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# Consumer Detriment under Conditions of Imperfect Information

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# **CONSUMER DETRIMENT UNDER CONDITIONS OF IMPERFECT INFORMATION**

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## **PREFACE**

This paper is part of the Office of Fair Trading's ongoing research programme into aspects of UK Competition and Consumer Policy. Findings of the programme are made available to researchers, academics and practitioners, both for information and as a basis for discussion. Any comments on this paper should be sent to me at the address shown below.

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# CONTENTS

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<b>Summary</b>	5
<b>1 Introduction</b>	17
1.1 Background	17
1.2 Aims of the study	18
1.3 Structure of the paper	18
1.4 Acknowledgements	20
<b>2 Consumer behaviour with imperfect information</b>	21
2.1 Introduction	21
2.2 Rational consumers and search	22
2.3 Three information sets	31
2.4 Summary	35
<b>3 Supplier behaviour with imperfect information</b>	37
3.1 Introduction	37
3.2 Information disclosure by rational firms	37
3.3 Imperfect information as a result of supplier behaviour	44
3.4 Summary	57
<b>4 Consumer detriment resulting from imperfect information</b>	59
4.1 Introduction	59
4.2 Consumer detriment	60
4.3 Determinants of consumer detriment	63
4.4 A framework for assessing consumer detriment	67
4.5 Individual consumers, aggregate behaviour and distributional issues	69
4.6 Are remedies cost effective?	71
4.7 Summary	71
<b>5 Case studies</b>	73
5.1 Extended warranties on electrical goods	73
5.2 Consumer purchases of life insurance	78
5.3 Photocopier selling practices	85
5.4 Contact lens solutions	92

<b>6 Markets where informational problems are likely to occur</b>	100
6.1 Situations where informational problems are likely	100
6.2 Indicators	103
6.3 Markets where problems appear to occur	108
6.4 Summary	110
6.5 Possible future work	111
Annex A: Less-than-perfect rationality and consumer choice	113
Annex B: Informational remedies	119
References and bibliography	127

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# Summary

## Introduction

Why is it that so many consumers think that they got a bad deal from a second-hand car salesman? Why are so many financial services products inappropriate for those who buy them? Do you know whether you are getting the right medical advice from your GP, or whether your children are being educated to the level you expect? Do you think you paid the right price for that extended warranty you recently bought with your TV? Have you any idea what the 'right price' actually is? What about double glazing, timeshare or photocopier sales people - why do they have such a reputation for hard selling?

In textbook economics questions such as these rarely arise, and if they do they are treated as being the exception to the rule of perfect competition, rather than the norm of real markets. But the questions above, and the variety of sectors they relate to, demonstrate quite forcibly that consumers are rarely well informed when making purchase decisions. Indeed, in many cases, consumer ignorance - for whatever reason - is so high that a significant detriment occurs.

When making purchase decisions, consumers would like to know three pieces of information about the product or service they may buy:

- the price of the product itself, and of other products (substitutes and complements);
- the quality of the product (relative to substitutes); and
- the terms of trade (the location of the supplier, date of delivery, terms of the lease, etc).

In an ideal world, consumers would know each of these three pieces of information with certainty, and the ability to make 'optimal purchases' would be relatively straightforward. However, and as we have made clear, in practice consumers are imperfectly informed; they may not have the full (or any) details about these three pieces of information, and consumption decisions are therefore unlikely to be optimal, in the textbook sense. To the extent that such decisions could be improved, a consumer detriment exists arising from informational problems.

The Office of Fair Trading (OFT) asked London Economics to undertake research into this area with the aim of clarifying thinking about the general issues involved in its consumer protection work. This clarification is important because, without such clarification, there is scope for confusion and inconsistency in the conduct of enquiries. However, such enquiries, and the policy implementation which may depend on them, also require a method of measuring the scale of consumer detriment. Without such a measure it is more difficult to justify any legislative proposals which are put forward.

There are two main issues which the research needed to address:

- what meanings can, and should, be given to the terms *consumer detriment* and *adverse effects on the economic interests of consumers*, and how can these best be measured; and
- what guidelines, if any, can be drawn up to aid the identification of areas of economic activity where these situations, and practices which adversely affect consumers, are likely to occur.

To address these issues we undertook an extensive review of both the academic and applied literature. Unfortunately, whilst specific parts of the task had been addressed before in the literature, little existed that could address the type of question we posed at the beginning of this summary. We thus had to construct our own framework. In particular, we had to think in more detail about how consumers make purchase decisions, and the type of information they may gather during this process. Then we turned to suppliers and considered what incentives they have for providing information. This enables us to consider questions like why information may be lacking, whether it can actually be provided and, if so, by whom. Moreover, whether suppliers are withholding information intentionally, or even actively misleading consumers, and what the authorities should do about suppliers like this. By combining demand- and supply-side considerations, we then derived a framework within which information problems can be assessed.

## **Consumer behaviour when information is imperfect**

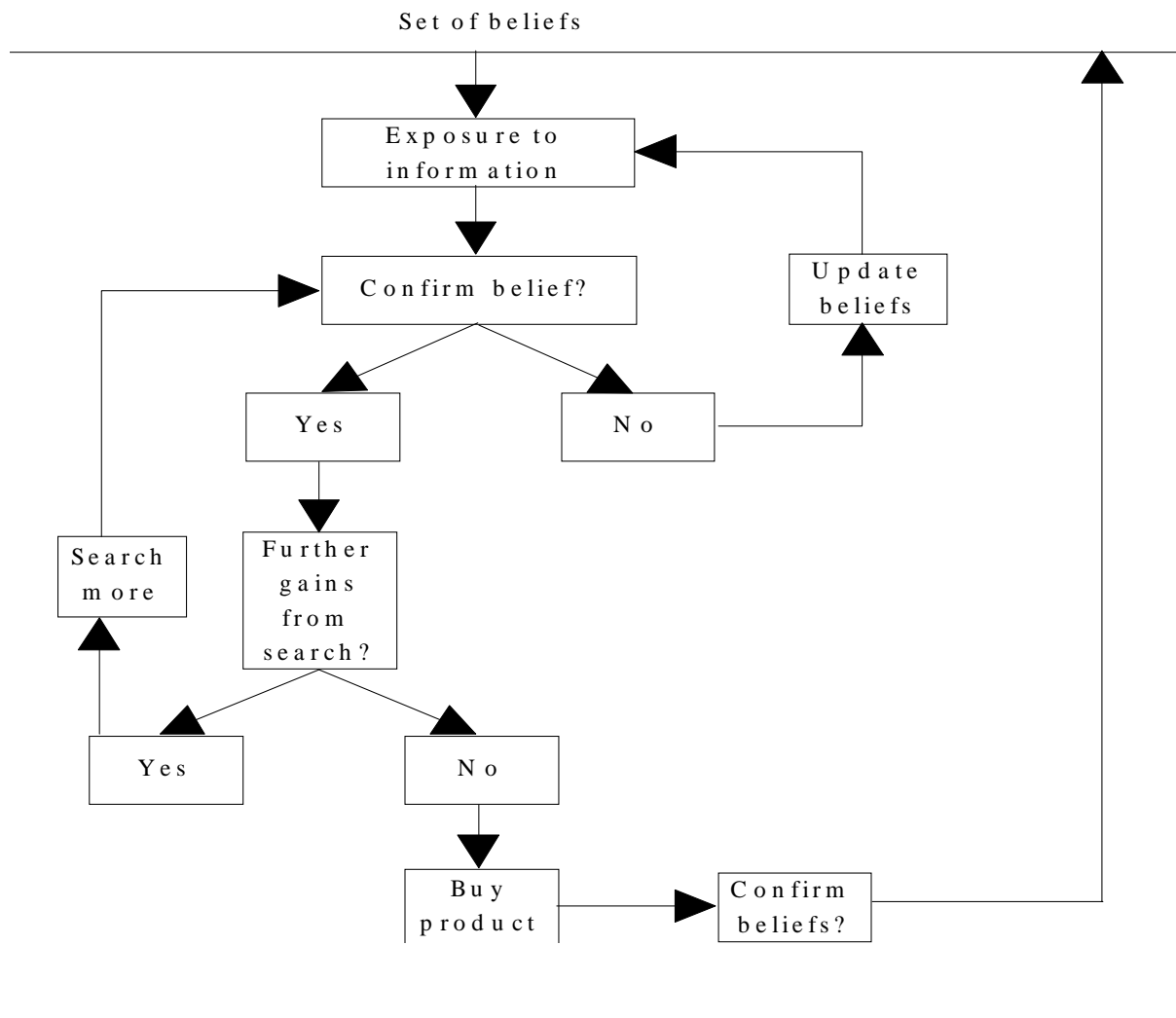
When thinking about how consumers make purchase decisions it is necessary to understand how information is gathered and processed, and how much time and effort consumers are willing to put into this process. This brings us to the concept of ‘rationality’ - textbook economics tells us that a rational consumer will gather information up to the point where the cost of obtaining and processing more information is equal to the benefits from possessing this information. However, in a rational world such as this it is very easy to explain all information problems by assuming that everyone is rational, and the issue of consumer detriment disappears. To get around this problem we need to introduce the concepts of bounded rationality (basically, the acceptance that few consumers act perfectly rational because of human limitations), elements of risk and uncertainty, the fact that consumers are not a single homogenous group (search costs may be different for each person) and the possibility that mistakes are made when purchasing a product.

We begin by describing the consumer search process. Before making a purchase, consumers start with a set of initial beliefs about the price, quality and terms of trade of a particular product or service. Such beliefs may arise from previous purchases, from conversations with other purchasers or from advertising and media coverage. Once the consumer begins the search process (see Figure 1 for a graphical depiction of this process), these initial beliefs are then updated and we term the final set of beliefs at purchase the *set of actual beliefs* (A).

The process of search we have described is iterative and is fed from both the consumer’s own physical search, and from interactions with the rest of society. Moreover, having made the purchase, and consumed the product or service, the consumer obtains more information which may then be passed on to other consumers, or used when a repeat purchase is made. However,

this feed-back mechanism may be hampered if the information obtained is user-specific, depending on a specific consumer's tastes and preferences. There may be some goods for which quality is subjective. Whether a specific type of chocolate bar, for example, tastes good is a matter of personal judgment and the experience gained by one consumer may have little impact on the prior beliefs of other individuals about this particular quality feature.

**Figure 1: Search procedure for consumers faced with imperfect information**



There is, however, one class of goods for which a feed-back mechanism may not exist. For these products, experience is of no value in determining quality, and they are often referred to as credence goods. Once a product is purchased, the consumer may still not be able to determine the quality of the product. Some aspects of financial services exhibit such characteristics. In this sense, consumers cannot determine good from bad, and so there is little or no feed-back mechanism.

Moreover, this concept of credence goods is applicable not only to products and services, but to particular attributes of a product or service. Many detergents, for example are sold with a claim that they are environmentally friendly, and a large number of food products claim to be low-fat or healthy. The problem with any of these claims is that they can rarely (if ever) be confirmed by the consumer, even after purchase and consumption.

The result of these problems, and others we shall describe in more detail shortly, is that the actual set of beliefs (A) generated by the search procedure need not be correct. That is, the consumer's beliefs about the quality of the product or the price of substitutes (or even the price of the product itself) may be wrong. To the extent that such beliefs are wrong, and that these beliefs were important determinants of the final purchase decision, there may be a consumer detriment resulting from this lack of correct information. The magnitude of such detriment clearly depends on how wrong the actual beliefs were, but also on *why* these beliefs were incorrect. Before we consider this question, it is worth thinking about what happens when these actual beliefs are not incorrect; in this case there is unlikely to be any consumer detriment (although it may be the case that the consumer did not need perfect information and therefore wasted time and effort - we shall return to this).

We refer to the perfect, or *true information set* as T. This information set contains everything there is to know about a specific product or service, its substitutes and how they relate to a particular consumer's needs. When the consumer possesses perfect information, actual beliefs are the same as the true information set ( $A=T$ ). However, and this is the key point, if information is imperfect ( $A \neq T$ ), there still may be no consumer detriment. This is for two reasons:

- the world is uncertain and the appropriateness of many consumer purchases depend on future outcomes (the durability of a washing machine, the value of a lottery ticket, or the benefits from an endowment policy, for example). Because accurate predictions of the future are not possible, *with hindsight* bad purchase decisions may be made. But the use of hindsight does not necessarily imply that such decisions were bad at the time, and subsequently consumer detriment may not occur in these cases; and
- as we have mentioned, collecting and processing information is expensive and it may not be cost-effective to obtain all the relevant information. To this extent, any differences between A and T may not signify a detriment. Rather, they may indicate rational search behaviour on the part of consumers.

This second explanation of why A may differ from T requires us to consider our third and final information set; that of *rational beliefs* (R). The set of rational beliefs describes what the

consumer would (or should) know if he had conducted a rational search; that is R describes *what the consumer ought to know* at the time he makes a purchase decision.

The best way to conceptualise R is to start by thinking about why consumers would not possess all possible information (T). That is, what exactly prevents consumers from having perfect knowledge? The answer to this question relates to the existence of search costs. When such costs exist it will often be the case that a rational consumer will gather some, but not all, relevant information. Thus, in many cases, we would expect T and R to be different. And the size of this difference depends on the search costs or, more generally, on the costs of acquiring information. There will however, be cases where T and R are very close (when search costs are minimal).

Looking at the difference between T and R in this way takes us to a more precise definition of R itself. The set of rational beliefs are those pieces of information which a consumer will hold after weighing up the costs and benefits of search (including the assignation of probabilities to uncertain outcomes) and then searching to the point where no further benefit can be gained. As such, it is clear that R must be different for each individual, but we can think of a rational information set that is averaged across all consumers, or is based on a representative consumer. In this way, by using the concept of a 'rational man' we can draw a parallel to the use of the 'reasonable man' in legal cases.

Given perfectly rational consumers, A and R should not be different in equilibrium. However, there may be a transient divergence between A and R if 'learning' - further updating the actual set of beliefs (A) so that they become the rational beliefs (R) - takes time, whilst for credence goods such a learning process may not exist, which could lead to persistent differences between A and R. A systematic difference between A and R could also be expected in situations where (from the perspective of the consumer) exogenous changes in the true distribution occur frequently. As these changes may require an updating of rational beliefs, which takes time, the consumer's actual knowledge may always lag behind the set of rational beliefs as the true distribution changes. Again, this may be because consumers are learning through a process of 'trial and error'.

Differences between A and R can also occur where consumer behaviour is boundedly rational. In this case, beliefs will not be updated in a consistent way, but the learning procedure will be affected by heuristics and rules of thumb, and will often be biased in a systematic way. For example, people tend to give undue weight to recent events. News about a major airline accident will cause many people to change their beliefs about the safety of air travel to a considerable extent which by far exceeds the change in beliefs that would be warranted on the basis of an assessment of the risk of accidents. Framing effects (the way in which information is presented) and a systematic underestimation of the combined effects resulting from different sources of uncertainty affect the way in which information is used to improve individual knowledge.

In addition, A may differ from R as a result of supplier behaviour. The reasons for this are discussed below, but it is clear that firms may provide misleading information to consumers or employ high pressure sales tactics, both of which result in a divergence between A and R, by affecting the search procedure.

There may, therefore, be transient or permanent differences between all three information sets. The extent and nature of this divergence enables a framework under which consumer detriment can be identified and measured.

## **The behaviour of suppliers when information is imperfect**

Information about the availability of specific products, their particular characteristics and their price usually exists on the supply side. Suppliers will determine how much information they will disclose (either unilaterally or through the competitive process) and in which way they will try to inform consumers, given their objectives and anticipated consumer behaviour. Suppliers may know that consumers cannot process information perfectly and may make mistakes, and this knowledge may influence their own behaviour.

The fact that suppliers wish to provide information about their business does not imply, however, that they will provide the optimum amount of information in the best way for consumers. In Chapter 3 we analyse what determines information disclosure by suppliers. In particular, we look at the conditions under which suppliers have an incentive to withhold information and why they might be unable to disclose important information to consumers despite the advantages to both consumers and suppliers that would result from this disclosure.

Supplier behaviour may affect the three different information sets we have identified in a number of ways. The true distribution (T) results from the aggregate behaviour of all suppliers. Suppliers set prices, determine the quality they offer and the terms of trade at which they sell. The sum of the information about all values set by all suppliers determines the true distribution.

If there is only one supplier, he clearly controls T; with a small number of suppliers, they may co-ordinate their behaviour and, thereby, jointly control the true distribution. In a competitive market, no single supplier *controls T*, although of course individual behaviour will affect the true distribution of information.

The rational set of beliefs (R), in turn, depends on the cost of obtaining information. Suppliers' decisions on what information they want to make available, and in which way, affects search costs and, therefore, has an impact on R. For example, if suppliers offer heterogeneous products, and bring about quality dispersion, this will make it more difficult to compare offers from different suppliers and may, therefore, lead to a situation where consumers would rationally want to know less about the range of prices and products.

However, we have shown that, whilst market power on the part of suppliers could have significant effects on T (and thus R), the nature of competition between suppliers may also change T, possibly to the detriment of consumers. Focal points of competition, credibility problems and externalities are three specific types of problem that may change the true distribution:

- if competition is based around a particular focal point, suppliers will compete to offer consumers that attribute (a low 'headline' price, for example). Unless consumers are

fully aware of all the other attributes on offer (such as hidden prices), this may affect the set of rational beliefs that consumers hold. Consumers may place too much confidence in the focal point and neglect to collect information about other attributes (see the extended warranties case study in Chapter 5);

- credibility problems occur in markets where branding and reputation are not effective enough to overcome consumer scepticism about information disclosure. In most consumer goods markets, this is not a great problem, but in those markets where credence goods are supplied, or where good have credence type attributes, information disclosure may be less than complete. In many of these cases (examples include retail financial services, domestic services such as plumbing and electricians, and funeral services), competition may tend toward a more easily observed focal point (as described above); and
- the public good characteristics of information mean that it is difficult to prevent rivals benefiting from a single supplier's disclosure. The result might be to expend the whole market, rather than advancing the share of the supplier concerned. Since this reduces the rewards to the supplier which provided the information, it may reduce the incentive to provide information in the first place, and thus lead to the under-provision of information in certain markets.

Finally, the actual set of beliefs (A) is formed through consumer-supplier interaction. Information given by suppliers to consumers in this interaction will have a direct impact on A. As noted above, A will be different from R in cases where suppliers try to mislead consumers by making false claims (or not correcting obviously mistaken beliefs) or use high pressure sales tactics. This may occur where suppliers have market power, or where commission-based sales people are employed; the incentives created by commissions can force a sharp divergence of interests between the sales person and the consumer.

### **A measure of consumer detriment**

We have identified three main ways in which consumer detriment may occur:

- consumers may not buy the product or service at the cheapest price available to them;
- consumers may not buy the most appropriate product, given their tastes and preferences; and
- consumers may purchase a product or service which is not of the quality they assumed *ex ante*.

Each of these effects is common in markets characterised by imperfect information. However, the cause of the detriment and its magnitude varies from case to case. Sometimes it may be the consumer who does not take the trouble to investigate the market well enough. Sometimes it may be the supplier who withholds important information, presents facts so as to exploits biases

in the way in which consumers process and evaluate information, or actively misleads the consumer.

As we have noted, there may be a persistent difference between the three information sets that neither consumers nor suppliers have an incentive to reduce. Not all such differences, however, give rise to concern about consumer detriment. We thus propose a measure that will allow the OFT to assess the extent to which consumer detriment exists in particular markets, to identify the source of the detriment and to devise appropriate remedies. In particular, we distinguish between those cases where consumers make their decisions with less information than they would have after having completed a rational search procedure, and those cases where consumers quite rationally choose to be less informed than they could possibly be.

In the first case (the case of an ‘(R-A) problem’) the fact that consumers are under-informed is likely to give rise to concerns about consumer detriment (unless the information gap is only temporary and results from a rapidly changing market). In the second case (the case of a ‘(T-R) problem’), the key question is whether, and if so to what degree, the information shortfall is avoidable. Only if the rational information shortfall could be reduced by either reducing consumer search costs or affecting the true distribution T (e.g. by preventing suppliers from generating a ‘noisy’ environment and increase the uncertainty consumers face) can this information shortfall be classified as source of consumer detriment.

The issue of avoidability is crucial to our measure of detriment, as any measure of consumer detriment must be made with reference to some other state of affairs. We thus employ an ‘alternative institutions’ methodology to assess whether the consumer position could be improved. This technique, which is analogous to the way in which the courts assess litigation damages, measures the size of detriment as the difference in consumer welfare between the current state of affairs and a better (but practical) alternative. In other words, the degree to which we judge a particular action or type of behaviour as detrimental depends critically on what we can do to remedy (or avoid) it. Without considering avoidability, it is not possible to consider detriment, and this is what makes informational problems so difficult.

It must be stressed, however, that avoidability has to be addressed on the basis of the *utility loss* from the rational information shortfall rather than on the size of the gap between R and T. For example, an increase in the variance of T may be countered by a remedy that reduces search costs and, therefore, makes it worthwhile to search more, thereby bringing R closer to T. This may lead to a situation, however, where the aggregate search costs incurred by consumers result in a lower consumer welfare. In this case, the appropriate remedy would be to affect T rather than R.

Since the magnitude of any gap between R and T depends on search costs, it is possible to see that a duty to disclose more information will not necessarily reduce consumer detriment if information disclosure does not reduce the information shortfall. If the difference between R and T is due to the intrinsic complexity or specialisation of the market, then it may be impossible to reduce consumer search costs effectively. In this case, the utility loss caused by R being different from T can not be avoided, and should not be classified as consumer detriment.

Finally, if consumer detriment has been identified, it is important to assess the cost effectiveness of any potential remedy as well as its distributional effect. Even if a specific remedy may reduce the consumer detriment, this has to be balanced against a possible loss on the side of producers and the overall cost of implementing the remedy.

## **The application of the theory**

As a demonstration of our framework we provide, in this paper, a fairly large number of examples. Specifically (in Chapter 5) we look at four markets which were investigated by the OFT or MMC; extended warranties on electrical goods, life insurance policies, photocopiers and contact lens solutions (CLS).

The market for extended warranties on electrical goods illustrates how consumer detriment occurs as a result partly through differences between A and R, but mainly through differences between R and T. Furthermore, much of the detriment caused by the divergence between R and T is avoidable.

The differences between A and R can be resolved through the establishment of a code of practice which eliminates adverse trading practices. The differences between R and T can be resolved through greater transparency and more information, which will increase R through lower search costs and higher expected gains from search. The remedies suggested by the OFT, if successful, will achieve a reduction in the detriment caused by divergences in A and R, and R and T.

The market for life insurance policies is very similar, in terms of the informational problems it displays, to many other markets for financial services. The primary problem in these markets is that the product is complex and consumers simply cannot understand the full nature of the offer. In terms of the framework, there is a massive (T-R) problem and, in some cases, a more minor (R-A) problem due to selling techniques. The OFT's preferred remedy of disclosure will not work in these cases as more information is unlikely to help consumers. In some cases it may confuse them further.

The market for photocopiers is characterised by strong focal points and some questionable sales techniques. The bundled contract of lease, service and consumables in a cost-per-copy deal serves to confuse the consumer as to the true life-cycle cost of the photocopier over the period of the contract. Information is not clear or not disclosed in this type of contract as to the severity of termination penalties, the list price of the photocopier upon which the lease is based, etc.

Confronted with a cost-per-copy price which appears to allow for an easy comparison of different offers, customers may quite rationally decide not to investigate how this cost-per-copy price translates into the lifetime cost. Given the attempts of suppliers to present the customer with complicated offers in which the only clear indicator of price is the cost per copy, customers not knowing or suspecting that photocopier sellers try to obfuscate their offers may well decide that the potential gains from a better understanding of these contracts are too small to justify the cost. Thus, customers may rationally decide to accept the seemingly simple cost-per-copy price as the

basis for their choices. The set of rational beliefs, therefore, is quite distinct from the true distribution.

The OFT's remedies of greater transparency in contracts and a code of practice to cover sales techniques addresses many of these problems, as it is felt that most of the (T-R) problem is avoidable. However, as with financial services, more information is only useful if consumers actually understand the information they are being given and can act on it.

The CLS case emphasised the problems of primary and secondary purchases, and how consumers may be discouraged from shopping around for after-market products (solutions in this case). Virtually all information available to consumers came from opticians, as regulatory barriers prevented entrants such as supermarkets from supplying CLS.

The MMC concluded that there was a more fundamental market power problem underlying these information problems, with the pricing policies of some suppliers and retailers found to be against the public interest. The regulatory regime was also criticised. However, the MMC did not appear to recognise that consumers are heavily influenced by the recommendations of their optician and that this was a major source of information problems.

## **The identification of problematic markets**

In Chapter 6 of our paper, we look more widely at those situations where informational problems are likely to occur. Our approach has identified two elements of consumer detriment:

- utility losses due to an avoidable gap between the set of beliefs they should have after having conducted a rational search procedure, (R) and the true distribution (T) which captures the best knowledge a consumer could possibly have about the true state of the world; and
- utility losses due to a divergence between the set of beliefs upon which consumers act, i.e. their actual beliefs at the time they make purchasing decision (A), the set of rational beliefs.

Thus, in order to identify markets and industries which are susceptible to consumer detriment, we have to look for conditions that give rise to a divergence between T and R which is, at least to some extent, avoidable and/or a gap between A and R.

It is rational for consumers to know less than they could possibly know about those factors that are relevant for their purchasing decisions

- when the cost of obtaining information is substantial; or
- where learning (on both the individual and social level) is slow and inhibited by the fact that consumers cannot evaluate their purchase decisions even after purchase, or this evaluation will not be effectively communicated to others.

Search costs are likely to be substantial in cases where the information that could possibly affect purchasing decisions is relatively complex and difficult to obtain or process. Learning is likely to be slow and ineffective where goods have credence characteristics or are purchased infrequently.

It must be kept in mind, however, that the mere existence of a T-R gap is not sufficient to establish consumer detriment. In addition, some of this rational information shortfall must be avoidable. Moreover, we have noted, differences between R and A should not occur in the long run if consumers are rational. However, if suppliers provide misleading advice or factually incorrect information, engage in high pressure sales tactics which induce consumers to make decisions without having sufficiently considered all relevant factors, or try to exploit biases that govern many consumer choices, the set of actual beliefs may diverge from the set of beliefs rational consumers should and would have in absence of that particular supplier behaviour.

Misleading or false information may be provided where:

- individual suppliers are relatively small so that branding will not be a commercially viable strategy;
- suppliers (or advisers) suffer from some form of ‘commission bias’;
- consumers cannot evaluate the quality of the product or service prior to purchase (and in many cases even not after purchase), and require the product or service relatively infrequently; and
- barriers to entry and exit are relatively small.

Having outlined the general characteristics of markets and industries where consumer detriment is likely to occur, we turn then to a set of indicators that should help in isolating those markets and industries in practice. Specifically, we identify six indicators which signal potentially problematic markets:

- the existence of price dispersion for seemingly similar products or services;
- the existence of focal points of competition;
- the bundling of primary and secondary purchases, or the existence of after-markets;
- the existence of commission payments, particularly from upstream suppliers to retailers or advisers;
- ‘complex’ goods or services; and
- goods and services which are either purchased infrequently, or which possess credence characteristics.

A subjective application of these indicators to markets where informational problems are suspected does provide some interesting results. By categorising those markets which are most frequently referred to in complaints received by the OFT we confirmed that those markets which appear to be most problematic tend to display at least three of these indicators. Most notable are

second-hand cars, building services, household repairs, domestic appliances, package holidays and various financial services.

## Conclusions

We have tried to identify factors and indicators that are sufficiently operational to assist the OFT in its assessment of 'problem markets'. It should not come as a surprise, however, that the process of identifying problem markets and assessing the extent to which consumer detriment occurs is too complex to allow for an easy, mechanical solution. It is impossible to develop a comprehensive checklist that would lead to unambiguous results. We hope, however, that the factors and indicators identified in this chapter will provide guidance for an initial screening of markets and industries in which consumer detriment is likely to arise.

However, we have not been able, in this study, to devise a simple and practical method of *measuring* the size of any detriment. Again, this is due to the inherent complexity of the issues involved. Since our methodology for identifying consumer detriment is based on the alternative institutions approach, the size of any problem is dependent on the degree of avoidability. This requires a careful analysis of markets on a case-by-case basis.

In doing so, the best approach to measurement is probably some form of cost benefit analysis. However, here there are several problems, even if the alternative can be properly identified. First, there is the issue of measuring consumer detriment in some form of financial way. Second, there is the fact that consumer detriment may be very different across different groups of individuals, and it would be necessary to aggregate these measures in some way. Finally, any remedies (implicit in the specified alternative) will have some cost - to suppliers, to the OFT, and even to some consumers - and this cost has to be netted out of the calculation.

In addition to these problems, which are common to most applications of cost-benefit analysis, further complications arise from the fact that the results of intervention may be extremely complex. As we have noted, some forms of intervention may have no impact at all (forced disclosure in a complex product market, for example) whilst others may be amplified through market reactions (the exaggeration of certain types of information when focal points appear). Actually incorporating these effects into any calculation, and anticipating them when devising remedies, is likely to be very difficult.

# 1 Introduction

## 1.1 Background

The Consumer Affairs Division of the Office of Fair Trading (OFT) has a wide range of responsibilities. In addition to its regulatory and enforcement work under the Fair Trading Act 1973 and the administration of the Consumer Credit Act 1974, the Division also administers the Estate Agents Act 1979, the Control of Misleading Advertisements Regulations 1988 and the Unfair Terms in Consumer Contracts Regulations 1995. The Division also focuses on the policy of consumer protection issues, including both responding to requests from Ministers for advice or recommendations, and its own monitoring of markets throughout the UK.

The Division can undertake a number of actions to fulfil these responsibilities. In particular, it can:

- take regulatory action against individual traders and firms;
- investigate trading practices;
- seek to ensure Government take account of consumer concerns and the concerns of business;
- provide information to consumers; and
- propose changes in law or regulations.

The basis for this work is set out in section 2 of the Fair Trading Act. This gives the Director General of Fair Trading power to keep under review the economic interests of consumers, and practices which may adversely affect those interests.

The Fair Trading Act (in section 13) defines the meaning of adverse trade practices and their undesirable effects. Section 17 identifies where the Director may wish to propose action to the Secretary of State. It identifies consumer trade practices that :

- mislead consumers, or withhold from them adequate information as to their rights and obligations under relevant consumer transactions;
- mislead or confuse consumers with respect to any matter in connection with relevant consumer transactions;
- subject consumers to undue pressure to enter specific transactions; and
- contain terms or conditions on, or subject to, which consumers enter into transactions that are so adverse to them as to be inequitable.

