

Guidelines for competition assessment

A guide for policy makers completing
Regulatory Impact Assessments

February 2002

Further copies of this report can be downloaded from our website at www.oft.gov.uk or by contacting the OFT publications order line.

OFT publications order line

OFT information leaflets and reports can be ordered free of charge on 0870 60 60 321.

Information on the internet

You can also order OFT publications online, and find advice and information on consumer rights and on the work of the OFT at www.oft.gov.uk

Crown copyright

© Crown copyright 2002

This material may be freely reproduced, except for sale or advertising purposes

EXECUTIVE SUMMARY

Following the White paper *Opportunity for all in a world of change*, a Regulatory Impact Assessment of proposed regulations is now required to include the identification and assessment of potential competition concerns or benefits. These guidelines are designed for policy makers in government departments who are responsible for the introduction of new regulations. The guidelines provide an understanding of competition, and outline the practical steps and considerations needed to undertake a Competition Assessment.

Competition and free markets are the main drivers of productivity, efficiency, product development and accurate pricing. Competitive markets harness innovations and technical progress to provide better products and services for consumers. They allow new products and new methods of production to supplant older and less efficient methods of delivery. Competitive markets also give consumers choice in what they buy at prices that reflect the costs of efficient producers.

Markets work effectively when buyers have a choice of suppliers, when existing firms – at home and abroad – can expand and when new firms can enter the market. However, in markets where there are few competitors or barriers to entry, firms may be able to ignore their customers and could set excessive prices or deliver a poor quality service. In such markets, there may also be fewer incentives to innovate and develop new products to win customers.

Any change in the competitive environment could affect the effective working of markets. One source of such changes is new regulations, which, as well as meeting policy objectives, could also affect competition. New regulations can affect each aspect of competition and can affect the competitive process directly or through indirect effects on supply and demand factors and market outcomes. Such regulations may, for example:

- have a substantial effect on firms' costs, which could affect the competitive position of some firms, eg, small and medium sized businesses;
- affect the relative position of companies by specifying the products and services that they can supply;
- alter the rate of technical progress and determine whether consumers benefit from new products; or
- impact directly on the competitive process, eg, by raising or lowering barriers to entry, expansion or innovation, or by altering the concentration of markets.

Where there are currently barriers to entry and to innovation or there is a situation where a few large firms dominate, there will be greater risk of a detriment to competition.

These guidelines provide a two-step process to establish the implications of a new regulation for competition. Since not all regulations will affect the competitive process, the first step is a *competition filter* that identifies the proposals with the greatest risk of a competitive impact. The competition filter involves answering a series of nine questions, requiring straightforward yes/no answers.

If the number of yes answers is low, the competition filter is not passed, and policy officials and Ministers can be assured that the likely effects on competition are not seriously adverse and detailed assessment is not required. If, however, the competition filter signals a likely risk of a competitive impact through a high number of yes answers, policy officials should proceed by undertaking a *detailed assessment* of the potential effects drawing on support from economists within government departments. The detailed assessment will involve:

- identification of affected markets, including an analysis of indirectly affected markets;
- understanding the current nature of competition in the affected market(s); and
- deriving the direct and indirect effects on the competitive process likely to result from the regulation, after taking account of the current state of competition in the relevant market(s).

The aim of both the competition filter and detailed assessment is to provide a discipline so that those proposing new regulations consider the direct and indirect effects of the proposal to competition. Where the impact on competition appears deleterious on choice, growth and living standards, policy makers and Ministers should consider whether there are changes to the proposed regulation that would or could remove the competition concerns while retaining the beneficial effects.

CONTENTS

<i>Chapter</i>		<i>Page</i>
1	Introduction	1
2	The importance of competition	3
	How does competition work?	3
	Why does the nature of competition vary?	4
	Why is competition good for the economy?	6
3	How Government policies can affect competition	8
	The link between regulation and competition	8
	The importance of market structure	11
	Examples of regulations with competition impacts	13
4	Assessing the competitive impact of a proposed regulation	14
	The competition filter	15
	The nine questions of the competition filter	16
	The outcome of the competition filter	19
	Case study – the recreational craft directive	21
5	The detailed assessment	24
	Identification of affected markets	25
	Technical notes – the hypothetical monopolist test	27
	Understanding the current nature of competition	31
	Identifying the impacts of the regulation on the competitive process	40
6	Sources of further information and support	46
 <i>Annexe</i>		
A	Detailed assessment case study : supermarkets to provide recycling facilities	49
	The affected markets	50
	The current nature of competition	52
	The impact of the regulation	56

1 INTRODUCTION

- 1.1 Following the White paper *Opportunity for all in a world of change*, the Government has committed itself to take into account the potential effects on competition of any new regulation it introduces. The intention is that any potentially detrimental effects on competition are identified early on in the policy making process, and any competition benefits of a regulation are acknowledged.¹ Information about such effects can then be considered alongside information on other costs and benefits of the regulation and policy officials and Ministers can make well-informed decisions.
- 1.2 The requirement to undertake a Competition Assessment applies to those regulations that also require a Regulatory Impact Assessment (RIA); that is, those regulations that are likely to have an impact on businesses, charities or the voluntary sector.² The Competition assessment draws on much of the same information as the RIA and should be carried out as part of the RIA process.
- 1.3 These guidelines provide both an understanding of what competition is and the practical steps and considerations needed to assess the impact of a particular regulation on competition. The guidelines are aimed primarily at policy officials in government departments who are responsible for designing and implementing new regulations, and who will therefore be responsible for undertaking the Competition Assessment. However, it is envisaged that policy officials may want to seek support from those with expertise in competition issues. Specifically:
- support should be sought from departmental economists and departmental Regulatory Impact Units (DRIUs) who will be familiar with the policy area;
 - the RIU in the Cabinet Office can provide additional support;
 - expertise from the Office of Fair Trading (OFT) may be needed where the competition issues are particularly complex.

¹ The majority of regulations will have a detrimental impact or no impact on competition, rather than a beneficial impact. However, these guidelines can be used to identify both positive and negative impacts.

² The term 'regulation' is used throughout the text to refer to any proposed regulation that will have an impact on business, charities or the voluntary sector and therefore requires an RIA including a Competition Assessment.

- 1.4 *Opportunity for all in a world of change* gave the OFT and the Sector Regulators a specific remit to support government departments in identifying and assessing potential competition impacts. This is part of their wider remit to ensure that consumers and the economy enjoy the benefits that healthy competition can bring.
- 1.5 The structure of these guidelines is as follows:
- Chapter 2 gives a brief introduction to competition, describing how it works and why it is good for the economy. Readers with some knowledge of competition may want to move straight to Chapter 3.
 - Chapter 3 shows how government regulations can impact on competition and identifies when these impacts are most likely to give cause for concern.
 - Chapter 4 presents the steps involved in a Competition Assessment and shows how these fit with the RIA process. The first step in the Competition Assessment is a competition filter. This is described in detail and case studies are used to illustrate how the filter works.
 - Chapter 5 describes the detailed assessment, which involves a more rigorous assessment of the effects on competition. A detailed assessment is necessary only for those policies 'passing' the competition filter.
 - Finally, Chapter 6 provides references to additional sources of information and guidance. It also provides more detail on the support that is offered by the Cabinet Office and the OFT.

2 THE IMPORTANCE OF COMPETITION

- 2.1 This chapter of the guidelines presents a simplified description of the competitive process and shows how strong competition can have significant and far-reaching benefits for the economy.

How does competition work?

- 2.2 Competition is a contest between firms to sell their products and services to customers, who may be individuals or other companies. Firms compete by offering a product or service on attractive terms, including price and quality.
- 2.3 When competition works well, buyers will have the choice of products or services from a number of different suppliers, and they will be free to choose the one that most suits their needs. Firms that provide the 'best' product/service will sell to the most customers. Firms that offer a poor product/service will be less successful and may even have to leave the market altogether. Alternatively they may invest in improving their offer, or new firms may enter the market to compete with existing firms.
- 2.4 Firms thus have good reason to improve their offer and customers alter the balance of their purchases accordingly. Weak firms will exit or change, whilst successful firms will be mimicked. Since the market automatically determines the price for any given specification or terms, firms will try to reduce costs (as this then increases profits). Competition thus delivers choice, low prices, innovation and efficiency.
- 2.5 However, in some cases competition may not work well. It will work effectively when buyers have a choice of suppliers, when existing firms can innovate and expand and new firms can enter the market. Where there are barriers preventing entry and expansion, where markets are highly regulated or are dominated by particular firms, it will be less successful and competition can be damaged.
- 2.6 An example of a barrier to entry would be a regulation directly limiting the number of firms allowed to supply a product or to undertake a particular activity, eg, through licensing. More generally, barriers to entry can exist where firms already supplying a product or service have an advantage over other firms that might want to enter the market. This may allow incumbents to make excess profits or benefit through different cost structures to new entrants. Where incumbents have superior efficiency,

through possession of skill and assets, there may also be 'barriers' but these do not create competition concerns.

- 2.7 Competition may be similarly damaged if customers do not know enough about the products offered by different firms, or if regulations prevent or restrict free choice on the part of firms or customers. Such restrictions on choice limit the ability of customers to find the product or service that best meets their needs and can dampen the incentive for firms and potential firms to innovate to develop new products.

Why does the nature of competition vary?

- 2.8 Depending on the particular conditions in a market, competition can be strong or weak. Although there are no hard and fast rules, it will tend to be stronger when there are many firms (or when 'market concentration' is low) there are no barriers to entry and where customers can exercise a free and informed choice between firms. However, the nature of competition – the way in which firms actually compete with each other in the market – can be quite varied.
- 2.9 Some firms will compete almost exclusively on price. That is, they will focus on achieving low costs and using this to under-cut the pricing of competitors. Other firms might be less interested in price, but might compete largely on quality. For these firms, cost control will not be irrelevant (since it still determines profits) but priority will be given to quality control or to marketing and branding (which is how firms inform customers of their quality).
- 2.10 Clearly, in any given market a firm that focuses on price is unlikely to be competing for the same customers as a firm that focuses on quality. For example, few customers who would consider buying a Rolls Royce would see a Ford Ka as an acceptable substitute. However, these firms may still compete indirectly if there are a number of other competitors 'in between'.³ For example, a customer looking at Rolls Royces might consider a BMW or a Mercedes, and these firms will thus compete head-on. But BMW and Mercedes will also have customers who may be looking at Audis or Volvos, who in turn will have customers looking at VWs, Rovers and Fords. The chain continues with each firm competing directly and indirectly against a number of other firms. Therefore, Rolls Royce competes indirectly with Ford.

³ Technically, this is referred to as a 'chain of substitution'.

