

# The consumer guide to competition: A practical handbook

March 2003



Competition and  
competition policy

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Consumers and competition

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# **The consumer guide to competition:**

**A practical handbook**

**Phil Evans**



## Acknowledgements

The Consumer Guide to Competition Handbook was written by Phil Evans at Consumers Association, UK and edited by Lezak Shallat from Consumers International Regional Office in Santiago, Chile. This work was undertaken within the Consumer Movement and Competition Policy Post Doha programme, which is funded by the UK Department For International Development (DFID). However, in addition to gratefully acknowledging the support of DFID, this work built on existing activities funded by the Ford Foundation, the ministry of foreign affairs of the Dutch Government, the European Union, the International Development and Research Centre (IDRC), and Oxfam.

Designed and produced by Steve Paveley

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March 2003

ISBN 1 902391 42 X

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# Introduction

*“Chaos, illumined by flashes of lightning”*  
– Oscar Wilde on Robert Browning’s style <sup>1</sup>

**The analysis of markets is not an exact science but a combination of evidence-based research and analytical interpretation. This handbook does not aim to provide an exact roadmap of ‘how-to’ proportions but to describe the parameters of thinking generally contained in market structure analyses and competition investigations. More importantly, this handbook aims to indicate the range of issues that competition analysis can cover and point out potential problem areas for those of us involved in representing the consumer interest in competition cases.**

In addition to providing a guide to competition policy investigations, this handbook also suggests improvements to the existing methodologies in the area of consumer behaviour, plus new approaches in geographic market definition and substitutability.

Incorporation of consumer behaviour more firmly into the assessment of competition cases focuses on developing a matrix of indicators to assess the degree to which the implicit model of consumer behaviour will hold true. The key problem here is the scarcity of hard and fast indicators of consumer behaviour other than ones derived from actual purchasing behaviour. As a result, the indicators we propose are more about identifying barriers to consumer rationality than indicating the degree of that irrationality itself. The advantage of this approach is that it allows the pinpointing of specific barriers to rationality in individual markets and gives

structure to assessments both of competition problems and the likely success of regulatory solutions.

The additions we recommend in the definition of relevant geographic markets are also related to the ways consumers behave within normally defined geographic markets. Established methodologies generally use proxy indicators and measures of substitutability in the market as guides to defining the market. We are not proposing to scrap those indicators but to complement them with more consumer-focused ones. In particular, we recommend additional measurements of consumer mobility and purchasing behaviour within markets to ascertain the degree to which consumers define their own geographic markets.

We also propose several ways forward to incorporate the development of e-commerce into geographic market definition. We argue for the use of data about Internet usage by consumers that is tied to an understanding of the distribution of consumers within the market. This will help pinpoint the potential for e-commerce to have an effect on off-line retailers and suppliers.

In the field of substitutability analysis, we propose a series of indicators to gauge the likelihood that consumers will invest time in seeking substitutes. The measures are similar in scope to those used in defining the role of the consumer in competition investigations. However, they are more capable of having real data tied to them and are more explicit about the judgmental weightings built into the overall scale. Again, the aim is not to supplant established methodology but to supplement established methods with consumer-focused indicators.

## Assessing assumptions

No one comes to the topic of competition without a host of prejudices and historical baggage, and assessment of markets rests on a number of these views. Aside from the established rules of economics and lessons from the study of markets, the following assumptions make a useful starting point:

## Markets exist only because of consumers

*Consumption is the sole end and purpose of production, and the interest of the producer ought to be attended to only so far as it may be necessary for promoting that of the consumer.* – Adam Smith <sup>2</sup>

We sometimes forget that the market is only in existence because of the consumer. The definitions of markets tend to focus on the firms that operate in them. If we think of markets in this way we miss the centrality of the consumer to understanding how the market functions. We also end up with regulatory solutions that favour businesses over consumers and aid collusion and abuse of competition.

### Competition operates in the real world

*The social object of skilled investment should be to defeat the dark forces of time and ignorance which envelop our future* – John Maynard Keynes <sup>3</sup>

*You can't step twice into the same river* – Heraclitus

We must subscribe to the post-Keynesian view of the world:

- Economic and political institutions are not negligible
- The economy is a process in historical (real) time
- In a world where uncertainty and surprises are unavoidable, expectations have an unavoidable and significant effect on economic outcomes.<sup>4</sup>

Markets are complex and operate in real time. Any assessment of a market must take account of this and not rely on simple snapshots or static views of competition.

### There is more collusion in ordinary markets than most people presume

Adam Smith argued that '(p)eople of the same trade seldom meet together, even for merriment and diversion, but the conversation ends in a

conspiracy against the public, or in some contrivance to raise prices.'<sup>5</sup>

Many consumers and regulators like to think that the natural state of markets is competition. In fact, the natural state of markets is more likely to be collusive. The desire of companies and their managers to have a 'quiet life' encourages collusion and undermines competition. This is not to say that all industries are riddled with anti-competitive behaviour – some are, and some are not. However, it does indicate that there are many more abuses of competition and consumers than most people would expect.

### Government is not blameless

There used to be essentially two views on the source of monopoly power.<sup>6</sup> These views were divided into:

- self-sufficiency: firms gain monopoly power under their own steam:
- interventionist: monopoly power is accrued as a result of government intervention or failure.

In the real world, it is unlikely that either view will always be correct. In most cases, the accrual of monopoly power will arise from an interaction of the two sources.

### Established approaches only tell part of the story

Competition regulation tends to analyse firms in markets and has less experience in dealing with consumers in markets. Inability to factor real consumer behaviour into analysis will limit responses to cases, reduce the ability to propose real solutions and hamper the recognition of 'emergent properties' in markets that a holistic view of a market will provide.

### Competition is not an end in itself

*Cecil Graham: What is a cynic?*

*Lord Darlington: A man who knows the price of everything and the value of nothing.*

– Oscar Wilde, *Lady Windermere's Fan* (1892)

While the study of markets and promotion of competition are important exercises, it must be remembered that the object of the market is not



competition. We must raise our eyes from the workings of the market to really see what sort of world we want to live in.

### **Markets are good at providing allocative efficiency, not distributional equity**

Competition analysis and investigations are good for improving allocative efficiency but not for dealing with distributional equity. It is quite dangerous to confuse the two targets.

Allocative efficiency, or Pareto efficiency/optimality, occurs when it is not possible for anyone to be made better off without making someone else worse off. Pareto efficiency can be seen in conjunction with a Nash equilibrium. A Nash equilibrium occurs when a firm aims for profit maximisation at the same time as competing firms, and means that no firm can gain by changing its strategy from the one it has independently chosen.

Distributional equity is a broader social concern driven by a desire to strive towards what Tobin<sup>7</sup> has called 'specific egalitarianism'. This is the concern to ensure that distribution of a resource or service is done in a manner that is less unequal than the simple ability-to-pay solution would provide for. A distributional equity solution may involve measures outside and beyond the assessment of allocative efficiency. As we discuss below, the decision-making process should assess and aim for the allocative efficiency position before considering what distributional impacts may be.

# Competition and competition policy

1



# Part I: What is competition

**Raymond Carver, one of the finest American short-story writers of the 20th century, produced a collection entitled “What Do We Talk About When We Talk About Love?” The same question can be asked about competition. Like love, we know competition when we see it. But when we try to pin down exactly what it is, we find ourselves tripping over words and definitions. Like love, competition tends to be viewed in different ways by different people. This section outlines what competition is, what it is not and what it might become. It also discusses some important distinctions between competition, competition law, competition policy and regulation.**

At its most basic, competition is the process of rivalry between firms and other suppliers for the money and loyalty of customers over a period of time. The nature of this rivalry depends to some degree on the structures apparent in the marketplace and the history and culture both of consumers and producers in that market. This rivalry tends to focus on one of two routes, or a combination thereof:

- Price-based competition: rivals compete to cut their costs and prices to catch the attention of customers.
- Service-based competition: rivals go beyond price offers and offer differentiated service offers. These may sometimes include innovations in product and service markets.

The package that the consumer sees in a competitive market is a often combination of these two approaches.

The classic approach to competition stems from Adam Smith’s notion that competition occurred when rivals acted in isolation from one another. Collusion would not generate competition. Following individual self-interest, when collected together in a market, would generate the best economic outcome. Smith’s focus on the ‘Invisible Hand’ that guides individual actors in an economy to a wider end to which they had not strived has taken on almost mythical proportions in the modern understanding of markets.

Smith’s approach to competition was a behavioural one. Competition worked on the basis of the behaviour of individual players in that market and would be stymied by the monopolistic behaviour of those same players. The market was almost an exterior result of individual behaviours which none of the players aimed for but arrived at, courtesy of the Invisible Hand.

During the 19th century, a more structural view of competition emerged. This approach generated the widely held view that a market could be defined as competitive when there was a sufficiently large pool of sellers of a homogenous (identical) product so that no sellers had a enough of a market share to enable them to influence product price by altering the quantity they placed on the market.

The more structural approach of the 1930-40s led to the development of the Structure, Conduct, Performance approach to industrial organisation. This approach marked a huge step forward in the understanding of markets and is still remarkably influential today.

The behavioural approach tends to be strongest among the business community. It focuses on the behaviour of firms and tends to argue that if there is a competition problem, amending the behaviour of firms within that market will deliver results. The behaviouralist error focuses almost exclusively on the appearance of rivalry presented by businesses.

In contrast, the structural approach looks almost exclusively at the market structure and assumes a deterministic relationship between

structure, conduct and performance. It tends to argue that getting the structures right in the market will drive behavioural changes.

The behavioural and structural approaches can lead to opposite errors in the analysis of competition in a marketplace. Taking too absolutist a line in looking at markets in either tradition can lead to the following errors:

- The behaviouralist error assumes that firms, left to their own devices, will tend towards competition. This is typified in the Chicago School /Robert Bork approach to competition investigation which rests on the implicit moral superiority of capitalist enterprises over government regulation. It assumes that markets are best left to themselves and that if there is a breach of competition rules, behavioural remedies are best – simply directing the firms to their previous narrow path of competitive virtue. This type of error predisposes the proponent to leave markets alone for too long.
- The structuralist error assumes that all behaviour in markets is driven by the structure in that market. This tends to lead proponents to a reductionist, deterministic approach that assumes that all you have to do is get the structures right (e.g.: where there are few firms, they must be colluding and must be broken up) and the desired behaviour will follow. This type of error leads to a more intrusive regulatory approach to competition problems.

The two errors tie rather neatly into FM Scherer's acute observation, as described in his classic textbook<sup>8</sup>, about the difference between rivalry and competition. He defines rivalry as the process by which business people consciously jockey for position against rival firms. This, he argues, is often defined by those business people as competition. However, you can have rivalry without vigorous competition and competition without rivalry (e.g. on commodity trading systems).

This distinction between rivalry and competition is an important and useful one for consumer organisations. We are often faced

with markets where firms maintain that they are competing vigorously for consumers' money, whereas we sense that the market is not working as well as it could in the interest of consumers.

## Part II: What competition does

**The process of competition and its manifestation in rivalry between firms delivers a number of things in those markets where it is strong. The effects of competition can be generally grouped into two broad areas: those directly relevant for consumers and those indirectly relevant for consumers.**

### Direct gains

It is always more straightforward to prove the disadvantages for consumers where there is no competition than it is to prove how good it is for consumers when competition exists. This is for a number of reasons, most notably that when measuring the impact of the blocking of a merger, or the liberalisation of a market it is almost impossible to separate out each of the possible reasons for a change in pricing or choice. There are always 'other factors' that come into play. However, there are some general things that can be said to flow directly from competition.

### Lower prices

The greater the competition within a market, the more likely vigorous price competition will occur. In contrast, monopolists' only incentive is to keep prices high. This poses a fundamental problem for consumers in dealing with pricing, a problem that rests on whether you can tell from price alone whether a market is competitive or not.

Economic theory tends to argue that in a perfectly competitive market, prices will be driven as near as possible to marginal cost. In most national markets, this will likely lead to

harmonised prices. At the same time, a market run by a cartel, or in which there is price-fixing or collusion, will also tend toward a single price. The conundrum for consumer organisations is whether this single price is evidence of near-perfect competition or near-absolute lack of competition. The answer to this conundrum requires steering a path between the behavioural/structural errors outlined above.

### **Looking for collusion**

While there are no cast-iron pointers to guide the consumer activist, the following signs may point to collusion:

- **What opportunities does the industry have to meet and discuss prices and output?**

If there is a strong industry lobby group, regular conferences and regular closed meetings, the industry has the opportunity to engage in anti-competitive behaviour more easily than an industry without such opportunities. It is a lot easier to create a cartel at the fringes of a regular industry meeting or conference than to organise a stand-alone group that has to be established specifically for the task.

- **Does the industry tend to speak with the same voice?**

In a highly competitive market, it is rare that all players will have the same view of an issue. While there will be many common issues on which they may agree (e.g. levels of taxation or regulatory burdens), beware of the industry in which there appears to be one voice only. This points to an industry where the culture is one of co-operation, not competition.

- **How much price and cost signalling is there?**

Collusion is easier if you know your rivals' prices and costs. Look at the market and see how easy it is for firms to see each other's prices and understand each other's costs. For example, in petroleum retailing, most firms are totally vertically integrated and the product they deal with is pretty much identical. Each firm thus knows that its own costs are unlikely to be significantly different to its rivals. The nature of retailing in this oligopoly market means that each firm knows its rivals' prices and has a fair understanding of their costs.

Firms can estimate margins and the ability of its rivals to engage in different levels of price competition. If each player in a tight oligopoly market knows price, costs and long run margins, competition on price is extremely unlikely.

### ***What experience has taught us***

The positive price effects of competition are enormously important. For consumer organisations in some nations, competition may be seen as a luxury or as a tool for the middle classes. In other nations, consumer organisations may ask: "What does competition policy mean to a consumer living on less than a dollar a day?" The simple answer lies in being able to stretch that dollar further and having greater choice in where that dollar is spent. Turn the question around, and it is even easier to understand: "What good is a monopoly to a consumer living on less than a dollar a day?"

Prices matter: they matter most for those with the least to spend. An interest in driving prices down through competition is an interest shared by all consumers. If competition can drive down prices, then we must look to the policy mix that helps deliver competition. The mix will include reducing barriers to entry in markets (through trade liberalisation, removing restrictive regulations and getting governments out of some markets) as well as rules to stop companies from simply controlling a market for their own benefit. Competition is not created by competition policy but competition policy can protect competition once it occurs.

### **EVIDENCE FILE No. 1**

Oliver Boylaud, Giuseppe Nicoletti. OECD Economics Department. Regulation, Market Structure and Performance in Telecommunications Economics Department. April 21, 2000. OECD Economics Department Working Paper No. 237

Controlling for technology developments and differences in economic structure, panel data (long-distance (domestic and international) and mobile cellular telephony services in 23 OECD countries over the 1991-1997 period) estimates

show that prospective competition (as proxied by the number of years remaining to liberalisation) and effective competition (as proxied by the share of new entrants or by the number of competitors) both bring about productivity and quality improvements and reduce the prices of all the telecommunications services considered in the analysis. No clear evidence could be found concerning the effects on performance of the ownership structure of the industry (as proxied by both the public share in the PTO and years remaining to privatisation). Severin Borenstein, Nancy Rose. Competition and Price Dispersion in the U.S. Airline Industry. July 1991. *NBER Working Paper No. W3785*

The pattern of price dispersion that we find does not seem to be explained solely by cost differences. Dispersion is higher on more competitive routes, possibly reflecting a pattern of discrimination against customers who are less willing to switch to alternative flights or airlines. We argue that the data support an explanation based on theories of price discrimination in monopolistically competitive industries.

Eric Kodjo Ralph, Jens Ludwig. Competition and Telephone Penetration: An International Statistical Comparison. By using the natural experiment in world telephony markets where nations have chosen vastly different regulatory regimes, this paper shows how competition spurs telecommunications penetration. Further, we show that moving from two to three or more firms is more important than moving from one to two, and that actual entry matters more than the threat of entry. This is of economic as well as policy interest since game-theoretic models yield ambiguous predictions about oligopoly and monopoly when entry is threatened.

Aaron S Edlin. Do Guaranteed-Low-Price Policies Guarantee High Prices, and Can Antitrust Rise to the Challenge? *Harvard Law Review*, Vol. 111, No. 2, December 1997.

This article argues that there is an analogy between a seller offering (and agreeing) to match a price for a buyer and other buyer-seller agreements that violate the Sherman Act. This article also considers a wholly new avenue for

attacking price matching, asking whether the price discrimination involved in matching violates the unfair-competition or price-discrimination laws. In so doing, this article examines whether price matchers should be able to protect themselves from such an attack with a "meeting competition" defence. Breaking with conventional wisdom, this article concludes that the defence should be rejected in cases in which meeting competition may significantly injure competition among sellers.

### More choice

The other clear and obvious benefit of competition is that it can generate more choice. Instead of the one monopoly supplier, consumers can choose from different options. For example, in the telephony market, the choice for many years was a land-line, if you could get one at all. This land-line tended to be controlled by the national, government-owned monopoly. The arrival of competitors in land-line operations in many countries changed this state of affairs. However, the biggest shift in the market has been driven by the arrival of mobile telephony. This has not only provided more choice but also helped open access to the market for many more consumers than could previously access a fixed land-line.

### New entrants

A competitive market can trigger market entry. (Of course, market entry can be triggered by flabby monopolists.) The argument about entry reflects the idea that entry will only tend to occur where a potential new player sees attractive margins being earned by existing players. Thus a lack of competition triggers entry. However, a firm entering a market can only survive if it can compete with rivals. If the market is sewn up through collusion or government regulation, then the new entrant will simply not survive.

### *What experience has taught us*

Choice is sometimes seen as some terrible problem for the middle classes, but where consumers can exercise choice, we should be empowered to do so. Competition can deliver choice at its most basic level. When a country like India effectively has only one make of car for many years, consumers are denied choice.

But when other firms are allowed to compete, consumers have a choice. What's more, innovation is driven into the sector, as previously dominant players have to fight for consumer money. However, choice does not deliver everything. In some markets, choice is difficult either because the market is complex or because the market is made complex by existing players to confuse consumers into sticking with the firms they recognise. There are real barriers to choice that must be recognised in drawing up regulations.

### EVIDENCE FILE No. 2

Mary W Sullivan. US Department of Justice. The Effect of the Big Eight Accounting Firm Mergers on the Market for Audit Services. March 17, 2000. Working Paper No. EAG 00-2. The research assesses how the two Big Eight mergers of 1989 affected the market for audit services. A data set of 1,978 firms over a 12-year period is used to test four theories of how the mergers could have affected competition and consumer welfare. The study finds that the mergers reduced the marginal costs of auditing large clients. There is no evidence that the mergers were anticompetitive or that they reduced costs for all types of audit buyers.

### Better service

It may seem a strange to argue that competition delivers better service. It helps to identify what we mean by service. For example, in the aviation market, service is generally defined to include frequency and punctuality as well as the cup of tea or coffee. Back in the 1970s, prior to liberalisation, US airlines competed almost entirely on 'service' rather than prices (which were fixed). This led to such insane 'service' offerings as in-flight cocktail piano bars and playboy bunnies. Bloated fares and lack of competition encouraged the airlines to waste money on gratuitous service 'innovations'.

### *What experience has taught us*

Monopoly providers offer little choice and get lazy, which drives down service quality (e.g. Aeroflot in the 1970-80s) or encourages them to invest huge amounts of money on excessive frills (e.g. US airlines in the early 1970s). Either

way, the consumer loses. Service quality tends to improve when firms are forced to compete with other firms. Why would a monopoly provider bother to provide a better service when it knows it will not be punished if it does not?

## Indirect gains

While the direct gains of competition are relatively easy to identify, the indirect gains are more difficult. However, the relationship between the direct and indirect gains is important to investigate. Indirect gains through enhanced efficiency, productivity and even profitability can result in even greater gains for consumers. In a competitive market, the relationship between direct and indirect gains can form a virtuous circle. In monopolised markets, the opposite may be true: lack of direct gains for consumers can form a vicious circle resulting in the destruction of efficiency, productivity and profitability that reduces the possibility of future gains for consumers.

### Efficiency and productivity gains

Efficiency and productivity gains for firms are not usually viewed as being a benefit delivered to consumers from competition. But when certain conditions are met, such gains can form a virtuous circle of competition, efficiency and productivity. When consumers choose between products on an individual basis, they signal their preferences. When these individual preferences are aggregated together, firms receive a clear market signal of what consumers want (and do not want) and what to produce. When a firm loses out, it is spurred on to find ways to recapture consumer preferences either by cutting costs (to undercut their competitors), or by innovating and producing a better product to recapture these preferences, or both. This constant need to capture consumer preferences forces firms into a never-ending search for the productivity gains and efficiency enhancements that will allow them to go one-up on their rivals.

This competition-productivity-efficiency drive can bring about a situation where consumers benefit from better service and lower prices while firms in the market see profit

enhancements. An example of this comes from the UK supermarket sector, where retail prices have been declining steadily over recent years as profits have been rising. Consumers have been reaping a fair share of the benefits of competition between the main players.

### ***What experience has taught us***

The indirect gains from competition may appear to be of secondary interest to consumers, but they are of fundamental importance over the long-term. More productive and efficient use of resources helps an economy to develop more quickly and leads to a higher standards of living. (It does not, however, deal with issues of income distribution). More dynamic firms tend to innovate more and be more responsive to their consumers. This triggers new products, new markets and new approaches to consumer-industry relations. Efficiency and productivity gains from competition are actually the most important long-term benefit a consumer can receive from competition.

### EVIDENCE FILE No. 3

Richard Disney, Jonathan Haskell, Ylva Heden. Restructuring and Productivity Growth in UK Manufacturing. May 2000 *CEPR Discussion Paper No. 2463*

We find that (a) 'external restructuring' accounts for 50% of labour productivity growth and 90% of TFP growth over the period; (b) much of the external restructuring effect comes from multi-establishment firms closing down poorly-performing plants and opening high-performing new ones, and (c) external competition is an important determinant of internal restructuring.

Francesco Trillas Jane, The Structure of Corporate Ownership in Privatised Utilities. September 2002. *CEPR Discussion Paper No. 3563*

In the benchmark case where the government maximizes privatisation proceeds, it is shown that the optimal level of concentration increases with a tougher regulatory climate for investors. A more lenient regulatory regime increases the value of the commitment not to interfere



implicit in a more dispersed ownership structure. Deregulation (through increasing monitoring costs) also pushes corporate structure in the direction of more ownership concentration. When political objectives are added to the analysis, it is shown that lobbying with managers induces levels of shareholder dispersion that are higher than in the benchmark case. Collusion with large shareholders, however, may yield higher concentration levels than in the benchmark. In the case of managerial lobbying, the leniency of the regulatory climate does not have any impact on the equilibrium stake of the block holder, and has a negative impact on the difference between the political and the benchmark outcomes.

Mariko Sakakibara, Michael E Porter.  
Competing at Home to Win Abroad: Evidence from Japanese Industry.

We find robust evidence that domestic rivalry has a positive and significant relationship with trade performance measured by world export share, particularly when R&D intensity reveals opportunities for dynamic improvement and innovation. Conversely, trade protection reduces export performance. These findings support the view that local competition, not monopoly, collusion, or a sheltered home market, pressures dynamic improvement that leads to international competitiveness.

Frank R Lichtenberg. Industrial De-Diversification and Its Consequences for Productivity. January 1990. Jerome Levy Economics Institute Working Paper No. 35

Using plant-level Census Bureau data, we show that productivity is inversely related to the degree of diversification: holding constant the number of the parent firm's plants, the greater the number of industries in which the parent operates, the lower the productivity of its plants. Hence de-diversification is one of the means by which recent takeovers have contributed to U.S. productivity growth. We also find that the effectiveness of regulations governing disclosure by companies of financial information for their industry segments was low when they were introduced in the 1970s and has been declining ever since.

Michael Gort, Nakil Sung. Competition and Productivity Growth: The Case of the US Telephone Industry. *Economic Inquiry*.

Abstract:

Both the estimation of total factor productivity growth and the analysis of cost shifts show a markedly faster change in efficiency in the effectively competitive market than for the local monopolies. The results support, by implication, a policy of permitting entry and competition in local telephone markets.

Jalana D Akhavein, Allan N Berger, David B Humphrey. The Effects of Megamergers on Efficiency and Prices: Evidence from a Bank Profit Function. January 1997. FEDS Paper Number 97-9.

We find that merged banks experience a statistically significant 16 percentage point average increase in profit efficiency rank relative to other large banks. Most of the improvement is from increasing revenues, including a shift in outputs from securities to loans, a higher-valued product. Improvements were greatest for the banks with the lowest efficiencies prior to merging, who therefore had the greatest capacity for improvement. By comparison, the effects on profits from merger-related changes in prices were found to be very small.

Sumit K Majumdar. The Hidden Hand and the License Raj: An Evaluation of the Relationship Between Age and the Growth of Firms in India. Imperial College of Science, Technology and Medicine, Management School *Forthcoming in Journal of Business Venturing*

The evidence suggests that entrepreneurial behaviour is an important feature of contemporary Indian industry. Recent anecdotes about Indian firms, particularly in the information technology sector, suggest that there has been a resurgence of industrial activity in the country. These beliefs are borne out by the analysis. The "hidden hand" is alive and well in India! Additionally, the relationship between size and the growth of Indian firms is negative. This suggests that a process of industrial fragmentation may be taking place in Indian industry, with small firms growing faster than larger firms and reducing the

importance of large firms in Indian industry. This has important implications for the future competitiveness of Indian industry. Allen N Berger, David B Humphrey. *Bank Scale Economies, Mergers, Concentration, and Efficiency: The U.S. Experience*

Scale and scope economies in banking are not found to be important, except for the smallest banks. X-efficiency, or managerial ability to control costs, is of much greater magnitude – at least 20% of banking costs. Mergers have no significant predictable effect on efficiency – some mergers raise efficiency but others lower it. Market concentration results in slightly less favourable prices for customers, but has little effect on profitability.

Allen N Berger, Timothy H Hannan. *The Efficiency Cost of Market Power in the Banking Industry: A Test of the 'Quiet Life' and Related Hypotheses.*

We find the estimated efficiency cost of concentration to be several times larger than the social losses from mispricing as traditionally measured by the welfare triangle.