The term *consumer detriment*, however, is never legally defined. This gives the OFT a wide degree of discretion in interpreting its responsibilities. Moreover, it may be argued that the remedies under Schedule 8 of the Fair Trading Act are inadequate to deal with many of the problems with which we are concerned.

The OFT asked London Economics to undertake research into this area with the aim of clarifying thinking about the general issues involved in its consumer protection work. This clarification is important because, without such clarification, there is scope for confusion and inconsistency in the conduct of enquiries. However, such enquiries, and the policy implementation which may depend on them, also require a method of measuring the scale of consumer detriment. Without such a measure it is more difficult to justify any legislative proposals which are put forward.

## **1.2 Aims of the study**

There are two main issues which the research should address:

- what meanings can, and should, be given to the terms *consumer detriment* and *adverse effects on the economic interests of consumers*, and how can these best be measured; and
- what guidelines, if any, can be drawn up to aid the identification of areas of economic activity where these situations, and practices which adversely affect consumers, are likely to occur.

The first task is to be considered from both an economic and legal perspective. It was initially suggested that economic definitions should be constructed from the approach of welfare economics, while legal definitions will be based on the principles underpinning consumer and contract law.

The second task, which follows logically from the first, presumes that a robust theory of measurement can be set out. Once this is done, the characteristics of particular markets which make detriment and adverse trading practices more likely can be identified.

The Terms of Reference to this study suggested that these tasks were to be completed once a full literature review was undertaken. Unfortunately, as will become clear in this paper, such a review could not provide the answers to these problems; these issues have never been addressed in the literature, in a way that is helpful to the OFT.

## **1.3 Structure of the paper**

An investigation of the markets where outcomes are likely to be detrimental to consumers must start from the analysis of how these market outcomes are determined. This analysis, in turn, must be based on an understanding of both the behaviour of consumers and suppliers.

In order to assess the potential detriment to consumers in markets with imperfect information, we look at consumer behaviour in situations where information is imperfect and search is costly.

We will develop a framework where consumers start from some initial beliefs about the decision situation they face when they have to decide upon purchases. These initial beliefs may be mistaken, and consumers may update their beliefs during the search process. In this sense, we amalgamate the literature on consumer search behaviour in the presence of information imperfections and search cost with some ideas on consumer learning (Chapter 2). In Annex A we present a summary of some of the recent literature on experiments into boundedly rational behaviour.

We then proceed to analyse the *incentives* of suppliers to disclose information, as well as their *ability* to signal relevant information to consumers. In this respect, we assume that suppliers act with some preconception of how consumers behave, and we look for the rational behaviour of suppliers who anticipate consumer behaviour (Chapter 3). This structure reflects our understanding that suppliers determine the conditions of their supply, given the constraints they face from the behaviour of other suppliers and the (anticipated) behaviour of consumers.

Market outcomes are determined by the interaction of consumer and supplier behaviour, and in Chapter 4 we look at these outcomes in the light of our analysis of consumer and supplier behaviour. Furthermore, we define a framework for assessing the extent to which these market outcomes will raise concerns about consumer detriment. Based on the analysis in Chapters 2 and 3, we develop a framework that will help to identify markets where consumer detriment is likely to be a problem and to devise appropriate remedies. Annex B describes possible remedies in more detail.

In Chapter 5, we apply our framework to a number of examples drawn from previous investigations by the OFT and the Monopolies and Mergers Commission (MMC). The cases we look at are varied and, in each, we review the background to the case, identify the relevant problems and assess the recommendations which were made by the investigating authority at the time in the light of our results.

Having constructed a framework for analysing and understanding the meaning of consumer detriment (and having demonstrated how this may work in practice), we proceed in Chapter 6 to identify factors of a market of industry which may provide an environment in which consumer detriment can occur.

We conclude that, while there are indicators that the OFT could use to spot potentially problematic markets, it is not currently possible to devise a neat (and universal), mechanical indicator of these situations. Neither is it possible to easily quantify the extent of consumer detriment, without careful research on a case-by-case basis. Finally, we provide some suggestions as to areas where possible future research may be helpful.

There are two annexes to this paper: one summarises recent experiments into bounded rationality; the other looks at possible remedies to informational problems. There is also a full list of references.

## **1.4 Acknowledgements**

This paper was written by Simon Gaysford, Christian Koboldt, and Mahmud Nawaz, all of London Economics. Significant contributions were, however, also made by John Kay, also of London Economics, and Professor James Mirrlees, of the University of Cambridge. We are also grateful to the staff at the Consumer Affairs Division of the OFT for their comments and advice, especially on the case studies, and to Tom Sharpe QC. Any errors, of course, are the responsibility of the authors.

## 2 Consumer behaviour with imperfect information

### 2.1 Introduction

In another research paper for the OFT,<sup>1</sup> we have noted that consumers can typically be characterised as being small (in the sense of having little bargaining power), immobile (in the sense that purchases tend to be made from local suppliers) and uninformed (relative to manufacturers and retailers). In the context of looking at consumer behaviour under imperfect information, we take up this picture of the typical consumer, but change the focus to address the question of why consumers may quite rationally be uninformed (perhaps because they are immobile and small), when making purchasing decisions.

To determine market outcomes under information imperfections we first have to analyse the behaviour of consumers in these situations (and possible reasons why consumers may act in a way that is detrimental to their interests).

One of the basic assumptions of traditional economic theory is that individuals act rationally. Perfectly rational behaviour, by definition, results in choices that maximise utility, given the restrictions under which the decision has to be made. Hence, the assumption of rational behaviour may, at first glance, lead to the conclusion that consumers will never make mistakes and that any consumer detriment which exists must result from suppliers either withholding, or providing false, information.

If we do not want to rule out *a priori* the possibility of individual consumers (or groups of consumers) making ‘mistakes’, we have to develop a model of consumer behaviour in markets where information is imperfect which allows for consumers acting less than perfectly rational. At this stage our model is somewhat abstract since it is impossible to consider fully the results of consumer behaviour without looking at suppliers (Chapter 3). However, some useful insights can be obtained from isolating these two problems before we look at how they interact (Chapter 4).

For the sake of simplicity, we begin by casting the analysis in terms of one (representative) consumer, although this consumer interacts with society. We return to the problems of different consumers and distributional issues later on. Furthermore, we abstract completely from the organisation of the supply side, assuming that a consumer is confronted with a range of offers for specific products without explicitly distinguishing whether these products are offered by manufacturers or retailers. Again, we address the effects of the organisation of supply at a later stage.

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<sup>1</sup> *Competition in Retailing*, to be published.

## 2.2 Rational consumers and search

### 2.2.1 Perfect versus imperfect information

In its simplest form, consumer behaviour is modelled in a world of perfect information. Perfect information refers to a situation where all consumers know with certainty the values of all variables that are relevant to their decisions. The important facts that the consumer would like to know are:

- the price of the product and of other products (complements and substitutes);
- the quality of the product (relative to substitutes); and
- the terms of trade (the location of the supplier, date of delivery, lease or sale, etc).

If these three pieces of information are known with certainty, the consumer optimisation problem is straightforward.<sup>2</sup> For example, if a consumer, who decides about the purchase of a camera, knows all the relevant details about the different products on offer, knows all existing suppliers and knows exactly what price is charged by which supplier for what product, he makes the purchase decision that maximises his utility; that is, gives him the maximum value for money, based on his preferences and on his budget.

However, in reality consumers hardly ever decide under perfect information. Some of the information the buyer of a product ideally would like to have is simply unavailable or too costly to obtain. Therefore, in the real world consumers have to base their decision on imperfect information. Imperfect information implies some uncertainty about the true state of the world - at least some values of the crucial variables are unknown. For example, while our camera buyer may be perfectly informed about the characteristics of the different products and which suppliers offer specific cameras, he may not know exactly what price each supplier charges. In this case, making a purchase decision which maximises (expected) utility is more difficult.

It is important to note at this stage that the optimal purchase decision may depend on future events or factors that are outside the control of both consumers and suppliers. For example, whether a piece of equipment will break down at a given future time will never be known with certainty, and the best information about this important product characteristic will be to know the objective probability of failure. Furthermore, in interpreting the 'quality' of the product, we might want to focus on the match between the product attributes and the specific needs of the buyer in different states of the world.

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<sup>2</sup> See any microeconomics textbook (such as Varian, 1992) for further details.

### Example

Many retail financial products lead to consumer problems. In the main, this is because they are often too complex for consumers to fully understand, and even the use of financial advisers may not solve this problem. However, the nature of these products, and their long duration, is such that consumers often want them to be tailored to their individual needs. The problem here is that consumers cannot assess their future needs with certainty. When taking a pension, for example, should the individual aim to retire at 60 or 70? What happens if he is made redundant at 50, and does he need some form of payment protection insurance? What happens if he dies, and should he take out additional life insurance? While many additional products exist that can be purchased to cover these risks, the inherent uncertainty can never be removed. Moreover, since these factors have a significant impact on the final value of the product to the consumer, it is extremely difficult for consumers to assess the suitability of any product they may want to purchase.

Thus, there may be situations where information about the quality will be imperfect even if the buyer knows all other relevant product attributes with certainty. This distinction between *ex ante* and *ex post* information is addressed in more detail in Chapter 4, section 4.2.2.

### 2.2.2 Imperfect information and initial beliefs

In our example of purchasing a camera, even if the buyer does not know with certainty the prices charged by different suppliers, he has to have an idea about these prices in order to reach a decision.<sup>3</sup> The buyer may assign (subjective) probabilities to different prices. Given this probability distribution over a range of prices, and when faced with a specific price charged by one supplier, the consumer can assess the probability of finding a lower price elsewhere. If this probability is high enough, the consumer continues shopping for a lower price.<sup>4</sup> Otherwise, he accepts the price and purchases the camera. Purchasing a camera at a given price rather than continuing to shop around may be interpreted as the buyer having found an offer at which it seems not worthwhile to search for lower prices. Consumer behaviour in this case of choice under uncertainty is modelled as *maximising expected utility*. A consumer in this framework acts

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<sup>3</sup> Any decision requires to compare different options, which in turn requires that the buyer is able to evaluate these options with reference to the same scale. Of course, in particular instances people may follow rules of thumb rather than trying to arrive at a decision. Even rule-governed behaviour, however, is amenable to an analysis within the framework of decision theory, although this analysis may be less straightforward (see, for example, Heiner, 1983).

<sup>4</sup> More precisely, the consumer continues shopping if the amount he expects to save from searching for a lower price, given his subjective probability of finding a supplier charging a lower price, outweighs the cost of further search.

upon his beliefs about the true state of the world, and does the best he can do, given the information imperfections.

Hence, our model of rational behaviour starts from a set of initial beliefs (however accurate) about a great many attributes of a large number of products and services. Each consumer, for example, has prior beliefs about the mean price of a can of Coca Cola, and the variance (in the sense that consumers have some beliefs about how prices may diverge). Similarly, consumers have beliefs about how long a Sony television should last without needing repairs. They may also (implicitly) accept that some televisions are likely to break down in practice, but that the proportion should be small.

These initial beliefs are formed through past experience (previous searches or purchases), interactions with other members of society (other consumers or media coverage), information provided by suppliers (advertisements) and information provided by third parties (specialist magazines or television programmes).

It is important to note that modelling rational behaviour conditional upon a set of prior beliefs does not require these beliefs to be correct.<sup>5</sup> Mistaken beliefs can be captured by a difference between the subjective probabilities assigned to some states of the world and their objective probabilities. It is central to our approach that rational behaviour is defined with respect to the individual beliefs. Rationality requires the individual to choose in an optimal way, given its beliefs about the world, but not necessarily that these beliefs are correct. In considering rationality, we have to allow that the subjective (what the consumer thinks) probability that a camera may be the cheapest differs from the objective (real world) probability. Thus, what appears irrational, in terms of objective probabilities, may be quite rational in terms of subjective probabilities.

Differences between subjective and objective probabilities may occur for several reasons:

- the individual consumer may not have purchased the product or service before (many consumers who purchase funerals and pensions have never done so before);
- the consumer may not have been in the market recently (televisions and motor cars, for example, are purchased infrequently);
- the market may be changing rapidly with new products being introduced (mobile telephones or computer software). Again, consumers will need to learn about the products before a purchase is made;

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<sup>5</sup> In this respect, our approach differs from the assumption of rational expectations, where the general assumption is that individuals 'know the model'. A weaker assumption that is sometimes used by macroeconomists is where individuals do not know the model, but know enough to form optimal forecasts of the variables they need to predict. See Blanchard and Fischer (1989) or Sheffrin (1983) for further details.

- the consumer may have made a bad purchase decision previously and decided not to trust a particular brand name in the future. In this sense, consumers may know what they do not want to buy, but may not yet have searched for an alternative choice; or
- new retailers and producers may set up and/or existing suppliers may change the nature of their offering (prices, qualities, range of products stocked etc).

In addition, we have to consider whether it is worthwhile for the consumer to improve his knowledge about the world that is, whether he should spend time (and possibly money) to get a better understanding of the circumstances which are (potentially) important for his purchasing decision. With reference to our camera buyer, we have to ask what determines the extent to which he shops around for the cheapest offer; what determines whether he should try to improve his initial beliefs by finding out the exact price charged by each and every supplier? In the process of visiting all shops, he would replace his initial beliefs about a range of prices with exact knowledge about prices - but visiting all shops is costly, and finding out the exact price charged by every supplier is likely not to be worth the effort.

### **2.2.3 Searching as ‘perfecting’ information**

A situation of imperfect information can be separated further into cases where the buyer can improve his information prior to purchase, and situations where perfect information is impossible to achieve. For example, the camera buyer could visit (or telephone) each and every shop and find out the actual prices charged for the different cameras. If suppliers do not change their prices before the consumer had been able to complete his search, then after searching all camera shops the prospective buyer acts with perfect information.

If, on the other hand, the consumer does not know the values of other variables, which are impossible to find out but are important for his choice, then he will never be able to make his choice with perfect information. This is true of many consumer decisions. The value of a financial investment, for example, is dependent on uncertain stock markets, and the attractiveness of a new house is dependent on the civility of the neighbours. In such cases, a rational consumer would use the information and experience available to make a decision. This decision would implicitly take account of different states of the world and thus include some subjective assessment of risks. However, it is extremely unlikely, and in many cases impossible, in such cases for the consumer to remove all uncertainty.

### **Example**

If a homeowner is thinking about insulating her house, the benefits of this investment can be calculated in terms of lower heating bills. However, these benefits are dependent on the weather and, consequently, how often the heating system is used. Since there is no way of accurately forecasting the weather, this decision must *always* be made under uncertainty. What the consumer will do, and this is true of many such decisions, is to make an estimate of how much lower her heating bills may be over the next few years, and use this to assess the benefits of insulation. Moreover, the estimation is unlikely to be very complex, and 'rules of thumb' are often employed, based on previous experience.

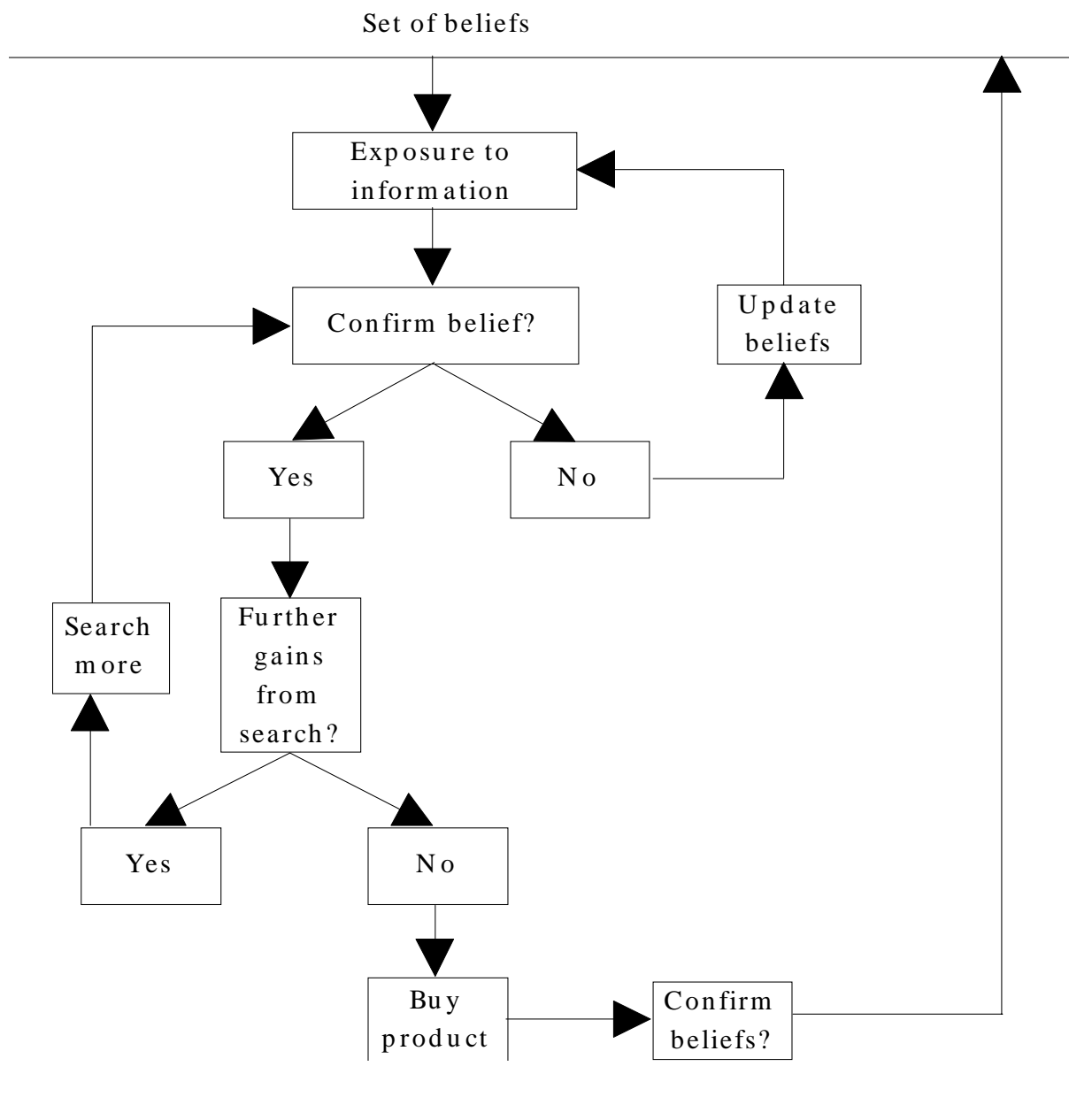
But even where it is possible, in principle, to achieve perfect information, it may not be in the consumer's best interest to do so. If searching the shops is costly, then a consumer may be better off if he purchases a camera based on his guesses about the different prices charged in different shops rather than searching all of them. An intermediate situation arises when it pays off to search a few shops rather than buy at some shop chosen at random.

The decision whether to search shops depends on the *expected gain* from getting more information (the buyer knows with certainty the prices charged in those shops he visited prior to purchase, but still does not know with certainty the prices charged by the other suppliers) relative to the cost of acquiring the information (the cost of looking for prices in another shop).

Because the decision whether and how much to search depends on a comparison of expected gains from searching and search cost, this decision presupposes an initial set of beliefs (or a subjective probability distribution over the possible states of the world).

Given this distribution, a search procedure can be modelled. Whereas in simple search models information received during the search process has no impact on the set of beliefs held by the consumer, more sophisticated models of sequential search allow to take into account that search will provide not only information about, say, where to buy, but also about the potential benefits from further search. Of course, improvements of the information upon which the consumer decides requires the initial set of beliefs to be to some extent incorrect, given the true state of the world. Thus, we have to depart from a framework of rational expectations where, for example, the subjective distribution of possible prices charged in different shops assumed by individual buyers has to be equal to the true distribution of prices.

**Figure 1: Search procedure for consumers faced with incomplete information**



The way in which consumer search processes work is illustrated in Figure 1. Consumers start with a set of prior beliefs, and are then exposed to information - either through interactions with society or search. This information may or may not confirm their beliefs. If the information does not confirm a consumer's belief, this leads the consumer to update his beliefs. If the information confirms the belief, the consumer must then assess whether there are any (expected) gains from

further searching. If so, he continues to search. If, on the other hand, the marginal cost of search just equals the expected marginal gain from searching, the consumer will stop searching and purchase the product or service (or not).

On purchase, the consumer may or may not update his *ex ante* belief about the product. Such *ex post* information may be immediately available for short term experience goods, such as a chocolate bar. For long term experience goods, *ex post* information (about attributes such as quality) may only be available after some time.<sup>6</sup> Whichever the case, *ex post* information feeds into the information stock of society and may be included in the prior beliefs of the consumer in question, or other consumers, whenever another purchase is made. In this sense, our approach allows for the possibility that consumers may learn through a trial and error process. Moreover, the framework recognises that information gained through search and purchasing decisions may have externality-like properties.

This feed-back mechanism may be hampered if the information obtained is user-specific, depending on a specific consumer's tastes and preferences. There may be some goods for which quality is subjective. Whether a specific type of chocolate bar, for example, tastes good is a matter of personal judgment and the experience gained by one consumer may have little impact on the prior beliefs of other individuals about this particular quality feature.

There is, however, one class of goods for which a feed-back mechanism may not exist at all. For these products, experience is of no value in determining quality, and they are often referred to as credence goods. Once a product is purchased, the consumer may still not be able to determine the quality of the product. Some aspects of financial services exhibit such characteristics. In this sense, consumers cannot determine good from bad, and so there is little or no feed-back mechanism.

Moreover, this concept of credence goods is applicable not only to products and services, but to particular attributes of a product or service. Many detergents, for example are sold with a claim that they are environmentally friendly, and a large number of food products claim to be low-fat

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<sup>6</sup> At this point it may be important to distinguish in a more general way between *ex ante* and *ex post* information. The consumer may learn through the process of purchasing, or some of the uncertainty may be resolved after having made the purchase. In order to assess whether the decision itself has been rational, however, one has to refer to the information the consumer has had before making the decision. See Chapter 4, section 4.2.2.

or healthy. The problem with any of these claims is that they can rarely (if ever) be confirmed by the consumer, even after purchase and consumption.

In addition to credence goods, there are many other products and services for which previous purchase experience may provide little (or no) help to consumers. The most common are those where the product is in some way unique. We have already noted the desire to tailor financial products to consumer needs, and this makes the comparison of products difficult, even if the individual has purchased one previously. Likewise, house buyers may learn how to assess the characteristics of a house, in terms of the quality of construction and upkeep, locational advantages and potential for improvement. But every house is unique and previous experience will never remove uncertainty completely.

Mizuno & Odagari (1990) develop a model where consumers update their knowledge in the light of past experiences and where the relative weight they give to their own experiences versus their prior beliefs determines the speed with which this learning takes place. Furthermore, the extent to which learning may cause actual beliefs to tend towards the rational belief depends on the quality of the feedback. If learning is delayed (the time lag between the choice and discovering whether the choice was good or bad is large), then spotting mistakes and trying to avoid them in future choices may be quite difficult (see Thaler, 1987, p 122 f). For credence goods, of course, this mechanism may be absent, as consumers cannot tell good from bad.

One problem for modelling consumer behaviour in this setting is that it is not clear *a priori* under what circumstances information should be used in order to determine whether the search should be continued or should lead to an update of beliefs.

For the purpose of our approach, however, it is sufficient to note that the outcomes of rational choices under imperfect information and in the presence of search costs will deviate from the outcomes of rational choices under perfect information and that, given search costs, perfect information may not be a goal that is worth pursuing. In a similar way, it may not be worthwhile to reduce uncertainty to an absolute minimum in those cases where some uncertainty is unavoidable (because, for example, future events affect the optimal decision): the homeowner having to decide about the benefits of insulation may not want to forecast her expected heating bills over the next five years as exactly as possible, using all the technology that is available. As we have noted, she is more likely, in fact, to use some simple rule of thumb to assess future heating bills.

### **Example**

Assume that in our example of a camera purchase the buyer believes that the prices for the specific camera he wants to buy are distributed uniformly between £50 and £100. Let  $m$  be the minimum price observed so far. Based on this initial belief, the expected gain from searching one more shop is defined by the expected savings from finding a lower price (in technical terms, the expected value of  $(m-x)$  with  $x$  being any price lower than  $m$ ). Given the buyer's beliefs of a uniform distribution on the interval  $[\text{£}50, \text{£}100]$ , this expected gain is defined as  $(m-50)^2/100$ . The consumer will continue his search as long as this expected gain is greater than the cost of searching an additional shop. The expected gain is the smaller the lower is the minimum price found so far. Search will stop as soon as the further expected gains from search are lower than the search costs. Thus, any price  $m$  that satisfies  $(m-50)^2/100 \leq \text{search costs}$ , will cause the buyer to stop searching. If, for example, one individual search costs £16, solving the inequality for  $m$  shows that the individual will stop as soon as he found a price of £90 or lower. By implication this means that the buyer will continue to search as long as he finds prices above £90.

The question now is whether being quoted a price of £100 in a number of shops should result in continued search, based on the initial belief of a uniform distribution between £50 of £100, or whether this information should be used to update the initial belief.

In any case, we can define rational behaviour under imperfect information as using information gathered in search processes to update the initial set of beliefs and deciding whether to continue the search process.

One important point that should be kept in mind throughout is that search cost should be interpreted in a wide sense and with reference to the information that the consumer will be able to use. Information has to be processed and facts have to be understood in order to affect choices.

#### **2.2.4 Imperfect versus asymmetric information**

Another important distinction has to be made between imperfect information and asymmetric information. While imperfect information refers to the amount of information available to one single individual, asymmetric information can be identified only with reference to a comparison of the information held by two different individuals. Asymmetric information refers to a situation where the information held by one individual is less perfect than the information held by another one. Therefore, asymmetric information requires at least one individual to have less than perfect information. These two concepts must not be confused, however. While asymmetric information always entails information imperfection, imperfect information needs not to be asymmetric.

### Example

Neither Camelot nor the people playing the national lottery have perfect information about the numbers that will result in the next draw, but both parties know (or should know) the odds of winning. The information imperfection is the same for both parties and so there is no asymmetry of information. On the other hand, a person selling his used car may know perfectly well about some of the important characteristics (such as existing faults, fuel efficiency, reliability) while a prospective buyer may have only some beliefs about these characteristics. With regard to the question of whether the car will break down within the next five months, both the seller and the buyer have imperfect information, but the seller's guess may be much more accurate. Therefore, the seller knows more about the likelihood of a break-down, and information is asymmetric.

Moreover, asymmetric information has to be distinguished from imperfect information for the following reason: with asymmetric information (at least in principle) the position of the less informed party could be improved without using resources to search for more information. That is, most of the information required by the buyer is already known by the seller.<sup>7</sup> If this information could be transferred to the buyer, then a situation will result in which both parties' information may still be imperfect but asymmetries have been removed.

## 2.3 Three information sets

By thinking about consumer behaviour in this way, we can identify three distinct information sets which are important when assessing consumer detriment.

**Actual beliefs (A)** describe the information a consumer has when actually making a purchase. The amount of information available to the consumer at the time of his purchase will have been refined and updated through the process of search and so may differ from the consumer's initial beliefs. The set of actual beliefs serves as a description of *what the consumer knows* at the time he makes his purchase decision.

**Rational beliefs (R)** describe the amount of information (the subjective probability distribution over possible states of the world) rational consumers should have after search. The set of rational

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It is important to note that asymmetric information does not imply the assumption that sellers are always better informed than the buyers. In the insurance market, for example, the buyer of insurance policies usually is better informed about his risks than the seller. On the other hand, the seller of insurance policies is usually better informed about the terms and conditions of the policy than the buyer.

beliefs describes what the consumer would (or should) know if he had conducted a rational search, given the optimal way of updating beliefs. At this point, we do not want to define R more precisely than this, and it is sufficient to note that R, which is often only a theoretical set of beliefs, will be different for each individual. The set of rational beliefs describes *what the consumer ought to know* at the time he makes a purchase decision.

**The true distribution (T)** describes the best possible information about the world. The true distribution may be equal to perfect information (in which case the value of each variable that is important in the consumer's decision is unique) or imperfect in cases where some uncertainty about (future) events remains. The true distribution describes *everything the consumer could possibly know* (in principle) at the time he makes his purchase decision.

The best way to conceptualise R is to start by thinking about why consumers would not possess all possible information (T). That is, what exactly prevents consumers from having perfect knowledge? The answer to this question, which has been provided above, relates to the existence of search costs. When such costs exist it will often be the case that a rational consumer will gather some, but not all, relevant information. Thus, in many cases, we would expect T and R to be different. And the size of this difference depends on the search costs or, more generally, on the costs of acquiring information. There will however, be cases where T and R are very close (when search costs are minimal). The determinants of the magnitude of this difference will be considered in Chapter 4.

### **Example**

Before purchasing a soft drink, consumers will have prior information on the likely price they will need to pay. This information, which will have been obtained through previous purchases and 'common knowledge', will also enable consumers to recognise that prices will vary across different situations. Prices at a beach bar, or in a high class hotel, will be higher than those at a roadside cafe, for example. The true distribution of prices across all soft drinks and at all retail locations (T) is not known to the consumer. However, we would expect, in this case, consumer expectations based on acquired knowledge (R) to be fairly similar to the true distribution. The same is not true for individuals trying to find a good nursery for their children. In this case, knowledge of the true distribution of nurseries (in terms of location, quality and price), is difficult (and expensive) to achieve.

Looking at the difference between T and R in this way takes us to a more precise definition of R itself. The set of rational beliefs are those pieces of information which a consumer will hold after weighing up the costs and benefits of search (including the assignation of probabilities to uncertain outcomes) and then searching to the point where no further benefit can be gained. As such, it is clear that R must be different for each individual, and this is a point to which we shall

return. For the moment we assume that R is averaged across all consumers, or is based on a representative consumer.

Given perfectly rational consumers, A and R should not be different in equilibrium. However, there may be a transient divergence between A and R if ‘learning’ - further updating the actual set of beliefs (A) so that they become the rational beliefs (R) - takes time, whilst for credence goods such a learning process may not exist, which could lead to persistent differences between A and R.<sup>8</sup> A systematic difference between A and R could also be expected in situations where (from the perspective of the consumer) exogenous changes in the true distribution occur frequently. As these changes may require an updating of rational beliefs, which takes time, the consumer’s actual knowledge may always lag behind the set of rational beliefs as the true distribution changes. Again, this may be because consumers are learning through a process of ‘trial and error’.<sup>9</sup>

### **Example**

The market for mobile telephony services is relatively new and is expanding at a great rate. However, like many previous technological advances (VCRs and personal computers, for example), few consumers fully understand the intricate differences between the different services on offer (the difference between analogue and digital networks, for instance, or the benefits of a particular service bundle). Not only does this make purchase decisions more difficult, because of problems in making comparisons, but the evolution of the market is rapid and knowledge acquired today may be useless tomorrow. Thus, even when consumers decide to research the market for a particular product, such information may be quickly redundant and, in terms of our framework, A is always lagging behind R until more stability is introduced (as it now is in the market for personal computers and VCRs).