- 2.11 Within any market, therefore, it is possible to see firms competing on a variety of dimensions (ie, product differentiation). Firms will try to focus on a market position or strategy that best suits their skills and assets (low-cost, high quality, quick delivery, valuable brands, biggest choice, etc). By differentiating they can make themselves appear different (and better) to some customers and thus increase their chance of making a sale.
- 2.12 In addition to differentiation within a market, it is also possible to observe different forms of competition across different markets, and across time. In some industries price is very important, whilst in others non-price factors, such as quality, might be most important. Usually these differences relate to cost structure of firms or to the nature of the product and how customers choose.
- 2.13 When high fixed costs are involved, with low variable costs, firms face incentives to compete for sales volume. This is because the more products they sell the greater is the financial contribution to covering their fixed costs. In other words, the more they sell, the lower is average cost ('economies of scale'). For example, consider a software firm with fixed costs of £100 from designing a program and no variable costs because the program is distributed electronically. It would need to charge £100 for a sale of one unit, if it were to break even. However, sales of two units would require prices of only £50 and sales of 100 units would require prices of only £1.
- 2.14 Such cost structures, with high fixed and low variable costs, can result in firms competing aggressively on price. If the unit prices reduce as the number of units sold increases, ie economies of scale are very high, this can lead to the situation where only one firm supplies all the market. Any other firm entering the market would have to charge a higher price, because it would not supply all the customers, so that it would not sell any of its products. In this case, economies of scale can lead to the establishment of a monopoly.
- 2.15 Cost structures can thus influence the importance of price and non-price factors in the competitive process. Similarly, consumer demand can also influence firms' behaviour. In markets where customers are relatively unconcerned about price⁴, firms will try to compete around other factors

⁴ The technical description of this is when customer demand is 'price inelastic'. The opposite phrase, 'price elastic', relates to when customers are very sensitive to price and

that appeal to customers. For example, airlines offering a business class service tend to compete more on seat design, legroom and connections than they do on price. Similarly, the most important factor when deciding on a lawyer is that the individual (or firm) to be employed has a good reputation and is most likely to win the case. A low price is no substitute for a lost case.

- 2.16 These differences in forms of competition are important. Few competitive markets result in all firms behaving in the same way. Indeed, freedom to differentiate and the incentive to innovate are benefits obtained from a competitive market.

Why is competition good for the economy?

- 2.17 Strong competition between firms leads to increased choice, low prices, innovation and efficiency. This is clearly beneficial for customers in the markets concerned, but there are also knock-on effects to other markets.
- 2.18 Many products or services are inputs into the production of other products or services. Low prices in one market can thus lead to lower costs in another. Similarly, innovations in one area of the economy are often adopted in other areas. For example, advancements in information technology have not only led to efficiency gains for many companies but have also changed the way that companies do business; many retailers now sell their products over the internet, for example.
- 2.19 In this way competition and free markets become the main drivers of productivity, efficiency and product development. The continued growth of living standards depends on harnessing – through competitive markets – innovation and technical progress to provide better products and services for customers. Competitive markets allow new products and new methods of production to supplant older and less efficient methods.
- 2.20 ‘Competition’ – the subject of these guidelines – is not the same as ‘UK competitiveness’. The latter relates to the efficiency and productivity of business in the UK and generally is compared to levels of productivity overseas. It is well established that competition is good for competitiveness. The focus in these guidelines is on competition – the way in which firms (whether from UK or overseas) design, produce and sell goods and services to customers. As such, the Competition

will try to switch to another firm for a very small price difference. Generally, the more price elastic a market the more likely it is that price competition will be intense.

Assessment should analyse the impacts of a regulation not only on UK firms in a market but also on importers into the UK, each of which contribute to lower prices, innovation, choice and efficiency to the benefit of UK customers.

- 2.21 The next chapter discusses how competition can be affected by government policies and how some of the beneficial outcomes identified above might be diminished.

3 HOW GOVERNMENT POLICIES CAN AFFECT COMPETITION

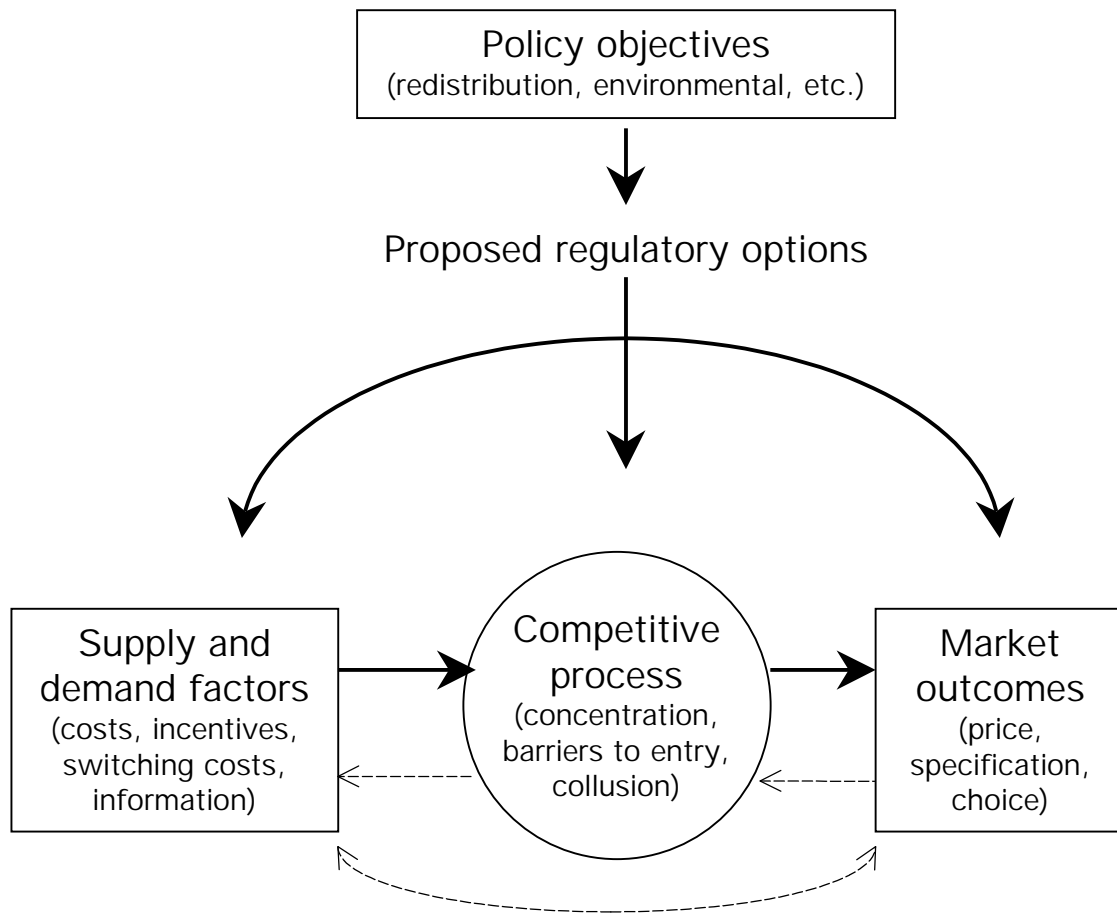
- 3.1 Chapter 2 explained why competition is good for customers and the economy, and what forms it may take in different markets and industries. This chapter discusses how the introduction of new Government policies or changes in existing policies may impact on competition. In these guidelines, the term 'regulation' or 'proposed regulation' refers to any policy proposal from Government. When considering competition it is not appropriate to take a specific UK focus; competition works across national borders and this should be recognised in the Competition Assessment.
- 3.2 This chapter starts by distinguishing three elements of competition – supply and demand factors (inputs), market outcomes (outputs) and the competitive process (the nature of the contest). In particular, where the guidelines discuss concerns relating to an impact on competition, this is because of the impact on the competitive process rather than impact on the other two elements.
- 3.3 The link between regulation and each aspect of competition is then identified. This shows why changes to market outcomes resulting from regulation (higher prices, for example), need not, of themselves, imply changes to the competitive process itself. Finally, the importance of market structure in determining whether an effect on the competitive process is likely to give cause for concern is discussed. Other issues, such as collusion and barriers to entry are also likely to affect the competitive process, and are examined in more detail in Chapter 5.

The link between regulation and competition

- 3.4 Competition analysis needs to take account of three related elements. First, there is a set of supply and demand factors, which affect the costs of production and customer demand. Second, there is the competitive process, the nature of rivalry between firms, which determines how supply and demand factors are translated into the third aspect, the set of market outcomes. These are the characteristics of the products that produced, such as price, location and quality. The competitive process will be shaped by: the number of firms in the market; whether competition takes place through innovation or through price; and the existence of barriers to entry (as discussed in Chapter 2).

- 3.5 Changes to supply and demand factors will lead to changes in market outcomes, working through the competitive process. Sometimes the competitive process will be changed as a result. However, this process does not just work in one direction; changes in market outcomes can equally feed back into the competitive process and change the nature of rivalry between firms.
- 3.6 One source of possible changes in this system is the introduction of a new regulation. All government regulations have a policy objective, which is usually not directly related to competition, but which may nevertheless have implications for competition. For example, a regulation may require redistribution of benefits or environmental improvements as its main objective but it may also affect the costs faced by firms, change consumer preferences and hence demand for certain products, or affect the process of competition itself.
- 3.7 Figure 3.1 (on the next page) outlines the three elements of competition analysis (supply and demand factors, the competitive process and market outcomes) and shows how they interact with each other. Policy objectives lead to proposed regulatory options, which can have an effect on any of the three elements of competition.

FIGURE 3.1: HOW REGULATIONS IMPACT ON COMPETITION



3.8 **Main effect** → The impact of a new regulation on supply and demand factors is the first route by which the regulation may have a potential effect on competition. **Minor effect** - - - - - → For example, a regulation limiting the use of pesticides could raise the cost of growing a given quantity of vegetables by forcing farmers to use a more expensive method of pest control. If costs were to rise significantly, there could be indirect implications for the competitive process, particularly if some farmers were to stop producing vegetables altogether and switch instead to animal produce.

3.9 The second route by which a new regulation might impact on competition is by directly changing the competitive process itself; that is, effectively changing the rules of the contest. This would occur if a new regulation were to remove or lower barriers to entry in the market affected or directly limit the number of firms allowed in the market (by reducing the number of licences issued, say).

- 3.10 The third way in which a new regulation or law may affect competition is by directly specifying what the market outcomes should be. For example, the planning system specifies where certain types of activity can be located while certain regulations are targeted at ensuring minimum standards for products. Such regulations can indirectly affect the competitive process because they reduce the number of dimensions along which firms can differentiate their product.
- 3.11 The Competition Assessment seeks to identify the extent to which regulations are likely to result in any of the three above effects. However, the focus of a Competition Assessment is on the competitive process. To summarise, impacts on the competitive process can result from regulations that:
- change the competitive process through directly affecting supply and demand factors for firms (eg, changing cost structures or incentives, or by changing customer price sensitivity), which in turn affects the competitive process;
 - change the competitive process through directly specifying market outcomes (eg, specifying a minimum standard for a product), which then feeds back to changes in the competitive process;
 - directly impact on the competitive process (eg, by changing barriers to entry or expansion, or by affecting industry concentration).

