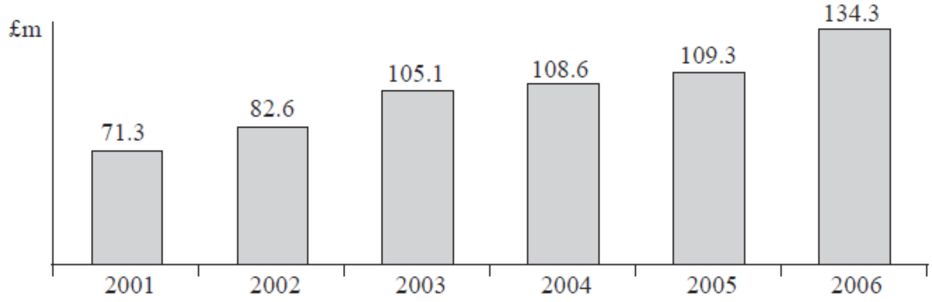
Examples of entry barriers in different markets

	Examples
Economies of scale in production	
Vertical integration in an industry	
Brand loyalty to existing products	
Limit pricing tactics	
Brand proliferation	
Market licences	
Patent protection	
State awarded franchises	

Give **two** examples of exit barriers:

Question 1

Proctor & Gamble's Advertising Expenditure on Beauty Products in the UK



Source: *The Times*, 27 February 2006

The chart shows Proctor & Gamble's advertising expenditure on its beauty products (such as Max Factor, Olay and Pantene) in the UK between 2001 and 2006. This trend in advertising expenditure is likely to

A reduce market concentration

B increase hit and run competition in the beauty industry

C reduce contestability

D decrease sunk costs for beauty products

E reduce entry barriers.

(a) **Answer:** ☐

Question 2

Which of the following conditions is most likely to explain the existence of many painting and decorating firms in the building industry?

A High sunk costs

B High contestability

C Significant scope for internal economies of scale

D The existence of paint product patents

E Limit pricing by leading painting and decorating firms

(a) **Answer** ☐

(1)

Airbus V Boeing - A competitive duopoly

Duopoly is a form of oligopoly and exists in a market when two companies control nearly all the market share of a product or service. There are two theoretical models for duopoly: the Cournot model and the Bertrand model.

In the Cournot model, the two companies assume the output of the other, resulting in greater output than in a monopoly, but less than in perfect competition. This pushes prices lower, but not as low as they would be in perfect competition.

The Bertrand model, in a game of two duopolistic firms, each firm will assume that the other will not change prices in response to its price cuts. When both firms use this logic, they will reach a **Nash equilibrium**. In Nash equilibrium the duopolists interacting with one another each choose their best strategy given the strategy that the other duopolist has chosen. The key practical point is that the duopolists are interdependent and the market is a good opportunity to study **game theory**- and the best game to apply it to in the real world is chess! Applied to the business world this means these questions being asked. What is going to be my rival duopolist's next move? Can I prevent them from making this move? What does my opponent think is going to be my next move? What therefore should be my strategy? However, the strategy that the duopolists adopt may not be competitive they may decide to **collude** to produce an outcome that achieves joint monopoly profits.

Major examples of duopolies include Pepsi and Coca-Cola in the soft drink market, Microsoft and Apple in the computer operating system market and Airbus and Boeing in aircraft manufacture. The real world duopolies are operating in markets where the products are differentiated (rather than homogeneous) and thus **non-price competition** is the main strategy usually adopted by the two firms.

The $1.6 trillion market for passenger aircraft has been dominated by Airbus and Boeing for over 20 years with Airbus accounting for 47% of the market in 2009 and Boeing 43%. Thus whenever we fly with airlines such as British Airways or easyJet the chances are we are being carried in one of a range

economax

of planes produced by these two firms such as the Airbus 320 or the Boeing 737. Airbus is part of EADS (European Aeronautic Defence and Space Company) which was formed through the merger of aircraft manufacturers in Germany, France and Spain. Boeing is a US company based in Seattle and like EADS also produces military aircraft.

These two aircraft manufacturers use non price competition as they battle for market share in the short haul and long haul passenger aircraft market. While price is obviously a factor for airlines purchasing their airliners they also look for increased fuel efficiency, lower emissions, low maintenance costs, reliability and design as key selling points. The planes need to fit the characteristics of the route network and passenger loads of the purchasing airlines. There is thus a range of **differentiated products** produced by the two companies. In the long haul market the two firms have both recently introduced new aircraft; the Airbus 380 and the Boeing 787 Dreamliner. The two firms compete quite aggressively: most recently a dispute between the two companies arose over the level of government subsidies given by the US government to Boeing and the EU to Airbus.

The high research and development and marketing costs would seem to suggest this is not a **contestable market** that will remain a duopoly. However there are increasing threats to the dominance of Airbus and Boeing, particularly in the area of the market dominated by the Airbus 320 and the Boeing 737. Embraer, the Brazilian manufacturer, the Russian aircraft manufacturers United Aircraft Company and Sukhoi as well as China's Comac and Bombardier from Canada will probably challenge the big two in the year's ahead forcing them to spend more on R&D than they previously planned. It is possible that the market share of Airbus and Boeing will have fallen to 26% each by 2030 with increased threats to their market share coming in the short haul aircraft market. However the new entrants to the market will find it much more difficult to make an impression in the market for the larger aircraft. The cost of developing the jets like the Boeing 787 Dreamliner or Airbus's new A380 is more than $12 billion maintaining the **high entry barriers** in the long haul market for aircraft manufacture.

Hence twenty years from now by 2030 the passenger aircraft manufacturing market is likely to have shifted from duopoly to an **oligopoly**. Significantly, as seen above, the increased competition in this industry will come largely from manufacturers in the **BRIC economies**. Aircraft manufacture is unlikely to be the only sector where there will be challenges to established firms in the 'old industrialised world' of the US and Europe.

Source: Robert Nutter, Watford Grammar School for Girls, Sept 2010, Economax

1. Why is non-price competition important in the aircraft manufacturing industry?

2. Identify examples of non-price competition used in the industry.

3. To what extent is the market contestable?

Google falls foul of the competition regulators – and faces tough times ahead

These have been difficult times for Google. It accidentally recorded personal data from unprotected wireless networks in various countries. Much-hyped new services flopped, in particular Google Wave. Now it faces a formal investigation by the European Union into allegations that it has broken competition rules by abusing its dominant position in the online-search business to stifle competition.

The case against Google is that it has manipulated its search engine in order to penalise links to competitors in search rankings and tried to impose agreements on websites that prevent them from running ads that compete with those delivered by Google. The firm acknowledges that judgment is involved in deciding what results its search engine should prioritise but it insists that it has never tinkered with the results of searches to give its businesses an unfair advantage. Crucially, it says that the notion that it has a dominant market position in European markets is wrong, as the competition is just a click away. In other words, Google argue that they operate in a contestable market.

Is their market open to new competitor? What are the relevant barriers to entry? Because of scale economies and network effects, the information-technology business tends to spawn networks that swiftly become dominant—think of Facebook in social networking. Google may prove hard to budge from its dominant position in its traditional markets, so shouldn't be surprised if regulators take a close interest.

But the $180 billion giant's ambitions don't stop at online searches, and extend to e-mail, social networking and web-based software applications. It has also splashed out on some sizeable acquisitions such as YouTube, DoubleClick and has other targets in its sights. Yet in spite of this, the firm is still heavily dependent on search-related advertising. Last year this accounted for almost all of its $24 billion of revenue and $6.5 billion of profit. Acquisitions such as YouTube have deepened rather than reduced the firm's dependence on advertising.

Perhaps Google's biggest worry is that will end up like Microsoft, which has failed to find big new sources of revenue and profit to replace the Windows operating system and the Office suite of business software. Facebook now draws more traffic to its site in America than Google's sites. That has given Google the added incentive to hasten moves further into the mobile market with its Android phones achieving over 25% market share, rivalling Apple's popular iPhone. To support it, Google has been developing its own library of online apps too.

So perhaps Google's problems are not confined to investigations by regulators, but include the problems that are typical of large organisations in maturing markets. Google has been so successful as an upstart, partly because it created a kind of paradise workplace for software engineers offering perks such as massages, free gourmet meals and the like. But competition for talent in Silicon Valley is now reaching fever pitch. The company has just given all of its workers a 10% pay rise plus a $1,000 bonus.