Differences between A and R can also occur where consumer behaviour is boundedly rational. In this case, beliefs will not be updated in a consistent way, but the learning procedure will be affected by heuristics and rules of thumb, and will often be biased in a systematic way. For example, people tend to give undue weight to recent events. News about a major airline accident will cause many people to change their beliefs about the safety of air travel to a considerable

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<sup>8</sup> For example, the model developed by Mizuno & Odagari (1990) suggests that this may be a function of the quality and effectiveness of the learning process.

<sup>9</sup> See Deaton and Muellbauer (1980), pp 339-340.

extent which by fare exceeds the change in beliefs that would be warranted on the basis of an assessment of the risk of accidents. Framing effects (the way in which information is presented) and a systematic underestimation of the combined effects resulting from different sources of uncertainty affect the way in which information is used to improve individual knowledge.<sup>10</sup> Annex A gives a brief overview of empirical evidence that led to modified (descriptive) models of choice under uncertainty.

### **Example**

This example, which is taken from Thaler (1980), takes the form of a question regularly asked in economic experiments. While the answers to the question are not reported, the potential for 'irrational behaviour' based on new information is clear.

You set off to buy a clock radio at what you believe to be the cheapest store in your area. When you arrive, you find that the radio costs £25, a price consistent with your initial beliefs. As you are about to make the purchase, a reliable friend comes by and tells you that the same radio is selling for £20 at another store 10 minutes away. Do you go to the other store? What is the minimum price differential which would induce you to go to the other store? Now suppose that instead of a radio, you are buying a colour television for £500 and your friend tells you that it is available at the other store for £495. What would you do in this case?

In addition, A may differ from R as a result of supplier behaviour. The reasons for this are discussed in detail in Chapter 4, section 4.3.2. Firms may provide misleading information to consumers or employ high pressure sales tactics, both of which result in a divergence between A and R, by affecting the search procedure.

There may, therefore, be transient or permanent differences between all three information sets. The extent and nature of this divergence enables a framework under which consumer detriment can be identified and measured.

In any case, individual decisions based upon a set of actual beliefs (A) do not necessarily coincide with the decisions that would have been made given the set of rational beliefs (R), and they will be different, given the presence of search costs, from the decisions that would have been made with knowledge of the true distribution T.

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<sup>10</sup> See the examples in Kahneman, Slovic and Tversky (1982) or the approach of Noll and Krier (1990) to optimal risk regulation in the presence of decision imperfections.

## 2.4 Summary

When making purchase decisions, consumers would like to know three pieces of information about the product or service they may buy:

- the price of the product itself, and of other products (substitutes and complements);
- the quality of the product (relative to substitutes); and
- the terms of trade (the location of the supplier, date of delivery, terms of the lease, etc).

In an ideal world, consumers would know each of these three pieces of information with certainty, and the optimisation of consumption bundles would be relatively straightforward. However, in practice, consumers are imperfectly informed; they may not have the full (or any) details about these three pieces of information, and consumption decisions are therefore unlikely to be optimal in the sense described above.

We have described a model in which consumers start with a set of initial beliefs about the price, quality and terms of trade of a particular product or service. These initial beliefs are updated through a process of search and we term the final set of beliefs at purchase the *set of actual beliefs* (A). The process of search is iterative and is fed from both the consumer's own physical search, and from interactions with the rest of society.

This feed-back mechanism may be hampered if the information obtained is user-specific, depending on a specific consumer's tastes and preferences. There may be some goods for which quality is subjective. Whether a specific type of chocolate bar, for example, tastes good is a matter of personal judgment and the experience gained by one consumer may have little impact on the prior beliefs of other individuals about this particular quality feature.

There is, however, one class of goods for which a feed-back mechanism may not exist at all. For these products, experience is of no value in determining quality, and they are often referred to as credence goods. Once a product is purchased, the consumer may still not be able to determine the quality of the product. Some aspects of financial services exhibit such characteristics. In this sense, consumers cannot determine good from bad, and so there is little or no feed-back mechanism.

Moreover, this concept of credence goods is applicable not only to products and services, but to particular attributes of a product or service. Many detergents, for example are sold with a claim that they are environmentally friendly, and a large number of food products claim to be low-fat or healthy. The problem with any of these claims is that they can rarely (if ever) be confirmed by the consumer, even after purchase and consumption.

For the purpose of our approach, however, it is sufficient to note that the outcomes of rational choices under imperfect information, and in the presence of search costs, will deviate from the outcomes of rational choices under perfect information and that, given search costs, perfect information may not be a goal that is worth pursuing. In a similar way, it may not be worthwhile

to reduce uncertainty to an absolute minimum in those cases where some uncertainty is unavoidable (because, for example, future events affect the optimal decision).

We have introduced the concept of the *true distribution* (T) to describe the entirety of the (relevant) information that could in principle be known to the consumer when making a decision. When consumers, starting from a set of initial beliefs, conduct a rational search procedure and use the information gathered in this process in a rational way to update their beliefs, we say that they have a *set of rational beliefs* (R). The information consumers in fact possess at the time of purchase is termed the *set of actual beliefs* (A). Whether consumers actually possess a set of rational beliefs before purchasing a product or service depends on several factors, including the nature of the product, the behaviour of suppliers and the behaviour of any individual consumer.

Given perfectly rational consumers, A and R should not be different in equilibrium. However, there may be a transient divergence between A and R if ‘learning’ - further updating the actual set of beliefs (A) so that they become the rational beliefs (R) - takes time. Systematic differences between A and R could occur because:

- the product or service is a credence good and a learning process may not exist;
- exogenous changes in the true distribution (T) occur frequently. As these changes may require an updating of rational beliefs, which takes time, the consumer’s actual knowledge may always lag behind the set of rational beliefs as the true distribution changes.

It is these differences between A and R, and some of the differences between R and T, that lie at the heart of our concept of consumer detriment under conditions of imperfect information.

Given this model of consumer behaviour, we will now consider suppliers, in terms of their incentives and their ability to improve the information available to consumers.

## **3 Supplier behaviour with imperfect information**

### **3.1 Introduction**

In the previous chapter we identified three information sets that are important to understand consumer behaviour and possible sources of consumer detriment. Actual and rational beliefs result from the action of consumers, given the behaviour of suppliers. This chapter addresses supplier behaviour and, in particular, looks at information provision by suppliers.

Information about the availability of specific products, their particular characteristics and their price usually exists on the supply side. Suppliers will determine how much information they will disclose (either unilaterally or through the competitive process) and in which way they will try to inform consumers, given their objectives and anticipated consumer behaviour. Suppliers may know that consumers cannot process information perfectly and may make mistakes, and this knowledge may influence their own behaviour.

The fact that suppliers wish to provide information about their business does not imply, however, that they will provide the optimum amount of information in the best way for consumers. In this chapter we analyse what determines information disclosure by suppliers. In particular, we look at the conditions under which suppliers have an incentive to withhold information and why they might be unable to disclose important information to consumers despite the advantages to both consumers and suppliers that would result from this disclosure.

### **3.2 Information disclosure by rational firms**

#### **3.2.1 Why rational firms want to disclose information**

Rational firms wish to maximise profits and attempt, therefore, to provide any information that might lead to an increase in profits. Obviously, every supplier has some incentives to provide information - it wants consumers to know what sort of products it offers, and why consumers may want to buy these products. A supplier who fails to attract consumers by providing them with too little information will lose in competition with other suppliers. In order to win market share, suppliers will have to inform prospective customers about facts that are favourable to their sales - for example, about low prices, high quality or favourable terms of trade they offer.

#### **3.2.2 What and how much information rational firms want to provide**

As noted above, the incentive for suppliers to provide information is based on the impact of information provision on their sales and, therefore, profits. However, the issues of what type of information to provide, how much of it, and in what format, are more difficult to deal with. The standard approach, to assume simply that suppliers 'know best' and provide information which maximises their profits, is unlikely to be a helpful description of the world.

We noted in Chapter 2, section 2.2.1, that consumers ideally want three types of information:

- the price of the product and other products (complements and substitutes);
- the quality of the product (relative to substitutes); and
- the terms of trade (such as the location of the supplier, delivery date, etc).

Given that consumers generally want information of this type, we would generally expect firms to supply such information, wherever possible. In the context of this study, however, we are interested in the cases where (a) firms do not want to supply such information or (b) it is not possible for them to do so. We return to these issues in section 3.3.

A distinction can be made between information that increases total demand for a specific product, and information that increases the proportion of total demand a specific supplier can attract. This distinction is important for the following reason. Obviously, no supplier wants to disclose information that has a negative impact on total demand, unless this information disclosure allows him to attract more customers. For example, no tobacco manufacturer will want to disclose that the type of product he offers poses a health risk, unless he can claim that his brand minimises this risk and this leads to an increase in market share that outweighs the decrease in total demand. By the same token, no supplier wants to spend resources on providing information that increases total demand unless he will profit from the increase in overall demand. Hence, there may be some externality problems that distort the incentives for individual suppliers to provide information. The amount of information provided may be sub-optimal compared to the information that should be provided from a social point of view.

In addition, a supplier does not want to disclose information that will reduce its own sales, although it may want to disclose information that reduces its competitors' market shares.

In deciding what type of information to provide, suppliers will have to compare the cost of information provision with the benefits. Should a retailer tell its customers about price or about quality of service through advertisements? The answer to this question obviously depends on how the retailer perceives its customer needs, and the overall competitive strategy it is following. While it may be relatively easy to disclose price information or information about a specific supplier's location, information on product quality may be difficult, if not impossible, to disclose because of credibility problems.

In addition, suppliers must take into account the effectiveness of information disclosure which, in turn, depends on the way in which consumers acquire and process information. For example, it may be relatively cheap to disclose technical information about intrinsically complex products which can easily be verified, but consumers will pay little attention to these details because they are extremely difficult to understand and evaluate. Thus, even if a specific product offers superior performance, and suppliers should have an interest in disclosing this information, they may decide not to do so unless they can find a way to present these facts in a way so that they affect consumer behaviour.

The different costs and benefits from disclosing different types of information also determine the amount of information that is being provided. Profit maximisation requires that information is provided up to the point where the marginal cost of provision equals the marginal private benefit from information provision to the producer - that is, the marginal revenue from disclosing more or better information.

In a very general way, we may expect suppliers to disclose predominantly information that is:

- easy to understand;
- easy to verify;
- effective in attracting customers; and
- can be provided cost effectively.

Again, whether these criteria are met depends greatly on the nature of the product and the way in which suppliers expect consumers to behave.

### **Example**

Suppose a manufacturer of a particular electronic device believes that its new product is better than that of its rivals, because of the type of microchip it uses. How does it tell consumers? If it were to provide the details of the two microchips, consumers would not understand. If it were simply to advertise that its microchip was better than rival products, consumers may not believe the message, since they may not be able to verify it. However, even if consumers did believe the marketing campaign, it is not necessarily the case that they would be more attracted to the newer product. This is because the microchip is only one aspect of the product offering. Moreover, even if all of these problems can be solved, the manufacturer still has to ensure that this expensive advertising and branding campaign will actually provide financial benefits. That is, the profits from extra sales must cover the cost of the advertising campaign. If any of these factors are not present - the ability of consumers to understand and verify something they care about, and which lead to extra sales profits, the manufacturer will not provide the information.

### **3.2.3 How suppliers provide information**

Consumer information is provided by suppliers through two main mechanisms - disclosure and reputation.

### ***Disclosure***

Firms normally disclose information at the point of sale, such as prices, quality (when detectable), display (such as colours, sizes, etc), and contractual terms (such as maintenance conditions). Information can be disclosed through advertising prices and product ranges available, supplier location and contract terms. Information disclosure will work most effectively for information that is easy to understand and easy to verify.

### ***Reputation***

Reputation can be built up, for example, through advertising and branding, or earned through warranties, through long-established companies, or through money-back commitments. Reputation acts as a signal for a supplier's commitment to conform, for example, to high quality or fair contract terms. In this sense, reputation is a substitute for direct information about the product quality or the fairness of contract terms, and will be used in cases where such direct information will be difficult to understand and verify and, therefore, cannot be simply disclosed.

Relating to our discussion of what type of information suppliers will want to provide, we can draw a simplified relationship between the types of information and the way of information provision. Information that is easy to understand and to verify will most cost-effectively be provided by means of simple disclosure. Information that is complex and difficult to evaluate and verify will tend to be substituted by supplier reputation, signalling the commitment of suppliers not to cheat on product characteristics about which they will, for various reasons, not disclose information.

Some means of providing information may contain both elements of simple information disclosure and reputation building. As noted above, advertising may be purely informative (providing price comparisons or details about store location, for example) as well as an investment in brand name capital, working as a signal of quality or commitment rather than as a disclosure mechanism.<sup>11</sup>

#### **3.2.4 Who provides information?**

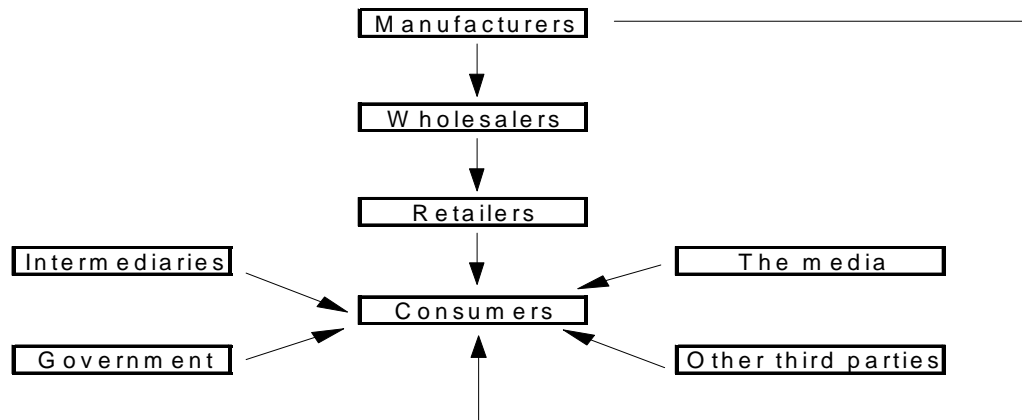
Up to now we have regarded suppliers as a homogeneous group of actors. In fact, however, there is a supply chain, comprising manufacturers, wholesalers, retailers and sometimes other intermediaries. Given this vertical supply chain (see Figure 2), we may want to ask which actor

#### **Figure 2: Information provision to consumers from the supply chain and third parties**

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<sup>11</sup> See Klein and Leffler (1981).




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in this chain will provide what type of information. (We must also recognise that organisations outside the supply chain - the media, government departments, consumer associations and other third parties - may provide information to consumers as well.)

In answering this question, we have again to look at the benefits and costs from information provision. Thus, we have to look at who in the vertical chain can provide information in the most cost effective way, and how this is reflected in their incentives to do so. To do this, we can again use the three elements of information which are required by consumers - price, quality and terms of trade.

However, if we are to ask which part of the supply chain can most effectively provide the information (or has the greatest incentive to do so), a problem immediately arises. Specifically, there are a great number of products and services where:

- the interests of the manufacturer and retailer may not be aligned; and/or
- there is a joint aspect to the provision of the final product. That is, it is difficult to separate the inputs to the product or service between the different parts of the supply chain. Examples include fine fragrances, electrical goods, and even grocery retailing (where the products are generally supplied by manufacturers, but the ‘shopping experience’ is supplied by the retailer).

Since both of these circumstances result in some inter-relationship between the incentives of different elements of the supply chain, they often result in some form of vertical restraint being used to ensure that incentives are aligned. Although the outcome of these vertical restraints may be efficient in terms of information provision, this is not always the case.<sup>12</sup>

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<sup>12</sup> Vertical relationships and restraints are a notoriously difficult area of economic research and we cannot, in this paper, develop these ideas further. Readers may want to see Tirole (1990), Chapter 4, Mathewson and Winter (1986) and Milgrom and Roberts (1992), Chapter 16, for further details.

These sort of arguments bring us back to our previous distinction between information that is likely to increase total demand and information that will attract customers to one specific retailer. It is unlikely that retailers will provide information of the first type, and the incentives of suppliers depend on the nature of the product or service on offer, its life-cycle and the nature of competition.

### **Example**

One of the main arguments for resale price maintenance in books has centred around the importance of book shops (retailers) to provide information that stimulates demand (i.e. providing the facilities for browsing, displaying a range of different titles etc) and on their lack of incentives to engage in this form of information provision. Other competitors could free-ride on any investment into the provision of information that increases total demand by not incurring the cost and competing on price, thus taking away market shares from those retailers who engage in costly information provision. Vertical restraints (such as the Net Book Agreement) have been regarded as a suitable means of aligning the incentives of retailers and manufacturers, thus allowing for information provision at the stage of the vertical chain where it would have been most cost effective.

Apart from these problems of vertical relationships, it is generally retailers that provide price information since it is the retailer which actually sets prices. Retailers also provide most of the information about terms of trade, leasing arrangements, location and home delivery. This is because it is either in their interests to do so (information about location gets customers into the store), or because it is efficient to do so (home delivery is difficult to arrange unless the collection point is known, etc).

Usually, the manufacturer of a product is in the best position to provide quality information, which typically takes the form of manufacturer branding. Furthermore, manufacturers also have the incentive to provide quality information which is likely to increase total demand for their products and this is why retailers rarely provide much information about individual brands (although they may provide information about the availability of particular brands through their stores in order to attract customers). In addition, manufacturers may disclose factual information about specific characteristics of their products (either voluntarily, or by law). Examples include the dietary characteristics of food products, the alcoholic content of drinks, the tar level of cigarettes, the origin of a manufacturers product, and the fabric content of clothing.

However, retailers may also perform the function of certifying quality by choosing the products and brands they want to stock. Retailers evaluate product quality in relation to product price and often perform the role of quality certification. They select appropriate products from a whole

range of goods and present them in a way that eases price comparisons. Search costs can be reduced by retailers clustering together, or by their providing a one-stop shopping service.

When considering retailers, however, we should not assume that this is a homogenous group of businesses. Retailers behave and compete in many different ways, and the way in which they provide information differs from market to market. One difference that is relevant to this study is the use of commissioned sales people. Many traditional, high street, retailers pay their staff some form of commission (or bonus), usually based on the sales performance of the individual or of the outlet as a whole. Others may pay their sales people on almost an exclusively commission based basis. However, some retailers also *earn* commissions from upstream manufacturers (retailers of mobile telephones, and financial services, for example). This latter form of commission is, in effect, a vertical linkage between two levels of the distribution chain.

Whatever the form of commission, the incentives created may encourage sales people to behave in a way which is not in the consumer interests. If the commission is paid by the retailer, the sales person is probably incentivised to sell as much as possible. When commissions are paid by upstream suppliers, the sales person is incentivised to sell a particular product, at the expense of other products. In either circumstance, consumers may not be given full and accurate information. As a result, consumer may purchase inappropriate products, pay more than they need to, or purchase a product which turns out to be of lower quality than they initially believed.

Wholesalers usually are not in a good position to provide either information on the quality of the product or information on prices and terms of trade to final customers, but rather perform a similar function with regard to retailers as the latter perform with regard to final consumers.

In some markets we find third parties, not directly involved in the vertical supply chain, providing information to final consumers. Third party advice is most likely to be of importance in settings where information is complex, difficult to understand and where credibility problems have not (and probably cannot be) solved by reputation and branding, or in situation where information externalities prevent any one supplier from incurring the cost of information provision unless it can charge customers for this service.

However, information problems in complex or difficult markets cannot always be solved by third parties. If, for example, the intermediaries are part of the industry itself, they, too, may face credibility problems, especially if they are being paid commissions (see above). Secondly, for the same reasons that make it difficult for consumers to evaluate products may make it difficult for them to choose an appropriate intermediary. The problem may often be simply shifted from one market (that for the ultimate product or service) to another (that for intermediaries).<sup>13</sup>

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<sup>13</sup> Of course, the very existence of intermediaries would suggest that the information problems in the market for intermediaries is less severe than in the original product market. It is often difficult to tell, however, exactly why information problems are easier to overcome with regard to third party advice than with regard to the original product.

### **Example**

In the retail market for financial services, it is clear that many products available are simply too complex for the vast majority of consumers to understand. This makes shopping around very difficult, and inappropriate purchase decisions are made regularly. Thus, the availability of financial advisers would appear to solve this information problem - the rationale is that, since this knowledge is specialised, why not pay a specialised adviser to provide it. The problem is how to choose a financial adviser. How can one judge the ability of such an adviser without knowing everything about financial services, or at least having a good system to grade advisers. Of course, there are third party sources and reports. There is also a regulator which protects investors against negligence. However, ultimately you are left with the fact that the best solution is to get an adviser on financial advisers, and so on . . .

## **3.3 Imperfect information as a result of supplier behaviour**

We have identified the information disclosing behaviour of profit maximising suppliers and now ask why suppliers may have incentives to withhold information or to give false information, and why in some cases suppliers may be unable to pass information on to consumers. We therefore focus on a question that is often neglected in the analysis of competition and competitive behaviour, where it is implicitly assumed that competitive markets will generate optimal information provision.

We find a spectrum of reasons for why information provision by suppliers may be less than optimal, ranging from market power problems to bounded rationality on the side of consumers, and credibility and externality problems, which cannot be solved by suppliers.

### **3.3.1 Market power**

In cases where the supplier has a large degree of market power, it may use information as a strategic variable. It may, for example, withhold information about price dispersions (possibly in an attempt to price discriminate). However, the blatant abuse of market power usually results in other (non-information related) problems, and these are generally dealt with by the competition authorities. In this section, therefore, we identify ways in which some degree of market power

can be used to, or may result in, information problems which, in turn, may lead to consumer detriment.

### ***Creating informational noise***

If firms have market power in the product market, they may be able to exploit informational asymmetries. Different levels of search cost can be used to price discriminate between consumers, charging customers for whom search is expensive a higher price than customers who are willing to search more. Given this possibility to use different search costs as a price discriminating mechanism, suppliers with market power may even have an incentive to create uncertainty, thus making information more complex and leaving consumers less well informed. For example, it may be profitable for a monopolist or other firm with significant market power to deliberately create price or quality dispersion (informational ‘noise’) in order to discriminate between consumers and increase profits.<sup>14</sup>

In this context, bundling of products together with add-ons, like guarantees or maintenance contracts, may have the function of making information more complex if it is difficult to isolate the costs and benefits of particular items. While there may be transparency of information in the primary product market, there may be less information about these add-ons. Such add-ons may enable the supplier to create *hidden costs* which the consumers may find difficult to detect (for a discussion on ‘hidden costs’ see Ramsey (1984))

#### **Examples**

There are many examples of bundles and hidden costs across a great number of products and services. Sometimes these may be welfare enhancing, or simply part of the market evolution. However, there are extreme cases of hidden costs in cases where, for example, consumers are offered free gifts if they attend a ‘short presentation’. Usually such presentations turn out to be opportunities for sales agents to coerce people into buying time-shares or holidays, and the free gifts are rarely worth the aggravation. Less extreme examples include the bundling of holiday insurance with a package holiday, or contents of the infamous ‘small print’ at the bottom of contracts.

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<sup>14</sup> Salop (1977) showed that under certain conditions creating price dispersion may be profitable - the so-called noisy monopolist theory.

If suppliers create price or quality dispersion, or increase the complexity of the information relevant to the purchase decision, this leads to a change in the true distribution,  $T$ . Since such 'noise' makes it more difficult for consumers to make easy comparisons between competing products, it tends to reduce the intensity of competition between suppliers. The difference in prices between different outlets or the differences in quality between different suppliers may increase, increasing the variance of price and quality information. The effect on consumer searching is ambiguous: consumers may either search more (which is expensive) to obtain the same level of information or less because the benefits of a give search expenditure are smaller. In terms of our three information sets, this latter effect may increase the gap between  $R$  and  $T$ . In either case, there is an obvious welfare loss to consumers which is a result of the added noise in the market place.

A more difficult case to address is when suppliers manipulate  $T$  by changing their product offering on a frequent basis. This may leave consumers with a quickly redundant product, encourage them to spend more than they would do otherwise, or increase search costs because consumers want to find the product or service which is least likely to change shortly after purchase. For many markets, such changes are necessary because either consumer tastes change quickly (fashion clothing or menus at restaurants), or because technological progress is rapid (consumer electronics and motor cars).

In these cases, where consumer tastes or technology change frequently, there may be little consumer detriment, as suppliers are following demand rather than exploiting any market power. However, there are other (less well defined) cases where the behaviour of suppliers may be questionable. Is it really necessary, for example, for supermarkets to change their store layout on a regular basis, or for Manchester United to introduce at least one new football strip per year, or for skin cream producers to keep inventing new and complex molecules that help in 'slowing the ageing process'? In each case, the costs to consumers are different - the first is higher search costs, the second is more frequent repeat purchase, and the last may be false claims or the persuasion to pay more money for something 'technical'.<sup>15</sup>

An obvious way to approach these problems is to ask whether any market power is held by suppliers. If not, consumers are free to choose and should not be suffering any detriment. However, this approach may be too simplistic and we need to consider distributional consequence. The issue of how important market power, as defined in the traditional sense, is in these cases is also of interest, and we shall return to this issue in section 3.3.1. First, we want to look at some of the more traditional market power issues, which may result in informational problems.

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<sup>15</sup> Of course, a simple response is to say that consumers should build in expectations of the changing market into their set of rational beliefs ( $R$ ). That is, the mother who buys a Manchester United football strip for her son knows that a new strip will be released in six months time, and that her son will want it. In this sense, the mother does hold a set of rational beliefs and is under no illusion about what may happen in the future. Unfortunately, the knowledge that something may happen in the future does not always mitigate its effects on consumers.

### ***Collusion to pre-empt competition in information provision***

Ramsey (1984) suggested that in an oligopolistic market structure, it may be mutually disadvantageous to provide information to capture more sales, as this may lead to a quality war, which would increase the cost base and possibly leave total sales unchanged. In such a circumstance, producers are better off not providing information to consumers. (In essence the rationale behind this behaviour is no different from that behind agreements - tacit or not - to reduce the intensity of price competition.)

If suppliers choose to withhold information (in order not to start a quality war, for example) they increase consumer search costs and thereby affect the rational set of beliefs, R. In many cases, suppliers can provide the relevant information at the least cost, and if they decide to withhold this information, information gathering from other sources will inevitably become more expensive.

### ***False claims and information biases***

Rather than creating noise and thereby making it more difficult for consumers to compare offers between different suppliers, suppliers may have an incentive to disseminate false information and withhold negative information about a product or brand. However, such behaviour can be profitable only if these false claims are believed and are not countered by others (competitors, other actors in the supply chain or third parties). Furthermore, repeat purchases based on experience and reputation provide some check on this strategy.

Firms may supply misinformation either with *intent* or by *mistake*. From the point of view of society there is no distinction between these two forms of misinformation which both affect the actual set of beliefs. However, we can expect mistakes to be corrected in the market place, while intended misinformation may need to be addressed by the courts, government intervention or regulation.

#### **Example**

A recent *Which?* report described a case where a consumer bought a pair of binoculars from a retailer and the sales person attempted to sell an additional guarantee for £25, explaining that this would bring the total length of the guarantee to five years. But this advice was wrong - that particular make of binoculars came with a free ten year guarantee. The retailer apologised, saying the sales person did not realise there was a free warranty with the item. Though probably a case of misinformation provided by mistake, it is easy to see how intended misinformation may confer profits to suppliers.

Even competitors may have an insufficient incentive to counter false claims or limited information. Competitors may indeed *share* the same negative attributes (the health hazard of cigarettes, for example). In addition, if such claims were countered by a rival firm in a

competitive market, the increased sales from corrected consumer beliefs would be shared with other competitors and will, therefore, be subject to externality considerations (see below).

A more subtle form of making false claims is when suppliers do not correct misperceptions which consumers are known to possess. (Moreover, the misperceptions may even have been created by suppliers.) This type of behaviour is often difficult to identify in practice and it would clearly be unfair to require suppliers to investigate the consumers' views before a sale is made (although something similar does occur within the regulatory structure for retailing financial services).<sup>16</sup>

Such behaviour could take the form of recognising the misperception and saying nothing. Alternatively, sales people may take particular aspects of consumers prior beliefs and exploit them to make a sale. Scare tactics and high pressure sales techniques are examples of this behaviour, and often occur when sales people are paid on a commission basis (see above). In this sense, there is a spectrum of misinformation from false claims to biased (or selective) information provision. In either case the aim is to make a sale on the basis of the consumer's beliefs, exploiting information asymmetries.

### **Example**

Within the recent OFT case of extended warranties on electrical goods (discussed in Chapter 5), two distinct consumer misperceptions can be identified. First, consumers believed, incorrectly, that extended warranties sold by retailers were provided by the retailer itself. In fact, retailers sell such policies on behalf of insurance companies, usually for a commission. Though this is not a secret, many retailers do not disclose this information, and many consumers are under the impression that the warranty is with the retailer. Secondly, we think it is likely that consumers did not suspect massive price dispersion on warranties because there is little price dispersion on electrical goods. That is, consumers formed the belief that similar prices on electrical goods must imply similar prices on warranties. This was far from true.

### ***Traditional market power and informational market power***

The main point is that all of these forms of behaviour depend on some degree of market power being enjoyed by suppliers. In a competitive market, it would not be rational for a supplier to withhold intentionally information which was of value to the consumer, unless the provision of such information was simply too costly (we consider these cases below). Likewise, the creation of unnecessarily complex information (through bundling or the addition of noise) can only be the

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<sup>16</sup> For a good discussion on the problems of defining whether information provided by suppliers is misleading, see Beales, Craswell and Salop (1981).

result of some form of market power, because competitors could try to win market share by offering this information in a less complex and more consumer friendly way.

However, this market power may be difficult to spot using the traditional tests employed by competition authorities. Concentration ratios do not necessarily reflect the extent to which single suppliers have power in markets that are characterised by small, immobile and uninformed consumers. In assessing demand side substitutability (i.e. the extent to which consumers would switch between different suppliers and different products), the role of information and search costs may easily be underestimated. This is because, in essence, the degree of demand side substitutability depends on the extent to which the consumer is informed about the available alternatives and their similarity with regard to a variety of product characteristics.