The importance of market structure

- 3.12 The extent to which the competitive process (and hence competition) may be affected will depend on the structure of the market(s) or sector(s) affected by the regulation. 'Market structure' means the number and relative size of firms in the market or sector. When a regulation impacts on a market that contains few firms, or in which one or two firms dominate, there will be greater risk of a detrimental effect on competition.
- 3.13 When there are fewer firms in the market, there is a danger that competition may be weak and that one or more firms may have a degree of market power; that is, they may be able to behave without proper regard to their competitors or to customers. Firms with market power can set excessive prices or deliver a poor quality product and customers have only a limited ability to switch to an alternative product. In addition, firms in such markets may face fewer incentives to innovate to win customers.

- 3.14 If firms within the market all have low market shares (that is, each serves a relatively small segment of the market) there is little or no chance that any will have market power. If however one or more firms have a higher market share, there will be a greater risk that these firms have at least some market power and competition may therefore be weaker.
- 3.15 Market share is therefore an indicator of the existing level of competition in a market and of the risk that regulation could lead to detrimental effects on competition. As discussed in the next chapter, market share is used as an indication of existing competition as part of the Competition Assessment.

Examples of regulations with competition impacts

It is hard to define specific 'types' of regulation that impact on the competitive process in a particular way, although some general inferences can be drawn. In particular, it may not be the 'type' of regulation which has the greatest impact on competition but the way in which the regulation is phrased (eg, the types of firm that are exempt from a regulation). Some examples are given below.

Regulations that increase costs may affect the level of concentration (that is, the market structure might move towards a situation where there are more large and fewer small firms). This is particularly the case if the costs those are fixed in relation to the size of the firm. Many regulations that increase administration and compliance costs/red tape would fall into this category.

Regulations that introduce licensing regimes (eg, for professions such as gas fitting) represent a barrier to entry, either because obtaining a licence is costly or because specific conditions must be met. Regulations that include 'grandfathering' provisions (where new firms have to meet the costs of a new regulation immediately, but existing firms have a period of grace before they are required to, eg, upgrade their equipment) will also increase barriers to entry. This is because a new firm would face higher costs than an existing firm would for the duration of the grace period. However, without grandfathering the existing firm may face excessive costs because it has to scrap existing equipment before the end of its economic life. This would then provide a competition advantage to new firms. The competition impact is likely to be a balance of these two effects.

Regulations which specify standards or requirements for firms or introduce 'kitemarks' for products, which make particular market outcomes difficult to achieve (eg, increasing costs of location or quality), or that require purchasers to ensure they have an 'adequate' product are all likely to reduce freedom to differentiate. This may have anti-competitive effects.

Regulations that increase the cost of innovation (eg, higher labour or licensing costs) will reduce the level of innovation. Innovation will also be distorted if the regulation restricts or defines market outcomes (the dimensions on which firms can compete), as with the regulations under differentiation above.

4 ASSESSING THE COMPETITIVE IMPACT OF A PROPOSED REGULATION

- 4.1 Chapter 3 described how new regulations may affect competition and explained how changes in the competitive process cause concern. This chapter sets out the steps that policy makers should follow to identify these potential effects on the competitive process and understand the extent to which they give cause for concern. The intention is that policy makers, and ultimately Ministers, will have more information on which to draw when deciding whether to go ahead with a new regulation or whether to seek changes to that regulation.
- 4.2 The Competition Assessment will therefore provide information that will complement what is already known about the costs and benefits of a regulation, identified through the Regulatory Impact Assessment (RIA) process. Indeed, the Competition Assessment will, in the majority of cases, draw on at least some of the same information as the RIA and should be carried out as part of the RIA.
- 4.3 The Competition Assessment should be undertaken in two stages:
- Policy makers should carry out a competition filter that will quickly signal those proposals that are most at risk of impacting materially on the competitive process.
 - In cases where the competition filter suggests a risk of a potential impact on the competitive process, policy makers, with help from economists, should collect additional information and carry out a detailed competition assessment. This would identify the scale and nature of the effects more precisely.
- 4.4 The competition filter should be carried out as part of the RIA process in the early stages of policy development. If required, the detailed assessment should be completed as part of the Partial RIA so that the assumptions made are open to external scrutiny during consultation. The results of the Competition Assessment (whether a competition filter or detailed assessment) should be reported in the consultation document.

- 4.5 The remainder of this chapter describes how policy makers should carry out the competition filter. A case study is presented at the end of this chapter to illustrate how the competition filter should be applied.

The competition filter

- 4.6 As discussed above, it is likely that there will be some regulations that do not change the competitive process in any way; others could have a substantial impact. The purpose of the competition filter is to identify quickly those proposals that are most at risk of having a significant detrimental effect on competition.
- 4.7 The competition filter is based around nine straightforward questions about the market or markets that are likely to be affected. These markets may have been identified as part of the Initial or Partial RIA but it is important to identify them correctly. A market includes the firms that compete against one another to sell the same or similar products or services. A regulation may impact on just one market or it may impact on several.
- 4.8 Some regulations may have knock-on effects on other markets, since they either supply goods or services to the affected markets or buy products from them. Linked markets should also be affected and defined by considering who else competes in providing that product or service or a similar substitute. If linked markets are likely, the competition filter should be used for each market separately.
- 4.9 Some regulations impact on a wide range of markets, such as the national minimum wage. For these cases, the competition filter should be used on the two or three markets where the risk to competition may be greatest – normally markets with just a few large firms will be most at risk.
- 4.10 The case study provides an example of where a regulation is likely to impact on two distinct markets. In some cases, it may be individuals, rather than firms, who provide the good or service. For example, in the case of care workers individuals may be offering services alongside firms employing several care workers. In these cases, the questions of the competition filter should refer to both the individuals and the firms.
- 4.11 Much of the information needed to answer the nine questions of the competition filter should be available from either the Initial or Partial RIA. In addition, some of the questions will involve thinking about the type of

regulation and the characteristics of the markets affected. Throughout this chapter, relevant information to use is indicated and examples are provided of the issues to consider. Additional sources of information and advice are listed in Chapter 6.

The nine questions of the competition filter

4.12 This section sets out the nine questions to be answered for each market likely to be affected by the proposed regulation. Each question requires either a yes or no answer. However, policy makers should give consideration to the reasoning behind the answer, as this will need to be briefly reported in the RIA and in the consultation document. Beneath each question examples are provided of the relevant issues to consider. If an answer is unknown, reply yes until further information is available.

4.13 For questions 1, 2 and 3 imports should be treated equivalently to sales from UK-based firms.

Question 1

4.14 In the market(s) affected by the new regulation, does any firm have more than 10 per cent market share?

4.15 The answer to question 1 indicates the likelihood that any firm in the market has a degree of market power. Where a single firm or a group of firms serve a large proportion of the market (ie, have large market share) they are more likely to have market power.

Question 2

4.16 In the market(s) affected by the new regulation, does any firm have more than 20 per cent market share?

4.17 The higher level of market share may indicate greater market power, and is therefore more of a concern.

Question 3

4.18 In the market(s) affected by the new regulation, do the largest three firms together have at least 50 per cent market share?

4.19 For question 3, take the largest three market shares and add them together. If this gives more than 50 per cent, the answer should be yes. This question identifies further degrees of market power and also identifies cases where a few large firms may be able to act together.

Question 4

- 4.20 Would the costs of the regulation affect some firms substantially more than others?
- 4.21 Consideration should be given, but not confined, to the following issues. The answer to question 4 will be yes if, for example, costs of paperwork or administration affect smaller firms to a substantially greater extent than larger firms, or if significant costs are imposed on particular companies because of the resources they use or where they are located.
- 4.22 Policy makers will have to use some judgment in judging what is 'substantial'. It is important to consider whether there will be an impact on competition or whether the more heavily affected firms can absorb the effect and remain in business. In answering this question, it is important to ensure that firms are compared only if they are competing against each other. The intention is to establish if some firms are disadvantaged in the competitive process.

Question 5

- 4.23 Is the regulation likely to affect the market structure, changing the number or size of firms?
- 4.24 Question 5 expands on question 4 to highlight the consequences of the regulation for the structure of the industry. For example, will some firms have to leave the market or will they merge with other firms to survive? As for question 4, the answer will depend on the policy makers' judgment of the likely effects. Discussions with industry bodies and other interested parties during the consultation process may help.

Question 6

- 4.25 Would the regulation lead to higher set-up costs for new or potential firms compared with the costs for existing firms?
[yes/no]
- 4.26 This question focuses on the initial entry barriers in the form of set-up costs. Consideration should be given, but not confined, to the following issues. In answering question 6, the introduction of licensing or restrictions on location may inhibit the entry of new firms into the market. If new firms cannot enter the market then incentives for new product development, innovation and growth may be dampened.

Question 7

- 4.27 Would the regulation lead to higher ongoing costs for new or potential firms compared with the costs for existing firms?
[yes/no]
- 4.28 This question focuses on ongoing costs, which would affect new firms' performance even after they entered the market. As for question 6, it is relevant to consider any situations that would favour existing firms over new entrants to the market. This may include the extent to which there may be time lags in introducing the regulations for existing firms. If new firms have to meet requirements immediately, but existing firms have a period of grace ('grandfathering') there would be a differential introduced.

Question 8

- 4.29 Is the market characterised by rapid technological change?
[yes/no]
- 4.30 Consideration should be given, but not confined, to the following issues. The answer to question 8 would be yes if, for example, firms in the market were continually innovating to introduce new methods of production or new products. Examples of such markets include IT and telecoms. However, it may also be the case that the affected market has recently experienced a greater level of innovation and product/process development than previously. This would also lead to a yes answer to question 8. The reason for identifying those markets experiencing rapid technological change is that there is a risk that regulation may restrict innovation in such markets.

Question 9

- 4.31 Would the regulation restrict the ability of firms to choose the price, quality, range or location of their products?
[yes/no]
- 4.32 Consideration should be given, but not confined, to the following issues. Minimum standards or requirements are one way in which firms' freedom to choose product type or quality can be restricted. Other examples include restrictions on prices charged, the quantities of certain inputs used (eg, pesticides for farmers) or the location of certain activities. All will have the effect of removing one way in which firms can compete, and therefore represent a distortion to competition.