### What about jobs?

Employment and unemployment are major concerns in all countries. It is often argued in the popular press that greater competition leads to higher unemployment and worse employment prospects for workers. This belief is supported by the evidence of immediate post-privatisation restructurings that often centre on job losses. Stories of job loss generally receive more coverage than stories of job creation. When a factory shuts down and a thousand workers are laid off, it is not hard to identify the immediate losers from the process. In contrast, having ten firms employ 100 extra people does not grab tomorrow's headlines. The problem with the relationship between competition and employment is that measuring direct effects is complex. For example, when a new firm sets up shop and enters a market, the immediate employment impact is positive. In the long run, however, that firm might displace another or force the rival firm to engage in efficiency measures that require it to cut employment levels.

A basic argument about the relationship between competition and employment comes from its obverse relationship. In monopoly situations, a share of monopoly power is often exercised by the employees. This can be beneficial in terms of wages and working conditions. The correlation between monopoly power (public or private) and restrictive practices by workers is fairly close. It makes intuitive sense that when a firm has a privileged position, its employees are able to extract greater benefits from that firm at a lower cost to that firm, because the firm can pass on these additional costs on to its customers. Almost every nationalised postal, railway, utility and national airline company has faced this problem. We often find, particularly in developing countries, that these firms are akin to arms of the state designed to employ large numbers of people as an alternative to the welfare state.

The problem with workers extracting a share of the benefits from the monopoly firm is that it tends to be a short-term benefit which later endangers the entire enterprise when competition is introduced. Sharing monopoly rents only works as long as there are monopoly rents to share. When firms lose money, the monopolist is left either to extract more revenue from customers or from the taxpayer through the state. The subsidy afforded by the state is thus shared between the monopolist and its employees.

When competition is introduced, the incumbent monopolist tends to be lumbered with a bloated cost base (as its monopoly position invited inefficiency and encouraged its workers to extract ever-higher wages at the expense of consumers). New entrants are not faced with this legacy problem and can thus come in with significantly lower costs. The impact on the incumbents will vary by industry.

The immediate likely impact on employment is thus negative from competition. Determining medium to long-term impact, however, is more difficult. Competition drives efficiency into resource allocation. If investors find that capital invested in a monopolist comes under pressure, they will likely seek to invest that capital where the return is better. Loss of capital from a

monopolist almost certainly means that another firm or sector will benefit from increased investment and will be better able to employ people.

### ***What experience has taught us***

Consumer organisations have a real dilemma with employment issues in competition matters, for diverse reasons. As concerned citizenry with current or potential alliances to other groups that may benefit from maintaining the status quo, it is easy for consumer organisations to get drawn into protectionist arguments against competition. The high-profile nature of many deregulation initiatives and liberalisation efforts makes every job loss a political issue. It is always difficult to sit opposite people who will lose their jobs and argue that the move will lead to long-term gains and better employment prospects for others. (As Keynes argued, in the long run we are all dead.) But the truth is that more competition, particularly among dominant incumbents, is good for the consumer, good for the economy and good for employment.

## **EVIDENCE FILE No. 4**

Pietro F Peretto. Market Power, Growth and Unemployment. March 1998 Duke University, Economics Working Paper No. 98-16.

Labour market reforms that reduce the cost of labour have effects in the product market that reinforce the modern view that a more competitive labour market leads to lower unemployment. This implies that such reforms are even more attractive than previously thought. In agreement with the idea that product market competition matters, moreover, I show that lower barriers to entry in the product market lead to lower unemployment.

Marianne Bertrand, Francis Kramarz. Does Entry Regulation Hinder Job Creation? Evidence from the French Retail Industry. November 2001. *CEPR Discussion Paper No. 3039*

We show that stronger deterrence of entry by the boards, and the increase in large retail chains' concentration it induced, slowed down employment growth in France.

Michael C Burda. Product Market Regulation and Labour Market Outcomes: How Can Deregulation Create Jobs? January 2000. *CESifo Working Paper Series No. 230*.

A non-negligible component of the recent Dutch employment miracle could be attributed to product market deregulation, in particular liberalization of shop-closing laws effected in the mid-1990s. I sketch a model, based on Burda and Weil (1999), which can rationalize potential public interest aspects of such regulations as well as identify their employment and output costs.

## Part III: Impact of competition law and policy

The case that competition is generally good for the economic well-being of a country is a strong one. Similarly the argument that competition damages workers' rights is weak. Of greater interest is the relationship between competition and competition policy. This may seem an academic point, but it is also important for practical policymakers. If you want to encourage competition, what balance of tools and policies are needed to achieve this end?

All advocates of competition and competition law and policy recognise that these are only one element of the toolkit to foster a more competitive economy. Within the area of regulation that we loosely refer to as competition policy, a range of policies exists aimed at diverse areas of activity. We can divide these policies along the following continuum:

Competition law and policy take different forms in different countries. Most countries seek a phased approach to their development. Cartel rules and rules on price-fixing are usually the first to be brought in, followed by increasingly tough rules on mergers and collusive behaviour. (Most developed countries, for example, had fairly strong laws on cartels, and price fixing before they had firm rules on mergers.) Sectoral regulation only comes into its own during deregulation efforts. Obviously, sectoral regulation rules were not thought of before countries started to privatise their public utilities.

As the table on page 20 illustrates, the pattern of adoption of different elements of a competition regime can be done on a graduated approach. While competition advocates will differ about which element goes where, it provides a useful typology for thinking about how countries new to competition enforcement should deal with competition law and policy.

Area of activity	Type of policy
Government-supplied services	Monitoring, target setting, competitive neutrality with private sector
Public utilities	Basic sectoral regulation Introduction of competitors Competitive tendering
Privatised public utilities	Sectoral regulation Competition regulation
Private firms acting individually	Rules on anti-competitive behaviour, price fixing, abuse of dominance, predatory pricing
Private firms knowingly acting together	Rules on market division, market sharing, price fixing, collusion on keeping others out, cartel formation
Private firms effectively acting together	Oligopoly rules for firms that effectively do not compete, market review mechanisms to inject competition
Private firms merging	Rules on mergers

**Different stages of development for a national competition regime**

Start	Enhancement	Advancement	Maturity
Competition advocacy and public education	Merger control	Regulation	Second generation international agreements
Control of horizontal restraints	Vertical restraints	International co-operation agreements	Pro-active competition advocacy
Checking abuse of dominance	Development of effects doctrine		
Exceptions and exemptions, including on public interest grounds			
Technical assistance			

Source: Gesner Oliviera after Shyam Khemani and Mark Dutz. 1996. *The Instruments of Competition Policy and their Relevance for Economic Development*. PSD Occasional Paper No. 26. World Bank. Quoted in P Mehta. 2003. *Friends of Competition*. CUTS, Jaipur.

If a country wishes to privatise a publicly owned company, it must recognise that it is moving from what is termed a ‘high trust’ form of regulation to a ‘low trust’ form of regulation. High-trust regulation assumes that those carrying out the activity have a wider remit and broader accountability to elected officials. Low-trust regulation assumes that the firm will behave in a narrowly self-interested way (as private firms are supposed to). This move from high-trust to low-trust demands sectoral and competition regulation. When privatising, we must assume that the newly minted private firm will abuse whatever power it has.

**What does experience tell us?**

Experience shows that the best way to deal with this problem is to ensure as much competition as possible before privatisation of the domestic monopoly. Once competition has started to bite, additional liberalisation can be introduced, provided it is followed by sectoral regulations to ensure that competition thrives. If privatisations are not handled properly, the consumer interest is undermined and serious social problems, including unrest, can occur.

Competition policy is flexible; no one-size-fits-all approach is possible. Countries can offer advice and recommend reforms but they themselves will be re-assessing on a permanent basis how they conduct competition reforms. Competition policy is about getting the toolkit right to protect consumers and foster

competition, not about requiring countries to follow a rigid path to development.

**EVIDENCE FILE No. 5**

George Symeonidis. *Price Competition, Innovation and Profitability: Theory and UK Evidence*. University of Essex – Department of Economics; Centre for Economic Policy Research (CEPR) May 2001. *CEPR Discussion Paper No. 2816*

The econometric results suggest that the introduction of restrictive practices legislation in the UK had no significant effect on the number of innovations commercialised in previously cartelised R&D-intensive manufacturing industries, while it caused a significant rise in concentration in these industries. In the short run profitability decreased, but in the long run it was restored through the rise in concentration.

Brian R Cheffins. *Investor Sentiment and Antitrust Law as Determinants of Corporate Ownership Structure: The Great Merger Wave of 1897 to 1903*. Faculty of Law, University of Cambridge.

One theme the paper develops is that mergers matter with respect to the evolution of systems of ownership and control. A second topic the paper deals with is the process by which a

country's investors become sufficiently comfortable owning publicly traded shares to permit a transition from concentrated to dispersed share ownership. A third theme the paper emphasizes is antitrust law's significance. The experience in the U.S. and Germany suggests that the legal status of anti-competitive alliances is a potentially important determinant of corporate ownership structures.

J Gregory Sidak, Michael K Block, F C Nold. The Deterrent Effect of Antitrust Enforcement. *Journal of Political Economy*, Vol. 89, No. 3, 1980.

We show that a cartel's optimal price is likely to be neither the competitive price nor the price that the cartel would see in the absence of antitrust enforcement but rather an intermediate price that depends on the levels of antitrust enforcement efforts and penalties. Our empirical results reveal that increasing antitrust enforcement in the presence of a credible threat of large damage awards has the deterrent effect of reducing mark-ups in the bread industry.

J Gregory Sidak. Rethinking Antitrust Damages. *Stanford Law Review*, Vol. 33, 1981.

Part I analyzes the consumer's economic injury from exploitative behaviour and shows that, prevailing contrary opinion notwithstanding, the Clayton Act does not unambiguously establish a consumer right to be free from such injury. Because the prevailing interpretation may cause allocative inefficiency, Part I proposes a countervailing producer's right and a corresponding damage rule. Part II analyzes the kind of injury that competitors suffer from expansionary behaviour. It criticizes the competitor's right suggested by the current damage rule and proposes an alternative right and damage rule that would improve social welfare by enhancing productive efficiency. Part III proposes implementing the economic rights suggested in Parts I and II through a judicial test for calculating antitrust damages that would restrict the availability of such damages.

Bruce H Kobayashi. Antitrust, Agency and Amnesty: An Economic Analysis of the Criminal Enforcement of the Antitrust Laws Against Corporations. *George Mason Law & Economics Research Paper No. 02-04*.

Because criminal fines are not accurate measures of loss, and because of the vicarious nature of corporate liability, there is a great danger that higher-than-optimal penalties will induce corporations to incur excessive costs in an attempt to avoid these high fines. The potential over deterrence costs resulting from higher-than-optimal fines is exaggerated by the Antitrust Division's expanded use of the Corporate Leniency Policy. Ironically, the costs of over deterrence will result in higher prices to consumers, a decrease in welfare, and, ultimately, in the exact effects that the criminal antitrust laws are intended to prevent.

Margaret C Levenstein, Valerie Y Suslow. What Determines Cartel Success? University of Michigan Business School Working Paper No. 02-001.

Our examination of cartel duration concludes that cartels are neither short-lived nor long-lived; they are both. Similarly, our analysis of the effect of cartels on prices and profitability finds that there is enormous variance in cartel success at raising price to the joint-profit maximizing level. In our examination of cartel breakdowns we find, as suggested by recent theoretical literature, that cheating is a common cause. Occurring even more frequently, however, are entry, external shocks, and bargaining problems, suggesting that these issues should be given deeper consideration in future work. Stigler's hypothesis that large customers contribute to cartel breakdowns is borne out in a few case studies. But there appear to be more cases in our sample in which large customers help to stabilize the cartel. Only the oldest of suppositions, that highly concentrated industries are more prone to cartelisation, seems to hold true across studies. Our inability to find more commonality among these studies and among cartels does not simply reflect our ignorance of cartel operations or secrecy on the part of cartels (or the different methodological approaches covered in this survey). Rather, it reflects the innumerable possibilities for organizing a successful cartel, and the interdependence of those factors determining cartel success.



# Consumers and competition

2





# Part I: Markets and consumer behaviour

**Increasingly, competition regulators must face up to the difficulties of conducting market analysis in areas where consumer behaviour is an important factor. This need is most immediately felt in the investigatory phase, when regulators map the market. While the best regulators are attempting to understand how consumers behave in the market, this has tended to proceed on an ad-hoc basis largely based on the interest of staff and the willingness of panel members to ensure its operation. However, the importance of consumer behaviour must not be underestimated in identifying possible regulatory solutions to competition problems. It is here that an understanding of drivers for consumer behaviour is particularly important.**

**This section identifies ways to assess consumer behaviour in competition investigations. It starts from the presumption that optimal consumer behaviour in a market is characterised by classical economic theory. However, a combination of structural and behavioural factors hamper the ability of consumers to attain the model of rationality established in classic economic theory. We therefore present a matrix of factors and a scale of importance to estimate the likelihood that consumers will conform to this rational consumer model. We hope these categories of effects will provide a guide for indicators of consumer behaviour to supplement the more established methods of market investigation.**

## Why should we care?

The behaviour of consumers in markets is often viewed as a 'given' in the analysis of competition problems. Classically trained economists have tended to view consumers as rational beings who will pursue the maximum benefit to themselves in a selfish way. The messages transmitted to the market from this individual behaviour will help direct resources in an efficient manner and help drive markets to more efficient operation.

If competition investigations and analyses are conducted on the basis that consumers act in a determined manner, such investigations will make certain assumptions at both the front and back end of their deliberations. Thus, in the investigation phase, regulators may assume a certain pattern of behaviour corresponding to what one would expect from a rational model of consumer behaviour. Similarly, at the final stage of investigation, regulators may assume that consumers will behave in a classically 'rational' manner when remedies are introduced. However, two key questions must be asked:

- To what degree does consumer behaviour match the classical model?
- If it does not, what effect should this have on the manner in which markets are viewed and regulated?

## Classical model of consumer behaviour

The classical model of consumer behaviour assumes that consumers do essentially three things in making decisions: "All human behaviour can be viewed as involving participants who [i] maximise their utility [ii] from a stable set of preferences and [iii] accumulate an optimum amount of information and other inputs in a variety of markets."<sup>9</sup>

To a large extent, the degree to which these rules apply will indicate the degree to which the assumption of consumer rationality applies. For analytical purposes, we thus need to ask the degree to which each rule applies.

Three key caveats need to be placed on the classical approach:

- 1 **Bounded rationality:** Human cognitive abilities are not infinite. (We all have limited computational skills and flawed memories.)
- 2 **Bounded willpower:** People often take actions in the short term that they know to be in conflict with their own long-term interests.
- 3 **Bounded self-interest:** People generally care, or act as if they care, about others, even strangers, in some circumstances.<sup>10</sup>

Given these bounds on behaviour, we need to identify the degree to which consumers act in the classically rational manner. To do this, we need to identify all the problems that get in the way of consumers making rational decisions. We can thus identify factors over which we have little control and those that regulators and the operation of the market can affect.

### Utility maximisation

The idea of the utility-maximising individual is key to the classical view of consumer behaviour. However, it is also one of the weakest links in the chain of argument that seeks to place consumers within the rational choice model. A number of important caveats must be placed on the idea that consumers pursue a utility-maximising approach. These include cultural and peer group issues and more basic structural processing issues on the part of individuals.

The following factors can limit the operation of a utility-maximising consumer.

#### **Cultural aspects to decision-making**

Consumers do not behave in a vacuum in any given market; their behaviour is circumscribed by their own cultural norms and those prevalent in the market. A clear understanding is needed of a market culture and the degree to which the consumer can operate comfortably within it.

Tests:

- What is the culture of the market in question?
- In what sub-culture does the market sit?
- How will changes to that market affect the cultural interactions of participants?

#### **The endowment effect:**

Any product that is already part of the individual consumer's existing endowment

will be more highly regarded than a product that is not. Individuals tend to rate what they already own higher than products that they do not own.

Tests:

- Proxy measures may include markets with heavy advertising budgets and campaigns aimed at boosting 'new' features to existing products. This may spill over into misleading and deceitful advertising.
- Pressure advertising/marketing may be a problem

#### Sunk costs and the momentum theory

The momentum theory argues that individuals will complete a task once work has begun, irrespective of the continuing validity of the original decision. A sunk cost is an already-borne cost that is not easily recoverable. Individual sunk costs do affect decision-making.

Tests:

Is this a market where:

- sunk costs are common, and legitimately so?
- final decisions are arrived at over time?
- consumers are required or encouraged to pay for goods over time?
- the final quality of work is only ascertainable long after payment?
- consumers have little opportunity to revisit original decisions?

#### **Psychic costs of regret**

Present decisions may be affected when individuals feel unable to trust themselves to make correct decisions in the future.

Tests:

- Is there a mismatch between 'objective' measures of consumer need and 'subjective' assessments?
- Is there a need for compulsion in markets? (e.g. health insurance)
- Is the market one that attracts lower income consumers through its ability to discount long-term fallibility in decision-making? (e.g. Christmas Clubs)
- Is this business proposition risky enough to warrant higher charges, opaque charging information or high credit charges?
- Will comparative information limit the potential for abuse?

### **Self-control and pre-commitment**

Consumers often recognise that their existing consumption patterns are incapable of meeting certain future needs (e.g. Christmas spending, retirement). This prompts saving and tying the consumer into patterns of committed expenditure.

Tests:

- Is this a market where regular payments for future goods are commonplace?
- How does the decision-effect-feedback loop work in this market?
- How clear to the consumers are the costs of gradualism?
- How independent is the information available to the consumer about the decision-effect-feedback loop?

### **Losses and gains treated differently**

Because losses and gains are treated differently, we need to have an understanding of how the market in question treats losses and gains in marketing and product/service provision.

Options for dealing with combinations of losses and gains:

- Segregate gains: Individuals prefer to treat multiple gains as a series of individual gains. (e.g. two gifts wrapped separately are preferable to two gifts in a single wrapping).
- Integrate losses: Individuals like to place all their losses in one basket.
- Let big gains cancel small losses: If the overall balance of gains and losses is positive, losses should be pooled with the gains to cancel them out.
- Segregate 'silver linings': When large losses out-weigh small gains, gains may be separated out as a 'silver lining' to the cloud of the large loss.
- The picture becomes less clear when dealing with smaller gains and losses. Here, integration may be the preferred option.

Tests:

- What opportunity exists in the market for consumers to bundle and re-bundle losses and gains?
- How clear is the quality/price information in bundled products/services? Can objective calculations be made of relative costs/benefits?

- What sources of information are available to enable decisions to be made?
- How accurate is information about products/services that incorporate losses (investment product) and gains (M&S voucher)?

### **Stable preferences**

The idea that consumers make decisions from a foundation of stable preferences can be undermined by many factors, including those related to the risk and perceived risk of a decision and the cost of getting a decision wrong. The key difficulty, in analytical terms, of identifying factors in the operation of preferences is the close link between those preferences and the idea of utility maximisation. Many factors in consumer behaviour that undermine the idea of the utility-maximising individual also undermine the idea that consumers operate from a set of stable preferences.

The operation of a stable set of preferences can also be undermined by the nature of consumption behaviour. For example, if the consumers purchase a service or product that requires them to use an intermediary for advice, the preferences of the sellers will be as important as those of the consumers. Similarly, the transparency of the transaction will be important, as will the degree to which the product and/or service are bundled in a package whose individual parts are difficult to identify and accurately price.

### **Optimal information**

Much work has been carried out on the problems of information transmission in markets. The role of information economics has grown over recent decades in response to the problems faced by regulators in liberalising markets and by companies operating in complex markets. The 'common understanding' reached is that information acts as a grease to effective markets and the more information that can be made available, the more effective this grease will be. Unfortunately, the ability of consumers to compute the information they receive cannot match the desire of regulators and companies to furnish that information. As a result, information can actually limit the effective operation of a market, or make it slower to react to market mechanisms.

The following are constraints on the optimal acquisition of information by consumers:

### ***Framing and information***

The quality of information available to the consumer is key. However, the importance of the decision and the time the consumer will/will not want to allot to the decision cannot be underestimated. Markets with low levels of clarity in information and time investment may force consumers to make irrational or incorrect decisions, or no decisions at all. Solutions in such markets are unlikely to centre on more information. Solutions may range from less information to clearer information, benchmarking and basic product design.

Problems are presented to consumer in two ways:

- **Transparent:** Choice behaviour does not violate basic tenets of rationality.
- **Opaque:** People may well violate basic principles.

Tests for transparency of information:

- How transparent/opaque is the information presented to the consumer?
- In what environment does the consumer make the decision?
- How much time does the consumer have to make the decision?
- What other sources of information are available to the consumer to make a decision?
- What effect will a merger/behaviour have on the transparency/opacity of information?

### ***The structure of a problem***

The way in which a problem is presented to the consumer may affect the choices made. Prospect Theory tells us that the same problem presented in different ways may influence the decisions taken.

Tests:

- How many ways is the information in the market presented?
- How uniform is the presentation of market information?
- How much time will the consumer need to invest before a decision is made and how much gain will the consumer get from that decision?

- How will the consumer make a cost-benefit analysis in the market?

### ***How consumers learn***

Markets with limited learning opportunities contain a number of incentives to abuse market power and consumers (e.g. investment managers making decisions whose effects will not be uncovered for decades). While some markets have limited opportunity for learning, others try to limit learning for reasons of control (e.g. many insurance and investment products, travel agents). Consumers need sufficient, clear information to learn. Solutions in markets where this is not the case may include information requirements and clear updates on long-term decisions.

Necessary feedback on decisions is often lacking because:

- Outcomes are delayed and not easily attributable to a specific action.
- Variability in the environment degrades the reliability of the feedback, especially where outcomes of low probability are involved.
- There is no information about what the outcome would have been if another decision had been taken.
- Most important decisions are unique and therefore provide little opportunity for learning.
- Outcomes received with certainty are over-weighted compared to outcomes that are uncertain.
- Gains are treated differently to losses. Losses generate a risk-seeking response while gains produce a risk-averse response.

Tests:

### ***Delay and variability***

- How long does it take before a consumer understands the effect of a consumption decision? The obvious application here is financial services (e.g. credit cards vs. pensions). A rule of thumb: the longer the time between decision and effect and feedback, the weaker the potential for effective competition.
- What is the transmission mechanism for interpreting the decision-effect-feedback loop? Who controls it?

- How easy is it to understand the transmission mechanism and how accessible is the information contained in it?

#### Uniqueness and alternatives

- How often is the consumer in the market?
- How many other decisions will the consumer have made in the market?
- Do any accurate proxy measures exist in the market for the consumer to rely upon?

#### Time and importance

- How important is the decision-effect-feedback to the consumer?
- What other decisions-effect-feedback loops will the consumer be dealing with during a similar time frame?
- Will peer group pressure have any influence on the seeking/acceptance of information?
- How are consumers likely to value the time needed to interpret the transmission results?

#### Over-weighting certainty

- How certain is the relationship between decision-effect-feedback? How much is the consumption decision a bet (e.g. an investment) and how much a certainty (e.g. a tin of beans);
- What is the consumer understanding of the balance of probabilities in the market?
- How clear is the information in the market about probabilities?

#### Gains and losses

- Is the product/service a bundle?
- How clear are the gains and losses in the market?
- Do consumers have the opportunity to re-bundle gains and losses according to preference?

#### Search costs

Any difference in price between goods is seen in relation to the total price of the goods. Thus consumers will spend time searching for a lower-priced television, but not for a tin of beans. This has greatest implications for substitutability assessments and for the possibility of local monopolies.

#### Tests:

- How important is this consumer decision relative to the potential saving?
- What is the likely peer group view of the gains from shopping around?
- What is the consumer understanding of the market within which they are shopping?
- What are the physical bounds of the market?
- How long will a consumer normally shop around for in this market?
- Are impediments placed in the way of a consumer to limit the ability to find search information?
- Do stores stock products that make comparison shopping easier?
- How much of the market is migrating to the Internet, both in consumer and retailer terms?

## Undermining the model of rational consumers

Competition analysis is replete with indices and mathematical calculations. These measures all relate to the structural characteristics of the market while tending to skate over the elements that relate more directly to consumer behaviour. Attempts to bring more cohesion to understanding consumer behaviour in a market are prone to the same difficulties seen in trying to uncover strategic behaviour by companies. Pointers and proxy measures are thus useful in indicating certain patterns for assessing the degree to which consumers will behave in a classically rational manner.

The factors outlined in the matrix discussed below attempt to identify barriers to rationality. Given the scale and identification of problems, they can only be used as a rule-of-thumb guide to assessing markets. The advantage of using such rules-of-thumb rests primarily on the ability to identify those individual barriers and combinations of barriers, which will hamper the effective operation of consumers in a market. As such, they may help to frame solutions or contribute to the assessment of proposed policies.

### Matrix of factors hindering consumer rationality

Scale: 1=low, 2=medium, 3=high

#### How likely is it that consumers will maximise utility?

Length of time for the decision process to be made

Cost of search

The opportunity cost of the decision

Cost to revisit a decision

Cost to revise the decision

*Sub-total for utility maximisation*

#### How stable are consumer preferences likely to be?

Cost of getting decision wrong

Number of people involved in decision

Risk involved in the decision

Bundling of other products/services to choice

*Sub-total for stable consumer preferences*

#### How good will the information be?

Length of time post-decision to see effect

Volume of information required

Background information needs

Diversity of information presentation

Decision feedback time

Likelihood not in the market again

Likelihood not in related markets again

Likelihood proxy measures of performance not available

*Sub-total for optimal information*

#### Overall total

Likelihood that rational consumer model will not apply

## When the rational model does not apply

The matrix for assessing the degree to which the rational consumer model applies can only act as a guide in assessment of markets and possible regulatory or market behaviour. The matrix presents both structural and behavioural aspects of markets. The object of regulators/market participants should be to move the market closer to the ideal type for consumer behaviour to become more rational. This would produce lower scores for each market.

The matrix should also provide a useful tool for assessing the likely effects of remedies in competition cases. The question here will be the degree to which a merger or a remedy in a complex monopoly case or regulatory decision increases or decreases the likelihood that consumers will act in a rational manner.

While use of this matrix provides rule-of-thumb assessments for factoring-in consumer behaviour, this approach must be employed in conjunction with other tools for competition investigations.