For example, outright deception is often carried out by firms with little or no market power (in the traditional sense) - take the small second-hand car dealer who clocks cars, or the plumber who makes money from fooling elderly couples, the amazing slimming product that does not work, or the hard selling time-share salesman. In each of these cases, low entry and exit costs tend to attract differing forms of 'fly-by-night' operators who can exit before A converges on R. But none of these cases would be captured in a traditional market power test, despite the fact that, in each case, the supplier may have some market power relative to the consumer.

Moreover, it is not necessarily the case that a firm has to be able to act unilaterally to generate these market power based problems. Tacit collusion through repeated games, for example, may discourage the full provision of information.

In considering the incentive effects of market power on information disclosure, it is also necessary to recognise that there may be a two-way relationship between market power and information. Although there is a distinction between cases where the existence of market power leads to informational problems, and cases where the existence of informational problems leads to market power, both effects may reinforce each other.

The basic argument is that under imperfect information each and every firm has some degree of market power even in what with perfect information would be a perfectly competitive market. This 'informational market power' is derived from consumers' lack of knowledge about prices and quality. If consumers are less than perfectly informed about the prices charged by other firms, a supplier can increase its prices without losing all customers. The demand curve faced by any individual supplier is downward sloping, and even in an otherwise perfectly competitive market prices can be expected to be above the competitive level. Free entry will result in an equilibrium where firms earn zero profit, but prices are still above marginal cost (or long run minimum average cost). The intuition behind this argument is contained in the shaded box below.

In any case, given an initial degree of market power resulting from imperfect information, suppliers may have an incentive to create additional noise in order to exploit and extend this market power. One obvious case in point is quality dispersion, where consumers have limited information, if any, about the quality of the products or services they purchase. Unlike price,

quality may not be easily observable before purchase (*ex ante*), and in some cases may not be verifiable after purchase (*ex post*).<sup>17</sup>

### Example

Suppose that there are many firms selling the same product, such that no firm has market power (horizontal demand curve). If one firm raises its price, and *all* consumers know about it - that is, consumers have full information - then that firm loses all its sales. The market price is the full-information competitive price (equal to marginal cost). Now suppose that some or all customers do not know that other firms charge lower prices - that is, consumers have imperfect information about price. Now a firm can raise its price without losing all its sales. The firm now faces a downward-sloping demand curve and has some market power (see Scitovsky 1950, Diamond 1971, Salop 1976 or Stiglitz 1979). In fact, under imperfect information markets for perfectly homogeneous goods become increasingly like markets where goods are heterogeneous, and the market equilibrium approaches the type of equilibrium that characterises monopolistic competition with free entry. However, where under monopolistic competition the efficiency losses from average costs being above their minimum, is partly compensated by benefits from a higher variety of different products (although variety is sub-optimally high), this counterbalancing effect is absent in the case of information imperfections. In other words, with imperfect information, there are too many firms in the market, and the individual firm size is too small.

Having discussed information problems which result from (and may lead to) market power on the part of suppliers, we now consider other factors which may influence the degree to which information provision is less than optimal. Specifically, we identify three (somewhat related) groups of problems. Bounded rationality on the part of consumers, and the use of focal points in competition, is considered below. Section 3.3.3 focuses on credibility problems that suppliers may encounter when attempting to provide information, and section 3.3.4 describes how externalities in the provision of information can lead to similar problems.

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<sup>17</sup> For example, it may be profitable for firms to *voluntarily* produce a proportion of defective units, even if a lower or zero defect rate could be achieved at no additional production cost, and offer an optional warranty. The presence of defective units would induce some customers to take the warranty at a price, and so the firm can discriminate between those consumers that purchase the warranty and those that do not, and so extract an additional surplus from risk-averse consumers (Philips, 1988). Heal (1976) has argued that manufacturers with some market power might deliberately produce defects in the product, even if it may cost not more to be defect-free, as this might increase product demand through inventories in stores, and so boost profits. This represents a deliberate (detrimental) informational signal brought about through market power.

### **3.3.2 Boundedly rational consumer behaviour and focal point competition**

Bounded rationality, as introduced in Chapter 2, section 2.3, is a theory of decision making which takes into account the limited capacities of the human mind and asserts that the rational choice of a decision-maker (in this case the consumer) is subject to cognitive constraints, as human beings lack knowledge and have only limited capacity to process complex information. Suppliers know this, and so may alter their behaviour to best take advantage of these circumstances (an example of this is the presentation of biased information as discussed in section 3.3.1).

We provide a brief overview of empirically confirmed biases in the way in which people form expectations, learn and choose in Annex A. Most of these effects can be exploited by suppliers in a systematic way. Engaging in sales tactics that exploit the common problems of decision making may severely disadvantage those consumers who are most likely to be subject to this form of behaviour. Even though supplier behaviour in these cases would present no problems if consumers were perfectly rational, in the face of boundedly rational consumer behaviour certain trade practices may give rise to concerns about detrimental effects on consumers.

Additionally, suppliers can take advantage of the limited capacity for information processing by making information complex and then selecting an appropriate focal point of competition: if consumers are unable to hold and process all information, particularly if it is complex, they may decide, quite naturally, to focus on the more observable product attributes. For example, if information on quality is hard to obtain or understand, consumers may focus more on prices, which may be easily observable.

### **Example**

The Kodak case, brought before the US Supreme Court in 1992, provides an interesting example of the importance of bounded rationality (and one that has attracted much attention by economists) in the so-called 'after-market'. Independent service organisations had claimed that Kodak had limited the availability of its proprietary spare parts, thus monopolising the market for the servicing of Kodak photocopiers. Kodak's case (which was rejected by the Court) was based on the lifetime costs principle. That is, rational consumers should work out the total cost of the product (the sum of primary *and* aftercare costs) and choose accordingly. However, once we consider the possibility that consumers are only boundedly rational, that they purchase photocopiers infrequently, and that suppliers know how to exploit this asymmetry of information, it is quite plausible that consumers do not consider lifetime costs. The claims that consumers could (cost effectively) calculate the expected net present value of future repair bills, even supposing they could obtain the appropriate data, seems to be naive.

The question then becomes one of market power (since the exploitation of consumers would be impossible in a perfectly competitive market). But it can be seen that (a) not much market power is required, and (b) tacit collusion, to incentivise suppliers to behave in the same way, is quite possible if they all know how to exploit consumers. Indeed, such behaviour could well have been seen as profit maximising.

Obviously, suppliers have some control over those attributes which will be most observable, and they can decide to some extent which information will become the focal point of competition. Generating noise by increasing the quantity and complexity of information may serve as an intermediate step on the way to drawing the consumer's attention to some product characteristics while hiding others. Thus, suppliers may not only know this, and subsequently shift their attention and resources to these more observable (focal point) attributes, but may actively seek to make certain attributes the focal point.

### **Example**

Suppose that two firms compete in a market for a consumer durable, and that the price of the durable is £100. Now suppose that, because of the nature of the product, one firm is able to market its product with a 'headline' price of £90, but with an extra £10 of charges contained in the small-print of the contract. (We have already noted that there are a great number of products and services which permit suppliers to set two-part tariffs, from airline flights and insurance services to mobile telephony charges and photocopiers).

The focal point of competition is now the 'headline' price. If one firm cuts this price (while leaving the total cost unchanged), the reaction of the second firm may well result in similar behaviour. It may also cut the headline or focal price to £90, while putting an extra £10 into the small-print. Or, it may cut the headline price to £85 and put £15 in the small-print. This is because it is likely to be an easier strategic move to cut the headline price, rather than trying to educate consumers about the total cost of the product. The result is that total cost to the consumer is unchanged but the ability to judge between competing firms is now more complicated, especially if firms select different forms of pricing structure.

The important point to note about this example is that it does not depend on market power in any conventional sense, and the example can be depicted in exactly the same way with more than two firms. The issue is that the nature of competition in this market is around a particular focal point - the headline price. As long as this is true, and as long as consumers are sensitive to this price, suppliers have an incentive to find ever more complicated ways of reducing the headline price, while obtaining other costs through hidden prices. More importantly, once this behaviour begins, it can easily result in a Nash equilibrium in the sense that the outcome is stable because no firm has the incentive to return to the fully transparent pricing policy.

For example, suppliers may complement primary purchases (such as electronic appliances) with secondary purchases (such as extended warranties), as in the example of Kodak above. Knowing or expecting that the focal point of competition will be on the price of the primary purchase, charging high prices for secondary purchases may not adversely affect sales and may, therefore, be a profitable strategy, as long as competitors do not attempt to point out this fact to customers in order to attract market share. In fact, suppliers may tacitly collude on determining the focal point of competition. In the airlines market, for example, no supplier competes on the basis of its safety record. This is despite the fact that firms such as Qantas can credibly claim to have one of the best records of all major suppliers. Presumably the reason that this claim is not made is that

there is a danger of safety becoming a focal point of competition and this form of competition may be bad for all suppliers since it could reduce the overall demand for air travel.<sup>18</sup>

Given predictable biases in the way in which consumers assess different information, producers may have an incentive to focus competition on those product attributes where information biases can be most easily exploited. If, for example, there is a tendency to over-estimate small probabilities, producers may want to shift attention from the small but positive probabilities that their products may fail to other product characteristics. This may give an incentive to compete on prices rather than on quality, because no producer has an incentive to advertise an improved reliability of his products as long as product faults cannot be excluded with certainty.

On the other hand, given limitations on the ability of consumers to acquire and process information, focal points may be a necessary precondition for making informed choices at all. The lack of focal points may lead to a situation where consumer choices are more difficult (and less well made) because comparison of different products requires the evaluation of complex information. Hence, without focal points consumers may, on average, be worse off than with focal point competition. These problems will most likely occur in markets for new and technically complex products such as mobile telephones, where it will take time for competition to settle down on some focal point.

Often, intervention can change the focal point of competition from those characteristics that suppliers would prefer to those characteristics that may better reflect the interest of consumers. Requiring disclosure of some information on specific product characteristics may in this context lead to even more disclosure by suppliers, owing to their individual interest to conform with an exogenously determined focal point of competition.

### **3.3.3 Credibility problems**

One of the key problems associated with unobservable product characteristics, such as quality for some goods, is the lack of credibility which may be associated with manufacturers' claims about those product characteristics because these claims may not be verifiable.

The most common example of how credibility problems may affect a market is that developed by Akerlof (1970). In the market for used cars, where the cars may be of 'good' or 'bad' quality, consumers are unable to observe the quality of the car before purchase, while sellers know about the quality of the car - information is therefore asymmetric. The average quality in the market is known to consumers.

In this market, a claim of high quality from a seller of a used car cannot be believed by consumers, as all sellers could claim that their cars were of high quality (which is unobservable

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It should be noted that this form of tacit collusion on not making safety records the focus of competition is not necessarily detrimental to consumers who would not benefit greatly from safety records achieving more focus in the market place, in particular if they tend to give undue weight to the small risk of accidents and this would lead to a situation where consumers chose objectively more risky modes of travelling.

to consumers). Consequently, the price for used cars reflects the *average* quality in the market, such that sellers of high quality cars do not receive a sufficient price, and may pull out of the market, further lowering the average quality in the market, and so on. As a consequence, only bad cars would be traded in the equilibrium, and the average quality in the market would in fact correspond to the quality of each car offered for sale.<sup>19</sup>

Claims and information provided by suppliers about a product characteristic are only credible if:

- consumers can observe the product characteristic; or, if unobservable,
- manufacturers possess (or provide) *other* observable characteristics that are economically associated with the unobservable product characteristic.

This association can be derived from some inherent cost or productivity relationship between the observable characteristic and the hidden characteristic of interest, say quality. Alternatively suppliers could form some bonding mechanism which gives the producer an economic stake in providing the promised quality. In many cases, the development of such bonding mechanisms is possible by sinking cost into building up brand name capital and reputation.

However, this may be a rational course of action only if the producers can earn a mark-up over marginal cost and can expect to attract enough customers to recoup their initial investment. Therefore, if potential competitors can force producers to price as the focal point of competition, this strategy to overcome credibility problems may not be feasible. Branding and reputation requires consumers to pay a premium for branded good. With intense price competition the incentive to use branding as a signal of quality will probably be undermined and only low quality products will be supplied.

Finally, the reputation mechanism will not work in cases where product quality cannot be ascertained (at least not by the average purchaser) even after purchase (so called ‘credence goods’). For reputation to be effective as a bonding mechanism, it must be possible to detect if

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<sup>19</sup> If there are more than two discrete quality levels but quality is a continuous variable, there may exist no market equilibrium at all. The two main responses to this apparent phenomenon of an undesirable market equilibrium or no market equilibrium at all have come from Spence (1973) and Rothschild and Stiglitz (1976). Spence showed that in markets where the purchaser was unable to determine the quality of the supplier (in this case, employers unable to determine which are the high productivity workers), the suppliers would provide a signal of quality, such that it would be unprofitable for low quality suppliers to mimic. In Spence’s model, high productivity workers would obtain a certain level of education to distinguish themselves from low productivity workers.

Rothschild and Stiglitz analysed the problem of adverse selection in the insurance market. The information asymmetry lies in the fact that the insurance company knows less about the risks faced by potential applicants than the applicants themselves. By offering an insurance contract based on average risk, it will be profitable for high risk applicants but not for low risk applicants to apply. Consequently, the pool of applicants is adversely selected to include higher than average risk, driving up the average price of insurance, and so further increasing the average risk-level of applicants. This problem was solved in the Rothschild and Stiglitz model through the insurance companies, being the least informed party, offering a menu of contracts to the applicants, such that by choosing the most desirable contract for himself, the applicant reveals his risk level to the insurance company.

a supplier has cheated on his implicit promise to provide high quality, and therefore it is essential that the product quality can be detected by some persons at some point in time.

### 3.3.4 Information externalities

Even if markets are competitive and suppliers can attract additional sales by providing information, there is reason to expect that information of some kind will not be provided or, at least, not to an optimal extent. The reason for this can be found in the externality properties of information.

If more information leads to an increase in consumer demand, this increased demand may benefit not only the supplier who discloses the information, but also other suppliers, unless all of the additional demand accrues to the supplier who engaged in information provision. If this is not the case, however, the marginal benefit from providing more (or better) information is spread across all suppliers, and the individual marginal benefit will be less the more suppliers are in the market. Equating individual marginal benefit from information disclosure with marginal cost results in too little information being provided by suppliers if this information is affecting total demand.<sup>20</sup> This kind of information is important for consumers in order to evaluate products and compare different products.

On the other hand, suppliers have an incentive to provide information that increases their market share, even if this increase comes at the expense of other suppliers. Therefore, the individual marginal benefit from information provision may be larger than the marginal social benefit, leading to too much investment into the provision of information that will attract customers to a particular supplier. However, it is this kind of information that allows consumers to make comparisons between individual suppliers in a competitive market.

Taking these two arguments, we might expect too little information about the product class (too little information about the advantages of mobile telephones) and too much information about the relative advantages of different products (too much information comparing mobile telephones from different suppliers). To the extent that general product information facilitates the evaluation of information necessary to compare different offers, this situation leads to higher-than-necessary cost for consumers of acquiring and processing information.<sup>21</sup>

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<sup>20</sup> As noted above, this argument has been used to identify efficiency enhancing reasons for vertical restraints imposed upon retailers by suppliers such as resale price maintenance.

<sup>21</sup> These information externalities prevail in competitive markets and should be increasingly internalised with decreasing competition. On the other hand, decreasing competition will lead to those adverse incentives described above.

### 3.4 Summary

In this chapter, we have identified the incentives for suppliers and their potential to disclose information to consumers. Supplier behaviour may affect the three different information sets we identified in the previous chapter in the following ways:

The true distribution (T) results from the aggregate behaviour of all suppliers. Suppliers set prices, determine the quality they offer and the terms of trade at which they sell. The information about all values set by all suppliers taken together determines the true distribution.

If there is only one supplier, he clearly controls T; with a small number of suppliers, they may co-ordinate their behaviour and, thereby, jointly control the true distribution. In a competitive market, no single supplier *controls T*, although of course individual behaviour will affect the true distribution of relevant product attributes.

The rational set of beliefs (R), in turn, depends on the cost of obtaining information. Suppliers' decisions on what information they want to make available, and in which way, affects search costs and, therefore, has an impact on R. For example, if suppliers offer heterogeneous products, and bring about quality dispersion, this will make it more difficult to compare offers from different suppliers and may, therefore, lead to a situation where consumers would rationally want to know less about the range of prices and products.

However, we have shown that, while market power on the part of suppliers could have significant effects on T (and thus R), the nature of competition between suppliers may also change T, possibly to the detriment of consumers. Focal points of competition, credibility problems and externalities are three specific types of problem that may change the true distribution:

- if competition is based around a particular focal point, suppliers will compete to offer consumers that attribute (a low 'headline' price, for example). Unless consumers are fully aware of all the other attributes on offer (such as hidden costs), this may affect the set of rational beliefs that consumers hold. Consumers may place too much confidence in the focal point and neglect to collect information about other attributes (see the extended warranties case study in Chapter 5);
- credibility problems occur in markets where consumers cannot verify information disclosed by suppliers and branding and reputation are not effective enough to overcome consumer scepticism. In most consumer goods markets, this is not a great problem, but in those markets where credence goods are supplied, or where goods have credence type attributes, the potential to pass on information to consumers may be rather limited. In many of these cases (examples include retail financial services, domestic services such as plumbing and electricians, and funeral services), competition may tend toward a more easily observed focal point (as described above); and
- the externality effects of information provision mean that it is difficult to prevent rivals benefiting from a single supplier's disclosure. The result of providing information might be to expand the whole market, rather than advancing the share of the supplier concerned.

Since this reduces the rewards to the supplier providing the information, it may reduce the incentive to provide information in the first place, and thus lead to the under-provision of information in certain markets.

Finally, the actual set of beliefs (A) is formed through consumer-supplier interaction. Information given by suppliers to consumers in this interaction will have a direct impact on A. As noted above, A will be different from R in cases where suppliers try to mislead consumers by making false claims (or not correcting obviously mistaken beliefs) or use high pressure sales tactics.

In the next chapter we will use these effects of supplier behaviour on the three information sets identified above in order to define and assess consumer detriment.

## 4 Consumer detriment resulting from imperfect information

### 4.1 Introduction

We can identify three main ways in which consumer detriment may occur:

- Consumers may not buy the product or service at the cheapest price available to them. In the OFT's paper *Extended Warranties on Electrical Goods*, for example, significant price dispersion was found in a market for almost identical products. Many consumers, therefore, were purchasing extended warranties at a price which was much higher than that offered by an alternative supplier;<sup>22</sup>
- Consumers may not buy the most appropriate product, given their tastes and preferences. This tends to occur in dense markets for complex products, in markets where purchases are relatively infrequent, or in markets for new products. Examples may include mobile telephones (where consumers may not know the appropriate tariff structure for their needs) or financial services (you may only buy a pension once and thus have no experience of which is the best policy); and/or
- Consumers may purchase a product or service which is not of the quality they assumed *ex ante*. This may occur in all markets, but is most common in those for durables and other experience goods. Cars may break down earlier than expected, for example, or detergents may have adverse effects on the quality of clothing.

Each of these effects is common in markets characterised by imperfect information. However, the cause of the detriment and its magnitude varies from case to case. Sometimes it may be the consumer who does not take the trouble to investigate the market well enough. Sometimes it may be the supplier who withholds important information, presents facts so as to exploits biases in the way in which consumers process and evaluate information, or actively misleads the consumer.

As we have outlined in the previous chapters, there may be a persistent difference between the three information sets that neither consumers nor suppliers have an incentive to reduce. Not all such differences, however, give rise to concern about consumer detriment. In this chapter we examine how consumer detriment can be assessed in markets with information imperfections, and develop a framework that helps both to identify these markets and to select the appropriate remedies.

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Again it should be pointed out that the welfare effects of price discrimination are ambiguous. If as a result of charging different prices total output is expanded, then price discrimination is likely to be welfare increasing (see also footnote 25 above).

## 4.2 Consumer detriment

Consumer detriment can be identified as *the loss to consumers from making misinformed or uninformed choices*. Given our discussion of consumer behaviour in Chapter 2, however, it must be clear that not every case of choice made with less than the maximum information potentially available constitutes a detrimental choice. In Chapter 2, we have distinguished between:

- actual beliefs (A), which describe the information the consumer has when making a purchase;
- rational beliefs (R), which describe the information the consumer would have after having completed a rational search process; and
- the true distribution (T), which describes the best possible information about the world.

We now use these definitions of the amount of information the consumer does have, would have following a rational search procedure, or could possibly have, to define consumer detriment resulting from information imperfections.

### 4.2.1 A theoretical measure

A purely theoretical measure of consumer detriment compares the actual outcome of a consumer's choice with the best outcome that could be achieved, given the true state of the world. Theoretical detriment, therefore, is measured by the difference in the utility level (or its money equivalent) that results from consumers making a decision based on their actual beliefs rather than on the true distribution of attributes. Denoting the maximum utility achievable by rational decision making based on the different information sets as  $u^A$ ,  $u^R$  and  $u^T$  respectively, this measure for detriment would be determined by  $u^T - u^A$ . However, taking the utility level that would have been achievable had the consumer had the maximum possible information is unhelpful because it takes as the standard of reference an idealised outcome that is simply unachievable in the real world.

Clearly detriment occurs in all cases where consumers make choices they should not have made if they had had rational beliefs about the products and services they purchased. Thus, any difference between R and A should give rise to concerns about consumer detriment. As discussed above, A may differ from R in cases where suppliers provide misleading information or where consumers follow some common behavioural regularities that feature under the heading of boundedly rational behaviour. This detriment can be defined as  $(u^R - u^A)$ .

Detriment should further be identified in cases where some part of the difference between T and R is *avoidable*. It is important to note that not all of the difference  $u^T - u^R$  represents a consumer detriment (and, hence, total detriment is not properly captured by  $u^T - u^A$ ) because information may be incomplete (and, thus, R may differ from T) for good reasons such as, for example, high

search costs. Some part of this difference, however may result from the behaviour of suppliers (for example, search costs may be artificially high due to supplier behaviour). Any part of the difference ( $u^T - u^R$ ) which is avoidable represents a consumer detriment.

The difference between  $u^T$  and  $u^R$  is completely unavoidable if there is no way to reduce the rational information shortfall, and, in this case no consumer detriment results from the divergence between R and T (the rational information shortfall). When some part of the divergence is caused by features such as actions of producers, which may be avoided, some of the difference can be classified as a detriment to consumers.

At this stage we intend to treat the degree of avoidability very generally. In the next section we shall look in more detail at what drives this variable and how it may change over time. The main point we want to emphasise here is that not all of the rational information shortfall represents a consumer detriment, and that the degree of avoidability may be used as a method of classifying different market situations. As we will argue below, the degree of avoidability depends on the possible arrangements by which the difference between T and R could be reduced. In other words, avoidability is based on the existence of an alternative set of institutional arrangements that, if put in place, would reduce the rational information shortfall. This focus on alternative institutional arrangements is crucial to any measure of consumer detriment and, as we shall see below, what distinguishes problems resulting from imperfect information and those due to traditional forms of market power.

At this point, it may be instructive to relate the proposed measure of consumer detriment to different types of information problems. In general, information problems can occur for three reasons:

- the product or service is intrinsically complex or new. That is, the cost of getting more or better information is so high that the rational information shortfall (expressed by the difference between T and R) is large. We refer to these as type I problems;
- the product is perhaps not intrinsically complex but relevant information is asymmetric and there exists no credible way to transfer information from the better informed to the less informed party (type II problems); or
- the product is perhaps not intrinsically complex but relevant information is asymmetric and agents (suppliers or consumers) behave such that these asymmetries are not removed and uninformed decision are made (type III problems).

The degree to which these three types of informational problems lead to consumer detriment is different. In particular, owing to non-avoidability, type I problems may not result in any detriment at all. Type II problems may result in consumer detriment, if the inability of the better informed party to transmit information could be reduced. Type III problems, which are the most serious, however, raise questions about behaviour and, in particular, whether a specific form of behaviour directly results in some form of utility loss. In other words, avoidability is highest in the case of type III problems, resulting in the largest potential for consumer detriment.

#### 4.2.2 Consumer detriment and *ex post* v *ex ante* information

In Chapter 2, section 2.2.4, we introduced the distinction between imperfect and asymmetric information. In the case of imperfect information, relevant facts about the world are not known with certainty. Asymmetric information refers to a situation where one party to an agreement is better informed than the other party. While imperfect information does not necessarily need to be asymmetric, asymmetric information presupposes imperfect information for at least one party to an agreement. Information asymmetries are often avoidable and, therefore, result often in consumer detriment.

However, this asymmetry must not be confused with the asymmetry between *ex ante* and *ex post* information which, as a rule, does not give rise to consumer detriment. *Ex ante* information refers to the information the consumer has prior to making a purchase, while *ex post* information captures the information he has after having purchased the product. *Ex post* information will in many cases differ from *ex ante* information because, for example, the consumer has experienced the product quality, or circumstances have changed. Hence, there is likely to be an asymmetry between *ex ante* and *ex post* information.

We would expect differences between *ex ante* and *ex post* information to result in difference between the optimal choices that would be made, given the availability of either information. These different decisions, in turn, are likely to result in differences between *ex ante* expected utility and *ex post* utility. This difference, however, should not be taken as evidence for, or measure of, consumer detriment. The reason for this should become clear when one thinks about examples (see that in the shaded box below).

*The essential point is that the absence of perfect foresight does not, in itself, necessarily result in consumer detriment.* We need to look more closely at why consumers are imperfectly informed in any situation and whether the information that they have could be improved cost effectively. Moreover, the fact that some decisions are inherently risky (like the purchase of a lottery ticket) should not result in exaggeration of any consumer detriment which may result from imperfect information.

### **Example**

A consumer who purchases a lottery ticket hoping (but not rationally expecting) to win £10 million cannot view this purchase decision as detrimental if no such win occurs. This is because the consumer knows the probability of winning and (implicitly) accepts the risk when purchasing the ticket. In this case  $R=A$  and  $T=R$ . The fact that *ex post* the consumer has spent £1 for no return does not necessarily imply a consumer detriment.

If, on the other hand, the consumer makes a purchase of a lottery ticket based on an expectation of winning which is upwardly biased (because, for example, she has read a book on how to win the lottery),  $R \neq A$  and there may be some detriment if she does not win. However, note that the detriment does not stem directly from differences in *ex post* and *ex ante* information - it is a result of the consumer holding an incorrect *ex ante* view of the outcome.

Alternatively, if the lottery organiser were to make fraudulent draws (selecting non-purchased tickets, for example, and announcing non-existent winners), then this means that  $R \neq T$  and there is a degree of avoidability. Consumer detriment occurs in this case because consumers acted rationally, given the information they held, but the lottery organiser has shifted  $T$  by its behaviour.

In general, consumer detriment does not result from the fact that the consumer made a choice which was optimal at the time it was made (i.e. based on *ex ante* information) but which would not have been made on the basis of *ex post* information. Rather, consumer detriment occurs because *ex ante* information was not rational ( $R \neq A$ ) and/or some part of the rational information shortfall, defined with regard to *ex ante* information, were avoidable.

## **4.3 Determinants of consumer detriment**

### **4.3.1 Differences between rational beliefs and the true distribution**

Rational behaviour requires that consumers stop searching when the gains from such search are outweighed by the costs of further search. The difference between the true distribution and the rational belief,  $(T-R)$ , represents the rational information shortfall.

For the purpose of this study, the question is what factors influence this shortfall. It has been shown that it is based on the cost of gathering more information exceeding the value of more information (expected gains from making better informed choices). The cost of gathering information can be regarded as comprising two elements: the *financial* cost of acquiring information and the cost of *time* associated with acquiring and/or processing information.

To the first degree, the (short-run) cost of time to any individual consumer can be assumed to be independent of his actions. Similarly, the financial cost of information can be regarded as exogenous to the consumer. However, the time needed to collect and process information as well as the financial cost of acquiring information will be affected, at least partly, by the action of suppliers. It is generally suppliers that provide information about their products or services (since it is suppliers who know most about their own products or services).<sup>23</sup>

Even without artificial impediments to competition in the provision of information (such as in the case of type I and type II problems defined in section 4.2.1), market failures may prevent the efficient quality and quantity of product information from being provided. This is because, as with consumer search, information may be costly to produce and disseminate, such that at some point the provision of additional information is no longer privately desirable (the marginal cost exceeds the marginal benefit of producing the information).

This implies that the level of information provision that is optimal for a producer may differ from the level of information that is optimal for consumers to obtain. This in turn may differ from the level of information that maximises *social* welfare. This is because of the divergence between private and social gain.<sup>24</sup>

Suppliers (whether they be producers, wholesalers or retailers) control T in the sense that they can select the price/quality mix of their own products and services. This decision will be made in accordance with the usual rules of profit maximisation and will generally be based on the particular commercial strategies employed by a supplier.

Furthermore, affecting T may result in a knock-on effect on the set of rational beliefs. In many markets where the environment is changing rapidly, it may not be worthwhile to spend resources on gathering information that will be outdated by the time it has been obtained. Hence, the speed with which learning takes place does not only affect the difference between A and R, but in conjunction with the volatility of T, has also an impact upon the rational set of beliefs, R. On the other hand, as competition within new and complex markets settles down into particular focal points, search costs may be reduced and this can reduce R (in the sense that consumer can rationally search for, and process less information than was previously necessary).<sup>25</sup>

Thus, to a large extent, suppliers influence both T and R, and consequently help determine the size of the rational information shortfall.

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<sup>23</sup> However, this is not to say that suppliers have full control over R, since the size of this information set is also dependent on the amount on the level of search costs determined by the consumers' opportunity cost of time and their ability to process information.

<sup>24</sup> Beales, Craswell and Salop (1981) argue that efficiency in the information market implies equality between the *expected marginal social benefit* and the *marginal cost* of information.

<sup>25</sup> Whether this is welfare enhancing depends, as we noted earlier, on whether the focal points which evolve are the 'right' ones.

### **Example**

The market for personal computers followed the same evolution as many other technologically driven markets, in the sense that product specifications were all important, but few consumers could actually understand them. As a result, product comparisons were difficult and many consumers made inappropriate purchase decisions. However, during the mid 1980s this market began to settle down around three or four focal points of quality (memory, processor speed, disk size, etc) and comparisons were made easier. This process was furthered when generic quality terms became widely used (286, 386, 486 and Pentium). These generic terms contained virtually all the information that consumers needed to know and comparisons were made even easier. Partly as a result of this, price competition intensified, and there now exist a few distinct product categories which are fairly well known to consumers.