The outcome of the competition filter

4.33 The following table provides a quick way of summarising the answers to these questions.

TABLE 4.1 - THE COMPETITION FILTER

Question	Answer yes or no
Q1: In the market(s) affected by the new regulation, does any firm have more than 10 per cent market share?	
Q2: In the market(s) affected by the new regulation, does any firm have more than 20 per cent market share?	
Q3: In the market(s) affected by the new regulation, do the largest three firms together have at least 50 per cent market share?	
Q4: Would the costs of the regulation affect some firms substantially more than others?	
Q5: Is the regulation likely to affect the market structure, changing the number or size of firms?	
Q6: Would the regulation lead to higher set-up costs for new or potential firms that existing firms do not have to meet?	
Q7: Would the regulation lead to higher ongoing costs for new or potential firms that existing firms do not have to meet?	
Q8: Is the market characterised by rapid technological change?	
Q9: Would the regulation restrict the ability of firms to choose the price, quality, range or location of their products?	

- 4.34 The overall number of yes responses indicates whether the proposed regulation could have a potential detrimental impact on competition.
- If the answer is yes to less than half the questions: competitive impact unlikely, write up results for RIA.
 - If the answer is yes to more than half the questions: competitive impact possible, proceed to detailed assessment.
- 4.35 An answer of yes to less than half the questions suggests that the regulation would be unlikely to affect the competitive process. As new information comes to light, this result should be re-affirmed. If at any point new evidence suggests there may be an effect on competition a detailed assessment should be undertaken. If however, it remains unlikely that there would be any detriment to competition then no further analysis is required for the Competition Assessment. The results of the competition filter should be written up as part of the RIA to be included in the consultation document. If the regulation is considered likely to have positive effects on competition, these should also be included in the write-up and if they are significant a detailed assessment should be completed.
- 4.36 An answer of yes to more than half the questions signals that the regulation may have an effect on the competitive process and these effects should be considered in more detail. This is a signal to move on to the detailed assessment discussed in the Chapter 5.
- 4.37 In writing up the Competition Assessment, policy makers should include a brief summary of the reasoning and evidence in support of the competition filter finding. More specifically, the following should be covered:
- A statement providing the result of the competition filter. That is, a clear view needs to be given of whether a detrimental impact on competition is likely or not.
 - A summary of the answers to each of the nine questions asked in the competition filter, along the lines of:
 - the market is characterised by lots of small firms offering customers a wide range of products to choose from – this is known from market research undertaken in this area which showed there were no large firms serving a large proportion of the market;

- the market is not characterised by rapid technological change and the products on offer have remained constant over a relatively long period;
- the costs of the regulation are large but they are likely to be evenly distributed between firms.

4.38 The intention is to set out clearly why impacts on competition are thought to be likely or unlikely and thereby stimulate informed and informative response from consultation.

Case study - the recreational craft directive

This case study shows how the competition filter can be applied to a proposed regulation - the Recreational Craft Directive - that directly affects boat builders and engine suppliers. The case study applies the nine questions of the competition filter and shows how this would lead to a detailed assessment.

This regulation has not been passed into EC or UK law. The proposal is therefore subject to change as are the figures regarding the identified impacts. However, this does not affect the application of the competition filter or the results on the basis of the information available.

OUTLINE

In October 2000, the European Commission proposed amendments to the existing Recreational Craft Directive that would limit both exhaust and noise emissions from boats used for leisure purposes. These additional regulations would come into effect in January 2005 for four-stroke and diesel engines and from January 2006 for two-stroke engines.

The partial RIA for this amendment identified two sectors that would be affected; the boat building sector for recreational craft and engine manufacturers. The boat builders would be likely to incur costs associated with noise testing, hull-redesign, exhaust silencing and compartment lagging. For engine manufacturers, costs might include those of design and development for new or modified engines and subsequently certification costs for the new engines. For both boat builders and engine manufacturers there would high initial costs in year one with smaller (but significant) ongoing costs.

The competition filter undertaken as part of the Competition Assessment suggests that the proposed regulation could have an impact on competition in the boat-building sector although not for engine manufacturers. Each is discussed in turn.

BOAT BUILDERS

There are currently six large boat builders of recreational craft, which collectively serve approximately 80 per cent of the market. Since the precise market shares of these boat builders is not known, questions 2 and 3 are answered yes until further information is available. In addition, there are a number of niche producers that operate on a small scale.

The proposed regulation would be likely to have two main effects on the sector. As noted above, costs would be imposed that would be significant to individual boat builders but the overall impact on the industry would not be large. The costs would affect smaller firms substantially more than larger firms; that is, the higher costs would represent a substantially larger proportion of turnover for smaller firms. However, it would be unlikely to affect market structure since the market is already highly concentrated.

The regulation would not have any differential impact on existing boat builders compared to new boat builders that might want to enter the market. While new products are continually being brought on to the market, production processes are fairly constant and the market would not be classified as one experiencing rapid technological change. Finally the regulation would impose minimum requirements, preventing suppliers from producing low-quality low-price craft.

ENGINE MANUFACTURERS

The market for engine manufacturers is less concentrated, with two large firms and several smaller but still significant firms. As for boat builders, there would be small total costs but these would disadvantage smaller manufacturers, although not sufficiently to alter market structure. There is no discrimination towards new boat builders wanting to enter the market. Although there is some technological change as new engines are continually being re-designed and modified, it is not the basis for competition between the firms. Again, minimum requirements would be imposed.

CONCLUSIONS

For boat builders, the impacts coupled with the relatively concentrated market structure suggest that some competitive concerns may arise from the proposed regulation and a detailed assessment should be carried out. For engine manufacturers, the less concentrated market structure means that the risk of competition concerns is lower and a detailed assessment is not necessary.

TABLE 4.2 - THE COMPETITION FILTER APPLIED TO BOAT BUILDERS AND ENGINE MANUFACTURERS

Question	Boat builders	Engine manufacturers
Q1: Does any firm have more than 10 per cent market share?	yes	yes
Q2: Does any firm have more than 20 per cent market share?	yes	no
Q3: Do the largest three firms together have more than 50 per cent market share?	yes	no
Q4: Are some firms affected substantially more than others?	yes	yes
Q5: Is the regulation likely to alter market structure?	no	no
Q6: Would the set-up cost be higher for new firms?	no	no
Q7: Will the ongoing costs be higher for new firms?	no	no
Q8: Is there rapid technological change?	no	no
Q9: Will there be restrictions on firms' choices?	yes	yes

5 THE DETAILED ASSESSMENT

5.1 The aim of the detailed assessment is to understand in more depth the potential competitive impacts identified in the competition filter. In undertaking the detailed assessment, policy makers (with the help of departmental economists) should:

- consider all possible effects of a regulation, both direct and indirect, and any knock-on effects on related markets;
- check whether these effects do in fact raise concerns for competition – not all regulations passing the competition filter will raise concerns on closer inspection; and
- compare policy options in terms of their impact on the competitive process, and, if required, identify alternative policy options which achieve the primary objectives of the regulation with a lesser impact on the competitive process.

Support is also available from the OFT helpline.

5.2 The three steps in carrying out a detailed assessment are:

- **Identifying the affected markets**
First, define more precisely which economic markets are affected by a regulation. These markets may follow Standard Industrial Classification definitions or may differ. It is important also to identify indirectly affected markets.
- **Understanding the current nature of competition**
Before investigating how a regulation will change competition, policy makers should understand how competition currently operates in the relevant markets. This involves exploring in more detail supply and demand factors, market outcomes, and the competitive process discussed in Chapter 3.
- **Identifying the impacts of the regulation**
Having understood how competition currently takes place in the affected markets, identify the supply and demand impact and market impacts of a regulation, and the direct and indirect impacts on the competitive process resulting from that regulation, for each policy option presented.

- 5.3 The findings of the detailed assessment should be written up as part of the RIA process and included in the consultation document. This write-up should summarise the steps set out above. The report should also rank policy options in terms of their impact on the competitive process, and if necessary suggest alternative policy options that would reduce any adverse impact on competition while still meeting the primary objectives of the policy. This information will help policy makers to decide on the most appropriate policy option to achieve the aims of the regulation with the least negative impact on the competitive process. Presenting the reasoning in detail will also lead to a more informed consultation process.
- 5.4 In the limited space available in these guidelines, it is not possible to cover every aspect of competition analysis in full detail. Chapter 6 describes useful sources of further information and detail about particular aspects of competition analysis. Annex A provides a case study of a detailed assessment carried out for a proposed (hypothetical) regulation.

Identification of affected markets

- 5.5 The first stage of the detailed competition assessment is to define the economic markets that are affected by the proposed regulation or policy. An economic market is the basic building block of competition analysis. It refers to a set of goods or services that are sufficiently closely related for it to be appropriate to consider them all subject to the same competitive effects.
- 5.6 Economic markets are generally considered to consist of the combination of two dimensions: product markets and geographic markets. An intuitive description of how to determine the appropriate product and geographic markets is set out below.
- 5.7 Having determined the relevant economic markets for the direct impacts of the regulation, it is then necessary to explore whether there are any related markets that may also face a competitive impact.

ECONOMIC MARKETS

- 5.8 The concept of a 'market' is regularly used in business. It is generally considered to consist of a group of similar goods or services in a particular set of locations. Firms 'in the market' are therefore those which produce any of the products in any of the locations.

- 5.9 An initial way of determining whether two products are in the same market is to look at the functions they perform. For example, it is clear that the market for new cars is very different to the market for toothbrushes, as the two products clearly perform different functions. Products in the first market can be used to get from A to B, whereas products in the second market reduce plaque with regular brushing. However, such an approach, relying on identifying the characteristics of a product or service, can result in ambiguous definitions of markets. Secondhand cars can be used for transport, as can buses, trains, cycles, aeroplanes, boats and walking on foot. It would be incorrect though, to consider a market of 'all forms of transport', and such a market would be too general for most purposes.
- 5.10 A more sophisticated approach is to consider a market as being a group of products bounded by the possibility of substitution between them. In other words, one product is in the same economic market as another if it would be reasonably likely that at least some customers or firms would substitute from one product to another in response, say, to a change in relative prices. Such substitution could occur in two ways.
- **Demand-side substitution**
occurs when customers would be willing to switch from one product to another if the price of the first product rose. For example, some customers would be willing to switch from driving one type of car to another type of car for a particular journey, but it is unlikely that many customers would be willing to switch from driving to air travel (for most short journeys).
 - **Supply-side substitution**
occurs where firms would be willing and readily able to switch to producing one product from producing another, if the price of the first product rose. For example, firms producing saloon cars may be able to switch to producing estate cars, but bicycle producers would not.
- 5.11 Another restriction on the possibility of substitution between two products is geographic location. Customers may be happy to switch between apples and pears – but if no shops near their home sell pears, it is unlikely that customers would travel far to seek them out. Similarly, firms in Scotland may be able to sell their products in northern England, but could find it difficult to sell into Devon and Cornwall due to the costs of transportation.