Sources

www.economist.com/node/17629823
www.economist.com/node/17633138?story_id=17633138

Source: Tom White, Norwich High School for Girls, Jan 2011, Economax

1. Identify entry and exit barriers in the online search engine market.

2. Discuss the extent of sunk costs and the degree of contestability in the market.

3.2.1 – Business objectives

a) Different business objectives and reasons for them:

- profit maximisation
- revenue maximisation
- sales maximisation
- satisficing

b) Diagrams and formulae to illustrate the different business objectives:

- profit maximisation
- revenue maximisation
- sales maximisation

Stakeholders

Stakeholders are groups who have an **interest** in the activity and performance outcomes of a business.

Different stakeholders tend to have different **objectives**

Yesterday, McDonald's Chicago headquarters was picketed by more than 400 protestors as, inside the building, its annual shareholder meeting took place. The day before, 100 people were arrested for trespassing after up to 1 500 protestors called for a $15 an hour minimum wage and a trade union for fast-food workers. McDonald's has become the main target of those wishing to raise the minimum wage in the US. At the annual shareholders' meeting, the theme was touched on in a question that has come to dominate its recent shareholder meetings - the contribution McDonald's makes to childhood obesity. While the company spends billions on marketing 'to hook more kids on junk food and increase executive compensation, many of your employees can barely make ends meet on poverty wages', said Sriram Madhusoodanan of Corporate Accountability International, a public health and human rights watchdog.

Don Thompson, McDonald's chief executive, replied by saying that 60 per cent of its employees were under age 24 in company owned-US restaurants and nearly 70 per cent were part-time workers, 'many of whom are just starting out'. He said that 'offering opportunity is a part of the McDonald's heritage' and 'we continue to believe that we pay fair and competitive wages.'

Critics contend that workers would like to work more hours, but are limited because the company does not to offer the benefits full-time employment requires. According to a 2013 study by the pro-labour National Employment Law Project, US government programmes subsidise the incomes of about 700 000 McDonald's employees.

Source: adapted from © the *Financial Times* 23.5.2014, All Rights Reserved.

Identify six different stakeholders of McDonald's mentioned in the data and briefly explain their possible objectives.

Stakeholder	Possible objectives	Ability to control/influence

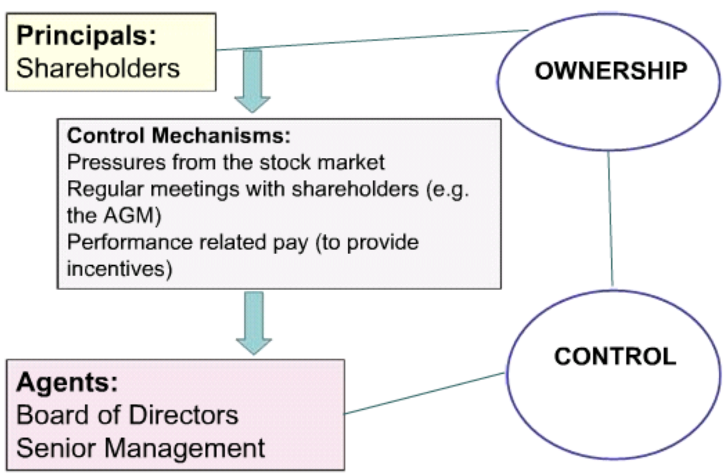
		firm's decisions

Managerial theories

Managerial theory: assumes that firms wish to maximise managerial objectives rather than profit.

The divorce of ownership and control

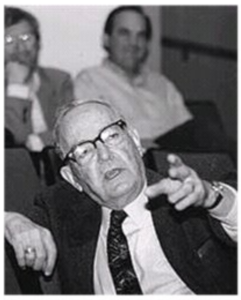
- Shareholders (owners) in a public limited company (plc) cannot exercise day-to-day control over the decisions of managers.
- Managers may have different objectives to owners, i.e. may want to help own career/job satisfaction
- Management decisions may not therefore maximise profit or shareholder value over time.



The principal agent problem: A problem arising from **conflict** between the **objectives** of the **principals** and those **agents** who take decisions on their behalf.

This is linked to the problem of **asymmetric information.**
Class discussion: Which stakeholder might have more information about what is happening within the business? (Shareholder or manager?)

Behavioural/organisational theories



Organisational theory: assumes that a firm is a coalition of different groups such as shareholders, managers and workers.
Behavioural economics studies human behaviour and decision-making, by integrating economics with psychology, pioneered by American economist, Herbert Simon.
Behavioural economists examine the decisions that are taken within **complex** business organisations, made up of various groups of **stakeholders** who have different **objectives.**
The **dominant group** at any moment in time can give greater emphasis to their own objectives, so relative power of each group must be studied to understand a firm's behaviour.

Satisficing means achieving a satisfactory objective acceptable to all the competing member groups of the coalition that makes up the firm.

Profit satisficing: Making sufficient profit to satisfy the demands of shareholders.

- Satisficing = satisfy + suffice
- Must satisfy shareholders to avoid takeover/bankruptcy/shareholders' revolt.
- But once satisfactory profits made, managers free to maximise own rewards from company.
- Complexity of decision-making leads managers to seek satisfactory profit rather than maximise profit.

Profit satisficing tends to occur where there is:

- Market power
- Divorce of ownership from control
- Low levels of contestability

Profit satisficing may be used to **avoid the attention of regulatory authorities:** High profits may make government regulator believe firm is exploiting monopoly power (see later work on government intervention).

Question 3

During the 1960s and 1970s, it was difficult to see who controlled the Fleet Street newspaper industry. Owners of the newspapers were often rich entrepreneurial-type figures who allowed their titles to make little or no profit in return for the prestige and influence over the UK public that ownership gave them. Trade unions had a virtual veto on changes in working practices. Trade unions, not management, controlled shop floor appointments. The ability to call wildcat strikes which would lose a paper its entire production run for a day ensured that shop floor workers earned wages which bore no resemblance to the wages of workers in other comparable occupations.

Consumers rewarded with more sales those newspapers which included more page 3 pin-ups and less serious political news. Governments, meanwhile, made public noises about deteriorating press standards whilst in private attempting to get the press to toe the current party line. Management were caught in the middle, attempting to balance all the conflicting demands made of them.

New technology and soaring property prices put paid to all this. In the 1980s it became apparent that newspapers could make large profits for their owners. The key to success was to sack as many shop floor workers as possible and replace them with machines.

Those kept on would be paid reduced rates. Fleet Street offices could be sold off at vast profit on a soaring property market, the proceeds more than paying for a move to new technology premises elsewhere. The unions resisted but not even continual mass pickets and what came to be called the 'Wapping riots' in 1986 could prevent change.

Today, union power is much reduced and, in some newspaper jobs, unions are not recognised by management for negotiating purposes. Newspapers are more profit orientated although most of the British press arguably can still be relied upon to support the Conservative Party.

To what extent can behavioural theories of the firm explain the history of the Fleet Street newspaper industry?

Business objectives:

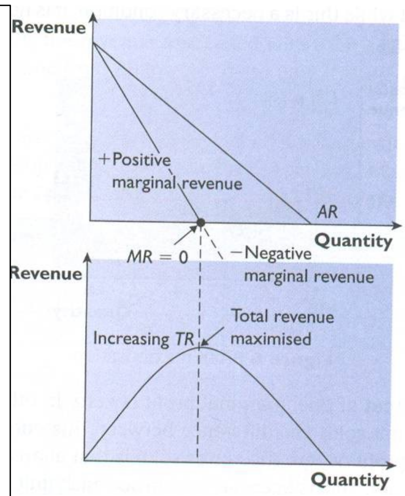
- **Profit maximisation**

- Traditional view in economics: firm seeks to maximise short run profits, by producing where **MC = MR**
- Assumes owners control the management of the business
- Assumes sufficient & accurate knowledge of costs & revenue so that MC & MR can be found
- *Class discussion: To what extent are these assumptions realistic?*