#### **4.3.2 Differences between rational and actual beliefs**

In equilibrium, actual beliefs ought to be identical to rational beliefs (otherwise consumers violate our assumption of rationality). However, at any moment in time there may be a difference between actual and rational beliefs.

This may occur for a number of reasons, some due to supply-side behaviour, some due to consumers themselves:

- a consumer may be given misleading advice by suppliers. This may involve factually incorrect information (which is illegal) or may involve suppliers failing to correct mistaken beliefs held by the consumer. There may be an important distinction here between the intention to give bad advice and an ignorant salesperson, who simply makes a ‘mistake’;
- suppliers may employ high pressure sales tactics which could include the provision of misleading information (as above), may change the consumer’s discount factor (‘you cannot wait another day for such a good offer’), or may simply induce consumers to make a purchase that they otherwise would have not made (‘an offer you cannot refuse’); or
- the product market may change (a new product may be introduced) such that rational beliefs may change, while actual beliefs take some time to catch up. This may happen if new information is available but has not yet filtered through to a large proportion of consumers.

Orthodox economic theory, based on a theory of rational behaviour, suggests that such differences between actual and rational beliefs are not sustainable in the long term (given that the environment does not change rapidly), but a small number of consumers may suffer from these information gaps over a transitory period of time. With boundedly rational behaviour, however, there may be a *systematic* difference between A and R if consumer search is biased by specific, empirically confirmed heuristics and rules of thumb<sup>26</sup>, while persistent pressure sales tactics from the producer side may also help to prevent actual beliefs from becoming rational.

### 4.3.3 Factors determining the degree of avoidability

As we have outlined above, it is not necessarily rational for consumers to attempt to obtain all possible information relevant to a particular purchase decision. The choice of how much information to collect is affected by the cost of obtaining and processing information, which in turn may be dependent on both supplier behaviour and institutional market features. Depending on the specific factors determining this cost, it may be higher than necessary - that is, the cost could be reduced, thus making it worthwhile for consumers to become better informed.

As we have argued above, the rational information shortfall itself does not give rise to concerns about consumer detriment. Rather it is the extent to which this rational information shortfall could be reduced (and, thereby, the extent to which market outcomes could be improved) that should be addressed as detrimental to consumers. Our analysis, therefore, has to focus on *avoidability* which, in turn depends on the available remedies.

Remedies may take many forms, and a detailed analysis of these is presented in Annex B. In summary, remedies may be formed by the market or based on intervention. Market solutions include the presence of informational signals such as warranties and reputation, while intervention may encompass forced disclosure or direct regulation.

Market-based solutions are generally preferred because it is usually the supplier that knows most about his or her products (and, if possible, could provide this information in the most cost-effective manner). However, the institutional framework within which markets operate can affect the extent to which these remedies develop. A comparative institutional approach has to be applied in order to ascertain what extent of the rational information shortfall would change. This helps to determine how much of the information shortfall is avoidable.

In other words, the degree to which we judge a particular action or type of behaviour as detrimental depends critically on what we can do to remedy (or avoid) it. Without considering avoidability, it is not possible to consider detriment, and this is what makes informational problems so difficult.

Unlike traditional competition problems, which tend to (ultimately) focus on price, there is no analogue to perfect competition in these cases. The use of perfect information as a benchmark is, as we have noted, not helpful. Not only is it unobtainable (like perfect competition), but it is

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See Annex A for more details.

not even rational for most consumers and suppliers. We are thus left with the problem of assessing possible remedies and avoidability. This requires a careful analysis of alternative states of the world (much the same as that required in traditional cost-benefit analysis).

It must be stressed, however, that avoidability has to be addressed on the basis of the *utility loss* from the rational information shortfall rather than on the size of the gap between R and T. For example, an increase in the variance of T may be countered by a remedy that reduces search costs and, therefore, makes it worthwhile to search more, thereby bringing R closer to T. This may lead to a situation, however, where the aggregate search costs incurred by consumers result in a lower consumer welfare. In this case, the appropriate remedy would be to affect T rather than R.

Furthermore, in considering alternative institutional arrangements, one has to take account of the actual beliefs that would result under this alternative institutional arrangement. Remedies may affect the speed and effectiveness with which consumers adapt from possibly mistaken initial beliefs towards the set of rational beliefs.

Finally, the cost of the remedy must be taken into account. Even if a specific remedy may lead to a lower difference between  $u^T$  and  $u^R$ , this has to be balanced against a possible loss on the side of producers and the overall cost of implementing the remedy.

#### **4.4 A framework for assessing consumer detriment**

The determinants of the measure of consumer detriment have been discussed in this chapter. The framework starts with the definition of three information sets (see Chapter 2, section 2.3):

- the set of *actual* beliefs, A;
- the set of *rational* beliefs, R; and
- the *true* distribution, T.

Clearly, the loss in utility from having actual beliefs that diverge from the rational set of beliefs can be counted as consumer detriment. Furthermore, we have identified the extent to which the difference between the maximum achievable utility under rational beliefs and with knowing the true dispersion can be regarded as consumer detriment.

Using this starting point, a framework can be developed with which it is possible to categorise markets characterised by informational problems. There are three elements to consumer detriment, each of which can be used to categorise markets:

- the divergence between A and R;
- the divergence between R and T; and
- the degree of avoidability.

That is, in looking at any particular market situation where it is believed that a consumer detriment may exist we must first ask whether it is:

- ‘an (R-A) problem’ where consumers do not appear to be receiving or acting upon information when it would be rational to do so; or
- ‘a (T-R) problem’ where consumers experience a rational informational shortfall.

If an (R-A) problem is found, it is necessary to establish why this information gap exists. If the market is changing rapidly and A just takes some time to catch up with R (there may be some historical experience of this), then consumer detriment is likely only to be transitory. However, if there is evidence of systematic exploitation of systematic biases in the way consumers evaluate information or of misinformation and false claims which cause a difference between A and R, then intervention may be required.

In case of a (T-R) problem, there may be very good reasons for the information deficiency (as in the market for medicines), and no detriment necessarily occurs. In other cases, this information shortfall may be the result of higher-than-necessary search costs (because some information problems cannot be overcome by appropriate market solutions) or of suppliers manipulating either R (by making information artificially complex or expensive) or T (by behaving in other non-competitive ways), such that some of this shortfall is avoidable (by preventing this manipulation).

To say that some part of the rational information shortfall is avoidable implies the existence of an alternative set of institutional arrangements under which the difference between R and T is smaller and under which the utility experienced by consumers is higher. However, it is important to point out that it is not necessarily information disclosure that will bring R closer to T. Information disclosure will only be of help if the information is (easily) understandable by consumers. Only in this case will disclosure reduce search costs or increase the expected gains from search. For example, if the shortfall between R and T is due to suppliers reducing the transparency of the information provided, forcing the disclosure of transparent information may be the correct solution as this could be expected to reduce search costs or to increase the gains from search. If there is an informational shortfall because of the complexity or specialisation of the market then the lack of disclosure may not be an efficient solution, as simple disclosure may not reduce consumer search costs at all.

The degree of avoidability, moreover, need not be constant over time, and may change as T and R change. Indeed, it is not our intention to place too much emphasis on this parameter in terms of measurement or estimation. The concept of avoidability is defined too generally for this. The role of this parameter is simply to provide a way of classifying situations into those where ‘(T-R) problems’ can be resolved and those where it is not desirable (or possible) to resolve them.

With regard to distributional issues, each remedy has to be evaluated according to its effect on search costs, rational information shortfall and possible differences between the actual and the rational set of beliefs for different groups in the population. As noted above, in many cases

simply requiring more information disclosure may reduce search costs for some groups of the population (the better educated, for example) but may have little or no effect on others.

Finally, it must be noted that it may be extremely difficult to determine what set of beliefs rational consumers should have. While it may be relatively straightforward to assess the beliefs on which consumers have made their choices (A) and the true distribution of attributes (T), positioning R somewhere between A and T will involve making a large number of assumptions and thinking about a large number of alternative outcomes of consumer search behaviour. However, this should not render impossible the application of our concept. In many areas of the law, judges are required to define the type of behaviour that could be expected under reasonable circumstances from an average person. For example, a common question in tort law is whether, given a particular form of behaviour, a person should be held liable for the damage that occurred as a consequence of this behaviour. The standards of 'reasonable care', 'ordinary care' or 'special care', on the grounds of which a defendant could escape liability, have been left vague in law. This vagueness requires a specification in each and every individual case, based upon the norms, practices and values of ordinary people. A similar approach would have to be followed in determining the set of beliefs a rational consumer should be expected to hold. Our discussion of case studies in Chapter 5 may provide some guidance as to how our framework could be applied.

#### **4.5 Individual consumers, aggregate behaviour and distributional issues**

The analysis presented in Chapter 2 has been oversimplified by concentrating on one individual consumer (which may be regarded as a representative individual and thus typical for the behaviour of consumers at large). In analysing the incentives for producers to create informational noise we hinted at the possibility that consumers may differ with respect to their search cost and that, therefore, suppliers may gain from creating price dispersion, thereby being able to price discriminate between consumers with different search costs.

The issue of heterogeneity among consumers becomes important in the assessment of consumer detriment for two reasons:

- actual as well as rational beliefs may be different for each and every consumer, which gives rise to the question of how the relevant utility differences should be determined; and
- differences in individual beliefs may give rise to distributional concerns, requiring some idea about the extent of heterogeneity in outcomes that may be tolerable.

These issues touch upon the basic problems for every welfare economic approach to market intervention. If consumers are heterogeneous, as described above, the extent of consumer

detriment will differ across consumers.<sup>27</sup> Similarly, remedies to such problems may affect consumers in different ways. It may not only be the average size of consumer detriment that should trigger a policy intervention, but authorities could also be concerned about the distribution of individual detriment.

With respect to distributional issues, we specifically may want to look more closely on the determinants of consumer search cost. One major component of this search cost is the opportunity cost of time that has to be spent in order to acquire and process information. This opportunity cost of time may be seen as being correlated with income - the higher the income, the higher the opportunity cost of time. In this respect, we might expect high income consumers to do less search and usually end up paying higher prices.

However, consumers may not be equally effective in processing and evaluating information. Better education and higher intellectual capability may put some consumers in a better position to make use of information than others. The more complex the information, the greater we can expect the advantage from better education to be with regard to processing and evaluating this information. Some kinds of information may not be amenable without a certain level of education and experience at all.

Because better educated individuals tend to earn higher wages, there may be an inverse relationship between income and the level of search cost if the effectiveness of processing and evaluating information is an important determinant of the overall level of search costs: although better educated consumers face a higher opportunity cost of time, they require less time to arrive at a fairly accurate picture of all facts relevant to a particular purchase decision. If this is the case, then lower income consumers (because they are correspondingly less effective in processing complex information) tend to pay higher prices than high income consumers.

Which of the two outcomes will occur again depends on the specific circumstances of the case. If price information which is easy to evaluate and compare is the main (or only) relevant information a consumer needs to make an informed decision, we may expect low income consumers to pay lower prices because they would engage in a more intensive search for low prices. By contrast, where the relevant information is complex and difficult to understand, we may expect that the individual ability to process and evaluate complex information is the main determinant of search costs, and consequently it would be high income (better educated) consumers who pay the lower price (e.g. in the case of financial services). Low income consumers may be expected to pay (relatively) more for products or to buy products of lower quality in cases where better informed choices require the evaluation of complex information.

This has important consequences for evaluating the impact of disclosing more information, because simple disclosure is likely to affect different income classes in different ways. Better information about life insurance policies or pension funds can be expected to benefit high income

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In the case of pre-paid funerals for example (OFT, May 1985), consumers tend to be elderly and often unable to understand complex products. Given that the principle product being sold was a form of insurance policy, this may have exaggerated the degree of consumer detriment.

consumers relatively more than low income consumers (and may not benefit low income consumers at all).

#### **4.6 Are remedies cost effective?**

Though in many cases remedies may exist that increase consumer welfare, the OFT may not wish to correct each and every case of consumer detriment. Some remedies may well be too costly in themselves, while others may be deemed too detrimental to producers.

The OFT ought to seek remedies that reduce the level of consumer detriment, but not at the expense of social welfare. In other words, consumer detriment should be reduced (consumer welfare should be increased) only if this does not result in a decrease of overall welfare (sum of producer and consumer welfare). This means that reducing consumer detriment should not lead to scarce resources being wasted. In other words, bringing about a 'better' outcome for consumers does not reduce the welfare of other groups in the society.

Of course, the latter requirement hinges upon an implicit value judgment - that is, the judgment that consumer welfare should not be given more weight than the welfare of other groups (including producers). If consumer welfare is the overriding goal, then authorities would have to ignore welfare losses for other groups. However, they should be aware of the fact that focusing exclusively on the promotion of consumer welfare has a cost and that this cost is represented by the extent to which other groups are made worse off.

#### **4.7 Summary**

In this chapter we have proposed a measure that will allow the OFT to assess the extent to which consumer detriment exists in particular markets, to identify the source of the detriment and to devise appropriate remedies. In particular, we have distinguished between those cases where consumers make their decisions with less information than they would have after having completed a rational search procedure, and those cases where consumers quite rationally choose to be less informed than they could possibly be.

In the first case (the case of an '(R-A) problem') the fact that consumers are under-informed is likely to give rise to concerns about consumer detriment (unless the information gap is only temporary and results from a rapidly changing market). In the second case (the case of a '(T-R) problem'), the key question is whether, and if so to what degree, the rational information shortfall is avoidable. Only if the rational information shortfall could be reduced by either reducing consumer search costs or affecting the true distribution T (e.g. by preventing suppliers from generating a 'noisy' environment and increasing the uncertainty consumers face) can this information shortfall be classified as source of consumer detriment.

It is important to realise that a duty to disclose more information will not necessarily reduce consumer detriment if information disclosure does not reduce the rational information shortfall. If the difference between R and T is due to the intrinsic complexity or specialisation of the

market, then it may be impossible to reduce consumer search costs effectively. In this case, the utility loss caused by R being different from T can not be avoided, and should not be classified as consumer detriment.

If consumer detriment has been identified, it is important to assess the cost effectiveness of any potential remedy as well as its distributional effect. The overall criterion for intervention should be that total welfare does not decline. This implies that the OFT should not ignore the effect of intervention on producers. To the extent that remedies have distributional effects, the OFT might want not to impose any remedy that benefits some consumers but harms others.

## 5 Case studies

In this chapter we demonstrate the framework described above by looking at a number of examples of markets which have been investigated by the OFT or the MMC.

### 5.1 Extended warranties on electrical goods

#### 5.1.1 Background

In 1994 the Director General of Fair Trading investigated the selling of extended warranties on electrical goods. The market for such warranties is characterised by

- a wide range of prices which are in many cases well above the expected repair cost of the product covered by the warranty,
- a lack of information about prices, terms and conditions, and
- sales tactics which pressure consumers into snap decisions without being able to shop around.

Even though it is crucial for their decision of purchasing an extended warranty, consumers have little information to help them make reasonable estimates of what they may have to pay out on repairs over the first five years life of any electrical product, but this information is available to insurance companies. This is a clear case of asymmetric information where information is being withheld from consumers. Knowing neither the probability of a product fault nor the cost of repair, consumers are likely to pay inflated prices for insurance against product breakdowns. The OFT concluded that expected repair costs under a warranty are likely to be a low proportion of the warranty price. In addition, details of precisely what is covered by the manufacturer's guarantee is not usually known until after the purchase is made.

Extended warranties are sold in two main ways - *over the counter* through retail outlets, and through *direct mail* from insurance companies (via manufacturers). At the retail stage, there is no evidence of much competition; what competition that does exist falls with the insurance companies competing to obtain business with multiple retailers or manufacturers.

The OFT pointed out that though the monopoly selling of a single insurer's policy might not matter if there was competition between retail outlets, it matters more if consumers cannot readily observe differences in prices charged for extended warranties.

Detriment to consumers arises from the fact that they pay inflated prices for extended warranties. Consumers would possibly reject those offers if they knew the true value of expected repair costs. They would certainly reject offers if they knew about lower prices elsewhere. Therefore, suppliers charging inflated prices presupposes both consumers being ignorant about the true value of expected repair costs, and the absence of sufficient competition between sellers of

extended warranties. Competition between providers of extended warranties would drive prices down to the level where the price of an extended warranty is equal to the sum of the expected repair cost and the cost involved in operating the warranty system, irrespective of the consumers' attitudes towards risk and their respective willingness to pay for insurance.

### **5.1.2 Categorisation of consumer detriment**

#### ***Differences between A and R***

Many extended warranty contracts are not clear, and consumers may have difficulty understanding the terms and conditions. This relates to the boundedly rational theory of consumer behaviour and supplier responses outlined in Chapter 3, section 3.3.2. Consumers may find it difficult to search effectively as they may find it difficult to comprehend whatever information they obtain.

Consumers may not learn at the point of sale that the contract is with an insurance company and not the retailer, thus not realising the ability to shop around with insurance companies directly. In some sense, retailers may be guilty of not correcting this misperception.

Most warranties are only mentioned at the last moment when the consumer are on the way to the till. This places pressure on the consumer to make a snap decision without the benefit of sufficient, or even any, information on which to make a considered choice.

The OFT also considered that there was scope for the provision of misleading information about (for example) the likelihood of repair or the extent of repair charges. Pressure was also placed on sales staff by their management (through commissions, sales targets, risk of job loss, etc) which may have led to unwelcome sales techniques.

In summary, there is evidence gathered by the OFT that supplier behaviour has created a divergence between the rational belief, R, and the actual belief, A. This represents consumer detriment.

#### ***Differences between R and T***

There is a lack of transparency of information on prices, terms and conditions of warranties. Basic information is very hard for consumers to find, and such information is rarely advertised and prices not usually displayed. The OFT found that only a handful of retailers provide leaflets with price details or display prices. This is in direct contrast with the primary product market - in the electrical goods themselves - which is characterised by much product information provision.

The lack of transparency is not just with prices. Consumers may not be able to know what terms and conditions are prior to purchase. Many only find out when they have received a contract note by post.

In order to obtain information about extended warranties, consumers would need to compare competing offers by asking direct questions of sales staff at each retail outlet or insurance company. The search costs involved are quite significant.

In summary, there is a significant divergence between R and T given the lack of information available to consumers and the high search costs involved for consumers in obtaining any information. There appears to be much scope for devising alternative institutional arrangements to reduce consumer detriment arising from differences between T and R.

### *Avoidability*

The final part to our framework is to look at the issue of avoidability. Two particular problems have been identified: sales tactics of retailers and price dispersion across retailers (with a recognition that such dispersion may indicate excessive prices in some cases). The first problem represents detriment and can probably be dealt with under existing legislation. Alternatively, a code of practice or some form of intervention from the OFT could easily solve this problem.

In terms of price dispersion, and possibly excessive prices, the best method of solution is forced disclosure. Since prices are generally easy for consumers to understand, this is a case where disclosure can be very effective (if the dispersion was on quality rather than price disclosure would be less effective). Moreover, given that the retailers in this market signal the price of each and every product to consumers, it should not be too costly for the same retailers to signal the cost of extended warranties on those products. Thus, the liability for disclosure should fall on the retailers, with the result that consumer can compare the costs of both primary and secondary purchases with ease.

Two possible problems need to be considered, both relating to the question of why retailers were behaving like this. If the market was competitive, why did the low-price warranty retailers not signal this to consumers? If the answer to this question is based on the possession and use of market power (either by individual retailers, or collectively), then we have to consider how they may respond. One possibility is that there will be a feed-back effect from the secondary market (for warranties) to the primary market (for electrical goods). If disclosure is forced, but market power remains, then retailers will look to exploit that power in other ways. The fact that many of these retailers are rumoured to earn a large share of their profits from sales of warranties is further evidence that they would need to respond to any OFT intervention.

The second problem, which is also a form of response by the retailers, is how complex the market for warranties needs to be. At present, this market is relatively straightforward, with most information problems coming from lack of disclosure, rather than complexity. However, if disclosure is forced, retailers may start to create 'noise' in the sense that warranties themselves will become more complicated and less easy to compare. Under these circumstances, the advantages of price disclosure begin to diminish.

### 5.1.3 Policy prescription

The OFT recommendations which were made as responses to the problems outlined above can be summarised as follows:

- **greater transparency** - retailers should display prices clearly in stores and provide information leaflets so that consumers can shop around and allow third parties to provide comparative information;
- **greater competition** - this may occur through greater transparency. Insurance companies should be allowed to compete at retail outlets with retailers' policies. Details of manufacturers' extended warranties should at least be made available prior to purchase;
- **value for money** - third parties, such as the Consumers' Association, should produce value for money information and guidance;
- **trading practices** - consideration may be given to a code of practice, perhaps including:
  - provision of information about prices and terms;
  - avoidance of pressure sales tactics;
  - outlawing misleading claims; and
  - clearer terminology.

All these recommendations were voluntary, with the threat of a Monopolies and Mergers Commission (MMC) referral if matters did not improve.

A divergence between T and R can be solved through the provision of more information or through greater transparency of information if this results in a narrowing of the gap between R and T. In other words, rational consumers become better informed.

A narrowing of the gap between R and T, through information disclosure or transparency, will only come about if the information is *understood* by consumers, such that:

- search costs are reduced; and/or
- the expected gains from search are increased.

Either way, more search is conducted and the information is used by consumers. There is no point in information disclosure if this new information is not understood by consumers: no further search is induced, and R is at best unchanged.

In the case of extended warranties, it is clear that consumers were unable to search effectively (high search costs) and were unaware of the extent of price variation (low expected gains of

search). Information disclosure of the nature recommended by The OFT will both reduce search costs and increase the expected gains from search.

The remedies suggested by the OFT can be analysed in terms of the framework developed for consumer detriment, namely how they affect (T-R) and (R-A):

- **greater transparency** - the reduction in search costs involved with this remedy will move R closer to T;
- **greater competition** - this may reduce T and increase R, as competitive forces provide more choice and less dispersion;
- **value for money** - more information from third parties increases R towards T;
- **trading practices** -
  - provision of information about prices and terms narrows the gap between R and T;
  - avoidance of pressure sales tactics closes the gap between A and R;
  - outlawing misleading claims narrows the gap between A and R; and
  - clearer terminology narrows the gap between A and R.

#### **5.1.4 Summary**

The market for extended warranties on electrical goods illustrates how consumer detriment occurs as a result partly through differences between A and R, but mainly through differences between R and T. Furthermore, much of the detriment caused by the divergence between R and T is avoidable.

The differences between A and R can be resolved through the establishment of a code of practice which eliminates adverse trading practices. The differences between R and T can be resolved through greater transparency and more information, which will increase R through lower search costs and higher expected gains from search. The remedies suggested by the OFT, if successful, will achieve a reduction in the detriment caused by divergences in A and R, and R and T.

## **5.2 Consumer purchases of life insurance**

### **5.2.1 Background**

The OFT has investigated the market for life insurance over a number of years, most recently in 1994 through the publication of a report on the surrender values of life insurance policies. In all

such investigations, concern has been expressed at the lack of clear information available to consumers. All remedies suggested have focused on information disclosure and greater transparency.

Life insurance, like certain other financial services, can be sold in one of three ways:

- direct sales by life offices to consumers;
- sales through ‘tied’ agents;<sup>28</sup> or
- sales through independent financial advisers (IFAs).

There is a wealth of information available about financial services products, which are widely regarded as having characteristics which must be tailored to the needs of individual consumers. For this reason, it is not possible for a consumer to ‘search’ for the appropriate product at the best price available - there is simply too much information to obtain and process.

Financial services is a market in which consumers cannot ever hope to be fully informed. There is simply too much information available, and it is of a complex nature. That is, while one could construct arguments to suggest that suppliers try to make products more complex than they actually need to be,<sup>29</sup> it is still true that the amount of information required to make a good purchase decision is high. For this reason, consumers may approach financial advisers to assist them when making decisions, much in the same way they approach general practitioners for medical advice.

Financial advisers carry out two functions: they provide *advice* about products and they *retail* the products, establishing a distribution channel between life offices and consumers. Some financial advisers may also derive their income from the life offices themselves, either through fees or commissions. This may pose incentive problems in the provision of advice to consumers.<sup>30</sup>

The OFT found that there was a lack of information available for consumers to make informed decisions about life insurance purchases, even through IFAs, and some information provided was not transparent. The lack of transparency can derive from either poor quality information being provided, or from the information itself being inherently complex. The provision of advice on the purchase of life insurance policies may exhibit both these characteristics.

One piece of information of relevance to the purchase of life insurance is the value of the pay-out that a consumer might receive if the policy was surrendered early. Such information, which is based on uncertain events in the future, is inherently complex, in that the calculation of projected

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<sup>28</sup> Tied agents provide advice and sell the products of one particular life office.

<sup>29</sup> For example, one could ask why life insurance *appears* to be so much more complex than car insurance?

<sup>30</sup> See London Economics (1992).

surrender values is determined by various factors including the assumed rate of return on the investment, the surrender penalties imposed by the life office, and the length of time elapsed before the policy is surrendered.

Conversely, the information provided to the consumer may be less than transparent. For example, in the report on surrender values for life insurance policies, it was found that charges and surrender penalties were not disclosed at all for with-profits life policies, while for unit-linked life policies, although they were disclosed, they took various and often obscure forms. The OFT argued that this lack of transparency limited competition, which led to bad choices by consumers, which may not have been realised until they wished to surrender. The information was provided in a way which was more complex than necessary.

In a previous report,<sup>31</sup> the Director General highlighted the lack of clear information about the charges and commissions paid to advisers and life companies, and about the lapse rates<sup>32</sup> for policies. This has led to suggested remedies, which will be examined later, advocating information disclosure and transparency.

## **5.2.2 Characterisation of consumer detriment**

### ***Differences between A and R***

Financial services have more acute problems associated with informational asymmetries than most other markets, stemming from the fact that such products tend to be credence goods. For example, consumers who purchase a life insurance product from company X on the basis of advice from an IF may not know whether this has been a good buy. At maturity, it could be deemed a good buy if, in comparison with a competing product from company Y, it has a higher value. However, consumers are unlikely to engage in such comparisons, and so may never know the value or quality of the products they purchase. Moreover, even if the consumer does determine that the product was a bad buy, does he blame the product, or the adviser?

In other words, the speed and effectiveness of learning through experience of products is extremely limited, if at all existent. However, information is so complex in this market, and the information that *is* understood by consumers is of unobservable quality, that R is very low indeed. There may be persistent differences between A and R, but as they are both so low, such effects may not be extensive.

The nature of the retailing of life insurance is such that there may be biases in the information and advice supplied by financial advisers to consumers. In particular, there may be a problem of the financial interests of some advisers (who may be paid through commission) not being aligned with those of consumers. There may be a tendency for advice to be given which maximises the

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<sup>31</sup> OFT (March 1993b).

<sup>32</sup> The proportion of policies which have been surrendered early, which may give some indication to consumers about the risk or value of such policies.

commission income for advisers, as opposed to providing the consumer with the appropriate product, and this may be associated with high pressure selling. Commission bias moves actual beliefs of consumers away from the rational belief.

Similarly, consumers may not ascertain (or it is not explained to them) the distinction between tied and independent advisers (status), which may well determine the nature of the advice and its appropriateness for that particular consumer. Advice from tied agents, who are paid directly by one particular life office, may be different in nature to advice from IFAs, who may derive income from commission.

The OFT report found that perhaps under half of all policies reach maturity - more policyholders can expect to receive surrender rather than maturity payouts. However, at the time of the purchasing decisions, consumers may not attach great importance to the level of surrender penalties or projected surrender values. The personal circumstances of consumers are extremely uncertain in, say, ten or fifteen years time. When entering life insurance policies, consumers may well believe that they will not surrender the policy, when in fact more often than not they will. Consumers ought to be as much, if not more, concerned with a company's practices in calculating surrender values as about its projected maturity values. To some extent, the nature of the information on surrendering provided to the consumer may help determine the importance of this eventuality. In this sense the consumer's actual beliefs may not be rational, especially if advisers are not properly informing them of the costs of surrender.

In summary, there may be some differences between the actual (A) and rational (R) beliefs of consumers, but A and R are so low that such differences may not be large. The most severe problems derive from the possibility of the credence nature of products preventing consumers from determining quality, and so they never realise if they make mistakes. To a large degree, however, (R-A) problems are not extensive because R is so low.

### ***Differences between R and T***

The rational belief, R, is very different from T. As mentioned before, there is too much information to know for consumers to make informed choices without the need for advice. In this sense, much of the (T-R) gap is unavoidable.

Because consumers cannot be sufficiently well-informed in the primary market for life insurance, they approach financial advisers (the secondary market for advice). By choosing the best financial adviser, the outcome is as if they had made the best choice in the primary market. In some sense, there is another sort of (T-R) problem, this time relating to information about the market for advisers. If the (T-R) can be minimised in the market for advisers, such that consumers make the best choice of adviser, then the (T-R) problem in the primary market for life insurance products can be minimised.

There may be other reasons why R may differ from T. The information provided by IFAs and tied agents to consumers cannot cover all there is to know about financial services. Advisers ascertain from consumers as much personal information as they can and then tailor their advice

to the consumer's requirements. However, advisers themselves may not have full information about financial services, which is extremely extensive, and so may provide to some extent *limited* information to the consumer. In this sense, there may be incomplete information on the side of the consumer and adviser, which will determine the level of R for the choice of adviser (and hence the R for the choice of product). The degree of competence of the adviser is therefore an important consideration in determining the rational belief to which consumers can aspire.

The information that is provided to consumers by advisers by its nature is complex and intrinsically uncertain. For example, providing full details about possible scenarios for surrender and maturity values involves many uncertainties and can confuse consumers. This complexity may prevent consumers from understanding some of the information provided to them.

Similarly, some information may not be transparent to consumers. For example, surrender penalties were provided for unit-linked life policies in a manner that made them obscure and hard to comprehend for consumers. This may have prevented some consumers from appreciating the full implications of early surrender, even though such information *could* have been presented in a more accessible format.

A perhaps more serious problem for information provided by advisers is that consumers may be unable to value the advice or determine its quality. There may be a tendency, therefore, for consumers to either undervalue or overvalue the advice given to them by a financial adviser. This may lead rational beliefs to differ across consumers.

However, in the absence of robust indications from advisers that they are providing advice of high quality, consumers may undervalue all such advice as they cannot distinguish good and bad quality. This is akin to the 'lemons' model of adverse selection developed by Akerlof, where bad quality drives out good quality from the marketplace.