5.12 Empirically determining the appropriate economic market is a challenging task and is covered in more detail in the box below (Technical notes: the hypothetical monopolist test). A good first approximation is to carry out a ‘thought experiment’ about the possibilities of demand-side and supply-side substitution for a particular group of products. Starting from the smallest possible geographic area and product type, consider whether, in response to a price increase for that group of products in that particular location:

- Would customers switch in large numbers to other products or the same products in different locations? To which products or locations would they switch?
- Would firms switch significant production to those products or locations? From which products or locations would they switch?

5.13 If either form of substitution appears likely, this thought experiment should be repeated for the wider set of products or locations, until no significant substitution possibilities are available. The result is a group of products or services that constitutes the economic market.

Technical notes: the hypothetical monopolist test

PRODUCT MARKETS

A product market is a collection of goods or services that are ‘close’, in terms of substitutability. To identify the product market(s) that is (are) affected by a new regulation, consider each of the markets identified during the competition filter. For each market, the relevant product market should be identified using the conceptual framework known as the hypothetical monopolist test. Note that this test should not necessarily be conducted in a rigid way, but should serve as a ‘thought process guide’ for considering the economic market. This test operates as follows.

Start with the most important product (defined through sales, industry practice or some other relevant benchmark). Imagine that there was only one firm selling that product – a ‘hypothetical monopolist’. Would the hypothetical monopolist be able profitably to increase prices by a small but significant and sustained

amount (ie, five to ten per cent) above the competitive level? ⁵ There are two constraints that may prevent the hypothetical monopolist from profitably carrying out such a price increase:

- **Demand-side substitution**

Facing a price increase in one product, customers will switch some of their purchases to other substitute products. Would enough customers switch to a substitute product to make such a price rise unprofitable? Note that this test does not require that all customers would switch merely that there are enough marginal customers for the loss in sales revenue to outweigh higher revenue from existing sales of the product.

For example, hypothesise a monopolist of apples. In response to a price increase, customers would probably switch to pears or bananas. Alternatively, consider a hypothetical monopolist of desktop personal computers. In response to a price increase, some customers would probably switch to laptop personal computers.

- **Supply-side substitution**

Facing a rise in the relative price of one product, would firms wish and readily be able to switch production to that product? Would rival firms be able to switch production quickly enough to make the price increase of the hypothetical monopolist unprofitable?

For example, a paper manufacturer would be able to re-organise its production processes to produce higher thickness or extra glossy paper if the relative price of these grades rose relative to the price of more downmarket grades. In the case of apples, farmers could not switch their orchards over to apples from other fruits, at least in the short term.

Empirically, the existence of supply- or demand-side substitutes may be tested by examining whether cross-elasticities of supply (a measure of supplier willingness to switch) are positive using time series data on price and quantities. Alternatively, discussions can be held with industry participants about the ability, cost and time taken to switch production processes. The concept of supply-side substitution is a relatively short-term concept. Switching must generally be possible within a year to be relevant.

⁵ Note that the current price level may not be the competitive level if there currently exists a monopolist (with consequent market power) over that market. The monopolist would already have raised prices above the competitive level and may not have scope to raise prices further by five to ten per cent. However, it would still be the case that the market under consideration is a relevant product market. This phenomenon is known as the 'cellophane fallacy'. Further details may be found in *The role of market definition in monopoly and dominance inquiries*, OFT Economic Discussion Paper 2, 2001.

If either demand or supply-side substitution is prevalent, then it is necessary to widen the estimated scope of the hypothetical monopolist. For example, rather than employing a hypothesised economic market of 'apples', one could explore an economic market of 'all fruits'. The same demand- and supply-side substitution tests should be carried out on ever-wider markets, until a hypothetical monopolist is considered to exist with respect to a set of goods. This set of goods or services is then considered to be (one of) the relevant economic market(s), and is (are) the benchmark unit of analysis when considering the effects of a new regulation.

This test should be carried out repeatedly until all markets identified as being affected in the competition filter are included in one or more product markets.

GEOGRAPHIC MARKETS

In addition to understanding the relevant product market, it is necessary to consider to what geographic area that product market refers. Again, the hypothetical monopolist test should be performed to determine the correct geographic market.

Start with a narrow geographic market, perhaps at the level of the town or region. Would a hypothetical monopolist of the products in this area be able to profitably raise price by a small but significant amount over a sustained period of time? Again, it is necessary to understand the choices available to customers and rival producers from outside the area.

- **Demand-side substitution**

In response to the price increase, would enough customers switch to purchasing from firms based outside the hypothesised geographic market so as to make that price increase unprofitable for the monopolist?

In the case of apples, each customer might find it hard to choose directly from firms outside their immediate local area. However, since each customers' local area will overlap, the combination of all the local areas in the UK suggests that there is a chain of substitution connecting all local areas – and hence the relevant geographic market is at least UK-wide.

- **Supply-side substitution**

In response to the price increase, would firms from outside the hypothesised geographic market sell into that area in sufficient quantities so as to make that price increase unprofitable for the monopolist?

For example, a monopoly seller of apples in Bristol who tries to raise its price is likely to find that apple sellers from Bath move in to undercut.

As above, if either demand- or supply-side substitution is prevalent, then it is necessary to widen the scope of the hypothesised economic market and begin the process again. In general, geographic markets fall into three categories:

- international: the relevant area is EEA- or world-wide;
- national: the relevant area is the UK (or Great Britain); or
- local: the relevant area is smaller than UK , and may involve regions or towns.

Factors that are likely to increase the size of the geographic market include the size of customers (eg, is the customer a large firm or an individual?), and the transport costs relative to the value of the product. Bulky products such as building stone are more likely to be localised due to high transport costs, whereas products distributed over the internet (eg, digital files such as music tracks or software programs) can be accessed anywhere in the world.

5.14 Having defined the relevant economic market, it is then straightforward to identify which types of firms that are in the market and which are not, and the size of the market as a whole in terms of the total value of sales. From this information, it is possible to calculate the market shares of (at least the largest) firms within the market, and associated concentration measures (see below).

RELATED MARKETS

5.15 In addition to the economic markets that are directly affected by the regulation, there may be knock-on effects to related economic markets. To determine whether these effects are important, carry out a value chain analysis. The value chain is the process, from raw materials to final form, by which a product is created and sold to the final consumer. For example, a simplified value chain for apples may involve pesticide and seed suppliers selling to farmers, who may sell to wholesalers, who sell to supermarkets, who then sell to the final customer.

5.16 For the effects of a new regulation to be fully understood it is necessary to determine whether there will be knock-on effects at different stages of the value chain. The following process should therefore be carried out:

- For each economic market, identify:
 - a) the most important customer(s) of that market's products; and
 - b) the most important suppliers to that market.

These are the related markets. In the example of apples, these may be a) wholesalers or supermarkets, and b) pesticide or seed suppliers.

- For each related market, determine what the impact would be of a new regulation in terms of the changes that would take place in the directly affected market. These are the knock-on effects. For example, suppose apple farmers were required to ensure that at least 10 per cent of their production was produced to organic standards. This would result in a) a reduction in demand for pesticides, affecting pesticide suppliers and b) an increase in the price of apples, affecting wholesalers or supermarkets.
- To determine whether there are competitive issues in related markets that need to be investigated, carry out the competition filter of Chapter 4 for each related market given the knock-on effect in that market. In other words, imagine that the knock-on effect has occurred in the related market and carry out the competition filter appropriately.

5.17 If the competition filter is passed for any related market, a detailed assessment needs to be carried out on this related market. This process should be repeated until further related markets are not significantly affected.

Understanding the current nature of competition

5.18 The impact that a regulation will have on competition will be influenced by how competition currently takes place in the relevant markets. Chapter 3 described how competition analysis has three aspects: supply and demand factors, the competitive process and market outcomes. This section considers each of these in more detail.

SUPPLY/DEMAND FACTORS

5.19 Supply-side factors refer to the inputs to the production process and other factors that affect firm behaviour. Policy makers should identify the key inputs in the relevant economic market. In particular, are any of these inputs scarce or difficult to come by? These inputs include but are not restricted to:

- **Land**
What are the land requirements? Are particular locations required or ruled out? How does a firm's location depend upon the location of raw materials, the level of transport costs, the location of customers, or environmental factors?
- **Labour**
What types of staff are required? Are there key staff with particular skills? Can firms be characterised as labour-intensive (eg, law firms)?
- **Capital**
What machinery or equipment is most important to produce the goods or services? Is this equipment relatively costly (eg, power plants) or relatively inexpensive (eg, personal computers)? Can firms be characterised as capital-intensive (eg, steel manufacturers)?
- **Raw materials**
What are the main inputs to production that get transformed in the productive process? Inputs may include, for example, minerals, energy, foodstuffs, or paper, depending on the particular nature of the industry.
- **Transport costs and distribution**
How much does it cost firms to get the product to customers? Is the product bulky or easily damaged?

Other supply-side factors include:

- **Balance between fixed and variable costs**
To what extent are the costs involved fixed or variable with respect to the level of output of the firm? Note that two measures should be considered – costs that are fixed in the short term (up to one year), and costs that are fixed in the long term (five years or more).

- **Economies of scale**
 Could the firm double output without doubling costs? Do such economies of scale occur at the level of the firm, or at the level of individual production units (factories or shops, for example)? Economies of scale may be a result of high fixed costs. Another consideration is minimum efficient scale. What is the smallest size a firm can be while still being broadly cost-competitive?
- **Capacity constraints**
 Does each firm have a limit to the amount it can produce? For example, a car manufacturer will only be able to produce a certain number of cars per month in a factory of a given size. Capacity constraints are often important in mature manufacturing industries.
- **Economies of scope**
 To what extent do firms producing one product have an advantage in producing other related products, compared to a stand-alone firm? For example, shoe-mending firms often cut keys as well (suggesting an economy of scope).
- **Seasonality**
 Do the products exhibit marked seasonal patterns in terms of costs of production? For example, fruit and vegetables in season are less expensive to supply locally.

- 5.20 The relative size of each input factor will be a guide to its relative importance. Some aspects such as economies of scope or scale and seasonality may be relevant in some markets but not in others.
- 5.21 The impacts that changes in each of the factors above have on company behaviour may also reveal the identity of the most important factors. For example, if more skilled labour was required (eg, IT consultants), one would expect to see firms implementing new training programmes, engaging in greater advertising and recruiting, and hiring outside consultants.
- 5.22 From the questions asked in this section, the most important supply-side factors influencing firm behaviour in this market can be identified.