- **Revenue maximisation**

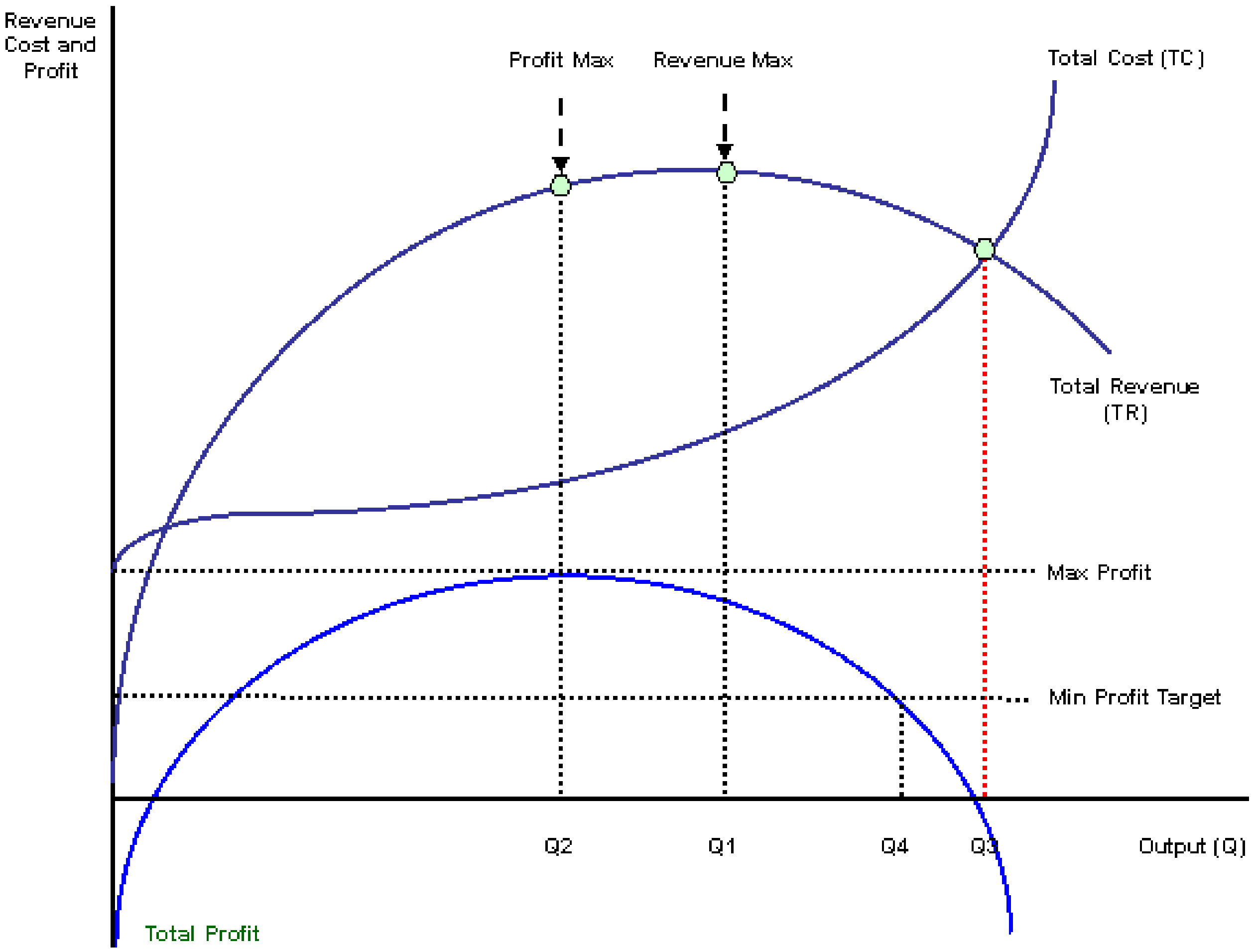
William Baumol (1959) theory that manager-controlled firms would try to **maximise sales revenue,** as the larger the **size** of a firm, the higher is likely to be the pay, fringe benefits and prestige of senior managers.
- Sales revenue maximisation is achieved when **MR = zero**.
- Output higher than profit maximising output.

Baumol pointed out that exact output level depends on **degree of accountability** of **agents** (managers) to **principals** (shareholders): Result may be a compromise **between revenue maximisation** and **profit maximisation.**



Sales maximisation (output maximisation)

- Maximising sales: i.e. no of units sold
- Manager focus on **volume of sales,** therefore output **even higher**.
- Output increased up to **break even point** (just normal profit).
- As above, may occur in **manager-controlled business**, as bigger firm means higher pay/prestige for manager.



- **Profit maximising** output is at ……………..
- **Revenue maximising** output ……………….
- **Profit satisficing**: If shareholders insist on minimum profit as indicated, then managers could increase output as far as …………….
- **Sales maximising** output is at ………………. after this point firm starts to make a loss.

Other objectives of firms

Allocative efficiency

- Governments may seek to ensure firms operate at the allocatively efficient point: **Price = MC**
- Government may impose this objective on firms through **state ownership** (nationalised industry) or **regulation** (see

Comparing objectives of firms

Draw a diagram showing:
- Profit maximisation
- Revenue maximisation
- Sales (output) maximisation
- Allocative efficiency

Long run profit maximisation
- Short run objective may be increased **market power** which leads to higher profits overtime.
- Short run profit maximisation suggests firms constantly adjust price in response to changes in demand, but firm may prefer to keep **stable prices** perhaps using **cost-plus pricing** (with prices based on long run costs).

Social enterprises

* **Social enterprise:** an organization that applies commercial strategies to maximize improvements in human and environmental well-being, rather than maximising profits for external shareholders.
* Example: Jamie Oliver's Fifteen Restaurant
* http://www.fifteen.net/

Unit 3 Business Objectives.
Case study: Smartphone wars- Apple vs Samsung

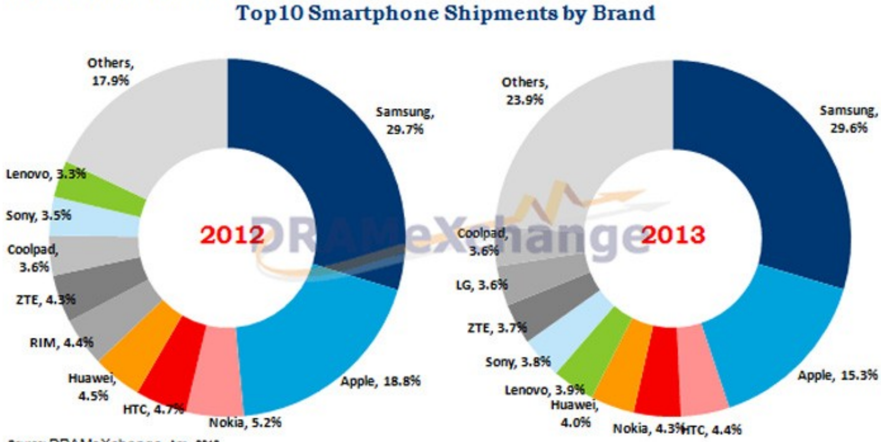
In an article in The Guardian in 2012 it was reported that the iPhone 4G, made in China, cost $178.45 to produce. With a selling price of $630 this gave Apple a gross profit margin of 72%.

With Chinese labour costs accounting for only a small proportion, it was estimated that the phone could be manufactured in the US and create hundreds of thousands of manufacturing jobs with an increase in production costs to $337. This would reduce the gross profit margin to 46.5% per phone, still a considerable margin and one which *'most companies can only dream of'* according to the article.

"Last year, Apple built up cash reserves of $100bn – more than the US government. Indeed, it was so much money that the company was stumped how to dispose of it."

The difference in profitability between Apple and Samsung in the smartphone market in Q4 of 2012 is illustrated here with data on the amount of profit for each $1 spent on a smartphone.

Figure-1 Top10 Smartphone Shipments by Brand



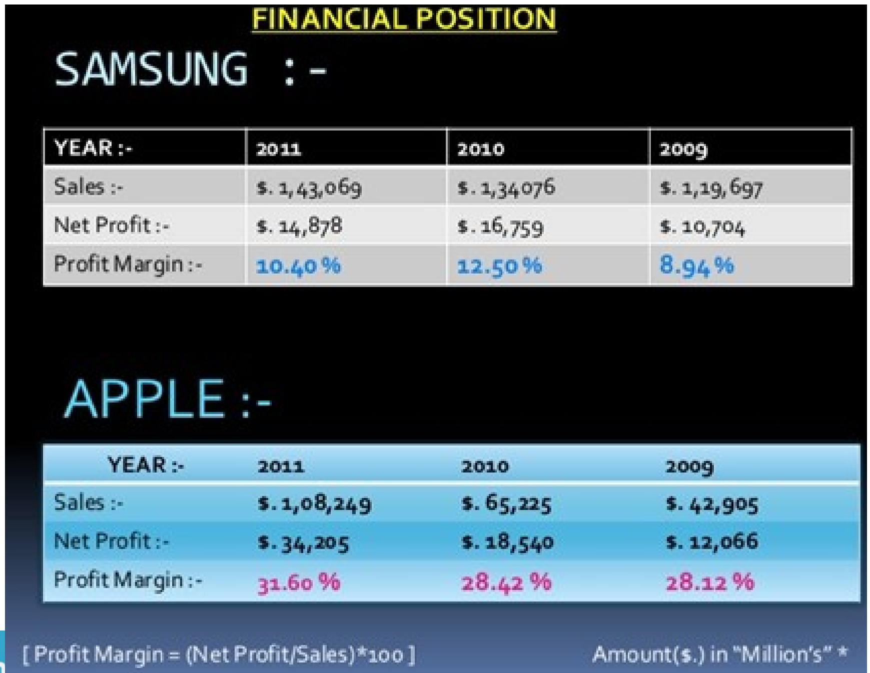
Source: DRAMeXchange, Apr., 2013

Global smartphone market share 2012 and 2013

Apple's share of the global smartphone market is falling though, with Samsung's rising. In 2013 Reuters claims that the South Korean giant's sales leapt from 60 million to 70.7 million phones,more than Apple and its next three largest competitors combined. Of the top five smartphone makers by volume, Apple is the only one that lost market share between 2012 and 2013.