The role of the matrix will differ between markets where direct sector-specific regulation exists and markets where no such regulation exists. In the former, it helps point to specific remedies or structural/behavioural indicators. In the latter, it helps identify the need to address broader policy goals (e.g. information provision or development of proxy measurements) to allow information transmission to work more effectively.

### Worked examples

The matrix of questions to be asked in a given market is applied to a series of specific examples below (see page 30). The markets chosen range from complex, to vertically integrated to relatively simple. The worked examples test the relative application of the matrix.

Totals represent the sum of each score; the estimation of the applicability of the rational consumer model reflects the degree to which the total score relates to the 'worst case' market (where all questions receive a 3 rating). In order to maintain consistency in the application of the scale, some questions are presented the 'wrong way round'. This keeps the scale and rankings relatively unsullied. (Please note, however, that a degree of bias in the estimation of scale is unavoidable, particularly when it is subjective.)

## Worked examples of rational consumer matrix

	Ideal market	Pension	Cars	Holiday	Tin of beans
<b>How likely is it that consumers will maximise utility?</b>					
Length of time for the decision process to be made	1	3	2	2	1
Cost of search	1	3	3	2	1
The opportunity cost of the decision	1	2	2	2	1
Cost to revisit a decision	1	3	3	1	2
Cost to revise the decision	1	3	3	1	2
<i>Sub-total for utility maximisation</i>	<b>5</b>	<b>14</b>	<b>13</b>	<b>8</b>	<b>7</b>
<b>How stable are consumer preferences likely to be?</b>					
Cost of getting decision wrong	1	3	3	2	1
Number of people involved in decision	1	2	2	2	1
Risk of the decision	1	3	2	3	1
Bundling of other products/services to choice	1	2	1	3	1
<i>Sub-total for stable consumer preference</i>	<b>4</b>	<b>10</b>	<b>8</b>	<b>10</b>	<b>4</b>
<b>How good will the information be?</b>					
Length of time post-decision to see effect	1	3	1	2	1
Volume of information required	1	3	2	2	1
Background information needs	1	3	2	2	1
Diversity of information presentation	1	3	3	3	2
Decision feedback time	1	3	1	3	1
Likelihood not in the market again	1	3	2	2	1
Likelihood not in related markets again	1	2	1	2	1
Likelihood proxy measures of performance not available	1	2	1	3	1
<i>Sub-total for optimal information</i>	<b>8</b>	<b>22</b>	<b>13</b>	<b>19</b>	<b>9</b>
<b>Overall total</b>	<b>17</b>	<b>46</b>	<b>34</b>	<b>37</b>	<b>20</b>
Likelihood that model will not apply		90.20	66.67	72.55	39.22

Scale: 1=low 2=medium 3=high

Bounds: most likelihood that model will apply: 17  
 most likelihood that model will not apply: 51

# Part II: Defining the market

Defining the relevant market is a cornerstone of competition investigations. Definitions have emerged from a learning process based more on organic evolution than on the development of hard and fast rules. While this provides endless opportunities for interpretation, it does afford some degree of flexibility in the system. We propose a set of additional factors to be taken into account in the definition of relevant markets. In the geographic market analysis stage, we advance a number of proxy measures available to regulators to assess the degree to which consumers define the geographic bounds of their own markets. We also propose a route to understanding the potential impact of electronic commerce on the operation of specific markets: that regulators utilise market segmentation data and consumer research work to identify the likelihood of consumer groups transferring their purchasing behaviour to online marketplaces.

### *Why bother?*

Once the degree to which a consumer is likely to behave in a classically rational manner has been established, it is necessary to analyse the extent of the market within which that consumer will operate. Central to any competition investigation is the definition of the relevant market. One shorthand rule used in monopoly cases in the US is that the relevant market is the market that is capable of being monopolised. Another, less circular, shorthand method for assessing a market involves answering the following question (referred to as the 'Hypothetical Monopolist Test'):

- Could a potential monopolist raise its price in that market for a significant period of time and hold it there?

Essentially, two elements are relevant to market assessment:

- Geographic market definition
- Product market definition

## Geographic market definition

**Competition problems are commonly assessed in a static manner and most measures reflect this bias. We recommend some changes to the spatial analysis of relevant geographic markets to make them relate more closely to the way in which consumers behave.**

Once the likely pattern of consumer behaviour has been mapped, it is necessary to place that consumer within a bounded market of some description. Most consumption activity takes place in a physical environment of some sort, and this involves some form of bounds to a market. To get a sense of how that market is constrained, it is necessary to place the activity of that market correctly within those bounds.

### How it is currently done

The following key facts help to define the geographic bounds of a market and reflect the questions usually asked by competition regulators in Europe.<sup>11</sup>

- Where is the product marketed?
- What is the geographic market into which the product is sold?
- Is this defined by regulation?
- Is the geographic area contiguous with a similar one?
- What are the physical barriers to entering that geographic market?
- Where is the market under which homogenous market effects can be found?
- Where are the conditions under which firms operate fairly uniform?

To these questions, we can add:

- Is the market a service market or product market? This is important because services are less easily tradable on a cross-border



basis and are consumed on the spot. Services often require cultural specificity (e.g. advertising agencies operate within culturally highly specified bounds where concentration in a market is unlikely to spur major entry by foreign firms).

- What pattern of spatial distribution does consumer purchasing follow?
- How does the consumer view the geographic market?

### **The end of geography?**

Much has been made of the power of the Internet and e-commerce to alter markets. In terms of competition regulation, one of the key impacts of the Internet will be on geographic and product market definition. Almost by definition, the Internet broadens the geography of the market within which the consumer will operate. Internet widens the potential realm of consumer shopping from that which is physically at hand to that which is possible by courier. The Internet allows the consumer to avoid the bounds of the physical location of stores by providing almost unlimited access to sites. However, the constraints placed on this choice include customs duties and legal limits as well as old-fashioned delivery problems. In this sense, the Internet lies somewhere between a real entrant and a potential entrant envisaged by contestable market theory.

Consumers define their own geographic bounds to the marketplace through their everyday consumption behaviour. A useful analogy comes from the work of von Thunen in economic geography. He developed a deceptively simple theory of land allocation based on an isolated town surrounded by farmland. The allocation of that land would depend on the value of the crop grown and the relative cost of getting that crop to the town. Von Thunen ended up with a now instantly recognisable concentric rings model of land allocation. This model was later adapted for town planning purposes and led to the identification of the Central Business District and suburbia. In many ways, consumers operate a series of von Thunen circles for their consumption decisions.

The foundation for most consumption decisions is the home, which can be viewed as

analogous to the Central Business District. The size of the market within which the consumer is willing or able to travel varies for every product. One would assume (not always correctly) that the more expensive the product, the larger the concentric rings. This appears to be borne out by two developments in retailing: 1) the situation of retail premises in many countries; 2) the price-promises made by retailers indicating the assumptions they make about consumer shopping behaviour. The Dixons Group, for example, offers two different price-matching guarantees. Dixons stores (which tend to be on high streets and in out-of-town retail parks) offer a price-matching guarantee for products brought within 10 miles of a store. However, the PCWorld part of the chain offers a price-matching commitment within 30 miles of a store.

Several methodological enhancements can aid consumer organisations in geographic market definitions for competition investigations:

### **Von Thunen Circles**

Many consumer organisations seek to map consumer behaviour through surveys which identify the distances that consumers are willing to travel to purchase certain goods. Whether simple interview questionnaires or more complex diary exercises, these surveys can provide a useful indication of the geographic market definition applicable in competition cases. This can then be compared to price-matching guarantees and similar work carried out by firms operating in the market. For example, in its recent work on new car pricing, the UK Consumers' Association showed consumer willingness to travel up to 50 miles to purchase a car.

### **Internet market definition**

The impact of the Internet as a force for challenging existing models of competition is more talked about than actually analysed. However, geographic market definition provides a useful rule-of-thumb that may allow competition regulators to assess the potential impact of the Internet on a market.

As a first step, an investigation should ask two questions:

- To what degree does the existing retail market correspond to the Pareto 80/20 rule (e.g. what portion of the consumers in the market account for what portion of profits)? As a general rule, the greater the share of profit accounted for by the smaller number of consumers, the greater the potential for seemingly small-scale entry to have a significant effect.
- If the market does display a loading toward one small segment of the population, to what extent is this population likely to migrate to the Internet (or other technological developments)?

The latter factor helps the regulator identify the potential impact of the Internet on a retail market. As a rule-of-thumb, it falls somewhere between an analysis of the contestability and the problem of anticipatory dominance.

### Matrix of key questions

To update the standard approach to geographic market definition, we propose incorporation of the following questions:

#### *Geographic market definition*

- How big are von Thunen circles of consumption?
- What areas do price-matching guarantees cover?
- How does the Pareto Rule apply to this market?
- Are Pareto consumers switching/likely to switch to the Internet?

## Product market definition

With analysis of consumer behaviour a first step and identification of geographic bounding a second step, the definition of product-based competition follows naturally as a third step in the analysis of the effective operations of a market.

### How it is currently done

There are two main elements to the product-market definition:

- Demand side
- Supply side

On the demand side, two key tests to analyse the correct product market are needed:

- Substitutability
- Complementarity

### Substitutability

Substitutes are near products to the product in question. They are important because a price rise in one product will theoretically lead to consumers switching to substitute products.

There are a number of physical measures of substitutability:

- **Price elasticity of demand:** Given a scarcity of data, this textbook calculation is difficult to operate in practice. The arrival of scanner data in supermarkets makes calculation of price elasticities of demand easier. The price elasticity of demand is:

$$\frac{\% \text{ change in demand}}{\% \text{ change in price}}$$

The higher the figure, the greater the degree of price elasticity and substitutability. While a low ratio will indicate either low substitutability or market power, it is not clear simply from this measure which one you are dealing with.

- **Cross-elasticities of demand:** The degree to which a price change in one product will lead to a demand change in another
- **Chain of substitution:** A broad range of products that would not normally be seen as substitutes (e.g. Rolls Royce vs. Skoda) but where a price change in one has a knock-on effect on its nearest substitute, leading to a change in prices down the substitution chain. The justification for supply chains is weak and is often used to excuse abusive behaviour. However, chains can operate within sub-markets (e.g. quality newspapers/mid-market/tabloid). The degree to which a chain exists is largely determined by the degree to which the consumer recognises the chain.

- **Innovation:** Is this a market in which:
  - new substitutes are being created (e.g. Playstation II for Dreamcast)?
  - new substitutes are likely to be created (e.g. WAP for Internet)?

If the answer is yes, the ability of a firm to leverage market power is restrained and may ebb by the time regulatory processes have trundled into action.

Other important characteristics to be taken into account include:

- **Physical characteristics** of products, as characterised by: **physically substitutable** (e.g. Mac vs. Windows software) including **path dependency** (a situation where a choice of technological path determines the sort of complementary products that will flourish e.g. Mac, Windows, VHS-Betamax, Qwerty keyboards)
- **Perceived-to-be** substitutes, which view the relevant comparative performance of the product (difficult to assess); service substitutability, which is even more difficult to measure than product substitutability (e.g. in airlines, financial services, burgers, etc.)
- **Price spreads:** What is the range of prices seen for this product range? (e.g. are the top-10 Playstation games (c£35) substitutes for each other? What effects do discounted older Platinum games (c£20) have on the relevant market)?
- **Intended use:** What will the consumer use the product for? (e.g. in India, many top-loading washing machines were purchased to make Lhassi.)
- **Income elasticity of demand:** Similar to price elasticity of demand. Will demand for the product change relative to consumer incomes/perceived consumer incomes (consumer confidence regarding vacations, hotel rooms, car purchases, etc.) The calculation here is:

$$\frac{\% \text{ change in demand}}{\% \text{ change in income}}$$

- **Structural issues:** How easy is it for consumers to actually substitute between different products? This question often focuses attention on distribution mechanisms. Key aspects include the physical manner of sale (e.g. size of shop, nature of sales process (catalogue/retail), presence of tight selective and exclusive distribution, SED) and the way the product is distributed (e.g. SED, niche market).
- **Company intention:** Are firms marketing products as substitutes or is a firm trying to market a product as a substitute for a product it currently is not a substitute for? (e.g. the attempt in the 1990s by Volvo to reposition itself as a competitor for BMW.)

## What's needed: Time in substitutability assessments

**While the need to take account of spatial factors has been addressed with some success, treatment of time in competition investigations has been less successful. In this section, we propose indicators to help regulators take better account of consumer valuation of time in investigations. Collection of some basic market data, combined with some relatively straightforward consumer research, will illuminate the role of time in the issue of substitutability. The aim of the indicators is to highlight the likelihood that consumers will substitute products and to identify limits that factors in the market will place on that likelihood.**

A particularly important element of any substitutability assessment is the issue of time. Over what sort of time period should behaviour be assessed? This question is enormously important in markets based on high technology products and services. When assessing how long the hypothetical monopolist is able to raise prices, the question has to be asked: "How long is 'how long'?"

The answer must comprise the following assessments:

- What is the current pattern of consumer behaviour in the market? This must include assessment of its cultural characteristics (e.g. Japanese consumer electronics market)
- How quickly has this market responded in the past to changes in service/product provision? What is the division of consumers in this market? How many are early adopters? gradual adopters? late adopters?
- How important are early adopters?
  - Will they drive down later prices for later adopters?
  - Is their number sufficient to ensure successful launch of products?
  - Are consumers serial early adopters, wherein the adoption of one new product will quickly be followed by adoption of another (e.g. as in the effect of potential launch of Playstation II on Dreamcast sales).
  - How much product loyalty is there in the market? (e.g. impact of Sony Playstation on Nintendo and Sega).
- The essential question to be addressed is: **Does the consumer behaviour in question involve changes over time that seem out-of-kilter with existing patterns of behaviour in the market?** <sup>12</sup>

### Time

- What is the consumer valuation of time in this market?
  - Is the market in question important to the consumer? (e.g. car purchase, house purchase)
  - How quickly can the consumer grasp the basic information needed to **make a decision?** (e.g. car performance vs. pension performance)
  - How quickly can the consumer **undertake the process** to carry that decision through? (e.g. car purchase vs. pension purchase)
  - Is this time period artificially inflated as a barrier to entry? (e.g. financial services)
- How long will it take consumers to assess the substitutes on offer?
  - What is the process by which consumers become aware of substitutes (e.g. advertising/leaflets)
  - What is the existing pattern of information in the market? (e.g. visual, verbal, leaflet, poster, performance based)
  - What opportunities are afforded to consumers to allow them to gather

information on the performance of products/services?

- How long does this process take relative to the likely valuation of time by the consumer?

Consumers value time relative to the expected gain from the decision.

### Working time into assessments

The matrix of questions aimed at identifying the degree to which consumers will behave in the classically rational model of behaviour includes a number of measures to take time into account in competition investigations. However, there appears to be a need for a more targeted means of assessing the potential role of time in the process of substitution. Such a measure combines market data with a subjective ranking (which can be based on a real figure) and weighted according to the degree to which a decision is likely to be directed or constrained by competing distribution channels.

The key measures are:

- **Number of competitors in the market.** This indicator can be easily drawn from a simple head count of players in the market, limited by the geographic market definition carried out previously.
- **Number of competitors that the consumer is aware of.** This measure can be ascertained through opinion polls conducted to ascertain the awareness of consumers to players in a market. Another method is to conduct the Von Thunen circle analysis to indicate the number of firms a consumer has physical access to. This would indicate the number of firms from which a consumer can actually choose.
- **Time required to understand the information provided.** This figure can be ascertained from a simple reading of the information necessary to understand the product or service concerned. In a pension decision, for example, one can simply take the documents provided as part of the sales process and log the time needed to read and understand. Similarly, in the purchase of a car, one can measure the time needed to read

documentation, carry out a test drive and read a magazine review. While the accuracy and uniformity of this information will differ by market and is subject to some degree of subjectivity, it provides an indication of the amount of work a consumer will have to put into a market prior to purchase.

- **Importance of potential savings.** The scale measure used to indicate the importance of a saving can be based on calculation. For example, one could calculate the size of the price spread within a market as a percentage of the average price of the product (e.g. a 4 oz burger may differ in price by 2 pence on a total spend of £1, whereas the price spread on a pension may run into hundreds of pounds on a spend of thousands). This measure would indicate the degree to which 'shopping around' would be worthwhile. However, such a measure would probably have to be supplemented by a calculation of the share of the average price of the product/service as a percentage of average disposable income. Thus, the relative price spread for a car may be low in percentage terms, whereas the actual value of the price difference as a share of disposable income may be high.
- **Degree of vertical integration.** The weighting factor tacked on as the last question to be asked is based on the assumption that vertical integration tends to increase the time taken to substitute products. For example, a consumer wishing to shop around for a hatchback car, cannot visit one site to access all models. He or she has to visit a number of geographically dispersed sites to view vehicles produced by many manufacturers, which increases the time needed to make decisions. If one is looking for a certain shade of lipstick, the control that cosmetics houses have over their distribution requires the consumer to visit different stands within an 'official' retailer rather than view all product categories in one place. We have thus chosen to weight the existence of the vertical integration as a multiplier of the time required to make a decision.

### Consumer evaluation of time

How many competitors are there in the market?	Number
How many competitors is the consumer aware of in the market?	Number
How much time does it take to understand information provided?	Hours
How important will a saving be?	Scale of 1-3
Is sales process vertically integrated?	2=yes, 1=no

### *The relationship between the factors*

The overall figure is arrived at by multiplying the number of competitors the consumer is aware of by the amount of time required to understand the necessary information provided by each company. This is then multiplied by the importance of the decision to the consumer and then multiplied by the weighting factor of the existence of vertical integration.

The original figure, which indicates the number of actual competitors in the market, is a useful starting point from which to assess the known number for consumers. A calculation based on the awareness of competitors as a share of total firms in the market is also useful. For example, in a market with many hundreds of potential suppliers, the number of those firms that consumers are aware of is an important piece of information in itself. In markets where large numbers of firms operate but few are able to reach consumers, one tends to find proxies operating for consumers. This is the case in the financial services industry, for example. In such markets consumers tend to base their decisions on proxy measures or proxy firms. Consumers will tend to rely on branding as an indication of performance or on intermediaries who can guide them through the choices available.

### Demand-side complementarities

This assessment involves looking at products/services related to the product in question (e.g. bread/butter, CD players/CDs, game consoles/games) where an increase in price in one adversely affects demand for the

**Worked example: Consumer evaluation of time**

Consumer evaluation of time		Pension	Cars	Vacation	Tin of beans
How many competitors are there in the market?	Number	100	40	8	6
How many competitors is the consumer aware of in the market?	Number	50	20	4	2
How much time does it take to understand information provided ?	Hours	1	1	3	0.01
How important will a saving be?	Scale 1-3	3	3	2	1
Is sales process vertically integrated?	2=yes, 1=no	2	2	2	1
Scale		33.33	13.33	12.00	0.02

complementary product. (e.g. the increase in the price of petrol may have an effect on the demand for cars that consume large amounts of petrol). The key questions in this estimation include:

- Are the products physically complementary? (e.g. cars and petrol, CD players and CDs)
- Are the products/services perceived by consumers to be complementary? (e.g. TV/phone/Internet bundles)
- Are the products/services bundled as complementary products/services? (e.g. TV/phone/Internet bundles)

## Supply side substitution

The issue of supply side substitution relates to whether a small increase in price would induce a new firm (operator) to enter the market, thus deterring the incumbent from raising its price. For example, if a firm produces work boots and notices that a firm is hiking prices in walking boots, it may enter the market relatively easily as it already produces a similar product. The key elements of the supply side substitutability assessment relate to:

- Is the product/service made with similar technology that other producers/service suppliers have access to?
- Is the product/service a complementary product to one already made? For example, is the product made alongside others (e.g. jet fuel) for which costs are shared in the production?

The issue of supply side substitutability raises three important issues:

- How easy is it for a firm to switch production into the different/associated product?
- How quickly can that firm switch production?
- How willing will a firm be to enter that market?

The answers to these questions raise important issues we will address later. In particular, the supply side substitutability raises issues relating to:

- Contestability
- Barriers to entry (both real and perceived, domestic and foreign)
- Sunk costs
- Reaction time of incumbents
- Strategic behaviour of incumbents (e.g. predatory pricing)

## Part III: Calculating market shares

Competition regulators have developed a number of tools to help them to weigh the relative size and strength of competitors in any given market. This section discusses the relative merits and demerits of each scheme and supplements the more accepted tools with less often used indicators of market dynamism. It looks at means of incorporating the possible impact of external trade on market share calculations, defines a series of potential scenarios (vertically integrated, large number of small players and small number of large players) and assesses the potential impact of each on standards in worked examples.

### How it is currently done

Once you have a sense of how the consumer behaves, what the market is and what sort of mechanisms operates within it, you must gauge how market power is distributed within that market. The most straightforward way to do this is with market share calculations. There are essentially two options for looking at market shares:

- Volume data
- Value data

Volume data is often the fall-back position for consumer associations simply because it is more easily available than value data. However, it is definitely a second-best solution and is best employed in conjunction with value data, for the following two reasons:

- Volume data can mask the nature of the market. A firm may have 30% of the volume

of business but only 10 % of the value of the market. This information is vital in assessing a merger.

- Volume data can give false readings of market share:
  - they are more easily manipulated to give the appearance of sales where none exist (e.g. pre-registered cars);
  - they can hide stocks at retailers and thus the real pattern of purchasing by consumers.
  - Volume data presents particular problems in vertically integrated firms.

Volume data is a useful addition to value data but it should be used in isolation only where:

- Value data is not present.
- Products/services in question are basically identical (e.g. passenger numbers on airlines). Here value/volume data should look similar.

### Doing the sums

There are essentially two methods of calculating market share:

- Concentration ratio
- Indices

The concentration ratio is the most straightforward. It simply involves adding together the market shares of (CR) the top 4, 6, 8, 10, firms. Usually firm market shares are summed to the top 4, 5 or 10.

Assuming a market with seven firms, one can see from the table below that the sum of the market shares of the top four firms leads to a CR4 figure of 80%. This means that the top four firms have 80 % of the market in question.

	Market share %	CR4
Firm A	35	35
Firm B	25	60
Firm C	10	70
Firm D	10	80
Firm E	10	
Firm F	5	
Firm G	5	
Total	100	

Baldwin (14) has developed a useful estimation of a series of market definitions based on the

CR4 measure. They are:

- Highly concentrated oligopoly (75-100)
- Moderately concentrated oligopoly (50-74.9)
- Slightly concentrated (or low-grade) oligopoly (25-49.9)
- Atomism (0-24.9)

The main drawback with the CR4 share is that it fails to:

- Inject any dynamism into the calculation (unless time series data are used);
- Ignores the remainder of the market.

A partial solution to this problem lies in the use of indices. Two closely related indices are in common use:

- Herfindahl Index
- Herfindahl-Hirschman Index

Both indices involve calculations of market share based on the squaring of a market share for each firm and a summing of that squared market share to cover the entire market. Where they differ is essentially in where the decimal point goes. The Herfindahl Index uses figures that sum to 1 and the Herfindahl-Hirschman Index uses percentages that sum to 100. Both indices have the advantage over a concentration ratio in that they sum the total market, not just a subset. Importantly, the HHI also gives greater weight to the market shares of those firms with larger market shares, a situation that more correctly reflects the greater market power afforded to such firms.

The **Herfindahl Index** has one major advantage over the more commonly used Herfindahl-Hirschman Index – a derivative of the HI can give a snapshot of the number of **effective competitors** in a market at any given time.

This is useful in merger assessments as it indicates the potential competitive loss from an agreement. As always, the indices are best shown in tabular form. In all tables, the first column indicates the current market shares of each firm in the market (A-G). Column 2 shows the initial Index measure and the sum of that index. Column 3 shows the potential effect of a hypothetical merger of firms A and B. Column 4 shows the potential effect of a hypothetical merger between firms E and F.

While the Herfindahl-Hirschman Index shows the same result in terms of the total effect on competition, the Herfindahl Index gives a useful measure of effective competition. The measure of effective competition is arrived at by inverting the final measure of concentration (the Total line); that is, by running the calculation as one over the sum:

$$\text{No. of effective competitors} = 1/0.22 = 4.5$$

In the example below (based on our hypothetical market), the first merger effectively reduces the number of firms in the market by two (despite actually only removing one) and the second merger only involves the effective loss of 0.2 of a competitor. Any regulator or consumer activist would thus be worried about merger 1 but not merger 2.

The Herfindahl-Hirschman Index is the more regularly used of the two indices (see page 40). The HHI is arrived at by summing the squares of market shares (expressed in percentage terms). The HHI can reach a maximum of 10,000 (100x 100) for a monopolist. The advantage of the HHI is that it gives a usable index figure and allows for an assessment of the increase in concentration caused by a particular merger proposal.

	Column 1	Col 2	Col 3	Col 4
Herfindahl Index	Market share	HI	HI A+B	HI E+F
Firm A	0.35	0.1225	0.36	0.1225
Firm B	0.25	0.0625		0.0625
Firm C	0.1	0.01	0.01	0.01
Firm D	0.1	0.01	0.01	0.01
Firm E	0.1	0.01	0.01	0.0225
Firm F	0.05	0.0025	0.0025	
Firm G	0.05	0.0025	0.0025	0.0025
Total	1	0.22	0.395	0.23
No. of effective competitors		4.5	2.5	4.3



Herfindahl Hirschman Index	Market share	HHI	HHI A+B	HHI E+F
Firm A	35	1225	3600	1225
Firm B	25	625		625
Firm C	10	100	100	100
Firm D	10	100	100	100
Firm E	10	100	100	225
Firm F	5	25	25	
Firm G	5	25	25	25
Total	100	2200	3950	2300

If one uses our hypothetical market again, one can see that the market starts with an HHI of 2200. The increase in concentration caused by the merger of firms A and B is 1,750 (a very large increase in concentration), while that for firms E and F is relatively small, at 100 points.