5.23 Factors that influence the nature of customer demand include, but are not restricted to:

- **Relative importance of the product to customers**
Approximately what proportion of a customer's total budget is accounted for by the product? For example, housing costs are a very significant proportion of most individuals' total spending, whereas spending on milk is less so.
- **Regularity of purchase**
Is the product bought every week (eg, groceries), every year or every few years (eg, a new car), or is it a one-off purchase (eg, a pension)?
- **Tastes**
Is there a long-term consumer trend towards increased sales of the product or service, in absolute terms or as a proportion of income (eg, equity-based savings products) or is the product in question in long-term decline (eg, newspapers)?
- **Seasonality**
Do customer demands vary across the year (eg, clothes, ice cream)? Is the product in question characterised by fashions (eg, clothing)?
- **Search costs**
'Search costs' mean the cost with which customers can compare the offerings of different firms, in terms of price, quality, location, and specification. Does comparison involve significant transport costs by customers (eg, low transport costs for customers to the high street, high transport costs if retailers are few and far between)? Are the products complex for customers to understand (eg, financial services)?
- **Switching and switching costs**
Do customers stick with the same supplier for that product, or do they regularly switch from supplier to supplier? 'Switching costs' mean the cost with which a customer can switch to an alternative supplier from its existing supplier. For example, are there related products (eg, software upgrades or maintenance) such that once a customer has bought the associated product, he/she is effectively 'locked in'? Is it time-consuming or complex to switch to another

supplier (eg, current accounts)? If products are very complex, a customer may be reluctant to change to another supplier (eg, pensions).

- **Information**

Is it straightforward to determine whether the product is high quality prior to purchase (eg, clothes)? Is it difficult to determine quality in advance, but possible after purchase (eg, a restaurant meal)? Is it difficult to identify the quality of a product even after purchase (eg, a pension plan)?

- **Heterogeneity**

Do customers each have the same requirements from the products and services in the market (homogeneity), or do customers have widely varying needs (heterogeneity)?

5.24 The questions above should give an understanding of the main driving forces behind customer demand so that the most important supply-side factors influencing firm behaviour in this market can be identified. Note that as before, demand can be from customers or from other firms – although the examples above focus primarily on the case of final customers.

THE COMPETITIVE PROCESS

5.25 Now that the underlying demand and supply factors have been considered, it is necessary to understand the competitive process through which demand and supply factors are combined to achieve the market outcomes.

5.26 For each economic market, the competitive process will be affected by, and policy makers should identify:

- **Current market structure**

Calculate the total size of the market (generally in £, but sometimes in terms of units sold), and the market share of each firm. Do firms in the market have similar market shares or are there substantial asymmetries?

Calculate relevant concentration measures, such as C3 and C4 (the cumulative market shares of the top three and top four firms), and the Herfindahl-Hirschmann Index (HHI – the sum of squares of the market shares of each firm). The US Department of Justice

merger guidelines suggest that markets with HHI scores up to 1,000 are not concentrated, markets with HHI scores between 1,000 and 1,800 are moderately concentrated, and any score above this indicates a market that is highly concentrated.

A market that is highly concentrated may be of concern because firms in that market have market power. In general – though not in all cases – the greater the level of concentration, the more likely it is that firms in the market have market power due to their size in relation to the market as a whole.

- **Barriers to entry**

Markets with barriers to entry may be more rigid and prone to inertia in the face of changing conditions. This is because there is less external pressure to innovate or develop other products. A barrier to entry is a cost that is faced by a potential entrant that an existing firm has not needed to incur. Questions to ask are:

- Is the market characterised by sunk costs, eg, advertising expenditures required to build a brand, or large irrecoverable capital investment – though note that rental and second-hand markets may exist for capital equipment?
- Are switching costs high, making it difficult for a new firm to win customers?
- In order to supply the market, does the firm require expensive licences or patents?
- Do existing firms have advantageous ownership of scarce resources (eg, good locations protected by planning restrictions)?

Markets may also be characterised by ‘barriers to exit’, where existing firms face costs in withdrawing from production, eg, due to inflexible labour contracts or requirements to clean up sites. Barriers to entry or exit may be a concern as they could grant market power to existing firms by reducing the number of potential entrants. This is because both (exit as well as entry barriers) reduce the attractiveness of entry.

- **Vigour of competition**

Do firms in the market compete fiercely with each other for each new customer and to retain existing customers, or does competition appear to be 'soft', with each firm 'waiting' for customers to arrive?

A market characterised by strong competition might exhibit volatility rather than stability. For example, if market shares are volatile over time, this indicates that small firms who offer a good product can succeed. If firms continually try new approaches to sell to more customers, some of which succeed and some fail, and if the successful improvements are copied by other firms in the market, this would be a symptom of fierce competition. Similarly, if prices are volatile this is often the result of fierce competition between firms following short-term changes in supply or demand factors.

On the other hand, competition between firms may be 'soft'. Effectively, firms in the market may realise that there is no point continually striving to gain extra sales, as they know that others will just copy their actions.⁶ Such a situation may occur where the dynamism of competitive markets is lacking. Symptoms include firms treating other firms in the market as 'colleagues' rather than rivals, or having joint financial interests (eg, joint ventures); stable market shares; or limited new entry or exit. Markets where the strategic moves of competitors are highly transparent to rivals, particularly on price, are often considered likely to soften competition.⁷

- **The extent of differentiation and customer choice**

Does each firm in the market offer the same or similar products in terms of the market outcomes set out at the beginning of Chapter 3, or does each firm offer a product that is differentiated from that of its rivals?

⁶ This is the economic and legal concept of 'tacit agreements'.

⁷ One symptom of 'soft' competition may be price uniformity. In general, one would expect to see uniform prices in homogeneous product markets, but some price dispersion in differentiated products markets where customers are heterogeneous. If prices are uniform, therefore, this may indicate that competition is 'soft' and firms have managed to agree tacitly on some focal price or to follow a price leader.

A market characterised as differentiated would exhibit customers with widely varying needs and firms that met those requirements with a host of different products and services.

Factors to look for in terms of the level of differentiation include the importance of branding and the level of advertising that firms carry out, and whether products are 'off-the-peg' or 'bespoke'.

It should be borne in mind that differentiation does not always produce benefits for consumers. Some markets, for example, may exhibit too much differentiation, resulting in customer confusion due to a proliferation of similar but distinct products. This reduces the ability of customers to choose their most preferred product. Such a problem is most common where products are complex (eg, in some financial services markets).

- **Innovation**

Firms might compete mainly on innovation. The market might be characterised, for example, by regular improvements to products and services. The type of innovations will vary from market to market – some will be more obvious (eg, improvements in computer processor speed) whereas some may be less (eg, 'Now washes whiter than ever'). More generally, some industries may be in a period of rapid technological change, perhaps driven by innovations in related markets (for example, mobile telephony has featured a succession of 'generations' as digital transmission technology has become more advanced).

- 5.27 Having considered all the elements of the competitive process, it should be possible to come to an overall view about whether competition is working well in the relevant markets. This may involve considering how the first three elements interact. For example, there may be little price competition between firms if the vigorous competition has already taken place at the R&D level.

MARKET OUTCOMES

- 5.28 The market outcomes are the variables, in each affected market, on which competition takes place. Having considered the points below, it should be possible to list the outcomes that are most important for customers in this market – and hence are the focus of the greatest competition.

5.29 Dimensions of market outcomes could be:

- **Price uniformity**
One symptom of 'soft' competition may be price uniformity. In general, one would expect to see uniform prices in homogeneous product markets, but some price dispersion in differentiated product markets (there are different products in the same market) where customers are heterogeneous (ie, they have different tastes). If prices are uniform, therefore, this may indicate that competition is 'soft' and firms have managed to agree tacitly on some focal price or to follow a price leader.
- **Price**
Firms compete to offer lower prices to customers. Price structure may have a variety of forms, eg, unit pricing, volume discounts, or different prices for different customer groups. It is important also to consider price movements over time and price levels for different firms in the market.
- **Branding**
Do firms compete through advertising their brands? This is most often the case for fast-moving consumer goods such as washing powder or soup.
- **Quality**
Do firms compete to offer the best product in terms of quality (eg, luxury cars)?
- **Variety**
Do firms aim to offer a variety of products aimed at all segments of the market? For example, hi-fi manufacturers might have a variety of models tailored to different segments of the market.
- **Location**
Do firms compete to offer products in the best locations for customers? (eg, petrol stations)
- **Service**
Do firms compete to offer better service than their rivals do (eg, business class airlines)?

- **Range**
Do firms compete to offer a wide selection of goods, either across product areas (eg, supermarkets) or within product areas (eg, clothes stores)?
- **Reliability/safety**
Do firms aim to offer products that are unlikely to break down or have minimal maintenance costs (eg, makers of manufacturing equipment)?
- **Flexibility**
Do firms aim to produce products or services that can be tailored to individual customer needs (eg, consultancy services)?

5.30 This list is by no means exhaustive and in other markets firms may compete along different dimensions. Moreover, in most markets firms will compete along more than one of these dimensions. Information on these factors may be found from existing market research reports or data collected by Departments or through discussions with industry participants.

5.31 Having answered these questions, it should be possible to consider through 'thought experiments' what would be likely to happen if changes in the supply and demand factors occurred. For example, if the cost of some types of land increased, would firms stop competing on location and instead compete on price?

Identifying the impacts of the regulation on the competitive process

5.32 The analysis of the previous section provides an understanding of how competition currently takes place in the affected economic markets. Using these classifications, it is then necessary to consider how the new regulation will directly affect all the elements of competition – supply and demand factors, the competitive process and market outcomes. It is also necessary to understand whether there will be indirect effects on the competitive process resulting from changes in supply and demand factors or market outcomes.

- 5.33 In particular, such an analysis should be carried out for each of the options set out in the RIA. This will allow policy makers to distinguish between options that have different implications for competition while meeting the primary objectives of the new regulation.
- 5.34 Understanding the impacts of the regulation is the focus of this section. This also discusses the two main reasons why a change in the competitive process may be of concern.
- 5.35 Using the understanding of competition in the relevant markets developed in the previous section and the details of the new regulation, policy makers should identify how the regulation will:
- directly affect each supply and demand factor;
 - directly affect each market outcome;
 - directly affect the competitive process;
- 5.36 Effects may be positive, improving competition, as well as negative. All effects should be identified and quantified where possible. Information on the direct effects of the regulation should be available through the RIA process, drawing on information collected in the initial and partial RIA stages. This should be supplemented with discussions with industry participants and the consultation exercise.
- 5.37 Having determined the direct impacts of the regulation, it is necessary to explore the overall impact of the regulation on the competitive process. This requires collating the direct impacts on the competitive process, together with the indirect impacts on the competitive process resulting from impacts on supply and demand factors or market outcomes.
- 5.38 For example, as discussed in Chapter 3, if a regulation sets minimum standards for firms, this is likely to have a direct impact on supply and demand factors and on market outcomes. Supply and demand are affected through increasing costs due to compliance or upgrading production facilities, while market outcomes face restrictions on one of the dimensions on which firms could compete.
- 5.39 In particular, policy makers should identify whether the combined effects of the regulation will:
- **Alter current market structure**

If current market structures are made more concentrated, there is a risk of higher prices for consumers due to less effective competition between firms in the market – in other words, increased market power.