Quantity matters. Apple is not just competing with Samsung for customers, it is competing with Samsung and all the other Android-phone manufacturers for the attention of app developers. If the current trend holds, Samsung's market share will soon be twice that of Apple.

Eventually, more developers will start to wonder whether it's worthwhile building apps for two different operating systems if one is clearly establishing dominance.



FINANCIAL POSITION

SAMSUNG :-

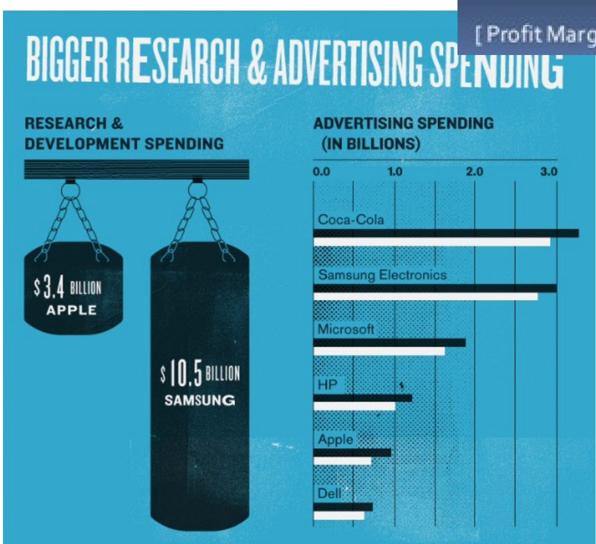
YEAR :-	2011	2010	2009
Sales :-	$. 1,43,069	$. 1,34076	$. 1,19,697
Net Profit :-	$. 14,878	$. 16,759	$. 10,704
Profit Margin :-	10.40 %	12.50 %	8.94 %

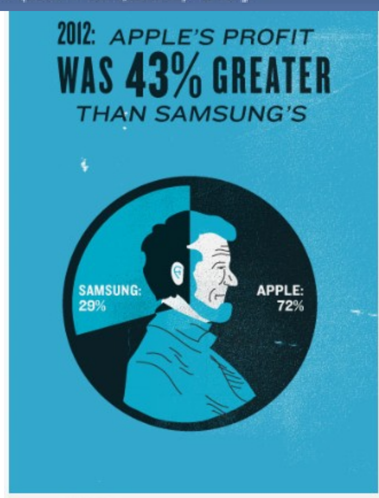
APPLE :-

YEAR :-	2011	2010	2009
Sales :-	$. 1,08,249	$. 65,225	$. 42,905
Net Profit :-	$. 34,205	$. 18,540	$. 12,066
Profit Margin :-	31.60 %	28.42 %	28.12 %

[Profit Margin = (Net Profit/Sales)*100]   Amount($.) in "Million's" *

The data sales profit Apple 2009-





above shows the revenue and net of Samsung and in the years 2012.

These companies make a range of other products, besides smartphones, with Samsung's product range being greater than Apple's. Samsung's spending on R and D in 2012 was more than twice that of Apple.

Questions

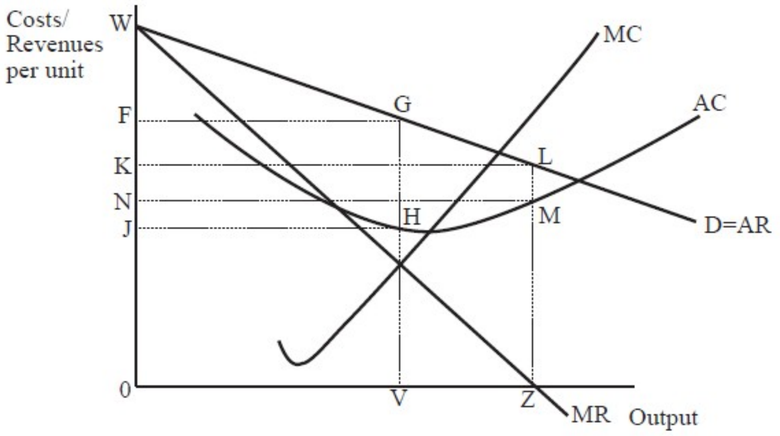
1. What does the data suggest are the current business objectives of
a. Apple

b. Samsung

2. What might be the result of the two different strategies in the long run?

Extension question: Which stakeholders benefit most from these strategies?

Question 1



The diagram shows a monopoly's costs and revenues.

Which of the following areas represent its supernormal profits when following a policy of **revenue** maximisation?

A FGHJ

B KLMN

C WLK

D FGV0

E KLZ0.

(a) Answer

(1)

Question 2

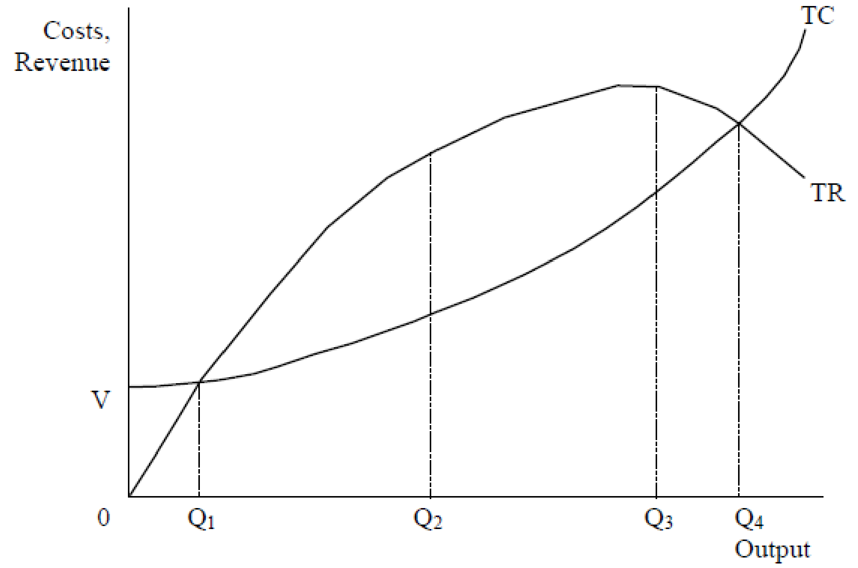
A profit-maximising monopolist changes its objective to revenue maximisation. The new price and output will be

	Price	**Output**
A	lower	higher
B	lower	the same
C	lower	lower
D	higher	higher
E	uncertain	uncertain

(a) Answer

(1)

Question 3



The diagram shows the costs and revenue curves for a small airline company. Which of the following statements is true?

A Total revenue equals total variable cost at output Q1.

B Revenue maximisation is at output Q2.

C Profit maximisation is at output Q3.

D Sales maximisation is at output Q4.

E Marginal revenue is positive but falling between output Q3 and Q4.