In summary, R may differ from T because consumers do not and cannot know everything about financial services, and so pass the search procedure on to a financial adviser. Problems with complexity and lack of transparency may also drive R away from T. In addition, consumers may undervalue information provided by advisers because of the unobservability of quality. In this sense, this market problem falls under the type I heading that we introduced in Chapter 4, section 4.2.1.

### **5.2.3 Policy prescription**

In response to the various reports on the operation of the life insurance retail market, the Director General has highlighted the lack of information possessed by consumers and has called for more disclosure of information and greater transparency in the information provided.

In *Fair Trading and Life Insurance Savings Products* (OFT, March 1993b) the Director General argued that 'without the disclosure of more and better information, the competitive process cannot function effectively'. Measures that have been advocated include:

- ***transparency of charges*** - so that consumers can compare how much of their premium is invested across different companies;
- ***transparency of surrender penalties*** - enabling consumers to be aware of the widely differing and often severe surrender penalties imposed by some companies;
- ***transparency of lapse rates*** (the percentage of policies sold that have been surrendered after a particular length of time) - which would help consumers to judge which companies took care in selling suitable policies;
- ***disclosure of IF commissions*** - designed to enable consumers to compare IFAs and foster competition.

However, these measures may not be successful. They have two main effects:

- they focus the consumer on the price of the advice and product, which may not be appropriate; and
- they provide the consumer with much more information than he or she possessed before - this may not be desirable or prove successful in eliminating consumer detriment.

Making price disclosure a focal point of competition results in consumers placing too much emphasis on commission levels. As consumers are unable to determine the quality of financial advice, there will be a tendency for them to choose an IF on the basis of the lowest price (the commission level). This may drive good quality advisers - which entails a higher cost - out of the market and lower the overall quality of advice available.

Another effect of commission disclosure is to highlight the difference between tied agents, who appear to offer their advice for free to consumers, and IFAs, who would be shown to have a cost for advice. This may persuade consumers to switch to tied advisers.

Because of this focus on price, there is an incentive for IFAs to minimise their commission costs (or even become tied) and for life offices to produce products which maximise the proportion of the premium that is invested. This may result in consumers being advised about, and purchasing, inappropriate products. Indeed, consumer surveys suggest that *trust* rather than price is valued more highly in an IF.

Providing more information to consumers may be inappropriate if this information is not understood. Because consumers do not wish to acquire all the information about financial services and so devolve this task to financial advisers, providing them with new information is unlikely to help. The rational belief,  $R$ , is constrained by the consumer's capacity to process information, which is quite significant in quantity and complexity already. Information disclosure that does not decrease search costs or increased expected gains from search, because consumers cannot process any further information, will not increase  $R$ .

On the other hand, providing existing information in a simpler form, such as projecting surrender values instead of providing obscure data on surrender penalties, may assist consumers in understanding information. However, by simplifying what is quite specific information, which may or may not be relevant to different consumers, can have the effect of focusing consumers on certain aspects (for example, the level of commission paid to IFAs and the projected maturity value) which then form the basis of comparison and competition, perhaps at the expense of other product attributes. Consumers may then purchase inappropriate products.

In terms of the framework, there is a large (T-R) gap and also a less significant (R-A) gap. Providing information through disclosure is aimed at increasing R towards T, but will may not happen if this information is not easy to understand or is not used by consumers. Increasing R through disclosure is unlikely to be an appropriate solution in markets such as financial services.

Furthermore, if the emphasis on greater transparency and more disclosure *does* enable some small increase in R, this may prove counter-productive. Because both the quality of life insurance products and financial advice are unobservable (consumers cannot tell good from bad), there is no learning process which enables actual beliefs, A, to tend towards the rational belief, R. An increase in R through policy remedies may in fact *create* detriment through an (R-A) problem which cannot be rectified through normal learning mechanisms because of the credence qualities of the good. Indeed, further information is most likely to be understood by those least hindered by bounded rationality, and so there may be significant distributional effects arising from the different capacities to raise R and A.

Focusing on particular aspects of products (such as price) may make comparisons between products easier for consumers *for that attribute* but this may not result in the consumer purchasing the appropriate product. In fact, R might *fall* and hence *increase* the gap with T if consumers just choose on the basis of price and IFAs just advise and sell on the basis of price.

In summary, the OFT has relied upon two main policy remedies: information disclosure/transparency and the creation of focal points of competition (such as commission disclosure). These remedies may have beneficial effect on R to reduce the sizeable (T-R) problem, and may indeed reduce R in certain circumstances. However, such policies are not appropriate for the nature of the problems inherent in life insurance in particular, and credence goods in general.

#### **5.2.4 Alternative policy prescription**

The market for life insurance is characterised by small, uninformed individuals who have little capacity to understand all there is to know about the market. For this reason, they may approach a financial adviser. If by approaching an adviser, consumers purchase the most appropriate product for their needs, then making 'best' choices in the primary product market can be simulated by choosing the 'best' adviser in the secondary market for financial advice.

In this sense, financial services in general and life insurance in particular are similar to medicine. Consumers do not and cannot know everything about medicine: they consult their GP. However, the same problems that exist with choosing a financial adviser are not apparent in choosing a GP.

The reason for this may be found in *reputation*. In general, for goods with credence qualities, reputation cannot be established and maintained effectively because quality is unobservable. Moreover, GPs are not paid on a commission basis, so their incentives are unlikely to diverge from those of consumers (patients).

A final characteristic of this industry, from the social welfare perspective, is the externalities it places on the economy as a whole. Specifically, if a large group of individuals make poor investments and, as a result become destitute, the economy may need to make large subsidies. Thus, we want everyone to have a reasonable pension, life insurance and health cover (and this is why traditionally they were provided by the State). These externalities are important because they impact on the consequences from inappropriate purchase decisions by consumers.

Providing a solution to the problems of the life insurance market (and the financial services industry, generally) is obviously complex, and beyond the remit of this paper. However, the following points could be considered:

- to make comparisons of different products or services, consumers need to be able to assess the relative value of each. When information is complex such comparisons are difficult. Disclosure of more information does not change this fact;
- making price a focal point of competition does not change this fact either. However, it may lead suppliers to behave in a different way, and this (if it results in lower quality) may be detrimental in itself;
- reducing the gap between A and R is crucial. Legislation and regulations to clamp down on bad or biased advice, high pressure sales techniques and poorly qualified advisers is beneficial. To this extent, the distinction between free and tied agents could probably be removed, commissions could be phased out in favour of fee-based advice and a more trust-based environment should be encouraged;
- the perceived quality of financial advisers may be raised by increasing the barriers to entry in this market through qualifications. This is currently done in both the medical and legal markets. However, one-off barriers to entry need to be supported by on-going assessment;
- information disclosure should be made easier to encourage more useful information, rather than just more information. This is obviously difficult and has not been achieved to date. Possibilities include the establishment of more focal points (but not price), and greater simplification of information presentation (currently hindered by regulation).

The key points of this set of possible remedies are all related to the provision of simple information which can be easily understood and used by consumers to make appropriate purchase decisions. The provision of more information does not facilitate comparisons, and may even make them more difficult as it requires consumers to learn more.

Basically, the solution lies in the simplification of the entire market. Rather than consumers choosing a tailor-made policy from a choice of thousands, it may be more efficient for consumers to choose an off-the-peg policy from a more limited and standard range. This does not mean that tailor-made policies will disappear, just that there will also be more standard choices. Particular ‘classes’ of products could be created, where comparisons between classes was simple (as in the example of the evolution of the PC market, on page 53).

However, the authorities would have to accept that, in this scenario, not everyone would get a perfect, tailor-made policy. On the other hand, everyone would get a policy that was ‘OK’ and that could be purchased easily and cheaply - since there may be little need for advisers in such a world.

### **5.3 Photocopier selling practices**

In 1993 the OFT began an enquiry into the hiring and leasing of office equipment, following public and press concern about selling practices, in the photocopier sector in particular. The Director General’s duties under the Consumer Credit Act 1974 include keeping under review commercial developments relating to the hiring of goods.

The OFT summarised the problems inherent in the market for photocopiers as follows:

Photocopier customers, many with limited commercial expertise, are particularly subject to the ‘pitfalls’ of price, escalation of charges, lengths of contract and termination conditions, which can push them into higher costs and commitments, and to being ‘tied-in’. In addition, they are subject to cold-calling and high pressure sales techniques, readily coupled with misrepresentations.

#### **5.3.1 Background**

Photocopier manufacturers sell copiers to dealers who sell them to leasing companies, who then lease the copiers to end users (customers). In many cases, despite entering a leasing agreement, customers in fact rent the equipment which remains the property of the leasing company. In addition, consumers may purchase copiers from dealers, or, in some cases, direct from manufacturers. Photocopier dealers also provide a maintenance service for photocopiers. In lease and service inclusive contracts, the leasing companies may then sub-contract the servicing back to the dealer. Dealers market the leasing facilities offered by leasing companies. Leasing companies are sometimes operated through subsidiaries with the same trading name as dealers, making contractual relationships obscure. Consumers are indirectly led to believe that the leasing company is affiliated with the dealer.

In summary, though there is no integration between the dealer and leasing company, the market operates with many linkages between the two, either directly (subcontracting servicing or marketing leasing facilities) or indirectly (similar sounding names of dealers and leasing companies).

The OFT found that there were around 25 manufacturers of photocopiers that supplied the UK market, with Rank and Canon each with market shares of more than 20%. The OFT suggested that there were probably over a thousand dealers. The 1991 MMC report suggested a figure of 1,200, but the recession may have reduced that figure. The largest dealers tend to focus on particular regions and nationally their market shares are probably only a few per cent. Most dealers appear to operate locally and there is little in the way of branding of dealers.

There are about ten main leasing companies, but these do not appear to possess much market power. Dealers may work with as many as four leasing companies. Although the marketing of leasing facilities is done by dealers, the actual leasing contracts (and leasing and service inclusive contracts) are between the customer and the leasing company.

The OFT found that the problems are mostly in the mid-volume market. Small machines (desktop) are nearly all purchased. Large machines are mostly leased from manufacturers to large customers where experienced staff is concerned with the leasing of photocopiers.

The contracts which have posed most problems for consumers have been the lease and service inclusive cost-per-copy contracts. The inclusive contract is marketed by the dealer on behalf of the leasing company. The contract itself, however, is between the consumer and the leasing company. The consumer agrees to pay for the lease of the copier, the servicing of that copier, and the contract may also include the required consumables (toner, developer and even paper).

The lease payments over the course of the contract length, the servicing charges and consumables are usually expressed on a *cost-per-copy* basis. The customer may be set minimum target copy volumes and be held liable for charges through to the end of the contract. In order to spread fixed costs and keep the cost per copy down, some leasing companies use long-term contracts, sometimes far longer than the working life of the copier, or higher (minimum) copy volumes than either the user needed or the kit was suitable for.

In addition, contracts may contain high price escalation clauses (up to 15% per annum) on the service element. These clauses are described as discretionary, but are normally enforced in full. This allows the a low initial cost per copy which helps to attract business. Cost-per-copy contracts can be used to obscure the total liability over the life-time of the contract. The lease of a photocopier is made to look more trivial than in fact it is.<sup>33</sup>

Photocopier users were often offered upgrades, often by high pressure sales forces, before the expiry of existing deals without realising that this would incur cost penalties. Should a consumer wish to end his contract early, termination penalties are severe. The consumer may still be liable for the outstanding cost in full; alternatively, this may be waived and added to the cost of a new deal offered by the same dealer/leasing company. Consumers are therefore effectively tied in

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<sup>33</sup> Many photocopier users delegated photocopier leasing to a low level in their office management. A third-party information source, *What to buy for business*, has limited readership - the OFT suggested that if there were other information sources for photocopier customers, these were not being used. Many customers do not know what they are looking for when they approach a dealer, which enhances the dealer's ability to provide an inappropriate machine on a cost-per-copy basis to the customer.

to a deal for the whole length of the contract. If customers fail to pay the leasing company, they may be faced with a county court summons and blacklisted.

The OFT found some cases of fraud - for example, leases which were termed service contracts, disguised as maintenance, and sometimes on kit already owned by the customer. In addition, some second hand kit was sold as new. Some evidence was also found of the 'clocking' of machines (artificially decreasing the counter which denotes the number of copies made).

There was some evidence of price dispersion among photocopier deals. Prices ranged from about 2 pence per copy to 10 pence per copy, depending on technical specification of the machine, target volumes, length of contract and what consumables were included within the deal. These may be even higher when seen against actual copy volumes rather than target volumes. Price, expressed as cost per copy, appears to be the key focal point of competition in this market.

### **5.3.2 Categorisation of consumer detriment**

#### *Differences between T and R*

Despite the apparently simple cost-per-copy price with which customers are confronted, the information that allows to calculate the total lifetime cost of a photocopier is complex. Understanding the full implications of a photocopier lease in terms of which machine is appropriate for what anticipated volume of copies is quite a complicated decision.

Information customers would need in order to determine which photocopier suits best their needs is not readily available. The way in which information is presented to consumers is not clear, and in some cases is made deliberately unclear to cause confusion or mislead. Invoking complicated leasing arrangements and introducing minimum volume clauses may often prevent the customer from any attempt to disentangle the way in which the seemingly simple cost-per-copy price has been calculated. This serves the purpose of hiding from consumers all the relevant information needed to decide whether to sign a photocopier deal, and focuses the consumer's attention on the cost per copy, which can be used by consumers to compare deals.

The bundled contract of lease, service and consumables in a cost-per-copy deal serves to confuse the consumer as to the true life-cycle cost of the photocopier over the period of the contract. Information is not clear or not disclosed in this type of contract as to the severity of termination penalties, the list price of the photocopier upon which the lease is based, etc.

Confronted with a cost-per-copy price which appears to allow for an easy comparison of different offers, customers may quite rationally decide not to investigate how this cost-per-copy price translates into the lifetime cost. Given the attempts of suppliers to present the customer with complicated offers in which the only clear indicator of price is the cost per copy, customers not knowing or suspecting that photocopier sellers try to obfuscate their offers may well decide that the potential gains from a better understanding of these contracts are too small to justify the cost. Thus, customers may rationally decide to accept the seemingly simple cost-per-copy price as the

basis for their choices. The set of rational beliefs, therefore, is quite distinct from the true distribution.

### *Differences between A and R*

In addition to divergences between T and R, there are strong reasons to suppose that the actual belief of consumers at the point of purchase, A, is less than rational.

Many of the sales tactics involved in the market for photocopiers involve a considerable degree of pressure on customers. The market is characterised by the presence of largely commission-paid 'cold calling' salesmen, who may use high pressure sales tactics to persuade customers to enter into contracts which may be inappropriate for their needs. As commissions may be related to the forward value of contracts, there may be incentives to push for longer term contracts for high volume copiers (which may be inappropriate for the customer's needs), with high termination penalties and servicing prices.

Salesmen also approached customers, sometimes within months rather than years of a contract having been signed, with suggestions for 'improvements' in their contracts. Minimum volume targets may also be changed, or other equipment added. Such changes may increase commission for salesmen and often result in fundamental changes in contracts, notably a restarting of the contract period or the starting of an even longer period (especially if this would reduce cost-per-copy levels, appearing more attractive to customers). A customer may be unaware that these changes have been introduced, because the salesman has failed to point to them explicitly or at all.

The OFT found cases of misrepresentation, where seemingly low prices may have been a function of longer contract periods (hence lower quarterly charges) or even monthly charges (presumed to be quarterly by customers). Cases were also found where customers were persuaded to enter into new contracts which involved paying yet again for the same service, or customers were persuaded to enter into a second lease on the same machine, with the second lease being presented as a 'service agreement'.

In addition, dealers may have failed knowingly to disclose certain information which would have been important for customers (and which customers would have taken into account) when deciding whether to accept a contract. For example, many leasing companies set up subsidiaries which sound as though they are affiliated with the dealer. The customer may well believe that the dealer is in some way associated with the leasing company when making a decision, and is not told otherwise by the dealer, until redress is sought.

In summary, there appear to be quite substantial attempts to confuse or even deceive the consumer, through adverse selling practices and even some cases of illegal behaviour. In addition, purchasing companies may not pay enough attention to such deals, often conducted under time pressure, which reinforces the size of detriment arising from divergences between R and A.

Another source of ‘pressure’ to make decisions was found on the customer side. Photocopier lease decisions may be treated as too demeaning for senior staff to organise within the customer company, and is thus delegated to more junior employee, who may face pressure from above to make a quick decision.

### *Avoidability*

As we have argued, the extent to which customers choose not to explore the details behind the seemingly simple cost-per-copy price may result from both an underestimation of the likely benefits that would result from better information and the attempts of suppliers to obfuscate contracts and make information more complex. In doing so, they increase the customers’ search cost.

Where customers’ search costs are deliberately inflated by the way in which suppliers present information, some part of the rational information shortfall is avoidable. Information about photocopier leasing agreements should not be intrinsically more complex than information about other durable consumption goods. If the rational information shortfall in this market exceeds that in other, comparable markets, this is likely to be due to supplier behaviour.

In addition, the rational information shortfall could possibly reduced by alerting customers to the fact that the benefits from better information are likely to be greater than they assume. A situation where customers underestimate these benefits, however, could persist only where customer learning does not take place (or at least not to a sufficient extent). This would be the case if customers are unable to recognise the adverse effects of being under-informed. Given that:

- decisions about the purchase or lease of photocopiers are being made rather infrequently;
- many customers are locked into a relation with a particular dealer;
- technological progress may make comparisons of different deals over time difficult; and
- those persons who make the purchasing/leasing decision are not necessarily identical to those persons who will use the equipment and collect experience;<sup>34</sup>

it is not implausible to assume that this is in fact the case. If customers can be informed about the fact that searching more extensively would pay, this should help to avoid some part of the gap between R and T.

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<sup>34</sup> A further point to note is that incentives faced by the staff responsible for the purchase/leasing of photocopiers do not necessarily may be distorted. They may not be rewarded for getting a good deal, and they do not spend their own money. This suggests that part of the rational information shortfall is due to inefficient delegation of decisions within companies.

### 5.3.3 Policy prescription

In its report the OFT has called for four types of remedy:

- **self-regulation** - the OFT has called for and welcomes a code of practice for leasing companies and dealers. The proposed code of practice for the industry has various components which aim to:
  - encourage the *disclosure* and *transparency* of key information relating to contract terms;
  - monitor the complaints made against salesmen;
  - drop or clarify misleading terms and expressions;
  - more explicitly discourage the marketing of cost-per-copy contracts;
- **transparency** - the OFT has called for a common proposal form, on which the terms of the contract can be detailed in simple language with an explanation of onerous terms. The OFT has also called for greater simplicity in photocopier contracts;
- **consumer education** - the OFT has called on customers to be more familiar with photocopier equipment prices, service charges and other contractual terms and practices to avoid ‘unbusinesslike’ behaviour;
- **redress** - the OFT suggested that there should be a study of the need for a new customer redress system for the photocopier sector and of the form any such mechanism might take.

The aim of the self-regulation (code of practice) called for by the OFT is to reduce the period of the lease to the life of the machine, and have transparency in the contract. But only around 30% of dealers subscribe to the Photocopier Sellers Association and there is no real penalty for not being a member.

Photocopier users have been urged to shop around more, in particular to get competing quotes. The OFT recommended the use of a standard form (to invoke transparency) for lease and service deals, of the type suggested by the OFT in the report; this was to be enforced through a code of practice. This has probably been the most effective form of remedy and has been responsible for the move towards the unbundling of service and lease payments.

In theory the OFT has the power to take away Consumer Credit Act licences from leasing companies, who tend to hold such licences for other areas of their business even though many photocopier deals are not covered under the Consumer Credit Act, if it can be shown that they are not ‘fit and proper’ to hold a licence. However, this course of action requires the leasing company to possess persistent criminal convictions for breaches of licence conditions and is effectively an empty threat.

These remedies can be analysed in terms of the framework developed for consumer detriment, namely how they affect (T-R) and (R-A):

- **self-regulation** - this takes two forms: disclosure/transparency and the discouragement of cost-per-copy contract marketing:
  - disclosure of key information and greater transparency will both narrow the gap between R and T and reduce any gap between A and R. Customers will realise that there is more to the proposed contract than is suggested by a single figure such as the cost-per-copy price, and they will be less easily misled about the nature of the agreement;
  - the discouragement of marketing techniques will narrow the gap between A and R, as high pressure sales techniques and the attempts to deliberately mislead customers will be less commonplace;
- **transparency** - the move towards 'clear contracts' will both close the gap between A and R (by avoiding confusion) and between R and T, if new information is made known to customers that they did not appreciate before;
- **consumer education** - the familiarisation of customers with the 'going rates' for equipment prices and service charges and other relevant information about typical contract terms implies that customers should become aware of the traps and pitfalls in photocopier leasing agreements and, subsequently, should choose to become better informed. This clearly affects R and reduces the rational information shortfall. Some divergence between A and R might be eased by not delegating photocopier purchasing or leasing decisions to a junior level, as a higher understanding of relevant issues might be obtained from more senior staff;
- **redress** - a redress mechanism might prevent some of the adverse behaviour from photocopier dealers in that there would be an arbitrator in disputes between dealers/leasers and customers and may even put a 'punishment' mechanism in place for such behaviour. If adverse behaviour is prevented, this would narrow the gap between A and R.

The move towards simplicity in contract information and greater transparency will enable a closing of the gap between A and R, as customers will not be 'fooled' into misperceptions. Providing additional information to customers may reduce the rational information shortfall (the gap between R and T), if this information can be understood and will be used.

These remedies, therefore, will only work if information is understood by consumers. If it is the case that there is too much information to understand, and it is not rational for consumers to know everything, these remedies may not get to the heart of the problem.

In this sense, it may not necessarily be desirable to discourage cost-per-copy contracts. The main source of detriment resulting from these contracts was that customers were not aware of the fact that the cost-per-copy figures were calculated in a way as to hide the lifetime cost of an agreement. Requiring suppliers to give a cost-per-copy price which has been calculated in a standardised way may, in fact, help to reduce search costs and allow customers to compare different offers without having to make potentially incomparable information comparable. Additionally, requiring suppliers to indicate how the cost per copy would change with volume of copying would be helpful for customers who are uncertain about their future requirements.

## 5.4 Contact lens solutions

### 5.4.1 Background

In May 1993 the Monopolies and Mergers Commission (MMC) published their findings of an investigation of the supply within the United Kingdom of contact lens solutions (CLS). CLS are products used in the care of contact lenses, notably for cleaning, disinfecting, storing and rinsing.

CLS are purchased very regularly. At the time of the case, regulations stated that no CLS pack should include more than 28 days worth of treatment. Customers should make a purchase at least once a month and should, accordingly, be well informed about prices and availability. Price, however, was not considered to be the main factor determining the choice of product or retailer. In a survey commissioned by the MMC, only 13% of consumers chose their CLS on the basis of price.

There are two leading suppliers of CLS in the United Kingdom. Allergan commands 38% of the market, closely followed by CIBA-Vision with 34%. Three other suppliers have shares in the range 6% to 9%. Suppliers provide branded CLS to retailers and wholesalers, but also supply *own-brand* CLS for some retailers to market. Own-brand CLS is simply repackaged branded CLS.

At the time of the investigation, the retail market consisted of opticians and pharmacists only. Opticians had 60% of the market, led by Dolland & Aitchison with 10% and Boots (Opticians) with 5%. Pharmacists accounted for the remaining 40% of the market, dominated by Boots (Chemists) with 31%. Boots, therefore, with a combined retail market share of 36%, was the leading retailer and the only retailer which significantly spanned both optician and pharmacist sectors.

Opticians play a key role through the *advice* and *recommendations* they provide to consumers at the time of the contact lens fitting and beyond. Indeed, the optician is the main source of information on CLS for the consumer.<sup>35</sup> Opticians normally recommend a particular brand or

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<sup>35</sup> Opticians first prescribe contact lenses for a patient, and then recommend a care system for the patient. Opticians will normally recommend a brand or type of care system. Some 70% of consumers surveyed said their optician had recommended the brand or type of CLS to use. Furthermore, 63% said that the CLS they used all belonged to a single brand. Thereafter, the

type of CLS for contact lens patients. When asked what three considerations are most important when recommending CLS, 78% of opticians said ‘solution effectiveness’, followed by ‘less likely to cause irritation’ and ‘easy to use’. Only 25% listed ‘reasonable cost to the consumer’ as one of the three main considerations.

70% of consumers use the type or brand of CLS they were recommended by their optician and only 27% had ever switched without being recommended to do so by their optician. Boots, Dolland & Aitchison and Specsavers, which have large chains of opticians, all have a policy of recommending their own-brand CLS.

Consumers are often offered a customer discount scheme for CLS or a lens replacement scheme with their opticians. This serves to tie the customer in to the optician, increasing the likelihood that future CLS purchases will be made at the prescribing optician by increasing the costs of switching to another outlet. In this sense, the lens and CLS are bundled together as a package, with future care (both lens replacement and CLS supplies) continuing through discount schemes.<sup>36</sup>

CLS are expected to be available for *self-selection* in pharmacies but to be placed on shelves adjacent to the medicines counter so that they are grouped with medicinal products rather than with cosmetic items. Despite the self-selection at pharmacist outlets, pharmacists are able to offer advice on CLS to consumers, or refer them to their optician. However, less than half a per cent of consumers surveyed said that a pharmacist had recommended the type or brand of CLS to use and 90% of consumers surveyed said they had never asked a pharmacist for advice about solutions.

At the time of the investigation, government regulations were important in defining the nature of the market. In particular, the Medicines Control Agency (MCA) regulations affect the UK market in two main ways:

- companies wishing to supply CLS must obtain a product licence from the MCA; and,
- CLS may only be sold at the retail level by opticians and pharmacists because the MCA holds the view that expert advice should always be available at the point of sale.

The requirement of product licences for CLS has resulted in delays before new products are allowed on the market, and has prevented some CLS, which are extremely popular in other developed countries for ease of use, from being allowed on the UK market.

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patient may continue to purchase CLS from his practitioner, from other practitioners or from pharmacies. Prior to the decision to go ahead with contact lenses, the optician is normally expected to discuss with the patient the costs of contact lens wear, including the likely future costs of CLS.

<sup>36</sup> Quite often, a practitioner will offer a patient a free starter pack for lens care, consisting of small quantities of a range of solutions in the system of aftercare which is recommended by the optician. These are offered to opticians by the suppliers. In this way, consumers are offered a free trial of the optician’s recommended CLS, and manufacturers regard this as an important marketing tool.

Furthermore, the MCA product licensing takes into account consideration of quality, safety and efficacy, which are required under the Medicines Act 1968. Issues of cost, need and comparative performance are not permissible.

An EC Directive on medical devices, designed to harmonise the different national regulations, has placed CLS within its scope (thus treating CLS as an accessory to a medical device, contact lenses, rather than as a medical product in its own right). The new Directive was put in place from 1 January 1995 and member countries have five years to comply, and thus the old system of regulation must cease to exist by the turn of the century. This will ease the stringent regulations imposed in the UK by the MCA.

Suppliers, when providing CLS to wholesalers and retailers, give price lists which set out the standard trade price (undiscounted) and recommended retail prices (RRP) for their products. The trade price is often discounted by suppliers for higher volumes supplied (the higher the volume, the bigger the discount) and for certain large customers (market power).

Boots, the retailer with the highest retail market share at 36% (combining its optician and pharmacist operations), received a discount of 32.5% off the trade price from Allergan, the largest manufacturer. Dolland & Aitchison, the next largest single retailer, received a discount of 30%. Suppliers of CLS complained to the MMC of the high discounts demanded by Boots and Dolland & Aitchison; Boots in particular had in some cases raised its discount over the past few years, indicating that it had a strong bargaining position in negotiations with manufacturers. Opticians in general (excluding Boots) received 15%, rising to 25% if delivery was to a central point. To the extent that delivery to Boots and Dolland & Aitchison is to a single depot, it may be justified to give a larger discount as transport costs are reduced.

Despite these large discounts, the MMC found that the majority of branded CLS sold by retailers was at or very near the recommended retail price. 40% of opticians, including Boots, sold all branded CLS at RRP. Dolland & Aitchison sold branded CLS at 2% below RRP. 92% of pharmacists, including Boots and Lloyds, sold all branded CLS at RRP.<sup>37</sup>

As far as own-brands are concerned, Boots sold their own-brand CLS at 5% below the RRP of the comparable brand. In general, Boots sold own-brand products at a discount of 5% to 15% below the branded equivalents, so the discount on own-brand CLS was at the lower end of this range.

In addition to retailing CLS at standard prices, many opticians offer discount schemes for consumers which vary in type, but one of the most common is one under which consumers can obtain CLS for a period of usually one year at a percentage discount in exchange for an annual fee. Though this reduces the cost over the course of the year for the consumer, it also serves to tie the consumer to the optician for that year. About half the opticians questioned by the MMC

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The National Pharmaceutical Association told the MMC that this was so because some pharmacists thought that CLS were licensed medicinal products subject to resale price maintenance. In addition, they thought that a relatively high professional input into supplying advice at the point of sale meant that this advice had to be financially rewarded.

ran such a scheme, though Boots, the largest, did not. About 17% of *all* CLS sold came through opticians discount schemes.

One of the ways suppliers (and retailers of own-brands) claim they do compete on ‘price’ is through the variety of pack sizes they offer. But this has caused problems, in that consumers do not seem to be able to compare prices between products easily. Comparing pack sizes of different prices and quantities are further complicated by usage rates (which in turn depend on instructions, patient’s needs, optician’s recommendations, frequency of lens wear, and, for disinfectants, the size of the lens case), discard dates and consumer preferences.

It appears that non-price competition, through ranges stocked, advice and convenience, are more important in this market than price, not least because price comparisons appear to be difficult, and price competition limited. In addition, as we have noted, consumers rarely split the purchase of CLS from advice, so that competition on CLS Alone is almost insignificant.

#### **5.4.2 Categorisation of consumer detriment**

##### ***Differences between T and R***

Consumers know very little about CLS, and it may in fact not be rational for them to be knowledgeable. In the same way that people do not know or want to know about medicine, and so consult a GP, consumers consult their optician regarding contact lenses and CLS. Consumers are not in a position (or probably believe themselves not to be in a position) to question the information provided by opticians. Issues of the relative efficacy and safety of various CLS are not ones that ordinary consumers are in a position to be knowledgeable about, nor would they wish to be - they visit their optician for such advice. To the extent that information provided by opticians diverges from the true state of the world, the set of rational beliefs held by consumers diverges as well.

The MMC expressed some concern that not enough attention was being placed by opticians on explaining the full costs of contact lens wear, especially the future costs of CLS. This is perhaps due to price not being an important consideration for opticians in selecting CLS for the patient. The lifetime costs of contact lens wear, as opposed to the one-off costs of lens supply, are more relevant for consumers.