The 1992 Federal Trade Commission Horizontal Merger Guidelines (amended in 1997 with new section on efficiency defences) established a useful set of rules-of-thumb for assessing changes in concentration in merger cases using the HHI (13). To quote Section 1.51 General Standards in full:

In evaluating horizontal mergers, the Agency will consider both the post-merger market concentration and the increase in concentration resulting from the merger. Market concentration is a useful indicator of the likely potential competitive effect of a merger. The general standards for horizontal mergers are as follows:

a) Post-Merger HHI below 1000. The Agency regards markets in this region to be unconcentrated. Mergers resulting in unconcentrated markets are unlikely to have adverse competitive effects and ordinarily require no further analysis.

b) Post-Merger HHI between 1000 and 1800. The Agency regards markets in this region to be moderately concentrated. Mergers producing an increase in the HHI of less than 100 points in moderately concentrated markets post-merger are unlikely to have adverse competitive consequences and ordinarily require no further analysis. Mergers producing an increase in the HHI of more than 100 points in moderately concentrated markets post-merger potentially raise significant competitive concerns depending on the factors set forth in Sections 2-5 of the Guidelines.

c) Post-Merger HHI above 1800. The Agency regards markets in this region to be highly concentrated. Mergers producing an increase in the HHI of less than 50 points, even in highly concentrated markets post-merger, are unlikely to have adverse competitive consequences and ordinarily require no further analysis. Mergers producing an increase in the HHI of more than 50 points in highly concentrated markets post-merger potentially raise significant competitive concerns, depending on the factors set forth in Sections 2-5 of the Guidelines. Where the post-merger HHI exceeds 1800, it will be presumed that mergers producing an increase in the HHI of more than 100 points are likely to create or enhance market power or facilitate its exercise. The presumption may be overcome by a showing that factors set forth in Sections 2-5 of the Guidelines make it unlikely that the merger will create or enhance market power or facilitate its exercise, in light of market concentration and market shares.

The guidelines developed by the FTC are a useful starting point for assessments of mergers and of possible accruals of market power.

## Step down differences between market shares

Of equal importance in any market share calculation is the assessment of the differences between market share of incumbents. Thus if a market has one or two very large competitors and a large number of very small competitors (as does our hypothetical market, above), the manner of operation of that market will be significantly affected by restraints on competition. The relative size of the second string competitor is important. The differences in market share can be easily modelled. One can:

- sum the Herfindahl or Herfindahl-Hirschman Index for the second order competitors;
- calculate the marginal-concentration ratio of the second group of four firms;
- calculate the size of the second group of four firms to the first group of four firms.

*Health warning I:* It should be noted that these data are only really useful on either a:

- significant time series basis: 10 years of data are always a useful starting point
- comparative basis, either across industries, markets or countries.

*Health warning II:* These data on relative concentration need to be treated with caution when used in comparative mode and on a time series basis. Evidence of an increase in concentration/widening of gap is evidence of nothing in isolation from an understanding of the dynamics of the specific market and of markets being used in comparison.

## Temporal aspects to concentration

One of the key drawbacks to an index-based approach to measuring market power is the fact that such measures tend to be 'snapshot' measures and lack a dynamism that would help to explain a market. This can be solved by using time series data. Such data would include a number of years' worth of market share data (with all firms involved at each stage of the market's evolution.) The key advantage to such a calculation is that it allows for a more fluid analysis of the market and a better understanding of the degree of turnover in a market, and thus the likelihood of entry and exit.

## What's needed: Impact of external trade

There is a real problem in dealing with cross-border trade in goods in measures of market power and market share. When looking at trade data, we must ask:

- Is the trade registered as trade between parts of a firm or independent operators?
- Is the import purchase market oligopolised or monopolised? (with gains from trade captured by intermediaries)
- What is the pattern of market structure in the exporting country? Is the exported good:
  - exported by an export cartel? (e.g. Voluntary Export Restraint on Japanese vehicles)
  - exported by a very large number of very small producers? (e.g. leather goods)
  - produced under contract by importing firms?
- What are the regulations governing the traded goods?
  - Do they have a high ad valorem tariff?
  - Are there quantitative restrictions on the import of the good?
  - Do other regulations effect the cost of the goods?

All these factors must be taken into account before injecting an assessment of trade into a market share calculation. In doing so, a number of scenarios exist to factor in the potential market share of trade. The following options are available:

- Vertically integrated trade: This should be reflected in the existing market share data and will have no effect on the share allocated to firms already operating there. For example, if the UK imports 30% of its petroleum through existing vertically integrated operations, the effect on market share is zero because of the vertical nature of the firms in question.
  - Competitive effect – very small
  - Competitive threat (for contestability assessments) – very small/zero
- Independent trade from a large number of small exporters: The effect on existing market share is likely to be small as exporters into the market are unlikely to accrue a good deal of market power. For example, one can look at the import share of independently produced toys and shoes from developing countries as a share of total imports in those sectors.
  - Competitive effect – very small
  - Competitive threat (for contestability assessments) – very small/potentially medium

## Large number of small independent traders

Herfindahl Hirschman Index	Market share	HHI	HHI A+B	HHI E+F
Firm A	30	900	2500	900
Firm B	20	400		400
Firm C	10	100	100	100
Firm D	10	100	100	100
Firm E	10	100	100	225
Firm F	5	25	25	
Firm G	5	25	25	25
Import agents	10	1	1	1
Total	100	1651	2851	1751

- Independent trade from a small number of large exporters: Depending on the number of exporters, this can be dealt with as a normal market share calculation. It is, however, necessary to understand how exporters feed their products into the market: is it a stand alone strategy? does it involve intermediaries (in which case the competitive effect is absorbed by others)? does it involve franchising/licensing (again transferring/absorbing the market effect by others)? One can look at the purchase of petrol on the spot market by supermarket retailers as a market where a small number of importers purchase exported oil. Here the competitive calculation rests on sales of petrol by supermarkets, not by exporters into the UK
  - Competitive effect – medium – subject to mediation/capture
  - Competitive threat – medium – can be leveraged into significant scale under certain circumstances.

Let us return to our example of the theoretical market (seven players, highly concentrated). If we introduce the three possible trade impacts (vertically controlled, small exporters, large

exporters), we can see the effect that an alteration in methodology can bring about.

In example one (above), we have redistributed 5% each from Firm A and B to import competition and re-run the scenarios. The initial reallocation of market share has significantly reduced the pre-merger HHI. However, because the number of exporters into the market are large and their individual market shares are small, the potential constraining effect of these players on the post merger A+B is very small and the likelihood of the exporters affecting this market is low.

If, however, one redistributes the market share taken by the multitude of smaller exporters and allocates it to a single exporter (below), the degree of concentration increase significantly. But one is also potentially limiting the impact of any mergers in second order firms.

## Problems with indices

Concentration measures pose a number of problems but these should not be overstated.

## Single independent exporter into market

Independent trade/one supplier				
Herfindahl Hirschman Index	Market share	HHI	HHI A+B	HHI E+F
Firm A	30	900	2500	900
Firm B	20	400		400
Firm C	10	100	100	100
Firm D	10	100	100	100
Firm E	10	100	100	225
Firm F	5	25	25	
Firm G	5	25	25	25
Import agents	10	100	100	100
Total	100	1750	2950	1850

The drawbacks to the use of indices have more to do with their possible abuse rather than their intrinsic utility. As with all indicators, the indices and concentration measures should never be stretched beyond their breaking point in terms of their explanatory powers. A concentration measure on its own proves little and should always be used in conjunction with more work on the operation and nature of the market.

- The measure is largely static.
- The measure assumes that a post-merger firm will have the same market share as the sum of its parts does prior to merger.
- The measure of concentration presumes a link between greater concentration and a loss of competitive pressure and a loss in consumer welfare.

## Part IV: Assessing vertically integrated markets

**The importance of vertical restraints on trade has waxed and waned in the post-war regulatory world. The pattern of lenience toward vertical restraints seen throughout the 1980s and '90s seems to be fading. Consumer organisations have long taken the view that the anti-competitive effects of vertical restraints have been underestimated. For consumers, one of the defining problems for regulation of the 'new economy' rests on a more sceptical view of the operation of vertical restraints across currently diverse markets. We propose that regulators should dust off the methodologies developed (but repudiated) in the US and apply them rigorously in competition cases.**

### How it is currently done

Vertical integration is increasingly being seen by regulators in a relatively benign light. The recent European Commission reforms to the rules on vertical restraints have set the following twofold definition.

1. Vertical restraints in a firm with less than 30% market share will be presumed not to be harmful, unless;
2. More than 50 % of an industry operates the same pattern of vertical restraint.

This combines the 'market share' test with the 'network' effect test and is remarkably similar to efforts in the US to deal with the problem of vertical market restraints many years ago.

The US developed a series of guidelines for assessing vertical restraints on a similar basis to the horizontal merger guidelines. However, these were repudiated under the Bush administration and failed to make a comeback in the Clinton administration. The repudiated guidelines were nonetheless extremely useful in outlining the consensus view of how to deal with vertical restraints under competition law. The view enunciated in the guidelines was positive about the potential benefits of vertical restraints.

The relationship between vertical restraints and collusion were neatly bounded by the guidelines by placing upper and lower limits on the likelihood that collusion would arise from vertical restraints. The guidelines stated that vertical restraints were unlikely to aid collusion unless three conditions were found:

- concentration is high in the primary market;
- firms in the secondary market using the restraint, account for a large portion of sales in that market; and
- entry into the primary market is difficult.

Conversely, for exclusive dealing to lead to anti-competitive exclusion, the following market conditions must normally be found:

- the 'non-foreclosed market' is concentrated and leading firms in the market use the restraint;
- firms subject to the restraint control a large share of the 'foreclosed market'; and
- entry into the "foreclosed market" is difficult.'

## The two stage process

### Stage one

The US Department of Justice (DoJ) guidelines followed a two-stage process that involved 'screening' a market for likely problems caused by vertical restraints and then applying a more rigorous approach to those that did indicate a problem. In stage one, the DoJ was to apply the market structure screen aimed at excluding the following circumstances:

- the firm employing the restraint has a share of the relevant market of 10 % or less; or

- the Vertical Restraints Index (VRI) is under 1,200 and the coverage ratio is below 60 % in the same (e.g. supplier or dealer) relevant market; or
- the VRI is under 1,200 in both relevant markets;
- the coverage ratio is below 60 % in both relevant markets.

### **Vertical Restraints Index and the Coverage Ratio**

The Vertical Restraints Index is the vertical counterpart of the Herfindahl-Hirschman Index and was developed in the guidelines as a similar rule-of-thumb system. With the repudiation of the guidelines, the VRI died as a tool of analysis for the DoJ. However, the tool itself is quite useful and there is no reason why it cannot be applied in competition investigations involving vertical restraints.

To quote from the guidelines:

The Vertical Restraints Index (VRI) is calculated by squaring the market share of each firm in the market that is a party to a contract or other arrangement that contains the vertical restraint and then summing the values obtained for firms at the same level of operations.

For example, if only two firms in a dealer market employ a restraint, one with a 5% and one with a 20% market share, the dealer market VRI equals:

$$5^2 + 20^2 = 25 + 400 = 425$$

If four suppliers, each with a 25% market share, employ a restraint, the supplier market VRI equals:

$$25^2 + 25^2 + 25^2 + 25^2 = 625 + 625 + 625 + 625 = 2,500$$

If all firms in the relevant market use the restraint, the VRI is equal to the HHI used in merger analysis. The maximum possible value of the VRI is 10,000, achieved when there is only one firm in a market and that firm employs a vertical restraint. The VRI reflects both the distribution of the market shares of firms using a vertical restraint and the extent to which it is used in the relevant market.

In essence, the VRI is the HHI in that it assumes that the vertical restraint employed by a firm is uniform and comprehensive. Like the mobility measurements outlined above, there is nothing to stop analysts from applying the VRI to different vertical restraints in a market and assessing the likely impact. It would be interesting to assess the partial application of a vertical restraint using the VRI. For example, if a jeans manufacturer has 25% of a market but only operates a vertical restraint on 50% of distribution, this would indicate a problem for the VRI. The problem relates to **intra-brand** competition (competition between suppliers of a single brand). The problem arises because the DoJ (and most other competition regulators) have an ideological disposition to discount the need to encourage **intra-brand** competition and to concentrate instead on interbrand competition (competition between suppliers of different brands).

The problem of dealing with the VRI on its own was partially solved by tying it to the **Coverage Ratio**. This involved looking at the VRI for the companies in question and then assessing the resultant figure in relation to the Coverage Ratio. The Coverage Ratio was a simple measure of the share of the market that was covered by the same, or similar, vertical restraint. Thus, if two firms with 25% of the market each were merging and seeking to apply the same vertical restraint, but they were the only firms applying such a restraint, the coverage ratio would be the same. However, if two firms with 10% of the market each sought to merge and apply the same vertical restraint, but the remainder of the market also applied a restraint, the coverage ratio would be equal to 100%. This would easily fail on the network test applied by both the EU and the US.

The car market in Europe is a classic example of where the application of the VRI and Coverage Ratio would work. No one firm has sufficient market share to overly worry anyone under a VRI assessment. However, the Coverage Ratio indicates that the entire market is covered by the same restraint – a much clearer indication of a problem. What is interesting is the effect that any one merger or alliance has on the application of the VRI/Coverage Ratio.

## Stage two

If an agreement fails to pass muster under the market structure screen, the market would proceed to Stage Two. This stage involved what the DoJ referred to as a ‘structured rule of reason’ approach. This was a clear signal that the DoJ were soft-peddling on vertical restraints, given the fear of business lobbyists that a ‘per se’ prohibition rule would be applied. The Stage Two process involved a balance of benefits and disbenefits from the vertical restraint in the market. In a strange twist of fate, this approach came perilously close to the operation of Article 81(3) under European competition law – where an otherwise anti-competitive agreement could be allowed, provided it met some fairly anodyne, and rarely applied, criteria.

The key criteria to be applied in Stage Two involved an assessment of:

- Barriers to entry in both the upstream and downstream markets;
- Is the product homogenous or heterogeneous? what is the nature of product competition? (in the former, collusion is more likely)
- What is the history of collusion in the market?
- How exclusionary is the restraint? Is it an exclusive supply agreement?
- Is there an indication of the intention of the parties applying the restraint?
- Are the restraints being applied by small firms or new entrants as a means of getting a toehold in the market?
- Are there easily identifiable pro-competitive efficiency gains from the restraint?

## Tying

The DoJ also developed guidelines for the analysis of tying agreements. This is an agreement in which a supplier only supplies one product in return for another product being carried as well (e.g. only supply 501s if 602s are sold as well). This can also be referred to as ‘full line forcing’. The judicial treatment of such restraints has tended to be lenient (as with most other vertical restraints). The DoJ guidelines proposed that tying arrangements be subjected to the following tests:

- Does the firm have market power? (e.g. over 30% of the market)
- Does this power translate into dominance?

## Part V: Mitigating factors in assessments of market power

**Simple snapshots of market power are limited indicators of market structure. A key weakness is the lack of dynamism in the results that they arrive at. To more fully capture the essence of a market, one has to build in ideas of movement and innovation. This can be done in a number of ways, including basic measurements of mobility within markets. The potential for other players in the market exercising a form of countervailing power must also be taken into account. This section maps the major tools available to take account of mobility and countervailing power and highlights issues involved in assessing technological innovation in a market.**

### How it is currently done

Once the market under investigation and its degree of concentration has been identified, it is necessary to look at the factors that help to define that market and the likelihood that the market will change. In particular, one must look at:

- sources of countervailing power
- technological innovation in the market
- threat of successful entry by new players

There is a definitional problem awaiting competition analysts in looking at barriers to entry in isolation. As we will see below, barriers to entry can also be observed as barriers to establishment. As John Baldwin<sup>14</sup> has noted: 'Analysts in the field of industrial organisation have often devoted special attention to modelling the effect of entry. Implicit in these exercises is the notion that the

disciplining influence exerted by entry is different from internal pressures that come from incumbent firms. If entry and exit are just marginal manifestations of a general turnover process at work, then there is little need to treat them separately.'

What is probably more useful is to analyse **market mobility**.

The relative stasis of concentration measures has prompted many economists to argue that concentration measures on their own do not indicate industry mobility. If, as we argue below, mobility is preferable to entry and exit as a means of assessing markets, there must be some means of assessing mobility. The problem we face is access to data. Dependent on availability of data, at least four approaches are possible to enable the measurement of mobility:

- changes in market share between incumbents
- degree of change in market rankings
- extent to which market share for firms regress to the mean market share
- extent of inter-group mobility.

Using the **Dissimilarity Index**, one can calculate the redistribution of market share for firms over a time period. The index can be used in complex monopoly cases where long-run trends are needed or where incumbents are trying to indicate how much market share they have lost to new entrants. The Index is calculated by taking two years some distance apart (e.g. 1999 and 1989). The market share of each firm in the latest year is taken and the market share in the first year is then subtracted from that figure. The resulting figure is divided by two. When all firms are included, the total figure will vary between 0 and 100 and will give an idea of how much movement there has been in the distribution of market shares. The Index can be further nuanced by extracting out the market share changes attributable to new entrants, exits and mergers.

Dissimilarity indices can also be adapted for groups or sub-groups of firms. For example, dissimilarity indices can be calculated for groups of firms ranked according to size (a dissimilarity index for CR4, CR5-8 etc). This

can be used to identify the degree of market share reallocation within different groups of firms.

A further measure of mobility can be calculated by dividing the ranked list of firms (by market share) into quintiles (five groups) and assessing the degree to which firms moved between quintiles over a set period. This gives a reasonably clear picture of firm growth/decline in an industry and can aid the assessment of market stasis or vibrancy.

Despite the relatively straightforward nature of the dissimilarity index as a first step in the measure of mobility, it is not frequently used in competition investigations. This is a shame, given the relative stasis of the HHI calculation.

## Countervailing power

The study of markets at the end of the 20th century made great play about the emergence of countervailing powers in consumer product markets. In particular, the strength of mass-market retailers became a subject of much analysis. In terms of understanding specific markets, one has to ask the following questions:

- How many levels does the market operate through? How many linked markets are there between first producer and final consumer? (While similar to the chain of substitutability, this focuses more on the chain of production, distribution and consumption.)
- At what stage of the chain is the market located? Is it upstream, downstream or intermediate to other markets?
- What other players exist in the market at other stages of the production, distribution and consumption chain? What degree of concentration exists at each stage of this process?

Recent work on the emergence of countervailing power is relatively slim. However, one study for the OFT has provided a potential checklist for practices in sectors where retail countervailing power might exist. The degree to which the following factors operate is the degree to which upstream agglomerations of market power may be counteracted by

downstream market power. The authors (16) of this report argue that buyer power can be manifested in the following forms:

**Slotting allowances:** These are payments, for example, to a supermarket for the right to have one's goods on display in a particular place on the shelves, or even to have them on display at all.

**Exclusive distribution:** Exclusive or sole distribution agreements can be used by important buyers to extract concessions from their suppliers.

**Conditional purchase behaviour:** This is the purchase of goods only on condition that significant concessions are made by the supplier of such goods. Two sub-cases spring to mind. The first is where a purchaser gets into a dominant position with a supplier such that the purchaser's business becomes of vital importance to the supplier, at least in the short to medium term ... The second sub-case is where a purchaser will only buy on condition that other outlets are not supplied with the product, or not supplied with a precise version of the product.

**Exclusivity contracts:** ...retailers ...may concern the desire to foreclose the market (and thereby allow for higher downstream prices to the potential benefit of both parties)... Alternatively, the explanation may be in terms of dealing with vertical externalities which result from successive independent behaviour.

**Cloning behaviour:** behaviour aimed at 'free-riding' on the investment of established players in the market

**Joint marketing:** A powerful retail chain may encourage a manufacturer to engage in a joint promotion exercise whereby the manufacturer offers concessions only to purchasers at a particular store chain.

**Predatory buying of inputs:** ...it is conceivable that a dominant buyer may seek to expand its purchases, driving up factor prices to the point where a rival is unable to continue suffering losses, due to high costs, and so leaves the market.



**Strategic purchasing of facilities:** Control of an essential facility for distribution is a general feature of privatised utilities. However, key facilities for distribution arise in other unregulated industries which may allow for buyers to exercise power by controlling market access.

**Reciprocal dealing:** Reciprocal dealing involves a monopsonistic buyer of some product agreeing to purchase from a specific seller on condition that the seller also buys a product from the buyer.

**Terms of business:** ...potential strategic practices which accommodate rivals whereby buyers act together to improve their mutual position against their suppliers... a more likely candidate for such behaviour would be 'standard terms of business' which, while not being mutually agreed in any specific way, nevertheless become broadly adopted as industry practice and therefore tacitly agreed between buyers.

## Technological innovation

The issue of technological innovation is a difficult one to map for competition analysis. In high technology markets, the lure of the 'innovation' defence is a major one when attempting to accrue market power. One of the major drawbacks in this field is that the defence/analysis rests on an assessment of future developments in a sector. As such, it is prone to inaccuracy and crystal ball gazing. It is also a market in which entry costs are very low – one of the reasons that industry journalists are prone to criticise competition regulators for meddling in markets that they 'do not understand'. The criticism is often characterised by the potential impact of the 'next big thing' and is usually wrong-headed. In analytical terms, one must try to pin innovation in a market down to some form of measurable outcome. The following questions might help:

- Is the market a mature one? (e.g. cable TV)
- Is the market part of a wider market? (e.g. cable telephony/Internet access)
- Is the market part of a wider market that is converging in delivery and content?

- Is the market characterised by high R&D spending? (need to be careful with this one)
- Is the market highly dependent on intellectual property protection?

# Part VI: Barriers to entry, establishment and exit

**Issues of barriers to entry, establishment and exit are of central importance to any understanding of a market, as they are key factors in turning a static market analysis into a dynamic cognisance of the market under analysis. Preferable to viewing market entry on its own is analysis of the entry-establishment-exit sequence as part of the process of market mobility. This section describes various studies of entry, establishment and exit barriers and suggests a way to calculate the impact of such barriers on markets.**

## How it is currently done

One of the key concepts used in the recent assessment of markets is the contestability approach pioneered by Baumol, Panzar and Willig (17) and adopted by a number of regulatory agencies. The approach has been used to undermine straightforward static models of market concentration that simply equate concentration with a lack of competition. However, the contestability approach itself has tended to be undermined by the actual operation of markets and the ability of incumbents to fend off competition. Contestability essentially rests on the threat of competition, rather than actual competition, being a significant constraint on the abuse of market power by incumbent firms. In essence, incumbents will not utilise their market power for fear of triggering market entry. While the argument is fairly weak for the application of contestability theory, the grounds on which it can be applied are a useful test for a market. The three conditions that have to be met for a market to be deemed contestable are:

- there are no **barriers to entry** or exit;
- all firms, both incumbent and potential entrants, have access to the **same production technology** and there is **perfect information** on prices, available to all consumers and firms;
- entrants can enter and exit **before incumbents** can **adjust** prices.

In reality, few markets fulfil this checklist but it is a useful one to bear in mind when assessing markets.

A useful model of market entry that takes account of a large number of factors that firms will take into account when assessing whether or not to enter a market was carried out by John Baldwin,(18). He argued that firms will normally take into account the following factors:

- perceived post-entry profit: both existing profit and a likely growth in profit
- barriers to entry: economies of scale, concentration, advertising intensity and R&D
- market risk: the volatility of market growth
- number of firms and market size
- industry growth

To this list of factors one can add:

- existence and size of sunk costs
- reaction time of incumbents
- nature of past incumbent firm behaviour (reputation)
- existing market regulations

The shopping list of factors governing firm entry strategy should be placed under three headings:

- barriers to entry
- barriers to establishment
- barriers to exit

## Barriers to entry

The study of barriers to entry is the best developed of these areas. Barriers that a firm may face include the following:

### Pre-existing exclusive supply contracts

Incumbent firms may already have access to supply contracts to firms or government.

Such contracts can help to offset activities in other sectors (effective subsidy) or entail a sewing up of a significant part of the market. An example of the former can be seen in the relationship in the supply of military aircraft between the US government and Boeing.

Tests:

- Is the market characterised by a small number of large contracts?
- Is the government a big purchaser of goods?

### **Governmental regulations and relationships**

Incumbent firms have often been deeply involved in the establishment of regulations that govern their own behaviour. Such regulations can be set at an artificially high level in the knowledge that lower cost operators will not be able to fund such costs. There is thus an incentive on incumbents to champion ever-higher technical and performance standards as a means of deterring entry.

On a similar tack, incumbent firms often have well-established relationships with government and regulators that makes the ability of new entrants to operate in that market difficult. The ability of British Airways to effectively have UK international aviation policy written for its sole benefit is a clear example of this form of regulatory capture.

Tests:

- Is the incumbent an ex or current national champion?
- Are government regulations important in shaping the market?

### **Vertical restraints**

Tying relationships between existing suppliers and manufacturers can make it difficult to enter an established market. There are a large number of potential vertical restraints that can limit market entry. For example, the freezer exclusivity issue still in published text was a clear effort at restraining market entry. Similarly, exclusivity links in the brewing industry clearly acted as a barrier to entry.

Tests:

- Are vertical restraints a structural feature of the market?
- What is the rationale for the operation of vertical restraints?

### **Access to essential facilities**

The issue of essential facilities is complex and controversial. An essential facility is a one that is needed by a firm to enable it to carry out its normal business activity. Such facilities can include such things like ports, gas pipelines and airport slots. In any industry in which essential facilities are present, one has to consider:

- Is access is provided at fair and reasonable rates?
- Is capacity artificially restrained to limit entry?
- Is redistribution of existing assets necessary as a pre-requisite to market entry?

### **Economies of scale**

In comparison to the more strategic factors outlined above, the existence of scale economies is relatively straightforward. Scale economies occur when a firm, through the size of its production, attains economic efficiencies that allow it to undercut other firms. If an incumbent firm has attained such economies, the likelihood of successful entry by a new firm is reduced. At the least, entry is only likely by firms either with their own economies of scale or with deep enough pockets to allow losses to be attained in order to attain economies of scale over time.

Tests:

- Do incumbents possess economies of scale?
- Are any potential foreign competitors that also possess economies of scale able to enter the market ?
- Are there potential new entrants from other industries with sufficiently deep pockets to attain scale economies within a reasonable period of time?

### **Concentration**

An industry that is highly concentrated is likely to act as a barrier to entry to a new firm. However, this barrier is potentially overcome by two factors, both strategically driven:

**Judo economics:** this wonderfully named theory that rightly points out that smaller firms can be fleet of foot than their larger counterparts and so can gain market share, or successful niches, relatively quickly.

**Niche operation:** to avoid undue attention from competition regulators, entry may be facilitated but constrained as a means of showing good faith and behaviour.

### Advertising intensity

It is interesting to analyse advertising expenditure in markets where significant entry has not occurred and trace patterns relating expenditure to the potential for entry. Advertising expenditure can operate either as a defensive move (protecting brand identity from insurgence) or offensive (flooding newer messages).