Bonuses: the essential guide

The Guardian, Thurs 28 Feb 2013

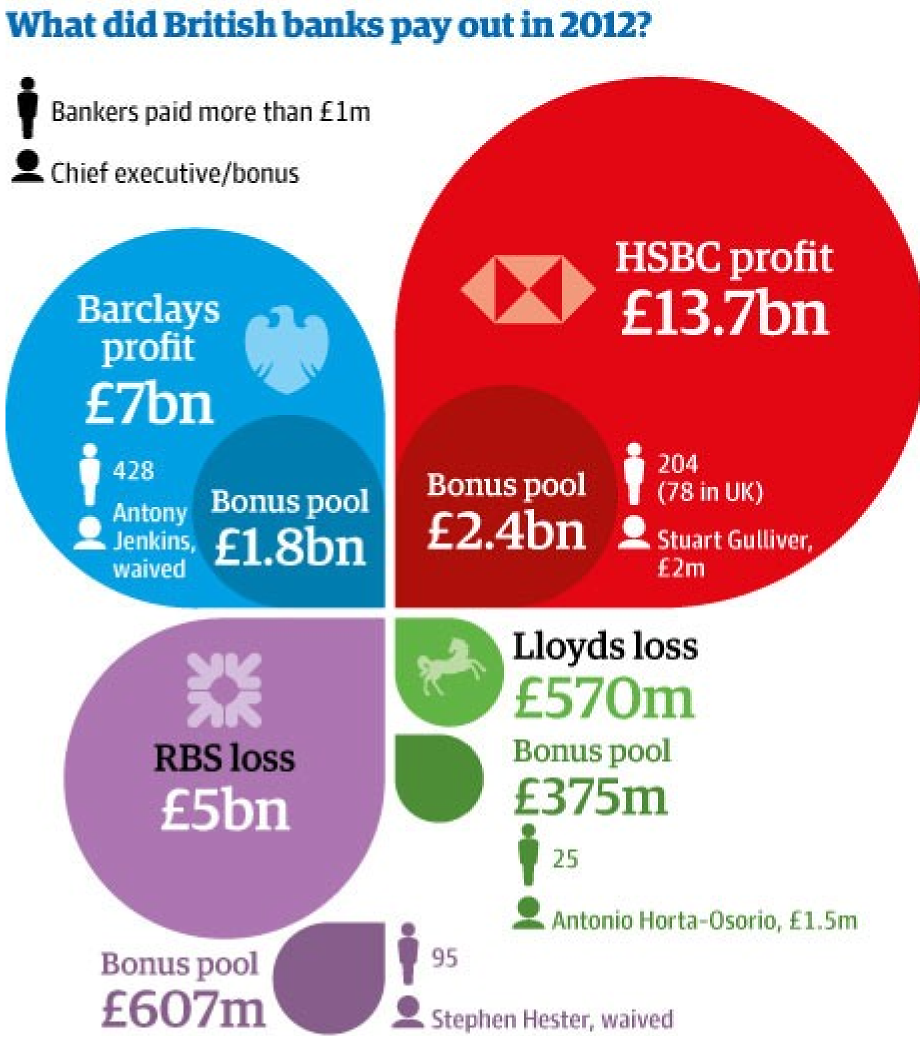
Bank bonuses have long been a cause of controversy but this has intensified since the financial crisis struck in 2008. There has been mounting public anger that investment or "casino" bankers, whose reckless risk-taking helped take the global financial system to the brink of collapse, are still taking bonus payments while the majority are suffering recession and austerity. The anger, at least in the UK, is directed particularly at bailed-out banks such as Royal Bank of Scotland, which has received £45bn of tax payers money.

The European Union has agreed on moves to slash the bonuses that may be paid to bankers, capping the payments at a year's salary – although there is a proviso that the bonus could be doubled subject to majority shareholder approval.
Many of the world's largest banks started out life as partnerships, owned by senior staff and with the lending risk held on the balance sheet. As international trade grew, this partnership model came under pressure, however, and banks began to increase their capital bases by floating on the stock market. Some partners feared that going public would render them little more than wage slaves, but bankers were able to strike profit-sharing bargains with their new shareholders,

ensuring they remained very well rewarded, especially in times of booming profits. Thus bank bonuses were born.

The problem with this arrangement was that bankers became less interested in building long-term prosperity for the bank itself and more concerned about hitting their own annual bonus targets. A new generation of highly incentivised investment bankers was emerging, not tied to a particular employer, but happy to work for whichever bank offered the most generous bonus pool. Into this already toxic situation came the emergence in the 1980s of a string of credit market innovations from bright bankers and mathematicians, which rapidly revolutionised the banking business model yet again. Instead of banks holding on to the risks they took, they began to slice them up and parcel them on to other buyers. This credit revolution, it was argued, allowed banks to neatly match the needs of investors and borrowers around the world more efficiently than ever imagined. Free of having to operate within the confines of the bank's own lending capacity, the business – and bonus – possibilities for bankers now seemed almost limitless. Banks became loan processors, writing risk and selling it on and, as a result, bank profits soared as levels of cheap credit around the world rose.

It was not until late 2006 that fears of a reckless lending bubble began to weigh on the market for US subprime home loans. Less than a year later, the global credit market was in shock. After years of booming lending, two things became alarmingly clear: first, there was a massive risk in the financial system; second, few people, if anyone, truly knew where the risk lay. Those who assessed creditworthiness and wrote the risk had long since parcelled it up and sold it on, collecting their bonuses along the way. The financial crisis, and the role played by risk-taking bankers gambling with other people's money, brought the row over bonuses to a head. The fact that payments continued to be made, even as taxpayers bailed out the banks, enraged politicians and the public.



In Britain Fred Goodwin of the Royal Bank of Scotland became the focus of the mounting backlash, as it emerged that he had a pension pot worth £16m and that it would pay out immediately – at some £700,000 a year – even though he was only 50 when he took early retirement. He quit the group just weeks before it reported the largest loss in British corporate history, £24bn. He was stripped of his knighthood – for "services to banking" – in 2012. Bankers could get big pay rises to compensate for the caps on bonuses, which can lead to payouts of eight times salaries. Pete Hahn of Cass Business School said: "Since bonuses became part of the legal and regulatory agenda in 2009-10, many of the highly paid at global banks have seen their salaries triple, and this in a global downturn. Other bosses in public companies outside banking, get big pay packages, but they are usually at the top of organisations and identifiable. In 2012, more than 750 bankers at the Big Four UK-based banks earned more than £1m. New York officials estimated in February 2013 that Wall Street's bankers earned $20bn in 2012. The top bankers regularly earn tens of millions every year. Unlike most other businesses, banks set aside cash to pay bonuses as a cost of running their business and before they arrive at profits. Most other companies decide on bonus payouts after they have calculated their profits. There is also widespread criticism that bankers take far more out of the business than the shareholders who own it. For instance, Barclays recently announced it was handing £800m to shareholders, but £1.8bn to its bankers as bonuses. That imbalance is rarely the case in businesses other than banking.

The Turner review, conducted by Lord Turner in the wake of the 2007-08 financial crash, laid some of the blame for the crisis on bankers' bonuses and the encouragement they provided for bankers to take excessive risks. Turner said: "Some bankers have been encouraged by the promise of big bonuses to take excessive risks with other people's money".
Taxpayers paid £66bn to buy shares in Royal Bank of Scotland and Lloyds Banking Group when they were rescued at the height of the financial crisis. To put that figure into context, it is equivalent to four-fifths of the £81bn programme of cuts over five years ordered by the coalition government at the outset of the government spending review in 2010. The wider cost of the bank bailout, including guarantees and indemnities, hit a peak of £955bn. The collapse of the banks wiped billions off the value of pension funds held by millions of Britons as shares in the banks collapsed. RBS was once worth more than £60bn compared to its current value of around £21bn, although not all of its stock was owned by pension funds. Many small investors rely on dividends from banks as an income, and these dividends halted after the collapse. Investors argue that rather than shelling out bonuses to staff, banks should restore dividends instead. Pension funds are also missing out on dividend income.

Questions

1. To what extent does the article suggest a divorce of ownership from control in the banking industry?

2. To what extent might bankers bonuses have contributed to the global financial crisis?

3. To what extent have other stakeholders suffered due to bankers bonuses?

3.1.2 – Business growth

a) How businesses grow

- Organic growth
- Forward and backward vertical integration
- Horizontal integration
- Conglomerate integration

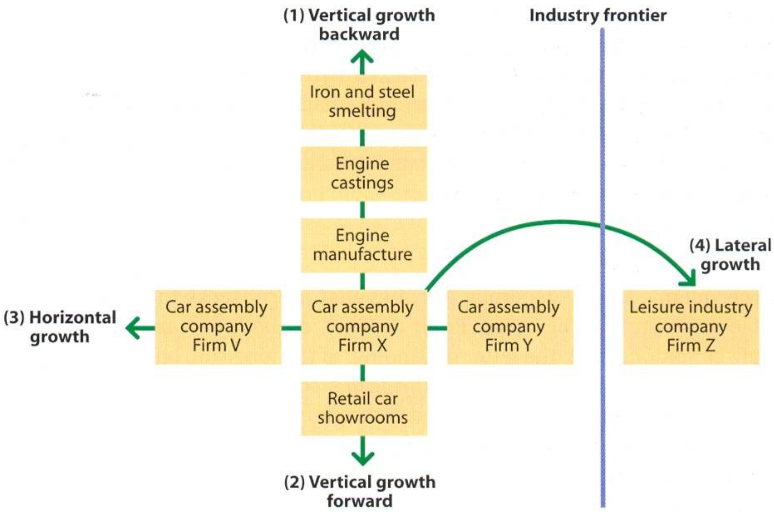
How do firms grow?
Two ways:

Organic or internal growth: occurs when a firm increases its size through investment in capital equipment or an increased labour force.
External growth: is growth through merger, amalgamation or takeover.