There are problems of making price comparisons for consumers because of the variety of pack sizes on offer and the multitude of other considerations needed to be taken into account (e.g. discard dates, usage rates, etc). This means that although consumers make regular purchases of CLS (pack sizes are not supposed to last more than 28 days) and so will be familiar with the retail prices of the CLS they use across retailers, *cross-brand* comparisons with different pack sizes may not be so easy.

The provision of starter packs by suppliers to opticians, which then are provided to patients for free, may help to tie in the consumer to that particular brand of CLS. This may help to ensure repeat purchases for the supplier, and also may ensure the repeat purchase occurs at that optician.

This is reinforced by opticians' discount schemes which tie the consumer in to that optician over a period of time. This increases the costs of switching to other brands and retailers of CLS for the consumer, and may prevent them from asking advice from the optician about switching over the course of that period.

### ***Differences between R and A***

The fact that consumers depend on the information provided by the optician without being willing to deviate from the opticians recommendations indicates that they are worried about the potential dangers and hazards of using inappropriate types or brands of CLS. Hence, there should not be any difference between the beliefs actually held by consumers and those beliefs that rational consumers should have, given the information that is readily available to them.

### ***Avoidability***

At first glance, it may appear that the only adverse effect on consumers result from market power of retailers rather than from informational problems. Furthermore, it may be argued that the premium consumers are paying because price competition is muted does not indicate any detriment at all but should be interpreted as reward for the advisory function performed by opticians. This is one of the defences of all retailers being able to perform the advisory role and charging RRP for CLS as there is a financial reward for the advice.

However, the quality of advice provided by opticians to consumers was not one of the issues examined by the MMC, despite the fact that the potential for advice to be related not to consumer need (including cost-effectiveness) but retailing considerations (margins and products stocked by that optician) is in theory quite large. Moreover, it is not clear that pharmacists provide this advisory function to any great extent. Finally, it is less than clear that the necessary product information could not be supplied by manufacturers.

Thus, quality certification and information about the suitability of specific CLS does not necessarily preclude the provision of information about the substitutability of different types and brands of CLS. Giving consumers this additional information would not necessarily undermine the ability of or the incentives for opticians to advise consumers on the criteria that have to be considered in choosing an appropriate type of CLS.

Hence, we conclude that some part of the rational information shortfall could be avoided. In particular, knowledge of the substitutability of different types and brands of CLS which would have stimulated price competition could have been provided without being an impediment to the advisory role performed by opticians.

### **5.4.3 Policy prescription**

The MMC viewed this case as one mainly of market power, and found evidence of complex monopolies among suppliers and retailers, particularly Allergan and Boots. The pricing policies

of suppliers and retailers in general was found not to be in the public interest, and in the case of Allergan and Boots the MMC found evidence of the exploitation of market power in their pricing decisions.

The regulatory regime, which restricted products from entering the market and new outlets from retailing CLS, was found to contribute significantly to the problems encountered. Products were slow to enter the market, and some products which were popular overseas were not permitted in the UK. The lack of price competition among retailers was considered not to be possible without the restriction on retail outlets.

At present retailers must be able to supply advice at the point of sale. However, there is little evidence that such advice is sought at pharmacies, where CLS is sold off the shelf. Furthermore, there are no such retailing restrictions in the United States, with no serious problems encountered. Allowing supermarkets to retail CLS would unbundle the advice from the product, resulting in more intense price competition and lower prices. The lower prices and greater convenience of supermarkets may in fact enhance compliance, which is one of the main worries of the use CLS.

The MMC recommended that

- regulations on products should be eased to allow better *entry into the manufacturing level*;
- the *retailing of CLS should be opened* to all retailers who wish to sell them;
- CLS packs should be labelled to allow better price comparisons between them; and
- optician's guidelines should be improved on providing information on the costs of CLS to potential purchasers of contact lenses, and should be monitored.

If these recommendations were not adopted, the MMC proposed direct price controls to be placed on Allergan and Boots - the lower prices of Boots would, through Boots' dominant position in the retail market, stimulate price competition among retailers generally.

It is remarkable that the MMC did not recommend disclosure of information that would make consumers aware of the substitutability of different types and brands of CLS, thus increasing the importance of price for the purchase decision. This may be due, to the fact that the issues of market power at the supplier and retailer level were attributed to the system of regulation, which created barriers to entry.

Removing regulatory entry barriers, however, may be of little help in itself if new retailers will find insufficient demand due to consumers being unwilling to choose CLS on the basis of price. In addition to regulatory entry barriers, there may be entry barriers based on consumers being ill informed about the degree to which CLS are substitutable.

As long as recommendations given by the opticians are the main determinant of purchasing behaviour, supermarkets may find it difficult to attract customers for CLS by charging lower prices. One solution to this problem that does not rely on consumers being reasonably well informed about the effectiveness and suitability of different types and brands of CLS would be to foster the role of brands with regard to quality certification and the conveyance of product information.

Established manufacturers who are protected by some regulatory barriers to entry may have little interest, however, in promoting the role of brands as long as a lower price as a result of more intense price competition would not lead to an increase in demand but only reduce margins. It is not clear that a decrease in prices for CLS would in fact increase demand. Demand for CLS is basically determined by the number of people wearing contact lenses (and the intensity of their use of these lenses). A drop in the price of CLS would affect the demand for CLS only if the number of consumers who chose to wear contact lenses increases. This would be the case if the lifetime cost of wearing contact lenses is an important factor in the demand for lenses. Given the evidence from the MMC investigation, this is not necessarily the case. This may help to explain why manufacturers did not attempt to promote brands or why, in other words, one of the natural market reactions to informational problems did not take place.

Thus, without acknowledging explicitly the informational element underlying the market power problem, the MMC's recommendations appear to be aiming at the reduction of welfare losses resulting from a gap between R and T without requiring consumers to become themselves experts on CLS. Price competition requires consumers to be aware of the fact that different types and brands of CLS, in fact, are substitutable to a much greater extent than they were made to believe. Information on the substitutability of CLS could have been provided by either opticians (who have little incentive to do so) or by means of manufacturer branding. To give manufacturers an incentive to pursue this strategy, however, may require to both reduce regulatory entry barriers into manufacturing (in addition to removing regulatory entry barriers into retailing) and focus the attention of consumers on the lifetime cost of wearing contact lenses and, thus, to overcome another informational problem.

## **6 Markets where informational problems are likely to occur**

Based on our framework for the identification and measurement of consumer detriment and on the case study analysis, we will now turn to the question in which types of markets or industries consumer detriment is most likely to be of concern. In addition, we aim to provide some indicators that could be used to identify potentially problematic markets. It must be noted, however, that diagnosing consumer detriment is not at all a simple task, and that few indicators are fully conclusive.

### **6.1 Situations where informational problems are likely**

Our approach has identified two elements of consumer detriment:

- utility losses due to an avoidable gap between the set of beliefs they should have after having conducted a rational search procedure, (R) and the true distribution (T) which captures the best knowledge a consumer could possibly have about the true state of the world; and
- utility losses due to a divergence between the set of beliefs upon which consumers act, i.e. their actual beliefs at the time they make purchasing decision (A), the set of rational beliefs.

Thus, in order to identify markets and industries which are susceptible to consumer detriment, we have to look for conditions that give rise to a divergence between T and R which is, at least to some extent, avoidable and/or a gap between A and R.

#### **6.1.1 Preconditions for an avoidable T-R gap**

It is rational for consumers to know less than they could possibly know about those factors that are relevant for their purchasing decisions

- when the cost of obtaining information is substantial; or
- where learning (on both the individual and social level) is slow and inhibited by the fact that consumers cannot evaluate their purchase decisions even after purchase, or this evaluation will not be effectively communicated to others.

Search costs are likely to be substantial in cases where the information that could possibly affect purchasing decisions is relatively complex and difficult to obtain or process. This is most likely to be the case where:

- product characteristics are unobservable prior to purchase - although it would be possible in principle to assess the relevant characteristics, it would be prohibitively expensive for an individual consumer to do so. Examples include package holidays, financial services, many consumer durables and restaurant meals;
- products are technically complex and even though there may be no hidden characteristics, interpretation and evaluation of the available information would require considerable expertise. Examples include mobile telephones, education and health services and home maintenance services (plumbers, builders and electricians);
- purchase decisions have effects that stretch into the (distant) future, which in turn implies that some degree of uncertainty is unavoidable so that any decision involves probability assessments. Again, many types of financial service, provide a good example, along with some consumer durables. In addition, purchases which require the signing of lengthy contracts may require substantial search costs being incurred by consumers (time shares, fixed-fee mortgages, hire-purchase agreements, etc).

In reality, those characteristics often appear in combination. Durable consumption goods (second-hand cars, for example) are likely to be technically complex, have some hidden characteristics that are difficult to verify by the inexperienced consumer, and the purchase decision will have effects that stretch into the future.

Learning is likely to be slow and ineffective where:

- - although the consumer learns about the nature of the product after purchase - purchase decisions are made relatively infrequently;
- the true nature of the product cannot be discovered;
- consumers are reluctant to engage in a trial-and-error procedure to discover information about different products; and
- experience is not or cannot be communicated.

The first case refers to durable experience goods, the second to credence goods. The third case is captured by our contact lens solution case study. In this example, consumers were unwilling to try different products and to establish whether they would be substitutable, but rather relied on the advice given by their optician.

It must be kept in mind, however, that the mere existence of a T-R gap is not sufficient to establish consumer detriment. In addition, some of this rational information shortfall must be avoidable. Avoidability requires that:

- information is asymmetric. That is, there is at least one party who is better informed about the product than the consumer;

- information could, in principle, be communicated effectively so that the asymmetry could be reduced by giving the consumer more or better information; and
- - despite the potential for effective communication - suppliers (or, more generally, whoever is better informed) have no incentive to disclose or, under the current institutional regime, lack the ability to do so.

Suppliers will lack the incentive or the ability to communicate information and reduce the asymmetry if:

- there is some degree of market power that allows tacit collusion on focal points of competition that do not reduce the T-R gap (while other focal points of competition would allow consumers to be better informed); and/or
- there is a collective action problem that makes it unprofitable for one supplier to communicate the information although, in principle, he could; and/or
- current institutions prevent the use of signalling devices (such as a ban on advertising prevents suppliers from using advertising as a signal of the supplier's commitment to deliver high quality).

The first point, the relationship between market power and focal points, is important but complex. On the one hand, market power may ultimately facilitate tacit collusion on focal points but, on the other hand, it may be that focal points which have been created over time enable tacit collusion to take place. The difference between these two outcomes is subtle (although irrelevant in terms of the resulting consumer detriment) and the latter may be more difficult to spot than the former (we return to the issue of indicators below).

### **6.1.2 Preconditions for an R-A gap**

As we have argued in Chapter 4, section 4.3.2, differences between R and A should not occur in the long run if consumers are rational. However, if suppliers provide misleading advice or factually incorrect information, engage in high pressure sales tactics which induce consumers to make decisions without having sufficiently considered all relevant factors, or try to exploit biases that govern many consumer choices, the set of actual beliefs may diverge from the set of beliefs rational consumers should and would have in absence of that particular supplier behaviour. Again, this requires a situation where the information consumers would require to make an optimal choice is relatively complex and involves probability judgments, where suppliers are better informed than consumers, and consumers are to some extent reliant upon suppliers because it would be prohibitively costly to obtain and evaluate the necessary information.

In these cases, however, we have to ask in addition under what circumstances supplier behaviour that is aimed at deliberately misleading consumers is sustainable. In principle, these conditions should be comparable to those which result in a lack of incentive to reduce the rational information shortfall: unless suppliers are punished for engaging in trade practices which mislead

and exploit consumers by losing business to competitors, competition will not force suppliers to refrain from such trade practices. Indeed, competition may actually *encourage* such behaviour in some situations as suppliers compete to offer the best ‘perceived’ value; this may result in false information on prices or quality.

Misleading or false information may be provided where:

- individual suppliers are relatively small so that branding will not be a commercially viable strategy;
- suppliers (or advisers) suffer from some form of ‘commission bias’;
- consumers cannot evaluate the quality of the product or service prior to purchase (and in many cases even not after purchase), and require the product or service relatively infrequently; and
- barriers to entry and exit are relatively small.

With regard to the last point, it is important to distinguish between exit and entry barriers into the industry, and barriers to exit and entry into a market, which may be defined very narrowly in terms of its geography. For example, tradesmen and salesmen face little difficulty to move from one geographic market to another. The business of most tradesmen is small and it may be difficult to build reputation because a specific customer may need their services only infrequently, and may communicate its experience only to a small group of people who may not need those services at all. Hence, honest behaviour may not pay, whereas the potential gains from engaging in detrimental trade practices may be significant.

## 6.2 Indicators

Having outlined the general characteristics of markets and industries where consumer detriment is likely to occur, we turn now to a set of indicators that should help in isolating those markets and industries in practice. It must be stressed at the outset that this list of indicators is not comprehensive and that the indicators, in themselves, are less than conclusive. Thus, even if some indicators suggest that in a particular market or industry consumer detriment can be a problem, a careful analysis of the behaviour of both consumers and suppliers is indispensable. Nevertheless, these indicators should help the OFT to target instances where a closer inspection may be necessary.

We can identify six indicators which signal potentially problematic markets:

- the existence of price dispersion for seemingly similar products or services;
- the existence of focal points of competition;
- the bundling of primary and secondary purchases, or the existence of after-markets;

- the existence of commission payments, particularly from upstream suppliers to retailers or advisers;
- ‘complex’ goods or services; and
- goods and services which are either purchased infrequently, or which possess credence characteristics.

We now discuss each of these indicators in more detail, providing for each a further set of issues and questions which the OFT may wish to address.

### *Price dispersion*

One important indicator is a *significant price dispersion for relatively homogeneous goods*. This in itself suggests that consumers do not engage in sufficient search and do not effectively compare prices. This, in turn, could be suggestive of the objectively unjustified belief of consumers that the price dispersion is small and that, therefore, search does not pay. In the example of extended warranties, consumers, after having compared prices for electrical goods, may well believe that the dispersion of prices for extended warranties is not significantly different from the dispersion of prices for the goods themselves. Consumers may be led to adopt this mistaken belief, or a misperception may not be corrected because learning (on the individual or the social level) is ineffective.

While the presence of a significant price dispersion for relatively homogeneous goods may in most cases indicate some consumer detriment, it would be mistaken to conclude that in the absence of a significant price dispersion no detriment occurs. The absence of price dispersion may indicate both intense competition and the presence of market power or collusion among suppliers. The latter clearly is a source of consumer detriment, and as our discussion of the CLS case indicates, market power may well result from or be reinforced by informational problems. But also intense price competition may result in consumer detriment if it leads to a deterioration of quality as in the well-known lemons problem. Hence, we conclude that a significant price dispersion for relatively homogeneous goods is likely to indicate the presence of consumer detriment, but that relatively uniform prices should not be taken as evidence that no consumer detriment exists.

However, the OFT needs to consider:

- the *degree* of homogeneity. Few markets contain homogenous goods, so the issue is one of degree - does the price dispersion represent any objective difference between the goods and services on offer? This is a tricky and subjective issue which needs to be treated with care;
- how large is the price dispersion relative to estimated search costs? If search costs appear to be low, price dispersion may exist for other reasons. How easy is it, for example, for consumers to compare prices of similar goods? Again, this may require some

investigation - at first glance, one would consider the comparison of prices charged for extended warranties to be relatively costless, but this was not the case in practice.

### **6.2.2 Focal points of competition**

*Focal points of competition* indicate that the respective market is characterised by informational problems for which the creation of focal points is a solution. As we have stressed throughout our analysis, the presence of information imperfections does not necessarily imply consumer detriment: informational problems are a necessary, but not a sufficient condition for consumer detriment. Only if the particular focal point of competition that can be observed in a market or industry is likely to result in a rational information shortfall that is larger than it would be with a different focal point this would give rise to an avoidable T-R gap and, consequently, consumer detriment.

In our case study of photocopier selling practices the focal point of competition obviously was the cost-per-copy price. While such a focal point appeared to make price comparisons easy, suppliers disguised the fact that the calculation of the cost per copy was done in a way that allowed to hide the lifetime costs. While pretending to condense all relevant information in a single and simple to compare figure, suppliers drove the customers' attention away from information they should have considered in making a purchase decision.

The OFT needs to consider the following:

- how did the current focal points occur? Are they historical, or the result of recent supplier behaviour?
- is the market as a whole fairly dynamic and have focal points changed recently (this may indicate a rapidly evolving market and one which could correct itself given time)?
- what is the advantage of the focal points - do they really reduce consumer search costs, or are they hiding something? In the photocopiers example, it could be argued, for example, that focal points reduce search costs because the purchase is difficult. However, it could also be argued that leasing photocopiers should be little more difficult than renting televisions or cars, both of which have much simpler contractual terms. The OFT needs to consider other (similar) markets in order to look for alternative focal points and methods of competition; and
- do consumers consider themselves 'well informed' if they know the various focal points, or do they recognise that there are other pieces of information which are of value? This would require consumer surveys and a knowledge of how consumers make decisions.

### 6.2.3 Bundling of primary and secondary purchases and after-markets

Focal points of competition may be of particular importance where the consumers decide on *bundles of primary and secondary purchases* or where the initial purchase decision creates demand in an *after-market*. This was an important element in three of our case studies.

In the case of extended warranties, the warranty offered to consumers could be regarded as a secondary purchase, where the particular electrical good would have been the primary purchase. Competition focused on the price of the electrical good, and consumers were not induced to compare prices of secondary purchases or of the complete bundle of primary and secondary purchases. In addition, the lack of information about the fact that warranties were not offered by retailers but by insurance companies implied that consumers were not aware of the possibility that extended warranties could have been purchased separately. This is to say that even if consumers would have taken into account the price of the extended warranty in their purchase decision, they would still have compared the price of bundles of electrical goods and extended warranties and would have missed the opportunity to shop around for the cheapest primary and the cheapest secondary purchase.

In the case of contact lens solutions, the reliance on the advice given by the optician in fact created the perception that CLS from different suppliers were not substitutable, creating an after-market for specific types and brands of CLS once the consumer had bought contact lenses. Focusing on the price of contact lenses rather than on the life time cost allowed opticians to exploit consumer ignorance in the after-market.

In the case of photocopiers, the existence of an after-market is technologically determined. The need to use compatible spare parts and, to a lesser extent, consumables results in a lock-in of customers. Again, if the focus of competition is not on the true life time cost of the equipment, this may result in misguided consumer decisions and, consequently, consumer detriment.

There has been much written on after-markets and the possibility of suppliers abusing market power in the primary market (see the earlier references). The issue is complicated and may require a good deal of analysis. However, the OFT should begin with questions such as:

- is there any economic rationale for the primary and secondary product to be sold by the same supplier? If so, are these sales on an exclusive basis?
- what exactly prevents new entrants from supplying the secondary product or service (why, for example, could supermarkets not sell contact lens solutions, or insurance companies sell extended warranties)?
- are the prices (and other characteristics) of the secondary products as well known to the consumer as the primary products and, if not, why not?
- would disclosure of secondary product prices be easy to implement, and would it help consumers, or are the secondary products intrinsically more complicated?

#### **6.2.4 Commission payments**

We have noted (see page 29) that the use of commission incentives, by any player in the value chain, may force a divergence between the incentives of sales people and consumers. The resulting problems include:

- consumers purchasing products or services which are not appropriate, given their needs;
- consumers paying more than necessary for a given product or service; and
- products being of a lower quality than the consumer had be led to believe.

To an extent, all commission payments may result in these problems. However, those paid by upstream firms to sales people or advisers, to encourage the sale of a specific product or service, are likely to be most damaging. This practice is common and examples provided in this paper include financial services, mobile telephones and many electrical goods. The problem also exists in a more extreme form when there is a stronger commercial link between upstream and downstream players. In these cases, sales people and advisers may actually be tied to the upstream supplier. Examples include financial services, photocopiers, contact lens solutions and double glazing.

Where such commissions (or ties) exist, the OFT should address the following questions:

- what is the *real* reason for the vertical link - is it efficiency enhancing, or just a method of creating or leveraging market power?
- how in practice do these commissions (or ties) affect the quantity and quality of information which is provided to the final consumer?
- what would the market look like if these commissions or ties were prohibited?

We should make clear that we are not implying that all forms of vertical linkage are necessarily bad for consumers. There are many instances where such linkages can be welfare enhancing, but each case is different and needs to be addressed on an individual basis. However, we do feel that commission payments can seriously undermine both the quantity and quality of information provided to consumers.

#### **6.2.5 Complex products**

We have already noted that goods or services which are intrinsically complex (health services or electronic products, for example) present potential information problems for consumers. If consumers cannot understand the nature of the purchase they are making there may be scope for suppliers to exploit this ignorance through high prices or low quality. In a sense this indicator may be picked up through some of the earlier suggestions (price dispersion or focal points). However, we should again emphasise that not all complex product markets suffer from these

problems. If branding, supplier credibility or the efficient use of focal points are employed, the market may solve any informational problems.

### **6.2.6 Infrequent purchases or credence goods**

It was clear from our description of the consumer decision process (see Figure 1, on page 12) that feed-back mechanisms are an important method of learning. That is, consumers can usually learn more from actually buying and using the product or service than from any other source. However, if these mechanisms do not operate well (because the consumer cannot judge quality even after purchase), or are of little value (because the consumer is unlikely to make a similar purchase again for some time), learning is hindered and informational problems are likely to occur.

It is important to recognise that *any* good or service which is purchased infrequently can result in these problems, not just expensive consumer durables. The problem is that the consumer has no useful previous knowledge on which to base a purchase decision. The only method of learning is to undertake a search of current offers. However, we again return to the issue of search costs; consumers will only invest time in searching if the perceived benefits outweigh the costs. For a product they know very little about, consumers may under-search (this was partly the problem in case of pre-paid funerals<sup>38</sup> which was compounded by the fact that consumers felt uneasy about shopping around).

Goods with credence characteristics cause similar problems to any feed-back mechanisms, even if the consumer purchases the same class of products on a regular basis. The problem here is that the consumer cannot learn about a certain aspect of the product or service (or learns only very slowly in the case of long term experience goods). Examples include, on the one hand, many financial services, education and health and, on the other, environmental claims by detergent manufacturers, ethical claims by banks and technical characteristics claimed by electrical goods manufacturers.

## **6.3 Markets where problems appear to occur**

In the course of this paper we have provided a large number of examples to demonstrate particular points. The four case studies presented in Chapter 5 were based on detailed reports by the OFT and MMC. Other examples were drawn from press reports, anecdotal evidence or common knowledge. However, an obvious question which emerges is whether there are a small number of markets where these problems tend to occur on a regular basis.

We would suggest that the answer to this question is ‘yes’ and that the markets involved are those which satisfy the characteristics and indicators provided above. As an example, Table 1, on the following page, provides a possible application of our suggested indicators to a number of goods and services. *It should be emphasised that this is a subjective application and no attempt has*

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<sup>38</sup>

See OFT (May 1995).

been made to weight the indicators. Neither have we ranked the markets by importance of problem.

Of course, this framework could be applied to many more markets - we have selected those which were used as examples in this paper. In doing so some interesting patterns emerge. For all these sectors where problems have either occurred in the past, or are suspected, the infrequency of purchase and/or credence nature of the product is a common characteristic. All display at least three of the indicators, and most display four.

**Table 1: Markets where information problems appear frequently**

<i>Market</i>	<i>Indicators</i>					
	<i>Price dispersion</i>	<i>Focal points</i>	<i>Secondary purchases</i>	<i>Commissions</i>	<i>Complex products</i>	<i>Infrequent or credence purchases</i>
Life insurance	X	-	-	X (plus ties)	X	X
Pensions	-	-	-	X (plus ties)	X	X
Mortgages	-	X	X	X (plus ties)	X	X
Extended warranties	X	-	X	-	-	X
New cars	-	X	X	Ties	X	X
Second hand cars	X	X	-	-	X	X
Building services	X	-	-	-	X	X
Plumbers	X	-	-	-	X	X
Mobile phones	-	X	-	X	X	X
Appliance repairs	X	-	-	-	X	X
Photocopiers	X	X	X	X	X	X
Package holidays	-	X	X	X (plus ties)	-	-
Domestic appliances	-	-	X	-	-	X
Funerals	X	X	X	-	-	X
Contact lens solutions	X	-	X	-	-	X

A useful piece of analysis that could be undertaken is to compare the level of complaints in a number of markets, with the indicators discussed above. In this way it may be possible to provide some empirical support to the theories presented in this paper. An analysis of complaints by type of market was completed by the OFT in 1986.<sup>39</sup> While the results of this research were not fully conclusive (for reasons provided in the paper itself), they did suggest that major areas

<sup>39</sup> OFT (February 1986).

of concern were building work, motor cars and accessories and repair servicing of all types. Each of these markets scored at least three indicators in Table 1.

A more recent measure of the number of complaints directed toward ‘selling techniques, misleading claims or presentation of the goods and services’ are shown for a number of markets in Table 2. This simplified ranking of the number of complaints provides some useful information, although its limitations are clear: the level of complaints says little about the size of any detriment, rankings would have to be based on expenditures, and some sectors get more complaints than others because they are larger. To complete a proper update of the 1986 analysis, however, is beyond the scope of this paper.

**Table 2: Consumer complaints based on selling techniques in 1995**

<i>Market</i>	<i>Number of complaints</i>	<i>Rank</i>
Other household goods and services	40,864	1
Second-hand cars	22,034	2
Food and drink	21,077	3
Electrical goods hire	11,305	4
Clothing and fabrics	10,859	5
Home maintenance and repairs	10,090	6
Major appliances	5,821	7
Double glazing	5,662	8
Packaged holidays	5,325	9
Non-life insurance	4,229	10

## 6.4 Summary

This chapter has provided an overview of factors and indicators that should help the OFT to identify markets where informational problems can be expected to result in consumer detriment. Of course, the OFT will be alerted to detrimental effects by consumer complaints. However, there may be instances where consumers are not sufficiently aware of these effects, and the OFT may need to undertake its own analysis. This is one area where our indicators may be of value. In other instances, complaints may be brought even in cases where there is no actual detriment. Consumer complaints may, for example, be the result of mistaken decisions for which only the consumers themselves should be held responsible. Alternatively, many complaints are the result of ex post outcomes which were not anticipated. In these cases, we have shown that consumer detriment may not necessarily occur.

We have tried to identify factors and indicators that are sufficiently operational to assist the OFT in its assessment of ‘problem markets’. It should not come as a surprise, however, that the process of identifying problem markets and assessing the extent to which consumer detriment occurs is too complex to allow for an easy, mechanical solution. It is impossible to develop a comprehensive checklist that would lead to unambiguous results. We hope, however, that the factors and indicators identified in this chapter will provide guidance for an initial screening of markets and industries in which consumer detriment is likely to arise.

However, we have not been able, in this study, to devise a simple and practical method of *measuring* the size of any detriment. Again, this is due to the inherent complexity of the issues involved. Since our methodology for identifying consumer detriment is based on the alternative institutions approach, the size of any problem is dependent on the degree of avoidability. This requires a careful analysis of markets on a case-by-case basis.

In doing so, the best approach to measurement is probably some form of cost benefit analysis. However, here there are several problems, even if the alternative can be properly identified. First, there is the issue of measuring consumer detriment in some form of financial way. Second, there is the fact that consumer detriment may be very different across different groups of individuals, and it would be necessary to aggregate these measures in some way. Finally, any remedies (implicit in the specified alternative) will have some cost - to suppliers, to the OFT, and even to some consumers - and this cost has to be netted out of the calculation.

In addition to these problems, which are common to most applications of cost-benefit analysis, further complications arise from the fact that the results of intervention may be extremely complex. As we have noted, some forms of intervention may have no impact at all (forced disclosure in a complex product market, for example) while others may be amplified through market reactions (the exaggeration of certain types of information when focal points appear). Actually incorporating these effects into any calculation, and anticipating them when devising remedies, is likely to be very difficult.

## **6.5 Possible future work**

Starting from an initial review of the literature, which provided little of direct relevance to the specific problem facing the OFT, we have made some progress in understanding the nature of consumer detriment resulting from imperfect information. We have also identified factors which may provide indicators for the OFT on potentially problematic markets and situations.

However, there are several specific areas of research where further work would be beneficial. First, the whole issue of constructing a more practical ‘early warning system’ could be investigated. This would build on the indicators provided in this paper, but would need both to quantify them, and to adjust different markets for the number (and type) of consumer complaints, and the size of the overall market. While the output of this system need not be a single number, it may be possible to highlight problem markets quickly.

Second, more work needs to be undertaken on the issue of aggregation. That is, on how consumer detriment in different groups of consumers can be aggregated in order to assess the total magnitude of any problem. This issue of aggregation is closely related to that of the distribution of consumer detriment. How does a large problem affecting a small number of people, for example, compare with a smaller problem affecting a large number of people? How much priority should the OFT place on specific vulnerable groups, such as the elderly? And, how are the costs of any remedies distributed across consumers, particularly those who may not have experienced any detriment in the first place?

A third area of potential research is that of consumer search procedures. We have, in this paper, attempted to model a very general form of search which incorporates bounded rationality on the part of the consumer, and feed-back effects from learning. However, most of the current literature fails to allow for bounded rationality when modelling search. Perhaps the closest models to those of real world behaviour are to be found in the marketing literature. The problem here is that the products and services considered are generally fast moving consumer goods, while we have already shown that information problems are often more likely in markets where products are unbranded and purchase is infrequent.

Finally, the whole issue of why the set of rational information (R) may be different to actual information (A) needs more investigation. In particular, it would be interesting to estimate the frequency with which misleading information is provided to consumers. Moreover, it would be valuable to know if any strong relationship exists between the propensity to give misleading information and the existence of commission payments to sales people, the intensity and nature of competition in the market, and the nature of the product. Each of these issues has been addressed in this paper, but more empirical evidence needs to be found.

# ANNEXES

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## A Less-than-perfect rationality and consumer choice

Most of the experimental literature on consumer behaviour must be regarded as contradicting the basic predictions of rational choice theory. Empirical evidence, mostly from choice experiments in the laboratory, have resulted in the development of modified theories of choice under uncertainty. In this annex we will present a brief overview of the basic tenets of rational choice theory, give some typical evidence which contradicts these assumptions, and refer to alternative theories of choice. All examples are taken from the survey articles by Thaler (1980, 1987), which give also references to the respective basic assumptions in the traditional literature on decision theory.