Tests:

- How important is branding in the market?
- What role does advertising play in the market?

### R&D

Industries with high spending on R&D are always difficult to break into. R&D expenditure requires two things: innovation and deep pockets.

A close look at recent developments in the pharmaceutical industry bears this analysis out. In the 1990s, the main source of innovation and potential innovation came from biotechnology companies seeking genetic therapies and medicines. Such firms had access to significant amounts of innovation and research. In contrast, established pharmaceutical companies had access to little biotechnological research but plenty of money. When the former firms found that their R&D was not leading to fast-enough medical breakthroughs, they found that pharmaceutical companies were only too eager to offer their deep pockets as purchasers or 'strategic allies'.

Tests:

- Is this an industry that requires large expenditures on R&D
- Are there potential new entrants with deep pockets?

### Sunk costs

Sunk costs are those costs incurred in entering a market that are irrecoverable on exit. If a firm establishes a factory with specialist equipment, it will not be able to sell this equipment on exiting the industry. Sunk costs are important because they are part of the fabric of an entry decision but have already been factored into costs by an incumbent. A difference in cost bases is thus likely to occur. However, this can be overstated because entry is usually presaged on being a lower cost operator than an incumbent. Sunk costs are also important because they have an impact on potential profitability and market risk.

Tests:

- Does this industry require a large irrecoverable cost? (e.g. cable telephony)
- Have incumbents shown a tendency to act aggressively against new entrants?
- Have potential entrants indicated that they possess deep pockets?

The summary calculation for the likelihood of market entry has been summarised as:

**Market entry = sum (market size+market growth+expected post entry profit+barriers to entry+market risk)**

Barriers to entry and market risk are both disincentives and the former three incentives.

**Barriers to entry can be summed as the barriers listed above but are more usually summed as: economies of scale+market concentration+advertising intensity+R&D costs.**

Expected post-entry profit is modelled usually as the average profit of the sector expecting entry. However, it can also be modelled by the firm as the variance between pre-entry profit and expected post-entry profit.

The market risk is usually modelled by the volatility in market growth.

## Structural barriers and market entry

It should be noted in dealing with real industries that the existence of structural barriers may well deter entry to the market in terms of number and frequency. However, it is unlikely to affect the size of the likely entrant negatively. If anything, structural barriers make the entry of larger firms more likely than small ones. There is also limited evidence that the likelihood of market entry is determined by the profitability of the smaller players in the market. This is simply because it is likely that any new entrant would enter the market as a small player. This is an important practical issue when assessing the likelihood of market entry.

## Barriers to establishment

The key problem with looking at barriers to establishment is separating out the normal cut and thrust of competitive behaviour from the clearly anti-competitive behaviour or abuse of a dominant position. The following rules of thumb are useful:

- If the market is composed of a small number of relatively evenly divided firms, evidence of collusion should be looked for. This includes:
  - outright collusion/cartelisation
  - tacit collusion/ unwillingness to compete
- If the market has a dominant player, one needs to look for abuse of that position. This can take many forms, many of which are included above in the outline of barriers to entry. Specifically one can identify:
  - strategic behaviour, and particularly predatory behaviour
  - tilting the playing field
  - market foreclosure
- If the market has a large number of small suppliers, collusion is less likely. (Cartels generally rely on few members with a reduced incentive to cheat).

# Part VII: Strategic behaviour

**Identification of strategic behaviour by firms is the most theoretically dense element of our work. The evolution of thinking about firm behaviour owes a good deal to developments in game theory and mathematical modelling and is thus complex. The importance of reputation and information cannot be digested at one sitting. This section looks at existing research and places it within the framework of a possible investigation, suggesting a framework for thinking and a set of targeted questions to help identify key problems and approaches.**

## How it is currently done

Strategic behaviour of firms is at the heart of competition law and policy and has been a driving force behind changes in the nature of that law. However, the manner in which a legal/economic system of regulation can assess strategic behaviour is less clear, except in specific cases of laws aimed at excesses of such activities. For example, the Robinson-Patman Act (US) is specifically aimed at restraining price discrimination by suppliers if this discrimination is aimed at restricting competition. Similarly the treatment of predatory behaviour has a specific behavioural aspect to the law, in its assessment of intent.

While the focus on intent provides a way in for the study of strategic behaviour, the real ability of regulators to separate Type I from Type II errors (see below) is limited by the 'fog of war' that occurs in normal markets.

When faced with the potential entry of a competitor into a market, an incumbent firm has a number of options. The two central choices are to fight all entrants or accommodate them (see the 'chain store paradox', below). However, Jean Tirole and Drew Fudenberg have identified a four-fold typology of firms and likely response (19) in a study of investment in R&D and advertising as a response to threatened entry or expansion.

The key findings of the Fudenberg and Tirole model are as follows:

- **Lean and Hungry:** An incumbent may reduce advertising to deter entry by signalling to a competitor that it has reduced its 'goodwill' in the market with consumers and is prepared to fight on price.
- **Fat-Cat Effect:** An incumbent may accommodate market entry but over-invest in advertising as a means of softening up the new entrants pricing behaviour and relaxing investment post-entry.
- **Puppy Dog Ploy:** A firm accommodates entry and reduces investment as a way of looking quiescent.
- **Top Dog:** An incumbent increases investment as a means of deterring entry.

The question for each market is to determine the profile of the incumbent firm. While the typology is not designed to be generally applicable, its models can be used more generally if they are viewed as characteristics of markets rather than strategies of firms. For example, one can see that the Fat Cat effect is common in the music market as firms over-invest in advertising/PR to increase the costs of entry of new players in order to make them less able to compete aggressively on price.

## Bertrand or Cournot?

Another useful tool for an assessment of a market is to look at the market in relation to the models developed in the 19th century by Cournot and Bertrand. The Cournot-Bertrand Paradox is useful as a preliminary step in assessing markets and strategic behaviour. Its two approaches are:

- **Cournot market:** Each (of the two) firm(s) chooses its output level and the combined output of the two sets the price. The oil market is the clearest example of a Cournot oligopoly.
- **Bertrand market:** Each (of the two) firm(s) uses price as the key variable and adjusts output accordingly.

The paradox of the original models was that a Cournot market led to prices below the monopoly price but above the perfectly competitive market price. A Bertrand market, however, led to prices the same as those modelled in a perfectly competitive market. The 'paradox' has tended to be solved by a game theoretic application involving either different costs or information problems. In both cases, Bertrand markets develop Cournot solutions: that is, markets originally developed on a price basis end up not setting perfectly competitive prices but prices between monopoly and competition.

The key question for analysts in this area is: 'what sort of market am I looking at: Bertrand or Cournot?' 'Is output or price the primary variable?' Answering these questions will focus down the chain at the mechanisms for setting output and prices and the speed with which these decisions can be altered. Think of the oil market, where enormous sums are invested in getting output organised — the price of oil is a secondary driver to this. However, the volatility of Cournot market prices leads to collusion to restrict supply and control price. The oil market is naturally a Cournot market but the OPEC cartel tries to apply a Bertrand model – and the tension is apparent.

Key questions in Bertrand-Cournot:

- Is this market predominantly a Bertrand or Cournot market?
- Is this market naturally one or the other?
- How quickly can the market adjust either price or output?
- If output is sticky, how likely is a collusive attempt at Cournot by incumbents?

## Predatory pricing

Identification of predatory pricing is notoriously difficult. Roger Fones (19), of the Department of Justice, outlines a number of principles that the DoJ has applied to cases of predation:<sup>20</sup>

- It is not illegal predation unless consumers are worse off in the long run as a result.
- A pricing strategy by a suspected predator harms consumers when the strategy is rational only if the victim exits the market.
- The incumbent's prices must be 'below an appropriate measure' of its own costs.
  - **Corollary A:** An appropriate measure of costs should not establish a price umbrella for inefficient firms.
  - **Corollary B:** An appropriate measure of costs should minimise the risks of condemning legitimate competitive behaviour.
  - **Corollary C:** An appropriate measure of cost should be reasonably measurable with a high degree of confidence and predictability.

The UK's OFT has identified factors to be taken into account in predation cases.<sup>21</sup> Although the particular case in question involved no finding of predatory pricing, the then-Director General of Fair Trading did spell out the test to determine the existence of predation. Three factors needed to be taken into account:

- The relationship between prices and costs;
- The structure and other characteristics of the market for the product in question;
- Any evidence on the motives and intention of the firm and any relevant evidence from its behaviour in other markets'<sup>22</sup>

Both definitions satisfy the classic three-stage process (pricing below cost, exit and recoupment) and add a degree of common sense to the cost measurement problem.

Identifying predation is important because of its impact on the effective functioning of markets. The great Alfred Kahn summed up the importance of predatory behaviour to the chilling of competition: 'The extent to which markets are effectively contestable cannot be

independent of the ways in which the rich, dominant incumbents responded in the past to previous entrants. As Irwin Seltzer once put it, a No Trespassing sign alone may not deter a hiker from walking on another's property but when, just beyond the sign, the field is littered with bodies of previous trespassers — and all the more when other fields, owned by other people, are similarly littered — the lesson is likely to sink in.'<sup>23</sup>

The key problem in identifying predation is picking normal competitive responses from predatory behaviour. This has led Joskow and Klevorick<sup>24</sup> to identify two types of error<sup>25</sup> that can be made in predatory pricing claims:

- Type I error: the identification of a competitive price cut as a predatory price cut.
- Type II error: the failure to detect predatory pricing.

The Type I and II errors can actually be applied to almost all competition cases — either missing behaviour that is damaging or misidentifying behaviour that is benign.

For predation to be found in a market, Ordoover and Willig identified three basic conditions that need to be satisfied:

- The market must be horizontally concentrated. In an un-concentrated market, there is sufficient competition discipline from the remaining rivals to preclude monopoly power, irrespective of the exit of one firm.
- The market must be protected by a form of entry barriers that we term entry hurdles. These hurdles exist whenever the prospective entrant is cost-disadvantaged relative to the incumbent solely because the incumbent is already functioning as a going concern, and the entrant has not yet committed the requisite resources. In general, entry hurdles arise when investments are not fully reversible. The need to incur the irreversible portion of the investment, and thereby to put that amount at risk, confronts the prospective entrant with a cost disadvantage relative to the incumbent whose resources are already committed.

- The presence of re-entry barriers. A re-entry barrier may be defined as the cost that a firm that has exited a market must incur to resume production.<sup>26</sup>

The key problem with legal tests for predatory behaviour is that it is out-of-kilter with developments in competition economics and limits the focus of authorities on a limited number of potential abuses. In particular, predatory behaviour laws underestimate:

- the fact that information and the signalling of intention are central to predatory behaviour;
- the creation and maintenance of a reputation is at the core of much predatory behaviour;
- the relationship between costs and prices is less important than previously thought;
- the static 'bright lines' approach of the Areeda/Turner rule<sup>27</sup> and the legal approach that this bolstered are not as relevant as they once were.

The problems with identifying and prosecuting predatory behaviour has led many to recast predatory behaviour within a broader area, entitled exclusionary behaviour.

## Fighting brands, fighting ships and reputation

One of the key drawbacks to traditional competition analysis of predation is the lack of focus on:

- Reputation: activities carried out to build reputation;
- Multi-market contact: competition occurring in more than one market where activities designed to protect the position of the firm in one market leads to predation in another;
- Inter-temporal multi-market competition: activities in one market designed to 'warn off' competitors from entering another in the future.

The use of 'fighting brands' or a 'fighting company' is particularly interesting to analyse. Yamey explains a fighting brand thus: 'Its sale is confined to the affected areas; the quantities offered are controlled so as not to make unnecessary sacrifices of profit; and it is

withdrawn as soon as the objective has been attained, namely the acquisition of the independent by the monopolist, or the withdrawal of the independent, or its abandonment of plans of enlarging its share of the market.'<sup>28</sup>

He quotes examples of fighting brands from the Canadian match industry and the use of 'fighting ships' by the UK shipping cartels in the late 19th century when a cartel of shipping companies responded to independent ships entering the lucrative China trade market by dumping capacity on the route to destroy the market for the independents, drive them from the route and then re-build the cartel.<sup>29</sup>

## The chain store paradox and signalling

The chain store paradox<sup>30</sup> identified a paradox between a formal game theoretical model and real-world experience. The model operated with a 20-store incumbent chain store facing entry by a new firm. The model suggests that the incumbent would never fight entry. In reality, that incumbent would fight the first entrant as a means of sending a signal to all potential entrants.

The paradox was solved by introducing:

- Imperfect information
- Reputation

Kreps and Wilson<sup>31</sup> introduced the concept of 'imperfect information' or uncertainty, They found that 'if rivals perceive the slightest chance that an incumbent firm might employ 'rapacious responses,' then the incumbent's optimal strategy is to employ such behaviour against its rivals in all, except possibly the last few, in a long string of encounters. For the incumbent, the immediate cost of predation is a worthwhile investment to sustain or enhance its reputation, thereby deterring subsequent challenges.'<sup>32</sup> Yun Joo Jung, John H Kagel and Dan Levin took the chain store paradox, remodelled it along the lines developed by Kreps and Wilson and found that 'predatory pricing is alive and well'.<sup>33</sup>



# Part VIII: Aiming for workable competition

**The established models of competition (perfect, monopolistic, oligopolistic, etc.) and the interpretations discussed in the preceding sections are theoretical models. While they are useful as constructs upon which to judge actual markets, a definition of ‘workable competition’ can be valuable.**

A useful definition of the workable competition target can be arrived at by combining our thinking on consumer behaviour with more established work on Structure-Conduct-Performance.<sup>34</sup> We propose that the targets sought by competition regulators be supplemented as follows:

### ***Consumer behaviour criteria***

- Information should be transparent and as independent as possible.
- Consumers must be provided with, or at least not denied, opportunities to learn in markets.
- Unnecessary sunk costs by the consumer should be avoided.
- Pressure-free re-evaluations should be afforded consumers wherever possible.
- Search costs should not be artificially increased.
- Feedback loops should be as timely and accurate as possible.
- Losses and gains should be de-linked wherever practicable to allow consumers to bundle and re-bundle gains and losses.

### ***Structural criteria***

- The number of traders should be at least as large as scale economies permit.
- There should be no artificial inhibitions on mobility and entry.
- There should be moderate and price-sensitive quality differentials in the products offered.

### ***Conduct criteria***

- Some uncertainty should exist in the minds of rivals as to whether price initiatives will be followed.
- Firms should strive to attain their goals independently, without collusion.
- There should be no unfair, exclusionary, predatory or coercive tactics.
- Inefficient suppliers and customers should not be shielded permanently.
- Sales promotion should be informative, or at least not misleading.
- There should be no persistent, harmful price discrimination.

### ***Performance criteria***

- Firms’ production and distribution operations should be efficient and not wasteful of resources.
- Output levels and product quality (e.g. variety, durability, safety, reliability and so forth) should be responsive to consumer demands.
- Profits should be at levels just sufficient to reward investment, efficiency and innovation.
- Prices should encourage rational choice, guide markets toward equilibrium and not intensify cyclical instability.
- Opportunities for introducing technically superior new products and processes should be exploited.
- Promotional expenses should not be excessive.
- Success should accrue to sellers who best serve consumer wants.

# Consumers and regulation



3

# Part I: What it is and why it has grown

**Two key questions need to be answered in the study of regulation: when does regulation occur and when should regulation occur? While both questions are often lumped together into a single query, it is important to split them apart and identify both the drivers for regulation and the time when regulation is an appropriate response.**

## What exactly is regulation?

While the topic of regulation is a key one in so many contemporary debates, it is not always clear what is being talked about. Commentators in the debate range in their definitions of regulation across all forms of legal control, all forms of economic control and all forms of regulation aimed at natural monopoly problems. We are presented with two clear problems in this regard. Firstly, how does one define regulation as a category of activity and secondly, how does one identify the areas within which regulation occurs.

Anthony Ogus quotes Roger Noll <sup>35</sup> as arguing that the 'central meaning' of regulation is as a 'sustained and focused control exercised by a public agency over activities that are valued by a community'. This characterisation indicates that the focus of regulation is on those activities of general value to the community.

Ogus argues for two models of the form of regulation: the collectivist and market models.

Under the collectivist system:

- Regulation has a directive function. 'To achieve the desired ends, individuals are

compelled by a superior authority – the State – to behave in particular ways with the threat of sanctions if they do not comply.'

- It is public law in the sense that in general it is for the State (or its agents) to enforce the obligations which cannot be over-reached by private agreement between the parties concerned.
- Because the State plays a fundamental role in the formulation as well as enforcement of the law, it is typically centralised.

Under the market model:

- Regulation has a facilitative function, offering a set of formalised arrangements with which individuals can 'clothe' their welfare-seeking activities and relationships.
- Private nature differs from regulation in that:
  - it is left to individuals to enforce rights;
  - obligations are incurred voluntarily, in the sense that they can be displaced by agreements between the affected parties if found to be inappropriate:
- Private law is largely decentralised.

What is clear from these two models is that in most market economies, the model of regulation that applies most directly is a mixture of the two. The exact balance of the mixture will depend on the area of law and the economy subject to the regulation. For example, public utilities regulation is considerably more collectivist in nature than the regulation of commercial contracts.

Ogus further divides social from economic regulation and identifies the two main drivers for social regulation as arising from the classic definition of market failure:

- Individuals in an existing or potential contractual relationship with firms supplying goods or services have inadequate information concerning the quality offered by suppliers. In consequence, the unregulated market may fail to meet their preferences.
- Even if this information problem does not exist, market transactions may have spillover effects (or externalities) which adversely affect individuals not involved in the transactions.

Using the classic model of information and externality based market failure, Ogus provides a useful typology of potential regulatory solutions. He posits three central elements to the regulatory spectrum in dealing with classic social regulation-based mechanisms for addressing market failures:

### Low end of spectrum:

- Information regulation: forcing suppliers to disclose details concerning the quality of their goods and services;
- Private regulation: imposing obligations which can be enforced only by individuals for whose benefit they have been created;
- Economic instruments: these are not coercive but rather induce desirable behaviour by financial incentives.

### Middle of the spectrum:

- 'Command-and-control' in which standards backed by criminal sanctions are imposed on suppliers.

### High end of the spectrum

- Highly interventionist approach of prior approval which prohibits the undertaking of an activity without a license or authorisation issued by an agency.

The threefold characterisation of choices in regulation is matched by the approach used by Friedman<sup>36</sup> where the protection offered by licensing is only one of three possible approaches:

- Registration (e.g. of automobiles, pedigree dogs);
- Certification: does not directly involve the police power of the State in economic transactions (e.g. common in medical specialities);
- Licensure: directly involves the police power of the State (e.g. only licensed medical doctors allowed to practice medicine)

The approach taken by Ogus is echoed in the work of Buchanan and Tullock, who argue that there are essentially three choices for decision-makers in responding to a market failure. These are to:

1. Rely on individual or private action
2. Organise voluntary exchange
3. Organise a collective choice

As the outline suggests, the key problem with choices two and three are that they impose considerable organisational costs on those seeking to use them. While private or individual action imposes costs on the individual undertaking the action, the organisation of voluntary exchanges or collective choice creates organisational and co-ordination problems, the latter often being held up as an example of market failure.

It is interesting to compare the relative popularity of the three approaches across time and across industries. For many years, the regulation of many retail financial services products have relied on the low-end spectrum of regulation, most notably information regulation. In contrast, privatised industries have tended to operate a licensing system, the most interventionist approach. As the market has evolved over time, this has moved toward the middle element of the spectrum. The spectrum reflects the middle ground between the more collectivist high-end intervention and the more classically market-oriented low-end of the spectrum. The fact that the middle of the spectrum is most common in regulatory interventions is further evidence that the mixed approach is most appropriate in what is still a mixed market economy.

## Why regulation has grown

Defining regulation can be difficult because of the range of options available to the regulator and the regulated. What is clear is that the role of regulation has grown in importance since World War II. This is not to argue that the post-war world has become obsessed with regulation of everyday life. It is more a reflection of the evolution of politics in many countries. The regulation of industry moved from being an issue of significant political revolt and debate to one of bureaucratic efficiency and societal equity. The growth in regulation has emerged from a number of sources:

- A significant change in the perception of the role of the State in the economy. In the UK, the immediate post-war election of a Labour government and the creation of the NHS and a wave of nationalisation was evidence of a marked change in the attitude of the public and political elite to the role of the State. Much of the later political debate has centred on the importance and diminution of that role.
  - Increased public awareness of market shortcomings. Political demands for regulation have grown with the growing transparency of political debates and the highlighting of failures in market provision. The nationalisation and privatisation of the rail industry is a good example of an industry whose shortcomings are well publicised.
  - Universal suffrage which placed governments under pressure to adopt policies that appealed to a broader section of population and a process of political organisation centred around regulatory demands. The cosy world of elite politics which directed regulation toward specific goals has been replaced by a broader base from which demands for regulation emerge.
  - The structure of political rewards. The creation of regulation and regulatory agencies creates a group of individuals whose interests are best served by maintaining influence and apportioning benefits to maintain their position.
  - Rapid advances in technology constituted greater threats to health and safety: 19th and early 20th century politics were largely about risk, health and safety. The post-war world saw regulatory agencies internalise that debate. This has led to a bureaucratisation of the means by which increasingly complex technology-based risks have emerged.
  - The 'rights revolution' in post-war developed economies: The emergence of a political debate centred, in part, on the idea that citizens have rights to certain services and products has altered the regulatory contract.
  - The tendency of politicians to add to the regulatory burden is great, given their short accountability horizon.
  - Decoupling between the burdens of and benefits of regulation: This process takes two forms:
    - micro-decoupling; where benefits from an existing or prospective government programme are concentrated in a particular group while costs are broadly dispersed among the public as taxpayers or consumers;
    - macro-decoupling; where political power rests with the voting majority, while a minority provides most of the tax base.
- Dicey: '[T]he beneficial effect of State intervention, especially in the form of legislation, is direct, immediate and visible, whereas its evil effects are gradual and indirect and lie out of sight'.

## Part II: Regulation and market failure

### Why regulation *should* happen

The classic case for regulation rests on the idea that markets fail in the delivery of certain goods or services, or produce unacceptable side effects in delivering the good or service.

However, the definition of when regulation should occur is hotly debated. The minimalist approach argues that '(t)he most fully accepted argument for intervention relates to what is variously known as the public good, collective-consumption or non-exclusivity problem.

Situations arise in which it is impossible or at least infeasible or undesirable to exclude anyone from the consumption of a commodity.'

<sup>37</sup> In this conception, intervention can only be argued to be positive if it addresses the classic public goods problem. Interestingly, the minimalist approach does not include externalities, commonly assumed to be a trigger point for intervention. Ogus has a more fulsome list of trigger points for regulation:

Key failures:

- monopolies and natural monopolies;
- public goods: consumption by one person does not leave less for others to consume; it is impossible or too costly for the supplier to exclude those who do not pay from the benefit;
- Other externalities: problems of attempts to correct externalities:
  - the third party on whom the cost is imposed may have received ex ante, or will receive ex post, indirect compensation for the loss (e.g. temporary road closure to resurface and increase traffic);

- externalities are not unilaterally imposed. There is friction from the competing and conflicting claim of two parties for use of a single resource; the burden of avoiding or eliminating the friction should be imposed on whichever party can achieve this at lowest cost;
- Not appropriate to eliminate 'pecuniary externalities': pure value (financial) changes borne by third parties which result from changes in technology or in consumer preferences. They involve indirect effects which alter the demand faced by the harmed or benefited third party. Pecuniary externalities are the result of the natural play of market forces. They involve wealth transfers which cancel out and do not increase the costs faced by society.<sup>38</sup>
- Transaction costs: externality may give rise to a misallocation but the administrative and other costs of correcting it may outweigh the social benefits arising from such actions;

- Information deficits and bounded rationality;

- Co-ordination problems: '...the private law was used to facilitate the co-ordination of utility-maximising activities. Contracts and legal forms of organisation, notably corporations, are used overtly for this purpose. Such specific legal arrangements give rise, of course, to significant transactions costs; and other private-law concepts, particularly torts and property rights, can be treated as transactions costs savings devices to the extent that they lay down standards of behaviour that it is assumed the parties would have agreed to in contracts if transactions costs had not inhibited them....although coercion is invariably involved, regulation justified on this basis is not really forcing people to do what they don't want to do, but rather enabling them to do what they want to do by forcing them to do it';

- Exceptional market conditions and macro-economic considerations.'<sup>39s</sup>

Ogus also ties market failure to a failure of law. He argues that a prima facie case exists for regulation in the public interest where the 'market failure' is accompanied by a 'private

law failure'. He further points to non-economic goals of regulation in seeking to further distributional justice, community values or some form of paternalism, which he defines as 'the interference with a person's liberty of action justified by reasons referring exclusively to the welfare, good, happiness, needs, interests or values of the person being coerced.'<sup>40</sup>

The tendency of economists to react against the social aspects of regulation has been tempered in some areas by the experience of the fallibility of markets and of consumers in them. A paper by Joseph Stiglitz, Peter and Jonathan Orszag called 'The Role of Government in a Digital Age' provides a slightly broader list of criteria under which reasons for regulation can be found. The criteria they list are:

- 'Failure of competition... (t)he government therefore has a role to play in ensuring effective competition in private markets.
- Public goods... (I)n general, private markets will not supply public good (41) – or not supply them in sufficient quantities – and therefore the government has a role to play in providing them.
- Externalities... In general, the government has a role to play in correcting negative externalities or promoting positive externalities. Without government involvement, private markets will typically under-produce goods with positive externalities and over-produce goods with negative externalities.
- Incomplete markets. A possible justification for government activity is incomplete markets. For example, imperfections in capital and insurance markets – such as the absence of insurance coverage for certain types of risks – may warrant government involvement. A classic example of an imperfect capital market is the inability to borrow against higher future earnings, which justifies a government role in providing loans or loan guarantees for post-secondary education expenses. In addition, certain types of goods or services may require large-scale co-ordination, which may be possible but difficult to achieve without governmental assistance.
- Information failures... information is in some ways a public good, and therefore this rationale for government is similar to the second rationale.
- Macroeconomic fluctuations. The government has a role to play in correcting macroeconomic imbalances, such as those that lead to periodic problems with high unemployment, inflation, or recession.
- Redistribution. Even if private markets produce goods and services efficiently, society may not like the distribution of income that results. The government may therefore have a role in redistributing income – for example, through a progressive tax system – to produce a more equal distribution of income.
- Merit goods. There may be cases in which individuals would make 'bad' decisions if left to their own devices and in which government paternalism is therefore warranted. For example, the government compels individuals to attend school or wear seat belts largely because it is concerned that people will not do 'what's best' in the absence of such mandates. The government may sometimes be justified in compelling individuals to consume 'merit goods' (e.g. elementary education).'