Merger, amalgamation, integration or takeover: the joining together of two or more firms under common ownership.

- Take over may be 'friendly' if board of directors of target company recommend shareholders accept the bid, or 'hostile' if they recommend rejection of bid.
- Predator company must buy more than 50% of shares in target company to take control.

Key terms



Vertical merger or integration: a merger between two firms at different production stages in the same industry:
-Forward vertical integration: involves supplier merging with one of its buyers e.g. car manufacturer buying car dealership.
-Backward vertical integration: involves a purchaser buying one of its suppliers, e.g. drinks manufacturer buying bottling manufacturer, or car manufacturer buying a tyre company.
-Horizontal merger or integration: a merger between two firms in the same industry at the same stage of production
Conglomerate merger: a merger between two firms producing unrelated products. e.g. Tobacco Company buying an insurance company.

Other relevant terms:

Synergy: when two or more activities or firms put together can create greater outcome than the sum of the individual parts.
Asset stripping: occurs when a predator takes over a target company because it feels that the market price of the target's assets is higher than its stock market value suggests. The assets can be stripped out individually and sold in total for more than the price the predator pays to acquire the company.
Shareholder value: increasing the wealth of shareholders (owners) by paying dividends and/or causing the share price to increase.
Minimum efficient scale of production: the lowest level of output at which long run average cost is minimised.

Economies of scale: a fall in the long run average costs of production as output rises.
Internal economies of scale: a fall in long run average costs of production as output rises **within** a firm, due to advantages **internal** to the firm.

Sources of internal economies of scale:

-Technical economies of scale: these relate to aspects of the production process itself: Large-scale businesses can afford to invest in expensive and specialist machinery. E.g. robotic technology, specialization of the workforce, the law of increased dimensions or the "container principle".
- Marketing and purchasing economies of scale: advertising/marketing budget spread over a much greater output, bulk purchases
- Managerial economies of scale: Specialist managers (division of labour) using specialist equipment e.g. ICT
- Financial economies of scale: Larger firms considered more 'credit worthy', therefore banks charge lower interest rates. Larger firms have access to a wide range of possibly cheaper sources of finance, e.g. selling shares on stock market.

Class work: What might be the advantages/disadvantages of each type of integration?

Type of integration	**Benefits**	**Disadvantages/ limitations/ depends on**
Organic growth		
Forward vertical integration		
Backward vertical integration		

Horizontal integration		
Conglomerate integration		

Question 1

In May 2009 the German airline Deutsche Lufthansa AG took over Austrian Airlines.
Which of the following was the most likely motive for this takeover?

(1)

A To avoid diseconomies of scale

B To gain from falling long run average costs

C To avoid an investigation by the Competition Commission

D To increase contestability

E To reduce unemployment.

Answer ☐

Question 2

Reliance Industries Ltd (RIL) is an energy group which refines oil into petrol in India. In 2002 it merged with a crude oil extraction firm. What might be RIL's reason for this merger?

(1)

A To gain from the benefits of horizontal integration

B To gain from the benefits of backward vertical integration

C To gain from the benefits of forward vertical integration

D To gain from the benefits of conglomerate integration

E To avoid diseconomies of scale.

Answer

3.1.2 - c) Constraints on business growth:

- Size of the market
- Access to finance
- Owner objectives
- Regulation

Classwork: Discuss how the following could be a constraint on business growth:

Size of the market	
Access to finance	
Owner objectives	
Regulation	

3.1.1 - The reasons why some firms remain small

Niche market: a focused, targetable portion of a market, a narrowly defined group of potential customers.

Mittelstand - Germany's secret champions

Mittelstand is a term used to describe the 3 million small and medium sized enterprises which employ 70% of Germany's workers and arguably form the backbone of the German economy. Yes, Germany has its big global multinationals such as Bosch, Siemens, BASF, VW and BMW but it is the mittelstand which have become the envy of the current UK government trying to re-balance a British economy too heavily reliant on financial services. For while the UK has its world beating companies such as BP, GKN, Tesco and BAE Systems the small medium sized sector in Britain (SMEs) has significant scope for improvement when one looks at the enduring success of the mittelstand in Germany. The mittelstand have prospered having survived the devastation of the Second World War, as well as the partition and reunification of Germany.

The typical mittelstand is a family owned business maybe employing 100-500 workers which has been passed down through the generations benefiting from a steady flow of skilled workers which are the product of Germany's strong education and apprenticeship system. Mittelstand are concentrated in four key sectors, machine tools, auto parts, chemicals and electrical equipment. They tend to operate in the business to business sector with products ranging from castors for hospital beds to eyeglasses, printing presses and high end shaving brushes. They are thus in high quality niche markets with the firms constantly innovating and focusing on small increments of continuous improvement. There is also emphasis on after sales service such as servicing and spare parts.

Take for example the German up market shoe maker Peter Kaiser, a family business based in Pirmasens, which was founded in 1838. They export their shoes to the UK, the US and Russia and say on their web site 'high quality is our top priority'. In the original factory in Pirmasens and another in Portugal they produce 4,700 pairs of high quality ladies' shoes from cut to finish every day.

Mittelstand, although often perceived as rather conservative, described by some as solid but rather dull, have embraced globalisation taking the opportunity in the last 20 years to sell their quality products to Eastern Europe, Russia and China. According to the German Chamber of Industry and Commerce mittelstand created 100,000 jobs in 2010 and were called the 'defining element of our economy' by Ralph Wiechers, chief economist at the VDMA machine makers association.

Nonetheless, there are sceptics who feel that mittelstand face threats in the years ahead. Firstly will emerging companies in Indonesia and Vietnam learn to produce these precision products at a fraction of the cost of manufacturing in Germany? However, the fact that mittelstand focus so much on R&D and quality do make the markets they serve fairly uncontestable. Secondly many mittelstand firms are finding it increasingly difficult to recruit the young high quality employees they need because 70% of these firms are located in the countryside, many in remote rural areas. Thirdly the eleven state owned, regionally organised, Landesbanks, which have traditionally boosted local industry by lending to mittelstand, have hit financial trouble following the credit crunch and the eurozone crisis. Some may have to merge as a solution to their balance sheet weaknesses. In addition the recent Basel III international accord on bank capital standards will allegedly treat loans to mittelstand firms as riskier than they really are.

The mittelstand form a key part of the German manufacturing base and the UK Chancellor of the Exchequer George Osborne has indicated that a similar business model is needed in Britain. For that to happen vocational education in the UK will need to improve significantly, and the banks will need to show a more flexible attitude to SMEs. In the last 50 years too much of Britain's young talent has been drawn into the financial sector, professions such as law, accountancy and medicine and also to the relative safety of job security in the public sector.

John Cridland, the Director General of the CBI, said recently: 'medium sized businesses are truly a forgotten army in Britain, and now is the time to unlock their potential. We should be championing, nurturing and encouraging our mid-sized firms so that more of them grow and create jobs'. To create anything like the mittelstand in the UK will involve structural changes to education, training, bank lending and taxation; certainly much more than a few sound bites.

Source: Robert Nutter, Watford Grammar School for Girls, Dec 2011, Economax

Classwork: Using the Mittelstand article and your economic knowledge, fill in the table below to analyse & evaluate the reasons why many firms remain small:

Benefits of remaining a small / medium sized business	Evaluation: Disadvantages, limitations, depends on..

3.1.3 - De-mergers

a) Reasons for demergers
b) Impact of demergers on businesses, workers and consumers

De-merger: when a firm splits into two or more independent businesses.
Diseconomies of scale: a rise in the long run average costs of production as output rises.
Sources of diseconomies of scale:
- Control: Difficult to monitor productivity & quality of output of thousands of employees.
- Co-ordination: Difficult to co-ordinate complicated production processes across many factories in different locations & countries, and contracts with hundreds of suppliers. Achieving efficient flows of **information** in large businesses is expensive.
- Co-operation: workers may lack motivation, not feeling important in a big organisation, therefore productivity may fall.