*Tenet 1: The choice between two options depends only on states in which the outcomes of these options are different*

This principle reflects the ‘substitution axiom’ or ‘independence axiom’ in the traditional theory of rational choice. Choices between two different options should be independent of those factors that are identical in both options.

However intuitively plausible this principle may be, it has been challenged almost since the conception of modern theory of choice under uncertainty. One typical counterexample that shows that this principle does not describe real choice behaviour is given by the following pair of choices:

- Choose between (A) the following lottery:

Prize	£2,500	£2,400	£0
Probability	0.33	0.66	0.01

and (B) a certain win of £2,400.

- Choose between (C) the following lottery

Prize	£2,500	£0
Probability	0.33	0.67

and the following lottery (D)

Prize	£2,400	£0
Probability	0.34	0.66

Most people prefer B to A and C to D, which violates tenet 1 because C and D are derived from A and B by removing a 0.66 chance of winning £2,400.

This becomes obvious if we redefine B as

Prize	£2,400	£2,400	£0
Probability	0.34	0.66	0

Because the differences between A and B are therefore the same as between C and D, rational behaviour would require consistency in the sense that if an individual chooses B over A, they should choose D over C.

The fact that most people prefer B to A may be due to the fact that B pays £2,400 with certainty (so-called ‘certainty effect’).

***Tenet 2: Decision weights used in the calculation of the utility assigned to uncertain outcomes should not depend on the origin of uncertainty***

This principle requires that the utility of each specific outcome is weighted only by its probability. The observed choices in the following problem contradict this principle.

- Choose between two urns, each of which contains a large number of red and black balls and a colour. If a random draw from the chosen urn produces a ball of the chosen colour, you win £100. You know that urn A contains exactly the same number of red and black balls. The composition of urn B is unknown.

In order to choose between the two urns, people must form an opinion as to the composition of urn B. The choice of colour were they not to choose between urns but to use urn B reveals some information about this opinion. If faced with urn B, most people say that they would be indifferent between red and black. This indicates a subjective probability of drawing a ball of either colour equal to 0.5, which in turn implies that people assume that there is an equal number of red and black balls in urn B which should make them indifferent between urn A and urn B. However, the same people strictly prefer urn A with the known composition to urn B. Apparently, the subjective 'risk' assigned to the urn with an unknown composition is perceived to be higher.

### ***Tenet 3: Preferences should be defined over final states***

This principle states that in deciding between different options, rational individual should be concerned only with outcomes. Consider the following choice problems:

- Assume yourself richer by £300 than today. Choose between (A) a sure gain of £100 and (B) a gain of £200 with probability 0.5 and no gain with probability 0.5.
- Assume yourself richer by £500 than today. Choose between (C) a sure loss of £100 and (D) a loss of £200 with probability 0.5 and no loss with probability 0.5.

Most people prefer A to B and D to C, which means that they frame their choices in term of relative gains and losses rather than in terms of final outcomes (which are identical for A and C and B and D respectively). Moreover, there is a greater willingness to take risk to avoid a loss than to take risk in order to achieve a gain, showing that risk preferences are not the same with respect to gains and losses (so called loss-aversion).

As Thaler (1987, p 105) puts it, there are 'three important behavioural regularities observed in the study of both perception and choice. First, people seem to respond to gains or losses rather than to their hypothetical end states . . . Second, there is diminishing marginal sensitivity to changes irrespective of the sign of the change. Third, losses loom larger than gains.'

These effects are captured by prospect theory, formulated by Kahneman and Tversky (1979) as a descriptive theory of choice behaviour. The two elements are a decision weighting function which assigns decision weights to subjective probabilities (thus addressing the problems sketched above with regard to tenets 1 and 2), and a value function (replacing the utility function) which may have a different curvature in the domain of gains and losses (responding to the observations with regard to tenet 3).

Beside this no-standard way of modelling choice under uncertainty, there are some other effects that can be observed in experimental situations.

## ***Framing***

Choices depend on the way in which the decision problem is being presented. This effect may not only be due to the fact that people are not exclusively concerned with final outcomes of choices, but may in addition be the result of difficulties with understanding a choice situation purely in terms of its consequences. Building on the certainty effect and on loss aversion, information may be presented in a way such as to elicit specific choices by adequately framing the decision problem.

Framing may even lead to situations where dominated choice options appear to be more attractive. Consider the following example:

- Choose between (A) a sure gain of £240 and (B) a lottery that pays £1,000 with a probability of 0.25 and nothing with a probability of 0.75.
- Choose between (C) a sure loss of £740 and (D) a loss of £1,000 with probability 0.75 and no loss with probability 0.25

Most people prefer A to B and D to C. If presented with these choices, most people would end up with a portfolio of A and D, which is dominated by a combination of B and C (chosen by only 3% of the participants in a laboratory experiment). In terms of outcomes, the choice can be reframed as

- Choose between (E) (= A and D) a chance to win £240 with probability 0.25 and to lose £760 with probability 0.75 and (F) (= B + C) a chance to win £260 with probability 0.25 and to lose £740 with probability 0.75.

Presented in this way, dominance becomes obvious and all participants preferred F to E which should make us believe that, if properly informed, they would regret having chosen A and D over B and C.

## ***Endowment effect***

This effect refers to the observed difference between maximum willingness to pay for an item and the minimum price at which an individual would be willing to sell the item. This disparity between buying and selling prices can be exploited by free introductory offers if the amount people are willing to pay in order to avoid the loss of an option is higher than the amount they would have been willing to pay to receive this option in the first place (free trial periods, free magazine subscriptions and so on).

## ***Sunk cost fallacy***

Most people fall prey to this fallacy, ignoring that costs that have been sunk and cannot be recovered should not affect a decision. For example, many people use facilities like tennis courts if they have paid a non-recoverable lump sum membership fee in instances where they would not play tennis even if it were free, or decide to visit events if they have bought a ticket whereas they

would not have visited if the ticket had been given to them for free. In both cases - the case of a pre-bought ticket and the case of a free ticket - the marginal cost of visiting the event is identical. Yet people take into account costs that cannot be recovered anyway.

As Thaler (1987, p 112) observes, the ‘lure of sunk cost is so strong that substantial explanations must be given to convince subjects [untrained in economics] that the economic analysis is sensible . . . Households and individuals behave as if they had an implicit mental accounting system. One reason sunk costs are not ignored is that costs that have not been “mentally amortised” are coded as losses.’

This mental accounting may lead to a situation where money is not perfectly fungible and is, therefore, not spent in the direction where it would yield the highest value. For example, people who decided to spend £10 on a ticket would continue to buy the ticket after they have discovered the loss of a £10 note, but would not replace a lost ticket despite the fact that the loss (in money terms) is £10 in both situations.

### ***Non-consequential choice***

An extension of the observation that choices are based on perceived losses and gains rather than on final outcomes states that choices depend on the choice context in a much broader sense. Exchanges are expected to conform to a sense of fairness and to fit into a social frame of reference: ‘[when consumers feel that they are being treated unfairly, they will be unwilling to make a purchase that would otherwise make them better off. There is probably an effect in the opposite direction as well. That is, if a good is perceived to be a sufficiently attractive bargain, it may be purchased even if its value is less than its price.’ (Thaler, 1987, p 114)

### ***Biases in the formation of expectations and in learning***

The effects sketched above become relevant not only with respect to choice situations given some expectations or beliefs about the relevant states of the world, but also in the formation of these expectations and their updating in the learning process themselves. In most instances, people deal with probabilities in a way that is incompatible with standard probability theory. Kahneman and Tversky (1979) have identified several biases that affect the formation and updating of expectations.

People often form expectations biased by:

- availability: the relative frequency of a class is assessed with reference to the ease with which individuals can recall a specific event belonging to this class; and
- representativeness: the relative likelihood of an event belonging to a specific class of events is assessed by the extent to which this event is representative for the class.

This way of forming expectations generates biases if the ease of recall or representativeness are not perfectly correlated with the frequency of the event or the likelihood of an event belonging to a class. The following example shows a typical problem of these biases.

Participants in a laboratory experiment were asked to estimate the relative frequency of words with seven letters, ending on '----ing' in an average text of about 2,000 words. The median response was 13.4. On the other hand, the median response to the question of how many seven-letter words of the form '-----n-' could be found in the same text was 4.7. Obviously, these responses violate the conjunction rule of probability, because the class of seven-letter words ending on '----ing' is a subclass of the class of seven-letter words of the form '-----n-' and, therefore, the frequency of words of the first class cannot be higher than the frequency of words of the second class.

Rather than updating probability judgments by using Bayes' rule, individuals tend to give too little weight to base rate information and too much weight on the occurrence of specific events. In one of the Kahneman/Tversky experiments, people were asked to guess the profession of a complete stranger, drawn at random from a group containing lawyers and engineers. The responses were insensitive to the information about the composition of the sample from which the person has been drawn, i.e. the answers were not affected by the information that the sample contained 70% lawyers or 30% lawyers.

All these biases in forming and updating beliefs may lead to situations where the information consumers acquire is systematically different from the amount they should acquire, given the presumptions of rational choice theory.

A methodological problem exists with regard to the question of why the prescriptions of rational choice theory should have any normative content. We could argue, however, that if people regret their choices once been shown what they should have done and why alternative choices would have been in their interest, then we should use the optimum choice as determined by orthodox rational choice theory as a benchmark against which to judge the potential losses. This does not presume, however, that these losses should automatically count as detriment. Rather, we have to focus on whether these losses would have been avoidable, given the way in which people decide.

## **B Informational remedies**

There are two classifications of informational remedy: those that are formed by the *market* and those that are based on *intervention*.

### **Market-based remedies**

The problem for looking at market based remedies is that if it is rational for a firm to pursue, then it will already have occurred if cost effective. One possibility, therefore, is that of transitory problems, as markets adjust to remedy the informational asymmetries. However, firms and consumers do not operate in an institutional vacuum, and the extent to which market based remedies can develop may depend on the institutional framework. For example, prohibiting the use of adverts by GPs or members of the legal profession inevitably prevents solutions to informational problems that require a means of information disclosure, such as advertising. Of course, if advertising is likely to create informational problems in these cases, the legal restriction can be seen as an intervention to overcome these problems.

Market-based solutions are preferred because firms themselves know most about their products and generally provide information in the most cost effective manner.

### ***Price as a signal of quality***

A common theme in the literature on informational economics is how the price of a product or service may convey some information about quality, thus somehow bridging the informational asymmetry with respect to quality. Indeed, Wolinsky (1983) has argued that prices may serve as signals which exactly differentiate the available quality levels.

At a certain price, consumers expect to find a certain quality. A firm that charges this price may find it profitable in the short-term to produce at a lower quality (if this involves a lower cost). However, product information will enable some potential customers to find this out (through the updating of beliefs), and providing there are competing offers, that firm will lose business.

In deciding whether to produce a lower quality than signalled by its price, a firm weighs the loss of sales against the cost saved on remaining sales. If the mark-up over the marginal cost of producing the quality signalled by the price is sufficiently high, the loss of sales will outweigh the cost saved. In this circumstance, it is best for the firm to produce the quality signalled by its price.

However, Gabor and Granger (1966) observed that in markets in which it is difficult to judge quality prior to purchase, consumers tend to avoid low-priced brands on the supposition that they are of inferior quality. In this case, low-cost producers may as well fix their price near that of high-quality, high-price brands, and by so doing they build in an above-average mark-up as signal that they are of high quality. In other words, the price premium normally associated with higher quality may or may not actually reflect higher quality.

The efficient markets hypothesis suggests that prices fully convey all available information. But Grossman and Stiglitz (1980) have pointed out that this only applies when information is costless, and so prices do not *fully* reflect all information. Informed consumers make better decisions than uninformed ones, but their gain is equal to the cost of acquiring the information.

Using prices as quality signals reduces search costs because an easily observable variable, viz. the price, confers information about attributes that are more difficult to evaluate. Signalling devices, thereby, bring R closer to T. However, if price is made the focal point of competition and producers find it profitable to decrease quality, the use of prices as signals for quality may lead to a divergence between R and T.

### ***Warranties and guarantees***

The application of the signalling model of Spence (1973) and the screening model of Rothschild and Stiglitz (1976) can be seen in many product markets. In markets where it is difficult for consumers to observe quality, and where it is profitable for producers to signal quality, this may be achieved through market mechanisms such as warranties and guarantees.

Product warranties provide insurance against product failure. They possess informational properties, in that they convey a message of good quality. This message is also credible, as it would be unprofitable for a producer of bad quality products to offer such a warranty. If producers offered a warranty as a signal of good quality, but were found by consumers to be of bad quality, they would lose business as beliefs are updated.

It is therefore unprofitable for a bad quality producer to offer a warranty, which makes such a signal of quality credible. In this way, producers can signal to consumers which of them are of high quality. Product warranties can be a means of establishing or maintaining seller reputation. The consumer is led to expect quality, which enhances future credibility.

The provision of a full warranty - where the consumer is fully recompensed for product failure - is the ultimate guarantee of quality, and solves the non-observability problem. However, a low warranty - one that only recompenses consumers partially - may be seen as a signal of low quality, as if the product was of such a high quality, there would be no reason to only offer a partial warranty. The reasons for the existence of partial warranties are explored now.

Product warranties have incentive properties. Some warranties are limited to producer failure (partial warranties). For example, car warranties concentrate on mechanical breakdown, which is on the manufacturer's side, rather than the quality *per se* of the car, which is also a function of the way in which the car is maintained and driven (consumer's side). Similarly, television and radio warranties may have a disclaimer excluding the product from warranty if it is tampered with by consumers. This may lead to problems of moral hazard. In the case of product warranties, there may in fact be moral hazard on the part of the producers *and* the suppliers - so-called double moral hazard.

On the consumer side, there is less of an incentive to take care of the product if it is covered by a warranty. On the producer side, in cases of less-than-complete warranty, there may be an incentive to produce a lower quality of product if the producer is only partially responsible. Information is imperfect on both sides - buyers are imperfectly informed about product quality but sellers are imperfectly informed about the way in which buyers will subsequently use their product. Cooper and Ross (1985) have developed a model of double moral hazard in product warranties and have concluded that the impact of double moral hazard depends critically on whether care and quality are complements or substitutes in determining the probability that a product will work.

A low warranty (less-than-complete) exacerbates the problem of moral hazard on the producer side, in that the producer has less incentive to produce at a high quality if he will be only partially responsible if the product fails.

Conversely, a full warranty will exacerbate the consumer moral hazard of taking less care with the product, as consumers know they will be fully reimbursed in the event of product failure. By providing a low warranty, the producer ensures that some of the costs entailed by such consumer behaviour are internalised by the consumers themselves - product failure results in only partial reimbursement.

In addition, the full warranty attracts the problem of adverse selection. If there are two identical products, one with a full warranty at a higher price than one with a low warranty, it may be that the high risk consumers may choose the full warranty and the low risk consumers the low warranty. This also explains the presence of partial rather than full warranties.

Another reason cited for the existence of low warranties has been consumer misperceptions. We have assumed throughout that consumers act rationally. Spence (1977) assumes that consumers systematically overestimate the probability that the product will not fail. The producer, rationally, gains from offering a low warranty in exchange for a low price. Consumers are willing to accept this arrangement, as they wrongly perceive the probability of failure as low. In turn, this low warranty may induce the producer to under-supply reliability. This is a strong argument in favour of more statutory product liability laws.

Again, this remedy relies on a signalling device in order to reduce search costs and thereby brings R closer to T.

### ***Experts/Third parties***

Another method of providing consumers with credible information about product attributes is through experts or third-party advisers. Consumer magazines also fall in to this category.

Because of the problems involved with the public good nature of information, with the natural monopoly and free rider issues, it may not be possible for third parties to capture all the gains from such information services. For example, a consumer magazine might be retailed giving the

best buys for a certain type of product. However, the information in the magazine may be passed on to other consumers for free, enabling them to capture some of the benefits from the magazine.

In some circumstances, if such third parties exist, there may be an under provision of information because of the externality effects outlined above. In addition, if third parties arise because of the unobservability of, say quality, or because of the lack of credibility in the information provided by producers themselves, then the informational problems may still only be mitigated but not be solved.

The emergence of a secondary market is most interesting from the perspective of our framework. The existence of GPs, for example, changes neither the true distribution of information (i.e. all there is to know about the possible treatments for various diseases) nor the rational set of beliefs for each and every individual (i.e. what each and every individual should know about medicine). Rather, it substitutes the choice of the right treatment by the choice of the right GP, where it is supposedly easier to assess the quality of a GP than to assess the quality of a specific treatment. Thus, the secondary market is characterised by a smaller gap between T and R, which in turn allows the individuals to achieve the same result as if they were better informed in the primary market. The extent to which the information shortfall in the primary market is avoidable, thus, depends on the extent of the rational information shortfall of GPs (which is not necessarily zero), and on the extent of the rational information shortfall in the secondary market.

### ***Reputation***

Reputation is also a signal of good quality. Reputation may have been established through consumer experience of quality through repeat sales, advertising expenditures, pricing policies, etc. In the sense that there is an economic cost attached to establishing and maintaining reputation, it acts as a *bond* - the stock of goodwill inherent in a firm's reputation can be lost if its reputation is found to be false.

Expected repeated sales is a strong incentive for the non-provision of defective products. Because reputation is most easily built up from repeat purchases, it is more difficult to establish in markets where items are purchased infrequently.

A producer of high quality is more likely to attract repeat purchases than one of low quality. Consequently, each new customer is valued most by a high quality producer (see Nelson 1974), as the present value of a new customer is greater for a producer of high quality (higher probability of a repeat purchase). Nelson argued that there may be incentives to advertise (even if the informational content of such advertisements is low or non-existent) in order to induce a trial purchase.

Reputation acts as a signal, reduces search costs and thereby brings R closer to T.

### **Intervention-based remedies**

Intervention may be called for when market remedies do not result in socially efficient information provision. In these cases, some form of intervention may be required. However, intervention to increase R should only take place if this does not waste resources - that is, when R can be improved subject to no reduction in social welfare.

Intervention may be an optimal solution to an informational asymmetry even if the policy maker does not possess the private information held by the producers. In these cases, however, intervention must not be targeted on outcomes, but rather on devising institutional frameworks that result in more information being disclosed by the better informed parties in the market.

### ***Liability laws***

Product liability laws may serve the same function as explicit product warranties. If consumers know that liability laws or contract laws force the manufacturer to make good on defective products, then the manufacturer need not list its obligations in a warranty. However, as the precise obligations of the manufacturers may be ambiguous and transactions costs (e.g. court action) may be high, one may still find that explicit warranties are necessary.

Warranty contracts may suffer from the problem that consumers do not have the time to read the contract, or do not understand its subtleties. This is an application of the theory of bounded rationality which asserts that consumers are limited in their capacity to store and process information (see, for example, Simon 1957 and 1959). Furthermore, there may exist contingencies that are not foreseen by consumers; if these contingencies are detrimental to the consumers, the producer will rationally not draw attention to them. Product liability legislation may remedy this problem.

Liability laws may help to provide a credibility channel for suppliers who wish to provide information about their products - consumers may be more willing to believe such a claim if there are liability laws in place to protect them. Similarly, such laws may in fact prevent false claims from being made by suppliers. Laws preventing deception and fraud fulfil a similar role.

Liability laws may be an effective means to avoid defect products from being offered at the market. Thus, liability laws may not necessarily increase quality directly, but can be regarded as placing limits on the true distribution, reducing the variance of T, and increasing the credibility of quality claims.

### ***Standards and certification***

A central planner may provide information in the form of standards and certification. Standards provide a scale for evaluating or scoring non-observable product attributes, like quality. Certification may involve a report that a particular product has been found to meet or exceed a given level on a standard. To the extent that consumer groups or trade associations may be formed to provide such information, this may in fact constitute a market solution rather than an intervention.

Minimum standards may be appropriate in cases where quality is particularly difficult to convey to consumers (and so providing information may not be a solution), and where there would be little *informed* demand for the level of quality *below* the minimum standard.

Such measures can be harmful if the information is degraded or misleading, or if it is used for anti-competitive purposes. For example, if standards or certification are used to assess whether a product is of high or low quality, a situation might develop such that there was no longer a continuous scale, and minimum thresholds for high and low quality might emerge. Alternatively, these standards may themselves distort the producers away from competition on product attributes, like quality, towards these more observable signals.

Licensing of products may increase the average quality of a product simply by eliminating the low quality ones. However, as market price reflects average quality, these restrictions would raise the price consumers pay for products, and might also constitute a barrier to entry.

Product standards, certification or licensing may represent an example of signal or focal point competition (see Chapter 3, section 3.3.2). If such mechanisms confer a message of quality upon a product, then the producer might devote his attention and resources towards attaining the standard or achieving Government licensing standards. This skews competition away from the product attributes themselves towards the *signals* of attributes, which may themselves be imperfect indicators of the true product characteristics.

Standards and certification, as with liability laws, provide a credibility channel for suppliers; they reduce both search costs and the variance in the true distribution, thus reducing the gap between R and T.

### ***Forced disclosure***

A policy maker might force producers to divulge a certain piece of information to consumers. If such information exists, but producers fail to provide it, then disclosure may be one means of ensuring consumers have sufficient information. If this increases the marginal cost of production for producers, those producers that price at marginal cost may go out of business.

If these disclosures were not previously made because of a high cost, then presumably producer welfare will fall by forcing firms to make such statements. However, if such claims can be made such that social welfare is not reduced and R is improved, consumer detriment can be reduced.

Disclosure of information will only improve R if the information reduces search costs or increases the expected gains from search. The disclosure of complex information may not improve R if it is not understood by consumers or there is no gain from acquiring it.

### ***Regulation***

Some product markets can be regulated. Sometimes, markets can be self-regulatory, such as in some financial services, which may be classed more as a market remedy than intervention *per se*.

Regulation may prevent an informational asymmetry leading to consumer detriment. For example, in the case of taxis, the limited information about pricing in the absence of regulation may lead to either many customers being excessively charged (consumer detriment) or could result in a collapse in the demand for taxi services (perhaps even the failure of the market to exist). In this case, regulation allows the existence of the market at known (or better known) prices.

Regulation reduces the variability of firms' decisions, thereby affecting T.



## References and bibliography

Allais, M (1953): 'Le comportement de l'homme rationnel devant le risque, critique des postulats et axiomes de l'école Américaine', *Econometrica*, 21: 503-546

Akerlof, G (1970): 'The market for lemons: quality uncertainty and the market mechanism', *Quarterly Journal of Economics*, 84: 488-500

Beales, H, Craswell, R, and Salop, S (1981): 'Efficient regulation of consumer information', *Journal of Law and Economics*, 24: 491-539

Blanchard, O, and Fisher, S (1989): *Lectures on Macroeconomics*, MIT Press

Carlton, D, and Perloff, J (1994): *Modern Industrial Organisation*, 2nd edition

Coase, R (1988): *The Firm, the Market, and the Law*, Chicago and London

Cooper, R, and Ross, T (1985): 'Monopoly provision of product quality with uninformed buyers', *International Journal of Industrial Organisation*, 3: 439-449

Cooter, R, and Ulen, T (1988): *Law and Economics*, Glenview (Ill) and London

Darby, M, and Karni, E: 'Free competition and the optimal amount of fraud', *Journal of Law and Economics*, 16: 67-88

Deaton, A, and Muellbauer, J (1980): *Economics and Consumer Behaviour*, Cambridge University Press

Diamond, P (1971): 'A model of price adjustment', *Journal of Economic Theory*, 3: 156-168

Gabor, A, and Granger, C (1966): 'Price as an indicator of quality: report on an enquiry', *Economica*, 33: 43-70

Gabszewicz, J, Popall, L, and Thisse, J (1992): 'Sequential entry with brand loyalty caused by consumer learning-by-using', *Journal of Industrial Economics*, 4: 391-416

Grossman, S, and Stiglitz, J (1980): 'On the impossibility of informationally efficient markets', *American Economic Review*, 70: 393-408

Hargreaves Heap, S (1992): 'Rationality', *The Theory of Choice: A Critical Guide*, Hargreaves Heap, S, Hollis, M, B Lyons, R Sugden, and A Weale (eds), Oxford and Cambridge

Heal, G (1976): 'The demand for products of uncertain quality', *Equilibrium and Disequilibrium in Economic Theory*, Schwodiauer, G (ed)

- Heiner, R A (1983): 'The origin of predictable behavior', *American Economic Review*, 73
- Hogarth, R M, and Reeder, M W (eds) (1987): *Rational Choice - The Contrast between Economics and Psychology*, Chicago and London
- Hutchinson, J W, and Alba, J (1991): 'Ignoring irrelevant information: situational determinants of consumer learning', *Journal of Consumer Research*, 18: 325-345
- Kahneman, D, Slovic, P, and Tversky, A (eds) (1982): *Judgment under Uncertainty: Heuristics and Biases*, Cambridge and London
- Kahneman, D, and Tversky A (1979): 'Prospect theory - an analysis of decision under risk', *Econometrica*, 47: 263-291
- Kay, J (1991): 'Managing relationships with customers and suppliers: law, economics and strategy', *Business Strategy Review*
- Komesar, N (1994): *Imperfect Alternatives: Choosing Institutions in Law, Economics and Public Policy*
- Laffont, J, and Maskin, E (1987): 'Monopoly with asymmetric information about quality, behaviour and regulation', *European Economic Review* 31: 483-489
- London Economics (1992): *Independent Financial Advisers and the Impact of Commission Disclosure*, a report for the OFT
- Mas-Colell, A, Whinston, M, and Green, R (eds) (1995): *Microeconomic Theory*
- Mathewson, F, and Winter, R (1986): 'The economics of vertical restraints in distribution', *New Developments in the Analysis of Market Structures*, Mathewson, F, and Stiglitz, J (eds), MIT Press
- McClennen, E (1990): *Rationality and Dynamic Choice - Foundational Explorations*, Cambridge
- Milgrom, P, and Roberts, J (1992): *Economics, Organisation and Management*, Prentice-Hall
- Mizuno, M, and Odagari, H (1990): 'Does advertising mislead consumers to buy low quality products?', *International Journal of Industrial Organisation*, 8: 546-558
- Nelson, P (1970): 'Information and consumer behaviour', *Journal of Political Economy* 78: 311-329
- Nelson, P (1974): 'Advertising as information', *Journal of Political Economy*, 81:729-754
- Noll, R G, and Krier, J E (1990): 'Some implications of cognitive psychology for risk regulation', *Journal of Legal Studies*, 19: 747-779

OFT (February 1986): *Consumer Dissatisfaction - a report on surveys undertaken for the Office of Fair Trading*

OFT (March 1993a): *The Marketing and Sale of Investment-Linked Insurance Products*

OFT (March 1993b): *Fair Trading and Life Insurance Savings Products*

OFT (March 1994): *Photocopier Selling Practices*

OFT (June 1994): *Surrender Values of Life Insurance Policies*

OFT (December 1994): *Extended Warranties on Electrical Goods*

OFT (May 1995): *Pre-paid Funeral Plans*

Philips, L (ed) (1988): *The Economics of Information*

Ramsey, I D C (1984): *Rationales for Intervention in the Consumer Marketplace* (published as an OFT research paper)

Riley, J (1989): 'Signalling', *The New Palgrave: Allocation, Information and Markets*, Eatwell, J, and Milgate, M (eds), Macmillan

Roth, A E (ed) (1987): *Laboratory Experiments in Economics: Six Points of View*, Cambridge

Rothschild, M (1973): 'Models of market organisation with imperfect information: a survey', *Journal of Political Economy*, 82: 1283-1308

Rothschild, M (1974a): 'A two-armed bandit theory of market pricing', *Journal of Economic Theory*, 9: 185-202

Rothschild, M (1974b): 'Searching for the lowest price when the distribution of prices is unknown', *Journal of Political Economy*, 82: 689-711

Rothschild, M, and Stiglitz, J (1976): 'Equilibrium in competitive insurance markets: an essay in the economics of imperfect information', *Quarterly Journal of Economics*, 90: 629-650

Salop, S (1976): 'Information and monopolistic competition', *American Economic Review*, 66: 240-245

Salop, S (1977): 'The noisy monopolist: imperfect information, price dispersion, and price discrimination', *Review of Economic Studies*, 44: 393-406

Savage, L (1954): *The Foundations of Statistics*, New York

- Schlicht, E (1990): 'Rationality, bounded or not, and institutional analysis', *Journal of Institutional and Theoretical Economics*, 146: 703-719
- Schmalensee, R (1975): 'Alternative models of bandit selection' *Journal of Economic Theory*, 10: 333-342
- Schmalensee, R (1988): 'A model of advertising and product quality', *Journal of Political Economy*, 86: 485-503
- Schwartz, and Wilde (1979): 'Intervening in markets on the basis of imperfect information - a legal and economic analysis', *University of Pennsylvania Law Review*, 127/+0
- Scitovsky, T (1950): 'Ignorance as a source of oligopoly power', *American Economic Review*, 40: 48-53
- Selten, R (1990): 'Bounded rationality', *Journal of Institutional and Theoretical Economics*, 146: 649-658
- Sen, A K (1985): 'Rational fools: a critique of the behavioral foundations of economic theory', *Philosophy and Public Affairs*, 6: 317-344
- Sheffrin, R (1983): *Rational Expectations*, Cambridge University Press
- Simon, H (1955): 'A behavioral model of rational choice', *Quarterly Journal of Economics*, 69: 99-118
- Simon, H (1957): *Models of man*, New York, John Wiley and Sons
- Simon, H (1959): 'Theories of decision-making in economics and behavioral science', *American Economic Review*, 49: 253-283
- Spence, M (1973): 'Job market signalling', *Quarterly Journal of Economics*, 87: 355-374
- Spence, M (1977): 'Consumer misperceptions, product failure and producer liability', *Review of Economic Studies*, 44: 561-572
- Stigler, G (1961): 'The economics of information', *Journal of Political Economy*, 69: 213-225
- Stiglitz, J (1979): 'Equilibrium in product markets with imperfect information', *American Economic Review*, 69: 339-345
- Stiglitz, J (1989): 'Imperfect information in the product market', *The Handbook of Industrial Organization*, Schmalensee, R, and Willig, R (eds), New York, Elsevier Science Publishers Inc
- Thaler, R (1980): 'Toward a positive theory of consumer choice', *Journal of Economic Behavior and Organization*, 1: 36-90

Thaler, R (1987): 'The psychology of choice and the assumptions of economics', *Laboratory Experiments in Economics - Six Points of View*, 99-130, Cambridge University Press

Tirole, Jean (1990): *The Theory of Industrial Organisation*, MIT Press

Varian, H (ed) (1992): *Microeconomic Analysis*, 3rd edition

Wolinsky, A (1983): 'Prices as signals of product quality', *Review of Economic Studies*, 50; 647-658