Changes to existing market structures could result directly (if some firms are banned from the market through the regulation). However, they are perhaps more likely to result indirectly from asymmetric cost impacts on different firms. For example, if the current market structure is formed of two relatively large firms and a number of small firms, a large increase in compliance costs that falls most heavily on small firms could result in all the small firms being forced to exit the market. The resulting market structure would be highly concentrated, with only two large firms.

For example, small boat builders of recreational craft will face substantial costs that are proportionately higher than the costs for larger boat builders. This could lead to some small boat builders being forced to exit the market, and therefore a more concentrated market structure.

- **Increase barriers to entry or exit**

Paragraph 5.26 has outlined a set of factors that raise barriers to entry or exit for firms. Does the new regulation directly raise barriers to entry – for example, by imposing a fixed number of licences, with one licence given to each firm currently supplying the market? More generally, do barriers to entry increase indirectly as a result of a regulation, through increased costs for potential entrants relative to the costs that would be faced by existing entrants?

These different costs might arise for a variety of reasons. Economies of scale may be increased through greater fixed and/or sunk costs, which increases the minimum efficient scale required by a new entrant. This would be a concern if the new entrant would find it difficult to reach such a scale in a short time period, eg, because customers face high or increased switching costs. Other possibilities might include extending licensing regimes or patents, or concentrating ownership of scarce resources.

- **Reduce strength of competition**

A regulation may reduce the strength of competition by directly or indirectly softening competition ('tacit collusion') between firms in the relevant market.

Factors that would be considered potentially to facilitate tacit collusion (and which may result from the proposed regulation) include increasing transparency of pricing or other market outcomes, so that firms can more easily observe and respond to the competitive moves of rivals. For example, the Danish competition authority, in relation to concrete prices, banned firms from carrying out secret price negotiations with customers, arguing that this resulted in unfair treatment. However, the ban resulted in concrete prices rising by 20 per cent the following year due to the firms in the market being able to observe more easily the prices charged by each other.

Another source of softer competition would be an increase in the symmetry between the market positions of different firms (perhaps due to reduced differentiation), which again allow firms to understand more easily the incentives and strategies of their rivals.

- **Reduce differentiation and customer choice**

The regulation may directly restrict the dimensions on which firms are free to compete. Alternatively, impacts on the level of differentiation and variety in the market may result from restrictions on customer choice.

- **Restrict innovation**

Regulations may restrict the level of innovation, by reducing (directly or indirectly) the incentives or ability of firms to invest. The incentives of firms to invest might be restricted if the regulation imposes fixed standards or if search or switching costs for customers are increased, reducing the ability of customers to choose improved products if such products become available.

The ability of firms to innovate would be damaged if, for example, the costs of hiring scarce technical staff were increased or if changes were made to increase the costs of the licensing and approval process (eg, for new drugs).

5.40 It is clear from the discussion above that a regulation may affect one or more of the elements of the competitive process through the same direct effect. For example, a regulation that disproportionately increased costs for small firms may increase concentration, raise entry barriers, and facilitate conditions of tacit co-ordination between the remaining larger firms.

5.41 In addition, different regulatory options might have different competitive impacts while having similar impacts from the perspective of the remainder of the RIA. As such, the analysis in this chapter should allow the practitioner to rank the set of proposed options in terms of their impact on the competitive process. Moreover, the practitioner may be able to identify changes to the proposed regulation that would reduce the adverse impact on competition while still meeting the primary policy objectives.

WHY IS AN ADVERSE IMPACT ON THE COMPETITIVE PROCESS A CONCERN?

5.42 Competition is a process that forces firms to serve efficiently the needs of consumers. Its benefits arise via increased choice, lower prices, efficiency and innovation. Impacts on the competitive process, as set out above, may damage these benefits. This occurs through two main channels.

- **Increased market power**

With increased market power comes an increase in the ability of firms to set prices over and above the level of economic costs involved in their production. This leads to unexploited gains from trade (some customers would be prepared to pay more for a product than its economic costs of production – but less than the price, so such gains from trade do not occur) and higher than necessary prices to consumers. Market power also allows firms to become inefficient and still remain in the market.

In terms of the impacts on the competitive process above, increases in concentration, higher barriers to entry, and reduced strength of competition could all result in higher market power. However, this may not always be the case. If competition is still strong within the market, then higher barriers to entry or increased concentration may not lead to higher market power.

- **Restrictions on suppliers and forms of supply that customers would like**

A key aspect of competition is that customers can choose their ideal (most preferred) product. However, regulations may force customers away from their ideal product and towards the next best alternative.

In terms of the aspects of the competitive process outlined above, reducing the level of differentiation and the ability of customers to choose clearly will force customers who preferred the products currently available to switch to their 'next best' product. More subtly – but perhaps most importantly – restricting the level of innovation forces customers to stick with their current product.

However, if innovation had occurred, this may no longer have been their most preferred product. In the long term, innovation is perhaps the greatest benefit of competitive markets, and damage to innovation is the greatest concern.

6 SOURCES OF FURTHER INFORMATION AND SUPPORT

6.1 While these guidelines are intended to be as comprehensive as possible, there will be occasions where further information or support may be required by policy makers.

- **Departmental economists**
You should involve departmental economists where possible in the competition filter process, but in particular they are likely to be well-placed to carry out the detailed assessment.
- **Departmental Regulatory Impact Unit**
Your suggested first port of call for questions about how the competition assessment links to the RIA process should be your DRIU contact, whose job it is to establish and promote the principles of good regulation (including competitive assessments) in your department.
- **Regulatory Impact Unit**
The RIU helps the Government to ensure that regulations do not impose unnecessary burdens, including competitive impacts. The RIU provides advice and support to departments on preparing all aspects of the RIA process. Your DRIU will provide you with the necessary liaison point in the RIU.
- **Office of Fair Trading**
The OFT has a general responsibility to support Government departments in the identification and assessment of potential competition concerns with new regulations. The OFT runs a helpline for competition assessments, which can offer advice on competition issues and should also be contacted when doing a detailed assessment. The helpline telephone number is 020 7211 8500.

6.2 Policy makers and their advisors may also wish to refer to additional sources of written guidance and background information. There are five main sources:

- **Publications**
The issues raised in these guidelines, particularly with respect to the detailed assessment, are covered more fully in a number of

OFT publications related to the implementation of the Competition Act 1998:

The Major Provisions: OFT 400, March 1999

Market Definition: OFT 403, March 1999

Assessment of Market Power: OFT 415, March 1999

For the more technical reader, OFT reports give further information on economic aspects of competition analysis.

Market definition in UK competition policy: OFT Economic Research Paper 1, 1992

Barriers to entry and exit in UK competition policy: OFT Economic Research Paper 2, 1994

Quantitative techniques in competition analysis: OFT Economic Research Paper 19: 1999

E-commerce and its implications for competition policy: OFT Economic Discussion Paper 1: 2000

- **Competition Commission**
is responsible for carrying out competition investigations into particular industries or markets under the Fair Trading Act. Its recent reports provide a good introduction to competition analysis. Good recent examples (available from the Competition Commission website) include:

Supermarkets: October 2000

New cars: April 2000

- **National Statistics**
has a wide selection of useful facts and figures that may inform certain aspects of the competition filter and the detailed assessment. The European Commission has a competition directorate with similar powers and responsibilities to the OFT and Competition Commission.

- **Websites**

Those relevant to carrying out a Competition Assessment include:

Office of Fair Trading: www.offt.gov.uk

Competition Commission: www.competition-commission.org.uk

Regulatory Impact Unit: www.cabinet-office.gov.uk/regulation

National Statistics: www.statistics.gov.uk

European Commission: europa.eu.int/comm/competition

ANNEXE

A DETAILED ASSESSMENT CASE STUDY: SUPERMARKETS TO PROVIDE RECYCLING FACILITIES

- A.1 Imagine that the UK government was planning to introduce a regulation on supermarkets such that all supermarket stores were required to provide recycling facilities for customers from 1 Jan 2003. (For the purposes of this example, supermarkets will be defined as stores primarily selling grocery and household products and being larger than 10,000 sq ft in size). The government has presented four options:
- i. Requirement applies to all supermarkets.
 - ii. Requirement applies to all supermarkets above 25,000 sq ft.
 - iii. Requirement applies to all new supermarkets from 2003, but existing supermarkets do not have to add recycling facilities until 2013.
 - iv. Requirement applies to all supermarkets with car parks.
- A.2 Option 1 of this regulation would have passed the competition filter. The market is highly concentrated with the market share of individual firms exceeding 20 per cent (therefore answering yes to questions 1 and 2) and the top three firms together have more than 50 per cent market share (giving a yes answer to question 3). There is some asymmetry between small and large firms (yes to question 4) but this is unlikely to change the market structure (no to question 5). There is no asymmetry between new and existing firms nor rapid technological change (no to questions 6, 7 and 8) and a restriction on firms' choice (yes to question nine). The total of five yes answers indicates that a detailed assessment is necessary.

The affected markets

DIRECTLY AFFECTED MARKETS

A.3 The directly affected firms are supermarkets with stores above 10,000 sq ft.⁸ We consider whether these form a relevant economic market using the hypothetical monopolist test. We look at different relevant markets on the basis of size of store (by square footage), as industry sources reveals that different sizes of store potentially cater for different types of shop. For example, large supermarkets cater for the ‘weekly one-stop shop’ whereas small stores focus more on convenience and top-up shopping.

- **Demand-side substitution**

We start from a relatively narrow economic market. If there were a hypothetical monopolist of stores above (say) 50,000 sq ft, would it be able to raise prices above the competitive level? Customers would probably be able to switch to stores of 40,000 sq ft, as these provide basically the same service (with a slightly narrower range of products). We conclude that this is not an economic market.

We continue to expand the market – to stores above 40,000 sq ft; stores above 25,000 sq ft and so on – until the possibilities for customers to switch to alternative providers appear limited. In this case, discussions with the industry reveal that there appears to be a break in the ‘chain’ at 10,000 sq ft. It is considered that many customers would not be able to carry out a ‘one-stop shop’ for their weekly grocery needs at stores smaller than this level, due to the limited range of products such stores can carry.

On the demand-side, the weight of evidence points towards a relevant economic market of supermarket stores above 10,000 sq ft. If the data were available, one could attempt to provide more formal backup for this argument by investigating the switching patterns of customers between sub-10,000 sq ft stores and over-10,000 sq ft stores in response to relative price changes between the two.