Reasons for demergers:

Proposed demerger: BHP-Billiton (the demerger took place in May 2015)
The world's largest mining company, BHP-Billiton is considering a demerger, listen to the FT discussion, and complete the table below:
http://www.tutor2u.net/blog/index.php/economics/comments/together-they-fall-divided-they-stand

Benefits of de-merger	Impact of demerger on businesses, workers

	and consumers:

Fosters demerger 2011

Fosters demerger of beer & wine divisions took place in 2011, listen to the video clip explaining reasons for the decision & complete the table below:
http://www.bbc.co.uk/news/10166398

Benefits of de-merger	Impact of demerger on businesses, workers and consumers

Benefits of demerger

Draw a diagram to illustrate how a demerger can reduce diseconomies of scale.

Demergers case studies

1. **Cadbury Schweppes (2008)**
   * Cadbury Schweppes was created 1969
   * 2007 the CEO announced split of drinks (including Dr Pepper and 7UP) from chocolate and chewing gum
   * Shareholders received shares in both separate businesses in 2008
   * New drinks company was called Dr Pepper Snapple Group
   * At time of demerger Cadburys had 10% of confectionary market
   * This dominance was then challenged by merger of Mars and Wrigley
   * It was hoped the demerger would allow each separate business to develop and grow further
   * Cadburys was taken over by Kraft 2012

   Could Cadburys have avoided the takeover if the demerger had not taken place?

2. **Lloyd TSB demerger (2013)**
   * The Lloyds group, which also includes Halifax and Bank of Scotland, was forced to sell off its TSB branches under European competition rules.
   * Lloyds TSB had merged with HBOS at the start of financial crisis
   * Lloyds 40% owned by taxpayer
   * Attempt to increase competitiveness of banking sector
   * New holding company – TSB Banking Group plc, set up

In 2015 TSB was taken over by Banco Sabadell, Spain's 5th biggest bank.

3. **Vivendi and SFR demerger (2013)**
   * Vivendi is a French company which owns TV company Canal+ and the music/entertainment company Universal Music (with record labels Island, Capitol etc).
   * Vivendi also owned 'struggling' telecoms firm SFR.
   * Vivendi announced a demerger plan, giving Vivendi shareholders shares in SFR.
   * The demerger was part of a wider plan by the owner of Universal Music and Canal Plus TV to refocus Vivendi's business around media and music.

2016- Vivendi makes a move back into telcom with a bid for Telecom Italia

Question 1

In 2006 Great Universal Stores (GUS) split into two separate businesses, Argos Retail Group (ARG) and Experian. ARG took control of Argos and Homebase retail stores whereas Experian took control of the credit checking and marketing businesses. The most likely reason for the demerger might have been that GUS was facing

A increasing long-run average costs

B an increase in exit barriers

C constant returns to scale

D predatory pricing from its competitors

E decreasing long-run average costs.

(a) **Answer:** ☐

(1)

Question 2

Carphone Warehouse, a phone retailer, and TalkTalk, a broadband provider, were previously jointly owned. In March 2010 they separated into two companies and were listed individually on the stock exchange. A potential benefit of this demerger is that

(1)

A Carphone Warehouse can reduce long run average costs

B Carphone Warehouse can gain technical economies of scale

C TalkTalk gains an exclusive retail outlet

D Consumers benefit from a decrease in contestability

E There will be an increase in external economies of scale

Answer ☐

BACK to BASICS

Urge to Merge or Fit to Split

Rachel Cole, *teacher at Cheltenham Ladies' College and a Principal Examiner, discusses the advantages and disadvantages of different types of company merger to shareholders, employees and other stakeholders.*

Key words
- Takeover
- Globalisation
- Vertical integration
- Merger and demerger
- Conglomerate merger

Mergers occur when companies agree to combine. In this article we are going to consider the many forms of integration which come under a loose definition of the term **merger,** meaning that two or more firms become one. **Demergers,** on the other hand, occur when firms agree to a split. The result of these is not always that two firms emerge, but instead there may be sell offs to other companies or to the management (as in a 'management buy-out'). So, in this article, we will examine all selling off under the umbrella term of **demerger,** where firms split up, or sell parts of the business to another firm.

37

Mergers and demergers sometimes seem to be a matter of fashion. There tend to be periods where firms split up and periods of intense merger activity. This is often related to the state of the global business cycle and confidence in growth figures, and mergers both fuel and are fuelled by globalisation. In the last decade or so – up to 2007 – there has been a rush to merge across international borders, and mergers have become one of the major causes of globalisation, as firms under the same identity operate in different countries or continents. Think of BP. Although originally British, 39% of its shares are now held in the US, largely owing to its buying out US oil operations such as the oil giant Amoco in 1998 for $57.1 billion. Much of its oil is sourced in the US, and most is sold there. If globalisation is defined as the increased interdependence and trade between countries, then multinational firms are a good place to start explaining it. Mergers and globalisation go hand-in-hand.

Since the global financial crash in the autumn of 2007, the trend for globalisation has gone into reverse. Firms are now more likely to be selling off parts of their operations to raise cash to get rid of debt. This is not true for all firms by any means. Some are merging to share the debt problem, and some are being bought because they face collapse otherwise. This was the case when Barclays bought Lehman Brothers in 2008 for £1 billion, although the company had bad debts worth more than twice that amount. But there are many more examples of parts being sold off.

Horizontal integration

The most common form of merger is **horizontal integration**, where the firms involved are 'at the same stage of the production process'. In January 2008 Lloyds took over HBOS, a bank that had previously been the Halifax Building Society. Lloyds and Halifax were in the top five UK banks, although with different strengths in certain markets, and by joining they could rationalise and save costs where they duplicated their operations, and most importantly in this case, could share the risk of bad debts. When HBOS shareholders were asked to vote in favour of merging – as were Lloyds – the shareholders agreed, and the HBOS shares were exchanged for Lloyds shares at preferential market rates. Lloyds' shareholders should not have been much worse off, because although there were more Lloyds shares on the market, the size of the company measured by the assets of the firm, increases as it now owns all the assets of HBOS. Sadly the combined firm had such a large amount of bad debts that Lloyds would have collapsed if the government had not bought 43% of Lloyds' shares. Why was this seemingly simple process in fact a disaster for Lloyds? There were many reasons for this, and one is that HBOS reportedly hid a £25 billion loan that the UK government gave just before the deal was announced. Thus HBOS was on the brink of collapse, and its parlous state could not have been fully known to the Lloyds shareholders.

Sometimes bids for takeovers or mergers never go through, but they are still costly. Prudential, a firm involved in insurance, made a takeover bid for AIG's Asian assets (AIA) in 2010. AIG is a major rival for the Pru and the merger opportunity offered the chance to move into Asia and to reduce some competition at the same time. The proposal alone cost £450 million in advisors' fees and other costs (Prudential was planning to spend $24.5 billion). It has even cast doubt on the future of the Chief Executive of Prudential.[1]

Horizontal mergers can also run into cultural problems, as firms have different ways of running things. This becomes a greater problem as mergers become more international. The telecoms firm BT has run into problems with its horizontal merger operations when trying to buy phone companies around the world, particularly in emerging markets. While in principle this is the most effective way to get knowledge of the local markets and access new customers, the initial costs of set up have been huge. In the long run these mergers should benefit the firm, through scale economies, and the customer, with a more joined-up service; but in the short run it can be seen as unnecessary risk.

Demergers – the benefits of divorce

In 2007-09 credit crunch times, many firms have had to sell off parts of their assets to keep the cash flowing. Punch Taverns, Britain's second largest pub operator, was reported in June 2010 to be selling off 1,900 pubs to raise £500m.[2] But sometimes it's better to sell off the business as a whole part, so another company can merge with it in that way the whole brand and goodwill that comes with it can be included in the selling price. This is known as a demerger. This is what Kraft did when it wanted to buy Cadbury, the UK chocolate maker. It sold off a major chain of pizza restaurants to Nestlé to raise $3.7 billion in capital to help to buy a majority stake in Cadbury.

Similarly Barclays, one of Britain's largest commercial banks, announced in 2010 that it is selling off Barclays Capital, a large part of its operation in risky markets. ITV realised it had made a major error in buying Friends Reunited in 2006 for £120m. ITV became disunited from its acquisition less than three years later when ITV sold the website for a mere £25m.[3] Demergers can be good firms for many reasons. Firms are forced to look carefully at what works well for them, to concentrate their activities, and to see what does not work so well and remove those parts of their business. It's a bit like pruning a rose bush. If you never do it, you'll get small and feeble flowers, but if you do the plant will grow strongly with splendid blooms. Cuts hurt a firm, but they can make it much more dynamic. This explains why demergers do not necessarily occur when there is a recession. It's more of a trend, or fashion, for firms to trim up. While some workers lose their jobs, others will find there is more scope for promotion and widening of scope in their jobs. These issues are summarised in Table 1.