Stiglitz et al thus explicitly recognise that market failure can extend beyond the simply monopolisation and public goods problem and generation of externalities and extend into incomplete markets, information problems and poor decision-making by individuals. However, the most interesting inclusion is that of redistribution, a factor often left outside of classical economic approaches to regulation. While most discussion of redistribution has tended to focus on taxation systems rebalancing income distribution resulting from the interplay of market forces, regulation has a much broader role to play in redistributive policies. This is particularly true in the area of utility regulation, where redistribution has always been an implicit part of the system (through universal service obligations) but where the introduction of marginal cost pricing has exposed the redistributive policies to greater pressure and scrutiny than before.

# Part III: Why regulation happens

## Why regulation *does* happen

The enormous literature that exists on the instance of regulation can be seen as part of the positive approach to regulation: the study of when regulation does occur. The literature on when regulation *should* occur is less voluminous. This more normative approach tends less to advocacy and more toward identifying factors common to regulatory interventions and attempts to predict when such circumstances will lead to intervention. Separating out the normative from the positive is never a straightforward process.

One such approach (Normative Analysis as a Positive Theory, or NPT) argues that 'regulation is supplied in response to the public's demand for the correction of a market failure or for the correction of highly inequitable practices (e.g. price discrimination or firms receiving windfall profits due to some change in industry conditions.) According to this theory, if a market is a natural monopoly, the public will demand that the industry be regulated because a first best solution is not achieved in the absence of regulation. Unfettered competition will result in either too many firms producing and/or price exceeding the socially optimal level. By regulating the industry, net welfare gains result. It is this potential for welfare gains that generates the public demand for regulation. In this way, the public interest theory uses normative analysis (when should regulation occur) to produce a positive theory (when does regulation occur).'

Viscusi et al argue that the NPT approach is both refuted by evidence and ignores the process by which regulation occurs. It is thus a rather flat

approach to dealing with the development of regulation. They choose to reformulate NPT in a potentially more cynical manner as: 'regulation is originally put in place to correct a market failure but then is mismanaged by the regulatory agency.' But even this approach fails to sufficiently stack up in the real world of regulation, both for not dealing with industries suffering regulation despite a lack of market failure (as it is classically defined) nor industries that actually seek regulation.

## Theory of regulation: Stigler-Peltzman

Perhaps the most significant advance in the study of regulation came in the work of Stigler who attempted to develop a general economic theory of regulation. In a now classic article<sup>42</sup>, Stigler argued that interest groups will seek to maximise their income by seeking to persuade the State to use its monopoly of coercion to their benefit. Regulation is a key tool for interest groups to persuade the State to redistribute income from one group to another.

The basic argument that interest groups will seek to persuade the State to redistribute resources for their benefit was further advanced by Peltzman<sup>43</sup>. His key assumption is that the individual who controls regulatory policy chooses policy to maximise political support. Most US academics assume this regulator to be, in the first instance, a politician. While this assumption does not always hold true, it is a useful starting point. Other work, most notably from the Public Choice school and from capture theory, deals more directly with regulatory bureaucracies and agencies.

Peltzman argues that in deciding government policies, a politician will decide the size of the group that will gain from regulation and how much wealth should be transferred to them. This calculation will be made as part of a desire to be re-elected and thus involves assessments of political support (both in terms of votes and financing). Naturally a regulatory policy that involves a transfer to a group also involves a transfer from a group. Here the politician will need to assess the opposition likely to emerge from the group suffering a loss. As a rule-of-



thumb, the opposition to a measure will increase along two vectors: the size of the population likely to lose out and the intensity of this group. On balance, a regulator will choose a policy (defined by the size of the group that gains and the amount of the transfer to them) to maximise political support minus political opposition. The object is thus net political support. There is no mention, or necessary place, for assessments of overall social welfare.

One of the main benefits of the Stigler/Peltzman approach is that it helps to identify both those industries where regulation is to occur and those interests most likely to lose out in regulatory debates. In short, the model argues that regulation is likely to be biased toward the benefit of a small, concentrated interest group with strongly felt preferences at a loss to a large interest group with weakly felt preferences (e.g. consumers.)

The weakness of the larger social interest is key in this analysis, both as a demandeur of regulation and as a recipient of regulatory costs. In the case of demanding regulation, the model argues that a large beneficiary group will be weak because of the rising marginal cost of organisation and its tendency to consume the benefits sought. Keeping per capita benefits high requires that the interest group be kept small. Keeping the costs of regulation dispersed limits opposition as the rising marginal cost of organisation easily wipes out the marginal loss from a policy.

A second key conclusion from the Stigler/Peltzman model is that regulation will also be sub-optimal in advancing the wealth and social interest of the community. This is because regulators will seek to maximise their own net benefit rather than the maximum benefit possible. Trade-offs and middle ground will always be sought to maximise benefits minus losses. Following the first conclusion, it is relatively straightforward to reduce benefits by a small amount to each gainer. Such a small reduction in gain will actually result in a large reduction in loss for each individual loser (as the loss is spread out across such a large group). Such a strategy will minimise opposition (raising the marginal cost of

organising such opposition). Thus regulation is likely to regulate both price and entry to the benefit of incumbents (as this directly positively affects profits) but will not reach monopoly pricing levels as a means of limiting opposition.

The third major advance of the theory is the identification of industries that are likely to be prone to regulation. This argument can be summed up as follows. Industries where the price achieved is similar to that likely under regulation (not the full monopoly price, but higher than under competition) are unlikely to see much demand for regulation. This is because neither party (industry or consumer) has much interest in organising to see change. However, industries where the price achieved is significantly lower than that seen in the potential regulated industry will see a demand for regulation from the firms already in it. In the real world, this is evidenced by firms developing entry requirements, codes of conduct, etc. that raise entry barriers and restrict competition. Likewise, in industries where prices are significantly above that likely under regulation, consumers are likely to demand regulation to lower payments. Thus demands for regulation are most likely to occur both in relatively competitive industries (where incumbents will gain from restricting entry) and in monopolistic industries (where consumers will gain from seeking regulation).

## Role of interest groups

While much of the literature on regulation focuses on the market failure justification for regulation, a second approach, focused on the role of interest groups, has risen to prominence. The Stigler/Peltzman approach is an example of a hybrid approach modelling both markets and interest group lobbying. The importance of the interest group in seeking gains from regulation has been recognised officially in the US Annual Report of the Council of Economic Advisers (1994); 'As recognised by both the framers of the Constitution and modern scholars of public choice, all political systems provide interest groups with an incentive for 'rent seeking' that is, manipulation of collective action for private benefit...[rent seeking] can

lead government agencies to make decisions that benefit a particular interest group even though they are costly to society as a whole'.<sup>44</sup>

Gary Becker models interest group lobbying as a zero sum game: no one group can gain unless another one loses. Aggregate influence is fixed. The implication is that what is important for determining the amount of regulatory activity (as measured by the wealth transfer) is the influence of one group relative to the influence of another group. For Becker, the political process is one in which politicians transmit the interests of interest groups (e.g. firms, consumers or voters). What matters in this process is the relative balance of power between the groups. While Stigler/Peltzman argued that the lobbying of some groups was always more likely to be stronger than others, Becker takes the problem of free-riding (interest group members gaining without any effort in the cause) as a problem shared by all interest groups. What matters for Becker is that the optimal pressure to be applied by one group depends almost entirely on the pressure being applied by the opposition group. The familiar pattern of lobbying (e.g. one side hires lawyers, the other does the same) escalates into a lobbying arms race. This arms race uses up resources that could more effectively be used in promoting development and efficiency, rather than wasted in lobbying battles.

The disdain for the wasteful activities of interest groups is shared by the Public Choice school. One of its major lines of inquiry is on the process of political 'rent-seeking'. Rent-seeking is defined as 'the resource-wasting activities of individuals in seeking transfers of wealth through the aegis of the State'.<sup>45</sup> Interestingly for the Public Choice school, the waste of rent-seeking is not identified as

existing in the creation of monopoly positions through government action, but the use of resources to maintain that position. As David B. Johnson<sup>46</sup> puts it: 'The nation's resources are withdrawn from productive activity and put to rent-seeking activity by the monopolist because he is willing to pay a higher price. The monopolist gains a monopoly right, but citizens lose because the resources which could have been producing real goods and services are used to chase rents.'

The activity and relative strength of interest groups was rather effectively modelled by James Q. Wilson. His typology of political lobbying activity is reproduced in tabular form below.

For Wilson, normal regulatory politics divide along axes of benefits and costs. Where costs are concentrated on a particular group but benefits are also concentrated on a particular group, we tend to see a pattern of interest group politics. Such interest groups are ranged equally against each other as, to borrow from Stigler/Peltzman, the marginal costs/benefits of organisation are similar for each group. For example, one can see a situation where a steel industry seeking a protective anti-dumping tariff seeks to gain from such a policy but finds itself met by auto makers who will lose a good deal if the steel makers gain. In both instances, one finds a small numbers group of highly concentrated interests with much to gain and lose. Wilson's model posits that government action is uncertain in this area. Given the Stigler/Peltzman calculation, the net political benefit calculation is difficult to make.

In contrast, where the benefits of a policy are concentrated on one interest group but the losses are spread out over a larger number, one

### Models of politics

	COSTS	
BENEFITS	Concentrated	Diffuse
Concentrated	CONTROVERSY UNCERTAIN GOVT ACTION <i>Interest Group politics</i>	GOVT ACTION Client politics
Diffuse	GOVT ACTION <i>Entrepreneurial politics</i>	UNCERTAIN GOVT ACTION Majoritarian politics

tends to find a model of client politics. Here the group seeking to gain from a regulatory solution will try to impose that cost on wider society. Examples of this model abound and regularly occur in the agricultural sector. Government action is likely to occur in situations of client politics as the Stigler/Peltzman net benefit swings in favour clearly of those seeking to extract benefits to the cost of society. Such benefits will never be the maximum possible, given the need to maximise net benefits to the regulator.

Where both costs and benefits are diffuse, one finds almost the model of representative democracy that western civilisation is supposed to aspire to. Indeed, a strand of regulatory thought – that of civic republicanism – captures the approach of the Majoritarian political discourse. In Cass R Sunstein's formulation, the republican civic tradition is characterised by four key principles:<sup>47</sup>

1. *Deliberation* in politics is made possible by a focus on civic virtue;
2. There is an *equality* among political actors together with a commitment to eliminate disparities in political participation and unbalanced influence among individuals or groups;
3. There is a belief in *universalism* as a process of mediation based on practical reasoning that yields correct outcomes that benefit the common good;
4. *Citizenship*, as indicated by a broad guarantee of rights of participation.

The civic republican tradition thus appears, under the Wilson model, to only apply in those situations where benefits and costs are both diffuse. Like the model of interest group politics, it is unclear whether or not government action will arise when both costs and benefits are diffuse. As under the Stigler/Peltzman model, the net political benefit calculation is difficult to make. It is also not clear that making the calculation is likely to be an urgent requirement.

Perhaps the most interesting area of the model is the area where benefits are diffuse but costs are concentrated. Here we enter the realm of the entrepreneurial politician. The entrepre-

neurial politician needs to mobilise a diffuse group of interests, each with a relatively small benefit to be sought, to counteract a concentrated group with a good deal to lose. Wilson argues that the only way in which such a campaign can succeed in bringing forward government action is for the policy entrepreneur to utilise a broad, socially accepted, moral discourse to challenge the concentrated group that is likely to bear the cost of action. In essence the body seeking to impose a concentrated cost to the benefit of many must appeal to societal norms of fairness and equity and target those bearing the cost as not conforming to those norms. If the group representing the diffuse interest fails in its task, the body bearing the cost will seek government action to minimise that cost and limit the benefits of the wider group. If it succeeds it can (in Stigler/Peltzman terms) minimise their marginal cost of organisation by tying everyone into a shared vision of change. For interest groups seeking to impose a cost on an industry, this area of politics is perhaps the most difficult arena to operate in while offering the potentially greatest benefit. One can see examples of this approach in the environmental movement.

## Watching out for the bootleggers

One of the most interesting and colourful approaches to regulation was put forward by Bruce Yandle in 'Bootleggers and Baptists in the Theory of Regulation,' which sought to add to the Stigler (which interest groups would succeed) and Peltzman (no one group would dominate and a balance would be struck) approaches. The Bootlegger-Baptist approach offers a terribly apposite description of the real world of interest group lobbying. The approach has two starting points. Firstly, it starts from the premise that alliances can be formed around issues for totally contradictory reasons. Secondly, it argues that rhetoric can be just as important as campaign finance. No lobbying will succeed unless it combines the two. The Bootlegger-Baptist alliance centred on the campaign to maintain the policy of prohibition in the US in the 1930s. The Baptists wanted to keep the policy as a moral effort to stop

Americans from succumbing to the demon drink. Bootleggers, on the other hand, supported prohibition because it guaranteed them enormous profits. An unholy alliance was thus formed to keep a policy in place; Baptists providing the moral rhetoric to stir the spirit of the American electorate and bootleggers providing funds to ensure their market was not threatened.

As Yandle himself argues: 'B&B theory helps to explain how leaders of consumer groups help major pharmaceutical companies (the ones with approved chemical entities) by valiantly supporting a cautious FDA approval process. The theory explains why holders of permits to produce and market EPA-approved insecticides value the efforts of environmental groups who oppose rule changes that facilitate the entry of new and sometimes less risky substitutes. Indeed, once the theory is explained, bootleggers and Baptists seem to come out of the woodwork.

Perhaps we should we expect no less. Political action, which by definition always serves some interest groups, requires politicians to appeal to popular icons. By making a "Baptist" appeal, the canny politician enables voters to feel better by endorsing socially accepted values in the voting booth. The same politician, if he is adroit, also can enjoy the support of appreciative bootleggers in the costly struggle to hold office. Bootleggers and Baptists are part of the glue that binds the body politic.<sup>47</sup>

Of course, the Bootlegger-Baptist theory does help to identify potentially dangerous alliances. However, it can lead to an overly cynical view of the world and one that often ignores the reality of interest group position forming. It is easy to assume that common positions are arrived at in a concerted and collusive way. It is also easy to assume that interest groups are intelligent enough, or aware enough, to know that an alliance might exist. The reality is considerably more complex. However, the approach does provide a salutary warning to public interest groups that find themselves in bed with unlikely allies – all Baptists must be on the lookout for bootleggers, as they will seek to impose costs on the cleric's flock.

## Part IV: Government failure, regulators and regulation

### Government failure and the role of regulators

The importance of the role of the regulator was recognised by John Landis, former dean of the Harvard Law School, in his report to President Kennedy: 'The prime key to the improvement of the administrative process is the selection of qualified personnel. Good men make poor laws workable; poor men will wreak havoc with good laws.'<sup>48</sup>

Landis chose to focus on the need for good administrators; however, Wilson<sup>49</sup> has questioned this categorisation of the good administrator by outlining essentially three categories of administrator in a regulatory agency:

1. The Careerist: An employee aiming at long-term employment in the agency. The major concern of the Careerist is that the agency continues to exist and grows. A Careerist tends to look down on deregulation.
2. The Politician: An employee who see the agency as a stepping stone to bigger, better things. This category of employee tends to be board member or commissioner level.
3. The Professional: This employee identifies more with holder of the same skills (e.g. law, economics) than with the regulatory agency. What is important for the professional is the maintenance of the professional esteem of peers.

What Wilson's categorisation brings out is the focus of a school of academia on the role of the regulator and the government itself.

The development of Public Choice Theory really came to the fore in the 1970-80s. The Public Choice approach is not a uniform one and involves a number of different targets. In general, positivist Public Choice theorists analyse the political process underlying the legislative activity, rules of bureaucratic decision-making; actual decisions of the bureaucracy; the regulatory process and its rules and regulations, and the constitutional process, particularly the rules for making rules. The more normative members of the public choice community analyse the same sorts of areas but do so in an effort to ensure that the most efficiency enhancing solution is arrived at. Unlike the approach adopted by Posner, the public choice approach focuses on non-judicial rule-making and tends to look mostly at regulatory and bureaucratic decision-making.

The focus on the government and the bureaucracy of regulation violates one of the tenets of classical and neo-classical economics — namely that the State is a black box and is exterior to the operation of the economy. For neo-classicists, the institutions and decisions of government are exogenous (external) to government, while for public choice theorists the decisions of institutions are endogenous (internal) to the economy. James M. Buchanan has described this approach as follows:

'The critically important bridge between the behaviour of persons who act in the marketplace and the behaviour of persons who act in political process must be analysed. The 'theory of public choice' can be interpreted as the construction of such a bridge. The approach requires only the simple assumption that the same individuals act in both relationships. Political decisions are not handed down from on high by omniscient beings who cannot err. Individuals behave in market interactions, in political-government interactions, in co-operative-governmental interactions, and in other arrangements. Closure of the behavioural system, as I am using the term, means only that analysis must be extended to the actions of persons in their several separate capacities.'<sup>50</sup>

The focus on efficiency starts from the premise that all decisions involve a two-fold cost; firstly the external costs of decision-making (those

costs borne by those who disapprove of a decision) and the internal decision-making costs (the bargaining costs associated with making a decision).

In a similar vein to the Stigler/Peltzman approach, the public choice theorists argue that bureaucrats do not make decisions that are social welfare enhancing. In terms of economic theory, the utility-maximisation process of the bureaucrat is not the same as the maximisation of social welfare: 'other motives' drive regulators. Some of these motives form the characterisation put forward by Wilson above. Other include 'power, prestige, the size of the bureau's budget, job security, perquisites, future salary and working conditions.'

Public choice theorists argue that legislators have few incentives to reform bureaucracies to ensure that they do maximise social welfare. This lack of incentive comes from a combination of factors:

- Bureaucracies are difficult to monitor the performance of (i.e. no profit/loss);
- The information that does exist is biased, as it is typically held by the body itself;
- Politics generally means that inefficiency rarely leads to the termination of the bureaucracy;
- The bureaucrats and clients can form powerful coalitions against change.

The focus on the government and bureaucracy often mixes two different areas of inquiry. As Spence and Gopalakrishnan<sup>51</sup> maintain, the argument has 'coalesced along two distinguishable (but not always distinguished) dimensions: one that focuses on the substantive efficiency of regulatory policies, and another that focuses on procedural efficiency, or rather the inefficiencies that stem from the process by which agencies make policy'.

## Identifying government failure

While market failure is often claimed as the primary focus of many analysts, there is a strong train of academic analysis that suggests that the failure of government or regulators to carry out their tasks is a key element in the

understanding of regulation. Before looking at the theories around the failings of regulators to carry out their tasks effectively, we need to identify what it is that a government does and how this can be balanced in comparison to the role of the market.

It has been argued that the activities provided by non-market players (e.g. government and regulatory agencies) are essentially of four types:

1. regulatory services (e.g., environmental regulation, radio and TV licensing, interstate commerce regulation, food and drug control);
2. 'pure' public goods (national defence, space R&D);
3. quasi public goods (education, postal services, health research);
4. administering transfer payments (federal state, and local welfare programmes, social security etc).<sup>52</sup>

Because of the nature of these products, the demands for them and the requirement for distribution means that there may well be failures in their provision. These failures are identified as the government failure equivalents of market failures. It is argued that government failure occurs not just on the demand-side of the equation. The demand side of government regulation is a key attribute of the Stigler/Peltzman approach. It tends to focus on the position of firms in the marketplace seeking regulation from government as a means of restricting the operation of the market. However, the government failure approach identifies supply-side problems inherent in the regulatory contract. In particular, it argues that non-market goods are beset with problems. Most notably the following characteristics make the proper functioning of the non-market difficult:

1. difficulty in defining and measuring output
2. single source production
3. uncertainty of production technology (e.g. education)
4. absence of bottom line and termination mechanism<sup>53</sup>

The difficulty on the non-market supply-side is evidenced in UK experience. The recent

arguments over the setting of targets for public officials and in health and education are clear attempts to deal with the problems identified above; namely the units of measurement and the operation of a single supplier. The problem of performance in an environment where the bottom line is not a primary driver of corporate performance is also one that most regulators and government agencies would understand.

The problems inherent in the nature of non-market goods can be overplayed. As with all processes of identification, a number of 'products' of the non-market have become products of the market, such as those in utilities and in some healthcare systems and law enforcement operations. However, this does not invalidate the argument that there are problems inherent in the production and supply of those goods. What it does indicate is that the 'solution' to the problem of the non-market good must be continually monitored to identify the degree to which it has delivered a market solution to the failure of the non-market to deliver the desired result.

Wolf<sup>54</sup> has identified four main types and sources of failure that arise in the provision of non-market goods and services:

1. 'the disjuncture between costs and revenues: redundant and rising costs: the tendency of government agencies to continually expand at the expense of taxpayers/license payers because the supply of resources is at someone else's expense;
2. internalities and organisational goals: the tendency of government agencies to have their own agendas and desires to internalise activities and power, including:
  - specific agency maximands
  - budget growth: 'more is better' – the continual desire of agencies to expand. The annual battle between the 'spending' departments in the UK for resources is an example of this;
  - technological advance: 'new and complex is better' – this problem tends to arise in military departments who continually crave the latest gadget;
  - information acquisition and control ('knowing what others don't know is better').

3. Derived externalities – generation of unintended effects: a perennial problem in all market and non-market activity. Every decision and action taken will have effects beyond those intended. The reason it crops up as a non-market failure is tied into the problem of accountability and budgeting – if the agency making the decision is unlikely to be concerned about its accountability, unintended side effects are unlikely to be minimised.
4. Distributional inequity: distributional issues are often thought of as external to the regulatory process. Indeed many policies are designed on the basis that distributional inequalities that may result from the policy will be picked up elsewhere.

## Comparing market with non-market failure

The preceding analysis suggests that both market and non-market failures exist and that both market and non-market demands and supply of regulatory behaviour is subject to rent-seeking behaviour of one sort or another (be it firms or bureaucrats). Given this fact, it might be useful to compare the two approaches when proposing one or the other as a ‘solution’ to a ‘problem.’

Charles Wolf has done us a service by tabulating the main characteristics of market and non-market failure.<sup>55</sup>

Wolf’s characterisation is a useful rule-of-thumb in comparing the potential failures from a policy proposal. Thus one can ask some basic questions about the policy being proposed and the ‘problem’ being ‘solved’. For example, where

significant externalities are being generated by an industry in terms of pollution, a logical solution may be to regulate the output. However, if this is done through the non-market, one may run up against the desire of the agency to accrue more power and impose greater costs on the industry. The ‘solution’ to the ‘problem’ of pollution may thus have been to create an unwieldy and excessive bureaucracy.

Of course, Wolf’s characterisation of the polar choices in failures is not a hard-and-fast rule. However, it is an indicator of potential problems and a useful means of designing regulatory solutions that minimise the failures inherent in the choices available.

Wolf also provided a handy matrix of demand and supply problems in the non-market failure arena and tried to tie them together (see opposite page).

This is a useful tool to identify both potential problems within the non-market sector and some potential warning signs to look out for, or for policy solutions to be proposed to minimise expected failures.

Wolf draws the following conclusions from the matrix:

- The typical miscarriages of the non-market (i.e. of government) are no less identifiable, characteristic or predictable than those commonly attributed to the market;
- The typology of these characteristic non-market failures suggests that they are both formidable and relatively neglected;
- Whether they are more or less formidable than the failures of the market may be ascertainable and demonstrable in some contexts but likely to be debatable in others;

### Market and non-market failure compared

#### Market failures

Externalities and public goods

Increasing returns

Market imperfections

Distributional inequity (income and wealth)

#### Non-market failures

Disjunction between costs and revenues: redundant and rising costs

Internalities and organisational goals

Derived externalities

Distributional inequity (power and privilege)

## Typology of combined demand and supply problems in non-market failure

Demand/supply conditions	Non-market demand conditions			Non market supply conditions			
Non market failures	Increased awareness/ political organisation	Political rewards/ time discounts	Decoupling	Output measure- ment	Single source production	Uncertain technology	Absence of termination mechanism
Disjunction between costs/revenues; redundant and rising costs		X	X	X	X	X	X
Internalities and organisational goals			X	X	X		X
Derived externalities	X	X				X	X
Distributional inequities		X	X		X		X

- The choice between markets and governments is not a choice between perfection and imperfection but between degrees and types of imperfection, between degrees and types of failure. In many instances, it may be simply a choice between the disagreeable and the intolerable.<sup>56</sup>

The result of combining market and non-market failures presents a difficult balancing act. On the one hand, market failures clearly arise and require action. However, the manner in which society deals with them must recognise the existence of non-market failure. This presents the political agency with a dilemma not of regulation but of balance. In regulatory policy, the choice is not between leaving the market to itself or regulating every element of the market. The political actor must recognise that in a large number of cases the market will not want to be left to itself, it will demand regulation as a means of restricting competitors and maximising profits. Similarly, the agency must recognise the problems of non-market intervention not just in terms of the ability of the State to deliver, but in terms of the tendency for non-market failure to emerge.

Each regulatory quandary is thus likely to be dealt with in slightly different way. The end result of any such analysis will be a balance between market and non-market action. Where on the continuum between the two the result sits is likely to depend on a number of key factors:

- size and extensiveness of the externalities resulting from market activities;
- degree of monopoly power associated with the production and sale of market output;
- extent and visibility of imperfections in the market;
- degree to which distributional benefits which arise from the market activity are inequitably distributed.<sup>57</sup>

Taking a leaf out of the Public Choice school of thought can be useful when proposing a non-market solution: 'the key is to design institutions that facilitate competition for those rents that accompany newly created surpluses or new wealth creation and that discourage the wasteful competition for existing rents.'<sup>58</sup> In all circumstances, a recognition of the failures of both market and government must be made and a recognition that the demand for regulation can occur from within industries rather than simply from without. The Public Choice school recommends that in designing regulatory solutions:

- the role of government regulation is circumscribed quite tightly;
- rent-creating government institutions are avoided;
- constitutional reforms are adopted that require super majorities (two-third or three-fourth majorities) to pass rent-seeking-type legislation.