⁸ To give some context for these figures, a 10,000 sq ft store would be a small High Street store. A 25,000 sq ft store would be a large High Street store or relatively small out-of-town store.

- **Supply-side substitution**

In this notional market, supply-side substitution possibilities are relatively limited. Could firms that currently have small (sub-10,000 sq ft) stores quickly change to providing larger (over-10,000 sq ft) stores? This is likely to be difficult. New supermarket developments have to go through rigorous planning controls. Some smaller stores could expand through building extensions. However, the number of stores for which this is possible will be limited by space considerations, and in any event will take some time to complete. We conclude that a hypothetical monopolist of stores greater than 10,000 sq ft would not be constrained by supply-side substitution possibilities from smaller stores.

- A.4 The relevant product market is therefore for all stores over 10,000 sq ft. The relevant geographic market is considered to be national. Even though each customer will only travel (say) up to 15-20 minutes, we can employ a 'chain of substitution' argument. A hypothetical monopolist of stores in London would not find it profitable to raise prices, as at the margin (ie stores located in the outskirts of London) it would be likely to lose a large proportion of its customers to stores outside London. This argument can be expanded to regions and then to the GB as a whole.⁹
- A.5 There may be a separate market in Northern Ireland as it is unlikely that customers would cross the Irish Sea to do their shopping in response to a small price increase. For the purposes of this case study, we shall assume that the regulation will only apply to GB stores and that the Northern Ireland Office would be responsible for a similar regulation in Northern Ireland.
- A.6 The relevant economic market – and the appropriate unit for competition analysis – consists of supermarket stores in GB above 10,000 sq ft in size.

⁹ It may be argued that there are sufficient 'breaks in the chain' – caused by the non-uniformity of population throughout Great Britain – that a national market is not appropriate. Alternative market definitions could be a series of local or regional markets, or markets distinguished by location of stores (eg, High Street, edge of town, or out-of-town). For the purposes of this case study, the regulation proposed is unlikely to have differential effects by local market and it is more straightforward to consider just one economic market.

INDIRECTLY AFFECTED MARKETS

A.7 A simple value chain for supermarkets is as follows:

- suppliers of goods and services; who sell to
- supermarkets; who sell to
- final consumers.

A.8 The value chain for supermarkets is relatively straightforward; space constraints mean full value chains for each product in the store are not presented, from farmers through processors to wholesalers for example, although this may be appropriate for some regulations.

A.9 One further set of firms that would be affected is those that currently collect waste for recycling. To the extent that supermarkets would need to employ such firms (and hence they are suppliers to supermarkets) to collect waste from supermarket sites, these firms would benefit. However, if instead there was a drop in demand for their services as supermarkets effectively supplanted them, this could have competition implications. A possible competitive impact (a knock-on effect) on these firms should be investigated using the competition filter.

The current nature of competition

SUPPLY-SIDE FACTORS

- **Production inputs**
The most important input is land, which is made scarce by the existence of planning regulations that require firms to look for suitable sites in town centres first before being allowed to build at edge of town or out of town sites. Labour at a store level is relatively unskilled and readily available, and the capital required (fixtures and fittings, tills, barcode readers) is not onerous.
- **Raw materials**
The main raw materials are the goods to be resold. There are some energy costs.
- **Transport costs and distribution**
In most cases, the supermarkets incur no transport costs in getting goods from store to home, as these are borne by the customer.

A limited exception is that some firms offer home delivery services (eg, internet ordering). Distribution from suppliers to stores is much more important, with suppliers delivering to regional distribution centres (RDCs) and, from there, each firm distributing to its network of stores. The complexity of these operations is driven largely by the requirement that fresh foods be kept chilled to reduce spoiling.

- **Balance between fixed and variable**
The cost of buying goods to be resold represents about 75 per cent of the running costs of a store. Costs are therefore primarily variable.
- **Capacity constraints**
Not really relevant in this industry.
- **Economies of scope**
Supermarkets are starting to build larger stores which allow them to move away from traditional supermarket products and towards other consumer goods such as consumer durables and clothing. This may reflect store-level economies of scope.
- **Seasonality**
Important for some fruit and vegetable products, but less so due to the improvement of international trade links. Very little in the rest of the store. However, Christmas is a busy period that may increase staffing costs and congestion.

A.10 The most important supply-side factor is the cost and availability of land.

DEMAND-SIDE FACTORS

- **Size and regularity of purchase**
Customers generally shop once a fortnight or more frequently in a supermarket, and spend on average around £50 per week.
- **Tastes and seasonality**
There is a long-term decline in purchases of food for home consumption. There is a weak seasonal pattern to demand (with a peak at Christmas and a trough in the summer holiday period).

- **Search costs**
Although shelf-edge prices are visible to customers, it is difficult for customers to compare individual prices of a large number of goods across different supermarkets. Market research would suggest that customers find it more straightforward to compare the general price level across different firms.
- **Switching costs**
There do not appear to be any significant switching costs beyond the extra transport costs customers face from moving from one store to another (if further away). Some customers stick with their chosen supermarket for each trip, others switch the balance of their purchases between different firms and stores each week.
- **Information**
Customers have full information about the products that they buy in the most part. The quality of some goods may not be identifiable until after purchase in some cases, but given the small value of any individual product and the regularity of purchase this does not appear to be material.
- **Heterogeneity**
Customers have very different individual needs, which can change substantially over time. Purchases focus to some extent on the 'core basket' (milk, eggs, bread) but each individual will choose a different set of other products.

A.11 The most important factor defining the demand supermarkets face appears to be the substantial heterogeneity of customer demands.

MARKET OUTCOMES

A.12 Supermarkets compete on a number of the dimensions listed above. The most important are price, range, location, and quality. Less important factors are branding, variety and service. Reliability/safety and flexibility are not important facets of competition.

COMPETITIVE PROCESS

- A.13 The market has a number of large firms. In order of size the largest are Tesco, Sainsbury, Asda, Safeway, Somerfield, Morrison and Kwiksave. The C3 concentration ratio is above 50 per cent and the top seven account for almost 85 per cent of the market. The Hirschman-Herfindahl Index (the sum of squared market shares) is around 1,500, indicating a moderately concentrated market.
- A.14 The main barrier to entry results from restrictions on land use, which makes it difficult to find good locations for supermarket sites. Sunk costs are not large, the main cost being of land in which there is an active resale market, nor are switching costs high.
- A.15 Supermarkets appear to compete fiercely for customers, with prominent advertising of special deals and new offers. There has been substantial movement in relative market shares. Over the past decade, Tesco has overtaken Sainsbury to be the market leader, Somerfield and Kwiksave have declined, and Asda has grown substantially since near-bankruptcy in 1992.
- A.16 Each firm has a different value-for-money offer. As observed above, customers are highly heterogeneous, and the market positions of each firm reflect this. Asda and Kwiksave focus on low prices. Sainsbury, Waitrose, and Marks and Spencer focus on high quality. In different ways, Somerfield and M&S focus on convenience (through High Street location and product range respectively). Location is also a key differentiating factor, in particular between large out-of-town stores with car parks and high street stores without their own car parks.
- A.17 The market is characterised by high levels of innovation, in improving distribution systems, in adjusting the range of products offered by the store, and introducing new customer services such as loyalty cards and banking services.
- A.18 To conclude, while the market is characterised by relatively high concentration and some barriers to entry, competition within the market appears fierce. The level of differentiation (driven by customer heterogeneity) and the high level of innovation demonstrate this.

The impact of the regulation

SUPPLY AND DEMAND FACTORS

- A.19 The main impact of the regulation will be to add a level of cost for each individual store. It is likely that the capital cost for each store (new recycling bins) will be similar regardless of the size of the store. The operating costs of this new regulation (collection and transport of recycled material) may increase to some extent as store size increases, since large stores will have more customers. There are also likely to be administrative costs to demonstrate compliance with the proposal.
- A.20 The total costs for the industry are likely to amount to more than £20m per year (since there are around 2,500 stores in the market and the probable cost is greater than £10,000 per year, although unlikely to be greater than £100,000 per year per store). A reasonable estimate may be £50m per year.
- A.21 There are no obvious effects on demand factors.

MARKET OUTCOMES

- A.22 Total price will rise to some extent to take account of these extra costs. However, given that the total sales of the industry are around £50bn per annum, the total level of extra costs (and hence the likely price increase) is only 0.1 per cent.

COMPETITIVE PROCESS

- A.23 The only direct effect on the competitive process is that a differentiating factor is removed for supermarkets. However, it is not clear at present that the presence or absence of recycling facilities is currently a key competitive factor.
- A.24 Indirect effects vary with each option:
- **Option 1**
All supermarket stores. Small stores are likely to suffer proportionately higher costs than large firms do. This will primarily be because such stores may not have space to provide such recycling facilities, particularly if they do not have their own car park. This may affect firms differently if one firm has a greater portfolio of small stores than another does. However, the costs do

not appear large enough to alter market structure (in the sense that some firms would be forced to close) although some small stores may be forced to close.

- **Option 2**

All supermarket stores above 25,000 sq ft. This option would create larger costs for larger stores and may therefore create a barrier to entry for larger stores. It would offset to some extent the asymmetric cost problem noted above. However, there may still be some small stores which have sufficient space to offer recycling facilities and some larger stores which do not have space (for example, this may depend on the presence or absence of a car park). This option may result in an element of 'clustering' for new stores, where stores that might originally have been ideally sized at just over 25,000 sq ft but would be redesigned to come in under the threshold.

- **Option 3**

All new supermarket stores from 2003, but existing supermarkets not until 2013. This would create barriers to entry for all new stores for the next ten years. This is a greater level of barrier than for Option 2 (as it applies to all stores). It does not help existing small stores.

- **Option 4**

All supermarket stores with car parks. This is likely to create the least distortion, as stores with car parks are likely to find it more straightforward to find some space for the recycling facilities, and hence the costs across stores will be most evenly balanced. Again, at the margin, this may persuade some firms to build stores without car parks, although the costs are relatively small and this is unlikely to be material.

A.25 Option 3 is likely to have the greatest detrimental competitive effects since barriers to entry will be created. Option 1 may have some competitive effects, since small stores may find it most costly to meet the obligations. Option 2 offsets these problems to some extent, but store size has only an indirect link with greater costs – it is the space requirements that are crucial. As such, Option 4 captures the asymmetry issue most accurately and is likely to have the least negative competitive impact.

A.26 However, in general, the competitive implications of this regulation are unlikely to be serious. This is for two main reasons. First, the level of costs involved is relatively small compared to the size of the industry. Secondly, the regulation does not affect elements that are either important supply and demand factors, such as land or customer heterogeneity, or market outcomes (price, range, or location), since firms do not appear to compete currently on their level of recycling facilities. This is an example of a regulation that would pass the competition filter, but on further investigation does not pose a material competition concern.