Mergers can sometimes be seen as quick fix solution to achieve market dominance. Is there any alternative?

Internal or organic growth

Rather than buying out another firm, and taking the risks as outlined above, a slower but more manageable way to grow is by building the current firm by investment in human and physical capital. When two schools in a town merge there is always a clash of cultures and standards, but if one school builds a new wing or an arts centre it can attract a bigger market without any compromises. This is known as **internal** or **organic growth**. There is job security, consumer loyalty, building on knowledge of the market, and investment can be done in stages rather than the need to acquire large sums of cash for a very short period of time.

1. http://uk.reuters.com/article/idUKTE65550SX20100606.
2. *The Financial Times*, 6 June 2010.
3. *The Guardian*, 6 August 2009.

Table 1: Types of merger and their impact

Type of merger	Definition	Recent example	Advantage to firms	Disadvantage to firms	Advantage to employees or other stakeholders	Disadvantage to employees or other stakeholders
Horizontal merger	Firms joining at the same stage of the production process	Santander Bank (Spain) bid for 300 RBS branches for £1.8bn (June 2010)	Increased market share, economies of scale, reduced competition	Risks – 'too many eggs in one basket'; Risks – unknown costs; Weakening or 'dilution' of brand	Some opportunities for promotion; increased prestige of firm	Loss of jobs for those duplicating work, or unable to move to new headquarters
Horizontal demerger	Firms splitting at the same point of the production process	UK Coal sold its Coal4Energy stake to Hargreaves Lansdown (rival) January 2009	Reduced exposure to what might be a risky market, removal of diseconomies of scale	Might be seen as a sign of weakness; Share price might fall	Less risk in the company might mean increased job security	Some loss of jobs as parts of the business are pared down
Backwards vertical merger	A firm merges with a firm closer to the suppliers in a production process	Petronas, the state-owned petroleum company in Malaysia, acquired Star Energy plc in 2008, suppliers of gas storage equipment, so Petronas can store and sell more gas in the EU	Assured supplies in timing and quality; reduced costs of supply	Lack of expertise, over-exposure to end-product in one market	Widening expertise and opportunities for promotion; increased market presence and profitability might increase share price in the long run	Initial costs may damage profitability and therefore share price in the short run
Forwards vertical merger	A firm merges with a firm closer to the market or consumers in a production process	Titanic Brewery acquired five pubs in Staffordshire in June 2010	Greater access to customers, removal of competing suppliers, better information about the final consumer, prevents the 'hold up' problem when suppliers refuse to supply in order to achieve their own goals	Lack of expertise, over-exposure to end-product in one market	Widening expertise and opportunities for promotion; increased market presence and profitability might increase share price in the long run	Initial costs may damage profitability and therefore share price in the short run
Vertical demerger	Firms splitting at a different point in the production process	Barclays sold its Global Investors unit, which includes its exchange traded fund business, iShares, to BlackRock for $13.5bn in June 2009	Avoids negative attention from competition authorities, decreases exposure to risk in market as a whole	Cost savings are lost, loss of investment in goodwill, branding and human capital	Narrows expertise and opportunities for promotion	Can focus on core product – scope for specialisation and increased returns to investment
Diversification/ conglomeration	When firms that are involved in unrelated business areas merge	Virgin acquired Assura, a primary healthcare provider in March 2010	Spreads the risk, widens brand awareness	Dilution of brand, especially if new lines are failing companies	Increased job security and opportunities to become occupationally mobile	Firm might become unwieldy
Divesting	When firms remove parts as subsidiaries or as assets for other firms to acquire	ITV sold Friends Reunited for £25m in 2009, less than a quarter of the price it had paid for it three years earlier	Raises funds; allows the firm to focus on core activities; makes the firm easier to manage	The sell off means losses are revealed on the balance sheet; it might be seen as a sign of the firm's failure	Those that remain gain job security and more focused leadership; other benefits of simplifying the brand might include economies of scale	Some may lose jobs, either because of rationalisation or head-quarters moving and the workers geographically immobile

There are problems with organic growth too, such as lack of expertise in the new areas of expansion, lack of innovation, need for new ideas and personnel. There might be less chance of promotion for workers, especially if the management is static, and if there is no risk or need for pruning down the costs, the firm might become complacent. As with species, firms must adapt to changes or die, and mergers can be a way to force them to adapt.

Merger activity and the stock market

Mergers, and often more significantly rumours of mergers, tend to make stock market prices rise. It's a simple application of demand and supply. If demand increases, or expected demand increases, the demand curve shifts to the right, and prices rise. When it became known that Kraft wanted to buy Cadbury, the share price of Cadbury's jumped. No wonder Cadbury shareholders agreed to sell their shares, as they had seen an enormous increase in their capital. This raises all sorts of questions about how shareholders' values can be very different from those of employees or customers. By contrast, when there is talk of a demerger or sell-off, share values tend to fall. Shareholders know there could be an increased supply of their shares on the market so they sell quickly – and as the supply shifts to the right the price falls. This is over-simplified, and there are many reasons why share prices change, but this does explain the underlying trends.

Mergers and the law

In the UK any merger may be investigated if it involves more than £70 million in assets or a combined firm with over 25% of the market share. The 1998 Competition Act and the Enterprise Act of 2002 gave strong powers to the regulatory authorities – the Office of Fair Trading and the Competition Commission – to advise that mergers do not go ahead and to prevent other forms of anti-competitive behaviour. See http://www.competition-commission.org.uk/. The fear of investigation is likely to deter mergers, especially those that are merely intended for short term shareholder benefit. The EU merger law is very similar to UK law, but the EU law can overturn UK decisions which go across UK borders, and is now much more significant as so many mergers do cross national boundaries. The US Federal Trade Commission is also a powerful force in investigating the impact of mergers on the level of competition in markets and can weigh against UK decisions. See http://www.ftc.gov/.

Conclusion

If shareholders want a quick gain they might favour a merger because of what it will do to the share price, not what it does to the company as a whole. Mergers can bring many advantages, although there are also costs. A depressing conclusion is that many mergers occur for short term reasons only, and the economy as a whole might be a lot worse off when there's an *urge to merge*. On the bright side, mergers can bring strength to firms, and facing competition in the globalised market, the consolidation is good for workers, consumers and other stakeholders. When a firm decides it's *fit to split* it might not be the best decision for the long term market position for the firm, but a quick fix to a cash flow problem. But on the other hand it can mean that firms focus on the areas they are best at, and do more of what they do well.

Questions for discussion

1. Game theory is a tool that economists use to explain reactions between firms, which assumes that we respond to incentives but we also take into account the possible actions of others. In what ways is game theory a useful way to think about mergers and coalitions between firms?
2. BP has paid an enormous cost for the Deepwater Horizon rig oil spill in 2010, including over $20 billion in compensation, the cancellation of dividends to shareholders, and the opportunity cost of the oil that leaked into the Gulf of Mexico to pay for the heavy investment. What does this suggest about the impact of multinational companies that grow so large?
3. Mergers and takeovers are now at their most rapid in activity between China and Sub-Saharan Africa. What are the benefits and costs to a developing country of foreign firms buying out local firms?
4. Warren Buffett, one of the world's richest persons, and also a major shareholder in firms such as Kraft and Coca Cola, was angry at Kraft's takeover of Cadbury in 2010. He as a shareholder did not agree with the decisions of Kraft's board. Why is the divorce between ownership and control of firms so much more acute during merger activity?
5. If a firm in the US wants to merge with a firm in the UK, which regulator has the final word – the Federal Trade Commission or the UK's Competition Commission? Look at recent case history to find out.

Summary of key points

- **Merger** – two or more firms become one.
- **Demerger** – when a firm splits into two or more separate firms.
- **Takeover** – when one company buys a majority stake in another company often against the wishes of the latter.
- **Conglomerate** – when firms that are involved in unrelated business areas merge.
- **Horizontal integration** – firms joining together at the same stage of the production process.
- **Backwards vertical integration** – a firm merges with a firm closer to the suppliers in a production process.
- **Forward vertical integration** – a firm merges with a firm closer to the market or consumers in a production process.
- **Globalisation** – a process of integration, interdependence and increased trade between countries, largely related to increased cross border mergers.