In the field of trade policy many of these Public Choice recommendations have been part of the regulatory landscape for many years. Following the disaster of the Great Depression in the US in the 1930s, trade policy (which constitutionally resides in Congress), was increasingly passed to the Executive because the politicians were aware that they could not trust themselves to avoid coming to the aid of supplicant industries. US trade policy came to be designed around insulating the trade policy-making machinery from rent-seekers; the constitutional balance of power circumscribed the role of the Executive agency and the Fast-Track procedures developed after 1974 ensured that rent-seeking changes to trade pacts were almost impossible after the agreement had been signed. While less well-documented, the means by which trade policy is made in the EU is similar, if less successful, in terms of its attempt to isolate itself from rent-seekers. While not serving as a model for democratic inclusiveness, it can be argued that trade policy has been a more effective model of efficiency. Here lies a much broader problem in regulatory policy: the balance between efficiency and accountability. Here the Public Choice school is relatively silent.

## Part V: Getting regulation to work for consumers

### When will regulation be successful?

A key challenge for regulators is to identify solutions to problems that deliver efficiency improvements or do not make situations demonstrably worse. The approach often favoured by economists when studying market interventions is to look for the Pareto optimal solution. This solution seeks a position where any solution creates a situation where no one can be made better off without someone else being made worse off. While Pareto optimal solutions are frequently discussed in economic textbooks, it is not clear that the optimal solution can ever be fruitfully and effectively achieved. It is for this reason that the study of practical regulation has led to the development of two key yardstick targets for regulation. The targets are generally referred to as Kaldor-Hicks efficiency and the wealth maximisation hypothesis.

The need to ensure that a policy is socially beneficial has been a concern of economists and social commentators for years. Nicholas Kaldor argued in 1939<sup>59</sup> that the repeal of the Corn Laws was beneficial to society because it had so benefited consumers that even if farmers were compensated for their loss, society would still be in a better position than before the regime had changed. This benefit was assessed as existing even if consumers had chosen not to compensate those who had lost out as a result of the law change. This is the Kaldor criterion: a policy is deemed to be efficient if it results in benefits for those who gain on such a scale that they 'potentially' can compensate fully all those who have lost out and still remain better off. Importantly, the

gainers are not 'required' to compensate the losers for a policy to be deemed efficient. The approach thus means that the criterion is achieved when the gains to one group exceed the losses to another.

The 'compensation' principle approach of Kaldor was initially a fairly one-dimensional approach. However, in combination with the work of Hicks,<sup>60</sup> we have a policy that states that a legal change can be argued to have improved societal well-being if and only if, both the beneficiaries of a change could fully compensate the losers and remain better off themselves, and the losers could not have compensated the beneficiaries sufficiently to get them to forego their benefits without themselves being worse off than in their original position. The compensation principle thus has a forward and backward induction process and forms the basis for much of the cost-benefit analysis that has followed it.

The relative starkness of the Kaldor-Hicks approach has been finessed by Richard Posner. In many ways, the Posner 'wealth maximisation' approach is even more basic than the compensation principle. Posner has argued that '(a) second meaning of 'justice', and the most common I would argue, is simply 'efficiency'. When we describe as 'unjust' convicting a person without a trial, taking property without just compensation or failing to require a negligent automobile driver to answer in damages to the victim of his carelessness, we can be interpreted as meaning simply that the conduct or practice in question wastes resources.'<sup>61</sup> Posner places the pursuit of wealth maximisation as the key driver in assessments of justice in legal cases. It has to be noted that Posner is primarily thinking of common law judgements rather than administrative law regulatory solutions. However, his approach is also influential in this setting.

Posner contrasts the wealth maximisation principle with the more philosophical positions of utilitarianism and Kantianism (which tend to emphasis autonomy and human respect). His contrast must be placed within the debates of the legal community around justice and fairness in dealing with real-world cases.

Posner, after all, is a judge. The advantages of the wealth maximisation approach for Posner are five-fold:

1. 'the pursuit of wealth, based as it is on the model of the voluntary market transaction, involves greater respect for individual choice than in classical utilitarianism'<sup>62</sup>
2. 'economic liberty...can be grounded more firmly in wealth maximisation than in utilitarianism'<sup>63</sup>
3. 'the wealth maximisation principle encourages and rewards the 'Calvinist' or 'Protestant' virtues and capacities associated with economic progress'<sup>64</sup>
4. 'wealth maximisation is a more defensible moral principle also in that it provides a firmer foundation for a theory of distributive and corrective justice,' along with a firmer commitment to the principle of rights than is evident in utilitarian and Kantian thinking'<sup>65</sup>
5. pragmatic: 'we look around the world and see that in general people who live in societies in which markets are allowed to function more or less freely not only are wealthier than people in other societies but have more political rights, more liberty and dignity, are more content...so that wealth maximisation may be the most direct route to a variety of moral ends.'<sup>66</sup>

Posner makes a profoundly political judgement about the benefits of the market solution for dealing with issues of justice. In essence he argues that arguments about the division of the 'cake' must come second to efforts to increase the size of the 'cake'. Interestingly, he does not, however, reject entirely the argument that distributional issues have a role in judgements of fairness; it is more of an argument about ranking positions. For Posner, the creation of wealth comes first; the distribution of that wealth comes second. First efficiency, then equity.

Of course there are significant drawbacks to both Kaldor-Hicks and Posner in their approaches to assessment of validity for regulations. Firstly, the approaches balance

gains and losses in terms of money. Thus only those benefits and losses that can be quantified in monetary terms can be effectively taken into account when dealing with a proposed regulation or legal decision. Secondly, the approaches take no explicit account of distributional justice. The approaches thus ignore a significant characteristic in many regulatory systems and approaches. While such an avoidance of distributional equity as an issue may make life simpler in analytical terms, it provides problems for regulators attempting to deal with real-world problems. Finally, it effectively allows the imposition of losses on individuals, provided that it is more than balanced by the gains afforded to beneficiaries. This problem is not far from the argument about distributional equity and is a factor in many of the arguments made about equitable regulation.

Distributional equity is a broader social concern driven by a desire to strive towards what Tobin<sup>67</sup> has called 'specific egalitarianism'. This is the concern to ensure that the distribution of a resource, or service is done in a manner that is less unequal than a simple ability to pay solution would provide for. However, a distributional equity solution may involve measures outside of an assessment of allocative efficiency. As we discuss below, the decision-making process should first assess and aim for the allocative efficiency position before then considering what the distributional impacts may be.

## Attempts at reforming regulation

There have been numerous attempts at reforming the way regulation works. Much impetus for the reform of regulation has come from the business world and its perception that regulation is imposed upon them. The impetus can almost be said to be a result of the triumph of the argument that regulation arises as a result of government failure and the desire of the bureaucracy to grow at the expense of business.

Two of the most far reaching examples of the deregulatory push have come from the US and

the UK. One of the first codified efforts to rein in regulation was the introduction by Ronald Reagan of a cost-benefit analysis element to the executive order 12291. In Section 2 (General Requirements) it stated that: 'In promulgating new regulations, reviewing existing regulations, and developing legislative proposals concerning regulation, all agencies to the extent permitted by law shall adhere to the following requirements:

1. Administrative decisions shall be based on adequate information concerning the need for, and consequences of, proposed government action;
2. Regulatory action shall not be undertaken unless the potential benefits to society for the regulation outweigh the potential costs to society;
3. Regulatory objectives shall be chosen to maximise the benefits to society;
4. Among alternative approaches to any given regulatory objective, the alternative involving the least net costs to society shall be chosen; and
5. Agencies shall set regulatory priorities with the aim of maximising the aggregate net benefits to society, taking into account the condition of the particular industries affected by regulations, the condition of the national economy, and other regulatory actions contemplated for the future.<sup>68</sup>

While the cost-benefit-analysis approach was radical for its time, the order was vague enough to allow little progress to be made in reducing the burden of regulation. There was some irony, for the proponents of government failure to see a government trying to regulate itself against its best instincts.

In typically more muted fashion, the UK developed its deregulation initiative in the early 1990s. Instead of promulgating an executive order, the UK opted for guidelines called 'Thinking about regulation: a guide to good regulation (1993)'. Within the guidelines was a 10-point plan to achieving good regulation. The 10 points for regulators to 'think about' were:

1. Identify the issue... keep the regulation in proportion to the problem.

2. Keep it simple... go for goal-based regulation
3. Provide flexibility for the future...set the objective rather than the detailed way of making sure the regulation is kept to.
4. Keep it short
5. Try to anticipate the effects on competition or trade.
6. Minimise costs of compliance
7. Integrate with previous regulations
8. Make sure the regulation can be effectively managed and enforced
9. Make sure that the regulation will work and that you will know if it does not.
10. Allow enough time.

Much of the 10-point guideline reflects established economic thinking about regulation but falls short of imposing a time limit on regulation. The idea of 'sunset' clauses on regulation is not new and indeed some elements of trade regulation have sunset clauses for trade protection measures.



# Conclusions



**General understanding of the economics of regulation too often focus on a simplistic reading of classical economics or small government. This tends to paint opponents of a particular regulation into attacking all regulation and the proponents of regulation into defending all forms of regulation. What is needed – and what must be the role of the consumer organisation – is to balance legitimate demands for regulation with a clear-headed understanding of the real dynamics of regulatory policy and its knock-on effects.**

Most commentators on regulation have a clichéd view of the main developments and tend to fall back on hackneyed short-hand versions of the theories. Most claims of the inefficiency and inappropriateness of regulation rely on a simplistic interpretation of theories that the developers of the theory would not recognise. Thus we find that opponents of universal service or social goals rely on a simplistic reading of the Atkinson-Stiglitz theorem (which roughly argues that under certain assumptions, income is better redistributed through taxation than other regulatory policy). While the theorem is a useful guide to understanding the efficiency of regulation, it relies on assumptions that almost never apply in reality (such as a lack of consumption externalities and a tax system that picks up all income). As with all theorems, the lessons from Atkinson-Stiglitz can be taken too far and often are. When the assumptions are relaxed, we find that there emerges an appropriate realm for regulation in dealing with redistributive problems.

The idea that redistribution is not a proper realm for regulation has become a popular refrain in business circles. There is a degree of irony in this, as the Stigler/Peltzman approach clearly recognises that a major driver of regulation is the tendency of firms to engage in battles for rent (and thus redistribution of the gains of regulation). A recent article in the *Financial Times*<sup>69</sup> provided a good example of large industries in monopoly positions seeking to remove regulation from their activities (on spurious ‘competitiveness’ and ‘foreign competition’ arguments) as a means of maximising their rent at the expense of other

businesses (their customers) and consumers.

The issue is not about whether redistributive elements do exist in regulation but how they should be managed. We can learn something from the work on progressive taxation to understand where redistribution can play itself out in regulation. Seligman<sup>70</sup> identified a number of justifications for progressive taxation:

1. ‘Benefit Theory (also known as the ‘give and take’ or ‘quid pro quo’ theory.) Protection is the chief function of the State, and taxes can be looked upon as the premiums one pays to a collective insurance agency that guarantees peace and order. But the greater one’s property or income, the greater the benefits received. However, the benefits are proportional to ‘clear income’, income less expenses. Hence the tax must be graduated with respect to total income in order to correspond to clear income. A variant to this theory is that one should pay according to the cost of the service that the State renders, and this cost increases with clear income.
2. Equal sacrifice theory. A tax is a sacrifice and we should all sacrifice equally. However, a \$1 tax for someone making \$10,000 yearly of income is not the same as a \$1 tax for someone making \$1mn yearly. To equalise the sacrifice, the wealthy should pay a higher fraction of their income in taxes.
3. Faculty theory. Individuals in society should contribute to society in proportion to their faculties or abilities. Income is a good surrogate for faculty or ability.
4. Tax ill-gotten gains. The rich get rich primarily by exploiting imperfections in the government (e.g. bribes, hiring expensive lawyers to bypass taxes, getting inside information). They should pay more in taxes to offset this ill-gotten advantage.’

Such an approach works well in general social regulation; the more pressing question is the degree to which it applies in economic regulation. Here a distinction must be made between competition policy and sectoral regulation. In the case of the former, the policy objectives and remits have become more

narrow over time. This focus has led to a situation where modern competition policy almost conforms to the cleanest model of regulation. It also conforms to the Atkinson-Stiglitz view of life; namely that markets are best left to themselves and redistribution issues are best left to politicians and governments.

In contrast, sectorally regulated industries have tended to either be created with specific social and environmental goals in mind or had these added to them over time. For sectoral regulators, arguments for progressive taxation have their sectoral corollaries. The tabulation below indicates the possible parallels:

One can see that sectoral regulators have redistributive powers built into their remits because the ‘market’ they are regulating is subject to failure, already provides a specific distributional result and, left to its own resources, would rebalance this distribution. Such a recognition makes the comparison of competition and sectoral regulation interesting. It would tend to suggest that competition policy is likely to have a problem in dealing with sectors where the distribution of benefits has been left unchallenged for a long time. In such sectors those that gain from the distribution tend to create complex justifications for their seizing of the rents of regulation and usually wrap their arguments in the claim of consumer protection. The recent arguments over Resale Price Maintenance of over-the-counter medicines is a good example of this. Here the pharmaceutical industry and some pharmacists justified price -fixing (and thus the misappropriation of the consumer surplus) on the basis that the consumer interest was being protected. Much of the argument

against change was about the distribution of rents; namely that competition would redistribute rent to retailers and away from manufacturers. This is a familiar argument to justify restrictions on parallel trade and the proper operation of the single market. It is also always done in the name, rather than the interest, of the consumer.

If redistribution is likely to be a part of regulation, we need to address two issues: 1) what result is likely to emerge from this, and 2) how should this process be managed.

The result of incorporating redistribution factors into the system of regulation, accepting both government and market failure, is likely to bring:

- ‘Public policy in social regulation will conform neither to a strict Rawlsian maximin’ or ‘least worst’ policy nor to a strict utilitarian policy that would maximise expected-benefits-less costs. Rather it will conform to a perception-driven benefits-less-costs policy, with perceptions influenced by the publicity given to rare events, the politicking of interest groups, and the difficulty of formulating a public philosophy of dealing with uncertain, potentially fatal events. We can expect politicians to try to capitalise on this confusion of concepts, perceptions of reality, and special interests.
- As a corollary to point 1, economists who are frustrated because policy makers to not adopt a straightforward ‘maximise expected-benefits-minus-expected-costs’ approach to social regulation will continue to be frustrated.

### Progressive taxation and sectoral regulation compared

	Personal taxation	Sectoral regulation
Benefit theory	Payment for collective benefits of society	RPI-X – paying the cost of being granted monopoly rights
Equal sacrifice theory	£1 to the poor is worth more than £1 to the rich	Regulatory focus on consumers
Faculty theory	Tax should be paid on ability to pay	Distribution of pain in rebalancing pricing formulae
Tax ill-gotten gains	Punishment for beating system	Windfall taxes



- ‘Grandfathering’ of status quo practice will be the more frequent, the higher the cost of changing the status quo.
- Up to a certain, critical size, large societies and organisations are more likely to enact social regulations or to obey enacted social regulations than small ones. After the critical size is reached the probability of enactment or obeying will be only very weakly size dependant.
- Although policy makers will not adopt a simple ‘expected benefits minus expected costs’ formula, costs will enter into the perception driven, modified version referred to in point 1. Inventors of a safety device cannot expect its adoption because ‘the value of a human life is infinite’. It will be adopted only if it is cheap enough.
- Publicity will continue to play a large role in influencing perceptions of benefits and costs of social regulation.
- As a corollary of point 6, social regulation can be expected to be self-limiting. Social regulations with large cost burdens but small benefits will induce political action to repeal or modify them.’<sup>71</sup>

Given that social and economic regulation is likely to be a messy and contested affair, one must seek to identify the best way of managing this problem. At the risk of adding to the interminable lists of do’s and don’ts in the area, we recommend the following:

## Targets for regulation

### ***Pick on the obvious targets***

Go for the most egregious examples of problems rather than regulate everything in sight.

### ***Don’t over-extend or take things too far***

The ‘final 10 %’ rule should always be borne in mind: Is it really worthwhile to extend coverage of the regulation to everyone irrespective of cost or is there a cheaper way of achieving the ends?

## Process for regulating in normal markets

### ***Start with efficiency and the compensation principle***

Always start clean before complicating matters. Use Kaldor-Hicks as the starting point: Is the change going to generate sufficient benefits for the winners to compensate the losers? Question one should always be about whether this policy or regulation is efficiency enhancing.

### ***Analyse distributional equity***

The compensation principle is fine, as far as it goes, but it does not go far enough. Regulators must look at the distributional equity problems that arise from their ‘clean’ analysis of the problem. Where that analysis takes the regulatory decision-making process cannot be predetermined. Instead, it should move to:

### ***Look for ‘unfair’ redistribution or negative externalities***

This is the ‘should we care’ part of the analysis. As every regulatory decision involves some form of redistribution both from and to someone, one has to ask if it is worth worrying about. There are two clear examples where we should; firstly, where the redistribution is unfair and where it results in negative externalities for some consumers. Unfairness is a subjective assessment and is often best left to politicians. However, each legal system is based on culturally-rooted understanding of fairness, so it is legitimate to bring it in as a question. The issue of negative externalities is more complex. Just as all regulation should look toward the possibility of unintended side effects, this question should be a part of the assessment process. This helps to narrow down the distributional question to fairness and unintended losers.

### ***Should a balance be struck and if so how best can it be done?***

Given that every regulatory intervention will involve some redistribution of benefits, recognition must be made of the best means of achieving that rebalancing. For example, in a complex monopoly investigation into new car pricing, the rebalancing was between manufacturers, dealers and consumers.

**Matches of regulatory ends, means and player**

<b>Problem</b>	<b>Tentative solution</b>	<b>Actor</b>	<b>Direction of regulation</b>
Rent control (excess profits)	Taxes; deregulation	Government/ mixed market	Government or market
Spillovers	Marketable rights; bargaining standards	Consumer empowerment/ Government as ringmaster	Safety netted market
Inadequate information	Disclosure; screening; standards setting; bargaining	Governmental standard setting	Safety netted market
Other (moral hazard, unequal bargaining power, paternalism)	Incentive-based regulation; standards	Regulator/market	Safety netted market

The manufacturers losing out could not be a reason not to move. The better question was how best that rebalancing could be carried out. That can only be answered by asking;

### Who can best deal with the spillover effects?

The division between how and who is artificial, as they are inextricably linked. Once one has analysed distributional implications, one must then identify how best to deal with those implications. Here we have developed a useful rubric originally put forward by Justice Breyer in the US about regulation in general (see above).

### How will improvement in efficiency and redistribution affect rent seeking?

What is clear from the literature is that firms and interest groups will seek to redistribute rents in their favour and at the cost of someone else. In carrying out this analysis, one must always be aware that rent-seeking activity is always likely to be displaced rather than removed. The balance of power between those rent seekers may be changed but such activity will simply find a new home. If it becomes clear that rent-seeking is likely to be displaced to a government department, efforts should be made to ensure that the department is

insulated as far as possible and given democratic accountability mechanisms, from the increased thrust of rent-seeking.

As can be seen from the typology of distributional problems, solution, actors and actions, the most common response to the 'problem' posed by relying on this particular ordering of questions is to ensure sufficient safety nets in the marketplace. This would suggest a split set of answers. In the regulated industries, the current distribution of powers is such that the regulator itself is likely to have to deal with all aspects of the regulation, including its after-effects. However, in competition policy, the spillover effects are almost always going to be better dealt with by other regulators, namely government departments and politicians.

This characterisation of the problem poses a peculiar difficulty for the future direction of regulatory policy. If one accepts that markets and regulatory systems are prone to failure, be it government or market, one must accept that societally designed balancing mechanisms for allocative efficiency and distributional equity have to be acknowledged. What must also be acknowledged is that any attempt to 'clean up' regulatory policy by making it focus more clearly on allocative efficiency issues is likely to have the effect of redirecting rent-seeking activities to other regulatory agencies. Thus, attempts to make merger policy more focused on competition and consumer welfare will

redirect rent-seeking by large firms toward insulating themselves through industrial policy changes.

Regulation is neither a clean nor an orderly process. The literature on regulation should make us sceptical of both industry and regulatory claims for legitimacy in seeking new or extended regulation. While it is true that consumers almost always pay the cost of over- or under-regulation, this is not on its own a justification for total deregulation. Markets fail pure and simple and relying on some doctrinaire belief in their infallibility is as simplistic as relying on regulators to order our lives for us. Firms will seek regulation and will seek to impose costs on consumers; government departments and regulators will seek to extend their power and budgets beyond the reasonable. All this is clear from the literature on the issue. What is not clear is how to deal with it.

Most economists have tended to argue for the stricter application of efficiency based tests. This is an important first step. However, it can not be the only step. Recognition has to be made that relying solely on efficiency arguments will generate problems of distributional equity and externalities of their own. A more explicit ordering of the problem must recognise that pure solutions cannot be aimed for. Above all, regulatory discussion should recognise that the choice is not simply between State and market nor between regulation and deregulation but between the 'disagreeable and the intolerable'.<sup>72</sup> While it is true that market-based mechanisms are preferable for improving the allocation of resources in a normal market, it does not follow that distributional consequences can be ignored. Thus there will always be some regulatory role even in the most vigorous market. As we signalled above, this role is likely to be the operation of effective 'safety net' style regulation – the classic domain of consumer protection and promotion laws and policies. It follows that whichever solution is aimed at, it can only work if the consumer engaged in the market in question is sufficiently empowered and protected to make it work effectively.

# Appendices



# Appendix I: behaviour, structure, strategy/conduct, performance, policy

The table below gives a general sketch of elements to look for in a market assessment.

	Element	Evidence	Drivers for change
Consumer behaviour	Framing and information		
	Cultural aspects to decision making		
	Consumer learning		
	Endowment effects		
	Sunk costs and the theory of momentum		
	Relative search costs		
	Costs of regret		
	Self-control and pre-commitment		
	The treatment of losses and gains		
Structural elements	Number of buyers		
	Number of firms		
	Size of firms		
	Barriers to entry		
	Cost conditions and structure		
	Diversification		
	Integration		
	Concentration		
	Product characteristics		
Conduct	Pricing behaviour		
	Advertising		
	Production/marketing strategy		
	Cartel/collusion		
	Innovation		
	Legal arrangements		
Performance	Consumer satisfaction		
	Efficiency		
	Company growth		
	Market share		
	Profitability		
Public policy	regulation		
	Competition laws		

## Appendix II: Hints on decision- making and the analytical approach

To borrow from Howard Raiffa <sup>73</sup>, a good decision-making process:

- focuses on what's important
- is logical and consistent
- acknowledges both subjective and objective factors and blends analytical with intuitive thinking;
- requires only as much information and analysis as is necessary to resolve a particular dilemma
- encourages and guides the gathering of relevant information and informed opinion
- is straightforward, reliable, easy-to-use and flexible

Raiffa et al describe the decision-making process by dividing it into six stages (with three added variables). As with all good management techniques, the approach is summed up as an mnemonic: PrOACT.

- **Problem:** what is the real problem being assessed?
- **Objectives:** what are the real objectives a decision?
- **Alternatives:** map all alternatives
- **Consequences:** try to map all consequences for all possible alternatives
- **Tradeoffs:** recognise and deal with all possible tradeoffs:
- **Uncertainty:** do some crystal-ball gazing;
- **Risk tolerance:** consider risk tolerance in relation to likely outcomes
- **Linked decisions:** what are the side effects of a decision likely to be?

Raiffa also points to another handy tool for analysts, as embedded in the wisdom of the Japanese saying: 'You don't truly understand

something until you've asked five times: 'why?' This rule-of-thumb helps to separate **means objectives** from **fundamental objectives**. For instance, if one is dealing with a consultation on Universal Service Obligations, examination of "why?" will move the issue from merely protecting the tool of the USO to assessing how to best deal with social exclusion (or the pertinent fundamental objective). This takes the issue from a 'means to an end' to the desired end itself and allows for a wider mapping of possible solutions. While it does not, however, necessarily provide the right (or different) answer, it does encourage a broader view.

If we can get the decision-making process more finely tuned, we can hope to avoid the traps identified below, many of which are common to general decision-making processes. Raiffa et al identify the eight most common errors in decision-making, all of which are valid for dealing with understanding markets:

- working on the wrong problem
- failing to identify your key objectives
- failing to develop a range of good, creative alternatives
- overlooking crucial consequences of your alternatives
- giving inadequate thought to tradeoffs
- disregarding uncertainty
- failing to account for your risk tolerance
- failing to plan ahead when decisions are linked over time.

A number of more pernicious problems also hamper incisive analysis. These are more commonly thought of as psychological traps:

- **The Anchoring Thoughts Trap:** over-reliance on the first information received about a problem/issue
- **The Status Quo Trap:** keeping on doing what has always been done
- **The Sunk Cost Trap:** current choices tend to be biased by past choices, the tendency to justify past decisions with current decisions
- **The Confirming-Evidence Trap:** seeking out that evidence that confirms your original view and under-weighting evidence that indicates the opposite
- **The Framing Trap:** how is the question posed? 'Is it right that 5 million people will

not gain from this market liberalisation?’ or ‘Is it right that 50 million people will gain from this market liberalisation?’ (same issue, different questions)

- The Overconfidence Trap (tied to the anchoring problem): tendency to forecast market behaviour based on initial forecasts without dealing properly with all available information
- The Recallability Trap: dramatic events skew views of future probabilities (e.g. plane crashes vs. car crashes)
- The Base Rate Trap: what are the underlying assumptions about probabilities and are they robust?
- The Prudence Trap: opting for worst case scenarios ‘just to be safe’
- The Outguessing Randomness Trap: mistaking luck for a pattern – random things happen in a random manner;
- The Surprised-by-Surprises Trap: coincidences happen

## Conclusion

Markets are extremely complex entities and it would do well to follow these simple decision-making rules when dealing with them:

- Follow decision making guidelines;
- Avoid common traps and retain objectivity wherever possible;
- Break complex markets into comprehensible bundles;
- Continually zoom in and out of the bundles to ensure that you can see the whole from the sum of its parts.

## Appendix III: Possible errors in market assessments

Competition analysis produces results that can be interpreted in multiple ways. For example, a market with largely uniform prices can be a result of fierce competition or tight collusion. Steven Salop <sup>74</sup> identified a number of common errors made in the definition of market power. Salop characterised these errors as following analytical traps:

- **The Marginal Cost Trap:** Mistaking a firm's inability to profitably raise price above its marginal cost for an inability to exercise market power by excluding rivals. Conversely, mistaking a firm's ability to profitably raise price above its marginal cost for an ability to exercise additional market power by adopting alleged anti-competitive behaviour.
- **The Cellophane Trap:** Mistaking a firm's inability to exercise market power by raising price above the current price for an inability to have already exercised market power by raising price up to the current level, thereby mislabelling a completed anti-competitive act as a lack of market power.
- **The Price-Up Trap:** Mistaking a firm's inability to profitably raise price above the current level for an inability to exercise market power by preventing competitor's conduct that otherwise would reduce price below the current level, thereby mislabelling a maintenance of market power as a lack of market power.
- **The Threshold Test Trap:** Mistaking a firm's inability to profitably raise price above the current level because of current competitive constraints from certain rivals for an inability to exercise market power even after those rivals are excluded.

- **The Unilateral SSNIP (75) Trap:** Mistaking a firm's inability to profitably raise price above the current level unilaterally (assuming that rivals do not change their prices or outputs) for an inability to exercise market power by conduct that affects rivals' output and price responses. The Unilateral SSNIP Trap is closely related to the Threshold Test Trap. The two traps are distinguished because the errors to which they refer occur in different contexts. For example, the unilateral SSNIP Trap could arise in a horizontal agreement case as well as in an exclusion case. The Unilateral SSNIP Trap focuses on the market definition methodology, whereas the Threshold Test Trap focuses on an erroneous finding of market power.

A further problem for market analysis is the definition of errors related to predation. The key problem in identifying predation is picking normal competitive responses from predatory behaviour. This has led Joskow and Klevorick<sup>76</sup> to identify two types of errors<sup>77</sup> that can be made in predatory pricing claims:

- Type I error: the identification of a competitive price cut as a predatory price cut.
- Type II error: the failure to detect predatory pricing

Avoiding commission of Type I or Type II error often comes down to a matter of judgement and experience as much as analytical rigour and data. This is often due to a lack of data that would allow a proper analysis of a market event.

## Appendix IV: Factoring in consumer behaviour

Ideas discussed in Chapter I rest on work carried out in behavioural and experimental economics and psychology, as summarised below.

The classical model of consumer behaviour rests on the belief that consumers act to maximise their utility: *'All human behaviour can be viewed as involving participants who [1] maximise their utility [2] from a stable set of preferences and [3] accumulate an optimum amount of information and other inputs in a variety of markets.'*<sup>78</sup>

Over time this assumption has come under increasing challenge. In competition analyses, the classical view of the utility-maximising consumer can lead to demands that consumer be given ever more information on which to make rational judgements.

As Kahneman et al argue, there are two ways in which the traditional approach to consumer behaviour in economics can be altered. One is to change the external environment facing the consumer as decision-maker by introducing such factors as information imperfections, search and transactions costs, and risk. The second, more controversial approach is to alter the behavioural assumptions underlying consumer behaviour by adding in motives or including the possibility of apparently irrational behaviour. However, the erosion of the traditional approach has not been complete, for at least two simple reasons: *'First, adding complexity to the model of the agent generally makes it more difficult to derive unequivocal predictions of behaviour from a specification of the environment. Second, there is a threat of a slippery slope. It appears all too easy to lengthen the lists of*



*non-economic motives or cognitive errors that might affect economic behaviour.’*<sup>79</sup>

Three key caveats need to be placed on the classical approach:

- **Bounded rationality:** human cognitive abilities are not infinite and we all have both limited computational skills and flawed memories;
- **Bounded willpower:** people often take actions in the short term that they know to be in conflict with their own long-term interests;
- **Bounded self-interest:** people generally care, or act as if they care, about others, even strangers, in some circumstances.<sup>80</sup>

### ***Bounded rationality***

The theory of bounded rationality was first espoused by the late Herbert Simon. The theory argues that: ‘The capacity of the human mind for formulating and solving complex problems is very small compared with the size of the problems whose solution is required for objectively rational behaviour in the real world – or even for a reasonable approximation to such objective rationality.’<sup>81</sup>

### ***Framing and information***

In their introduction to their edited collection of essays, Hogarth and Reder point out that: ‘...in discussing choice anomalies that could be attributed to ‘framing’ effects, Tversky and Kahneman make a distinction between what they term ‘transparent’ and ‘opaque’ versions of choice problems. Briefly stated, when a problem is presented in transparent form, choice behaviour does not violate basic tenets of rationality. When choice problems are formulated in an opaque manner, however, people may well violate basic principles ... because of the effect of ‘framing’ and so on.’<sup>82</sup>

### ***Cultural aspects to decision making***

Key elements to the understanding of cultural elements to decision-making include:

- What is the culture of the market in question?
- In what sub-culture does the market sit?
- How will changes to that market affect the cultural interactions of participants?

### ***Consumer learning***

As Tversky and Kahneman state: ‘... effective learning takes place only under certain conditions; it requires accurate and immediate feedback about the relation between the situational conditions and the appropriate response. The necessary feedback is often lacking for the decisions faced by managers, entrepreneurs, and politicians because (i) outcomes are commonly delayed and not easily attributable to a particular action; (ii) variability in the environment degrades the reliability of the feedback, especially where outcomes of low probability are involved; (iii) there is often no information about what the outcome would have been if another decision had been taken; and (iv) most important decisions are unique and therefore provide little opportunity for learning ...’<sup>83</sup>

**Bayes Theorem** is useful in assessing learning. The theorem states that when an individual has to make a decision about the likelihood of a particular outcome, he or she will start with a set of beliefs about the probability based on past experience and estimations. The new decision will apply these prior beliefs to the new situation and update the probability of an event occurring. In other words, the Bayes Theorem tells us that people learn from their past experiences and use this to update their beliefs in similar situations.

In addition to the factors in information transmission outlined above, the distance in time between particular decisions will have a significant effect, as will the type of issue about which decisions are made.

**Prospect Theory** established a set of experiments to test violations of the theory. Tversky and Kahneman came to three general conclusions:

- The structure of a problem may affect the choices that are made. The same problem presented in different ways may influence the decisions of participants.
- Outcomes received with certainty are over-weighted compared to outcomes that are uncertain.
- Gains get treated differently to losses. Losses generate a risk seeking response while gains produce a risk averse response.

Richard A Thaler<sup>84</sup> generated a number of experiments that produced the following results:

**Endowment Effect:** Any product that is part of the already existing endowment of the individual will be more highly regarded than a product that is not. Individuals thus tend to rate what they already own more than a product that they do not.

**Sunk Cost Effect:** A sunk cost is an already borne cost that is not easily recoverable. Traditional economic theory argues that sunk costs are irrelevant to current decisions, focusing instead on incremental costs and benefits. Thaler argued that individual sunk costs did in fact affect decision-making. He also linked it to:

**Theory of Momentum** has been important in the study of international negotiation and argues that individuals will complete a task once work has begun, irrespective of the continuing validity of the decision.

**Search costs are relative:** Any difference in price between goods is seen in relation to the total price of the goods.

**Psychic costs of regret are large:** Present decisions can often be limited on the basis of the individual not being able to trust themselves to make the right decision in the future.

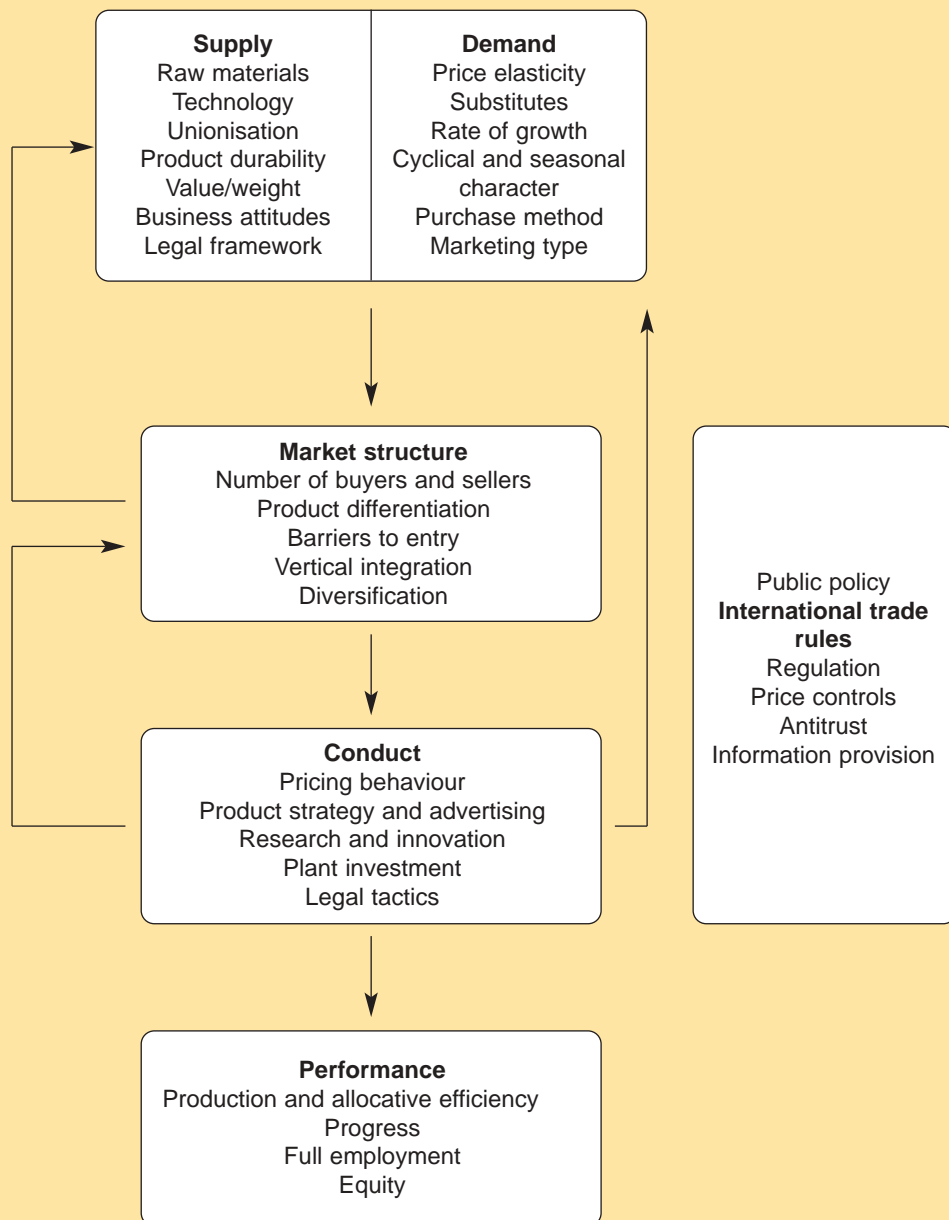
**Consumers can show self-control and pre-commitment:** Consumers often recognise that their existing consumption patterns are incapable of meeting certain future needs. This prompts saving and tying the consumer into patterns of committed expenditure.

**Losses and gains are treated differently:** Thaler identified four essential options for dealing with combinations of losses and gains:

- segregate gains: individuals prefer to treat multiple gains as a series of individual gains.
- integrate losses: individuals like to place all their losses in one basket.

- let big gains cancel small losses: if the overall balance of gains and losses is toward the gain, then the losses should be pooled with the gains to cancel them out;
- segregate 'silver linings': when large losses out-weigh small gains, the gains may be separated out as a 'silver lining' to the cloud of the large loss.

# Appendix V: Structure-conduct- performance paradigm



# Endnotes

<sup>1</sup> Ada Levenson. *Letters to the Sphinx* (1930) pt. 1. The Importance of Being Oscar.

<sup>2</sup> Adam Smith, *The Wealth of Nations*, 1776. Book 4, chapter 8.

<sup>3</sup> John Maynard Keynes. 1936. *The General Theory of Employment, Interest and Money*. Macmillan and Co. London. Quoted in Gerald P O'Driscoll and Mario J Rizzo. 1985. *The Economics of Time and Ignorance*. Routledge. London.

<sup>4</sup> Gerald P O'Driscoll and Mario J Rizzo. 1985. *The Economics of Time and Ignorance*. Routledge. London. p9.

<sup>5</sup> Adam Smith. 1991. *The Wealth of Nations*, Book I, Chapter X, p130. Everyman's Library.

<sup>6</sup> See Harold Demsetz. 1974. 'Two Systems of Belief About Monopoly.' In Oliver E Williamson (ed). 1990. *Industrial Organisation*. Edward Elgar. London.

<sup>7</sup> Tobin J. 1970. 'On limiting the domain of inequality'. *Journal of Law and Economics*. Vol 13 (October, pp 263-77. Quoted and discussed in Blank, RM. 2000. 'When Can Public Policy Makers Rely on Private Markets? The Effective Provision of Social Services.' *The Economic Journal* (March). Blackwell Publishers, Oxford.

<sup>8</sup> FM Scherer. 1990. *Industrial Market Structure and Economic Performance*. 3rd Edition. Houghton Mifflin. New York.

<sup>9</sup> Gary S Becker. 1976. *The Economic Approach to Human Behaviour*.

<sup>10</sup> Christine Jolls, Cass R Sunstein, and Richard Thaler. 1999. *A Behavioural Approach to Law and Economics*. University of Chicago Law School. Working Paper.

<sup>11</sup> In *United Brands v Commission*. The European Court of Justice found that in relation to Article 86 (on abuse of dominant position) cases must be considered "with reference to a clearly defined geographic area in which [the product or service] is marketed and where the conditions are sufficiently homogeneous for the effect of the economic power of the undertaking concerned to be able to be evaluated" (Case 27/76 [1978] ECR 207, [1978] CMLR 429 at paras 10 and 11).

<sup>12</sup> This is a more nuanced and potentially forgiving model than that adopted in the EU. The classic statement of this issue in European jurisprudence comes in *Tetra Pak II* [OJ (1992) L 72/1, (1992) 4 CMLR 551]. This case concerned the creation of a dominant position in a particular type of packaging. The ECJ held that *substitutability between products should be looked at over a short period of time*. The Court suggested that *the substitution through shifting from one form of packaging to another would involve changes in consumer habits and would only occur over the long term*. It held that any significant change in consumer/customer buying habits that would require a long time was not relevant to the facts of the case, and that only current patterns of consumer/customer behaviour could be influential in deciding the case and that speculative future patterns should be discounted.

<sup>13</sup> See above for similar assessment for CR4 cases.

<sup>14</sup> John R Baldwin. 1995. *The Dynamics of Industrial Competition: A North American Perspective*. Cambridge University Press. Cambridge.

<sup>15</sup> Baldwin. op cit p160

<sup>16</sup> Paul Dobson, Michael Waterson, and Alex Chu. September 1998. *The Welfare Consequences of the Exercise of Buyer Power*. Office of Fair Trading. London.

<sup>17</sup> W.J. Baumol, J.C. Panzar and R.D. Willig, *Contestable Markets and the Theory of Industry Structure*, Harcourt, Brace, Jovanovich, New York, 1982, revised 1988.

<sup>18</sup> Baldwin.1995. op cit. p81.

<sup>19</sup> Drew Fudenberg and Jean Tirole. 1984. 'The Fat Cat Effect, The Puppy-Dog Ploy, and the Lean and Hungry Look'. Reproduced in Oliver E Williamson (ed). 1990. *Industrial Organisation*. Edward Elgar. London.

<sup>20</sup> 'Predation in the Airline Industry'. Remarks by Roger W. Fones Chief Transportation, Energy, and Agricultural Section Antitrust Division U.S. Department of Justice Before the American Bar Association Forum on Air and Space Law Seattle, Washington June 12, 1997.

<sup>21</sup> *Becton Dickinson UK Ltd*. OFT, 15 June 1988.

<sup>22</sup> OFT, 15 June 1988. Quoted in Whish op cit, 1993.

<sup>23</sup> Alfred Kahn. 1985. 'The Macroeconomic Consequences of Sensible Microeconomic Policies.' Society of Government Economists Newsletter. May 1985, p2.

<sup>24</sup> P. Joskow and A Klevorick. 1979. 'A Framework for Analysing Predatory Pricing Policy. *Yale Law Journal*. Vol 89. pp213-270.

<sup>25</sup> For more on errors, see above.

<sup>26</sup> Ordover and Willig. op cit. pp10-12.

<sup>27</sup> Areeda/Turner argued that the 'Treatment of predatory pricing in the cases and the literature however, has commonly suffered from two interrelated defects: failure to delineate clearly and correctly what practices should constitute the offence, and exaggerated fears that large firms will be inclined to engage in it.' Their analysis of predation centred on the belief that '...predation in any meaningful sense cannot exist unless there is a temporary sacrifice of net revenues in the expectation of greater future gains.' Such a line of behaviour would not make sense unless the predatory firm had '(1) greater financial staying power than his rivals, and (2) a very substantial prospect that the

losses he incurs in the predatory campaign will be exceeded by the profits to be earned after his rivals have been destroyed.' P. Areeda and D. F Turner. 'Predatory Pricing and Related Practices under Section 2 of the Sherman Act.' *Harvard Law Review* Vol 88, p697.

<sup>28</sup> B.S Yamey. 1972. 'Predatory Price Cutting: Notes and Comments,' *Journal of Law and Economics*, Vol.15 pp129-42. Quoted in Louis Philips. 1995. *Competition Policy: A Game Theoretic Perspective*. Cambridge University Press. Cambridge.

<sup>29</sup> Philips. op cit. p220.

<sup>30</sup> R Selten. 1978. 'The Chain Store Paradox', *Theory and Decision*. 9, pp127-159.

<sup>31</sup> D.M Kreps and R. Wilson. 1982. 'Reputation and Imperfect Information.' *Journal of Economic Theory*. Vol. 27, pp 253-279.

<sup>32</sup> Kreps and Wilson. 1982. op cit. p254.

<sup>33</sup> Yun Joo Jung, John H Kagel and Dan Levin. 'On the Existence of Predatory Pricing: An Experimental Study of Reputation and Entry Deterrence in the Chain Store Game.' p73.

<sup>34</sup> FM Scherer and D Ross. 1990. *Industrial Market Structure and Economic Performance* (3rd edition). Houghton Mifflin. New York. p53

<sup>35</sup> P Selznick. Focusing Organisational Research on Regulation, in Roger Noll (ed) *Regulatory Policy and the Social Sciences* 1985 p363, in Ogus

<sup>36</sup> Friedman. 1982. Quoted in Edward E Zajac, *Political Economy of Fairness*. 1995. MIT Press

<sup>37</sup> Richard I Gordon. *Regulation and Economic analysis: a critique over two centuries*. Kluwer Academic Press 1994. p22

<sup>38</sup> DR Harris and C Veljanovski 'Liability for Economic Loss in Tort' in Furmston p48

<sup>39</sup> Ogus op cit. p30.

<sup>40</sup> Dworkin Paternalism, in R Wasserstrom (ed) *Morality and the Law*. 1971 p108. Quoted in Ogus op cit.

<sup>41</sup> Public goods defined as having ‘two critical properties: First, no additional costs are involved in providing the good to an additional person (formally, the good has zero marginal costs and is referred to as being “nonrivalrous”). Second, it is impossible to exclude individuals from benefiting from the good (formally, the good is “nonexcludable”). A classic example of a public good is national defence: Defending 270 million people does not necessarily cost more than defending 260 million people, and it is generally not possible to exclude anyone from the benefit of national defence.’

<sup>42</sup> Stigler, *The theory of economic regulation*.

<sup>43</sup> Peltzman. Toward a more general theory of regulation. *Journal of Law and Economics* 19 Aug 1976 211-40)

<sup>44</sup> Edward E Zajac. *Political Economy of Fairness*. 1995. MIT Press.

<sup>45</sup> Buchanan, Tollison, and Tullock, 1980 ix

\* David B. Johnson (1991, pp329-30)

<sup>46</sup> Nicholas Mercuro and Steven G Medema *Economics and the Law: from Posner to Post-Modernism*. 1997. Princeton University Press. p98.

<sup>47</sup> Bootleggers and Baptists in Retrospect: The marriage of high-flown values and narrow interests continues to thrive. By Bruce Yandle. *Regulation Magazine*. 1983

<sup>48</sup> Stephen Breyer: *Regulation and its Reform* 1982. Harvard Univ Press. p342

<sup>49</sup> James Q Wilson. 1980. The Politics of Regulation, in James Q Wilson (ed), *The Politics of Regulation* New York Basic Books, 1980.

<sup>50</sup> Mercuro and Medema op cit. P86/87, (*Buchanan, 1978, p12*).

<sup>51</sup> David B. Spence and Lekha Gopalakrishnan. *The New Political Economy of Regulation: Looking for Positive Sum Change in a Zero Sum World*. Working Paper 990415. University of Texas at Austin.

<sup>52</sup> Charles Wolf Jr. 1988. *Markets or governments: Choosing between imperfect alternatives*. MIT Press. p37-38

<sup>53</sup> Wolf op cit p51.

<sup>54</sup> Wolf op cit p62.

<sup>55</sup> Wolf op cit. p85.

<sup>56</sup> Wolf op cit. p87.

<sup>57</sup> Wolf, op cit p58.

<sup>58</sup> Nicholas Mercuro and Steven G Medema *Economics and the Law: from Posner to Post-Modernism*. 1997. Princeton University Press. p97

<sup>59</sup> Mercuro and Medema, op cit, p19.

<sup>60</sup> Mercuro and Medema, op cit, p50.

<sup>61</sup> Posner 1975, p777; quoted in Mercuro op cit).

<sup>62</sup> the pursuit of wealth .. Posner, 1983, p66; in Mercuro op cit).

<sup>63</sup> ‘economic liberty...Posner, 1983, p67; in Mercuro op cit).

<sup>64</sup> ‘the wealth maximisation principle (Posner, 1983, p68; in Mercuro op cit).

<sup>65</sup> ‘wealth maximisation ’ (Posner, 1983, p69; in Mercuro op cit).

<sup>66</sup> pragmatic: (Posner, 1990, p382; in Mercuro op cit).

<sup>67</sup> Tobin J. 1970. ‘On limiting the domain of inequality’. *Journal of Law and Economics*. Vol 13 (October, pp 263-77. Quoted and discussed in Blank, RM. 2000. ‘When Can Public Policy Makers Rely on Private Markets? The Effective Provision of Social Services.’ *The Economic Journal* (March). Blackwell Publishers, Oxford.

<sup>68</sup> Viscusi, Vernon, Harrington . 1995. *Economics of regulation and antitrust*. p25

<sup>69</sup> CBI wants watchdogs' powers curbed By Kevin Brown and Brian Groom, Financial Times, May 22 2001

<sup>70</sup> Seligman, quoted in Edward E Zajac *Political Economy of Fairness*. 1995. MIT Press.

<sup>71</sup> Zajac op cit. p158.

<sup>72</sup> Wolf op cit. P87.

<sup>73</sup> John S Hammond, Ralph L Keeney and Howard Raiffa, 1999. *Smart Choices: A Practical Guide to Making Better Decisions*. HBS Press. Boston, Mass.

<sup>74</sup> Steven C Salop. 2000. *The First Principles Approach to Antitrust, Kodak and Antitrust at the Millennium*. Georgetown University Law Center.  
[http://papers.ssrn.com/paper.taf?abstract\\_id=195490](http://papers.ssrn.com/paper.taf?abstract_id=195490)

<sup>75</sup> SSNIP is a Small but Significant non-transitory Increase in Price. These arise in the US merger guidelines documents as an indication of market power. A SSNIP indicates market power; absence of an SSNIP indicates a lack of market power.

<sup>76</sup> P Joskow and A Klevorick. 1979. 'A Framework for Analysing Predatory Pricing Policy. *Yale Law Journal*. Vol 89. pp213-270.

<sup>77</sup> For more on errors, see above.

<sup>78</sup> Gary S. Becker. 1976. *The Economic Approach to Human Behaviour*.

<sup>79</sup> Kahneman, Daniel, Knetsch, J L and Thaler, R H. 'Fairness and the Assumptions of Economics,' in Hogarth, Richard M and Reder, M.W (eds). *Rational Choice: The Contrast Between Economics and Psychology*. University of Chicago Press. London. 1987.

<sup>80</sup> Christine Jolls, Cass R Sunstein, and Richard Thaler. 1999. *A Behavioural Approach to Law and Economics*. University of Chicago Law School. Working Paper.

<sup>81</sup> Simon, H. 1957. *Models of Man*. Wiley. New York. p198.

<sup>82</sup> Hogarth, Robin M and Reder, M.W. 'Introduction: Perspectives from Economics and Psychology,' in Hogarth, Richard M and Reder, M.W (eds). *Rational Choice: The Contrast Between Economics and Psychology*. 1987. University of Chicago Press. London. p7.

<sup>83</sup> Tversky, Amos and Kahneman, D. 'Rational Choice and the Framing of Decisions,' in Hogarth, Richard M and Reder, M.W (eds). *Rational Choice: The Contrast Between Economics and Psychology*. University of Chicago Press. London. 1987. pp90-91.

<sup>84</sup> Thaler, R A. *Quasi Rational Economics*. Russel Sage Foundation. New York. 1991.

# What is Consumers International?

Consumers International (CI) supports, links and represents consumer groups and agencies all over the world. It has a membership of over 250 organisations in 115 countries. It strives to promote a fairer society through defending the rights of all consumers, especially the poor, marginalised and disadvantaged, by:

- supporting and strengthening member organisations and the consumer movement in general
- campaigning at the international level for policies which respect consumer concerns.

Consumers International was founded in 1960 as the International Organisation of Consumers Unions (IOCU) by a group of national consumer organisations. The group recognised that they could build upon their individual strengths by working across national borders. The organisation rapidly grew and soon became established as the voice of the international consumer movement on issues such as product and food standards, health and patients' rights, the environment and sustainable consumption, and the regulation of international trade and public utilities.

Consumers International is an independent, non-profit organisation. It is not aligned with or supported by any political party or industry. It is funded by fees from member organisations and by grants from foundations, governments and multilateral agencies.

Consumers International's Head Office is based in London. It has Regional Offices in Kuala Lumpur (Malaysia), Santiago (Chile) and Harare (Zimbabwe), and in London.





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