OFFICE OF FAIR TRADING

COMPETITION POLICY, INNOVATION AND TECHNOLOGICAL CHANGE

SPEECH TO THE HERTFORD SEMINAR IN REGULATION, NEW CHALLENGES IN COMPETITION POLICY

by

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Introduction

I am delighted to have the opportunity to share some thoughts on competition policy with so informed an audience. The title of this talk refers to challenges. I know that I do not have to spell out for you the many challenges which face those who operate in this field. They range from ensuring that we have the appropriate legislation to meet the demand of a modern economy to the intellectual and administrative challenges of applying the legislation to individual cases.

I can, in the time available, only pick a few themes from this extensive menu. I know that many of you will be closely following the consultations on a new Competition Bill. It is a proposal for reform which I welcome. I do not, however, intend to go into detail on that tonight. I want instead to concentrate on two themes. The first is that competition policy is not at odds with the goals of promoting innovation and the creation and maintenance of international competitiveness. The second is the need for competition policy not to penalise firms, whether large or small, which achieve their goals through innovation, efficiency or competitiveness.

I shall begin with a practical example. I am sure that you are all aware of the investigation my Of-

fice has recently carried out into the market position of the subscription television supplier, BSkyB. In the space of only six years BSkyB has created a whole new market for multi-channel subscription television through risk- taking innovation and entrepreneurial dynamism. It is now making a substantial return on its early investments. The conclusion of my investigation has been that some aspects of BSkyB's terms of supply of its channels have been undesirable, and that there are some barriers to entry in to the market which should be removed. But I have not criticized BSkyB for exploiting a position which it won through innovation and entrepreneurship. BSkyB has spurred the BBC and ITV into action. BSkyB's channels have provided the core material for the rapidly developing UK cable network, which in the future will bring the information 'superhighway' closer to being a reality. BSkyB is now leading the introduction of digital television in the UK. Excessive intervention against their early success would have reduced the incentives for them to do this.

In industries such as broadcasting it is vital that the competition authorities get the balance of action right. Excessive intervention introduces a dangerous degree of regulatory risk for future innovators. Some intervention to maintain and promote rivalry is still appropriate to maintain competitive pressures in certain cases.

Let me now pass from the particular to the general discussion of my themes. It is now almost universally recognized that competitive markets are the best way of allocating goods and services. In general, competitive markets ensure that scarce economic resources are directed to the production and distribution of those goods and services most in demand from consumers, and that these demands will be met by the most efficient firms in the most efficient way. We need look no further than the appalling problems faced by the countries of the former Soviet Bloc to see the disastrous economic and social consequences when resources are allocated on non-market principles.

The goal of competition policy, and my primary role as Director General of Fair Trading, is to promote and maintain effective competition in markets for goods and services. Competition law enables my Office, together with the Monopolies and Mergers Commission and the Department of Trade and Industry, to work towards achieving this goal through control of mergers leading to high levels of industry concentration, through the prevention of cartels aimed at price fixing or market sharing, and through the prevention of anti-competitive practices by which firms with market power may seek to protect themselves from competitive forces . Competition law allows action to be taken against firms with market power that abuse their position through exploitation of consumers or customers by excessive prices or poor quality products and services, though action of this kind will be a second best solution when effectve competition for some reason cannot be promoted.

The importance of competition policy in promoting and maintaining competitive market structures is more profoundly understood and accepted around the world now than perhaps at any time in the past. In recent years the Office of Fair Trading has provided technical assistance, or had other contact with, competition authorities in countries as varied as Russia, Poland, South Africa, Byelorussia, and Jamaica.

Competition policy is sometimes criticized for giving too much weight to the short term benefits to consumers in respect of price and product quality. A quite small increase in the rate of productivity growth from the firms in an economy can result in substantial increases in total national income in a fairly short time period. It is then argued that research, development, and innovation into new products or processes provide gains to consumers which will outweigh any disbenefits from prices above their competitive level. I disagree with this criticism. Not because I do not appreciate the vital importance of innovation and competitiveness. On the contrary my 30 year career in industry has left me with a profound understanding of its importance. No, I disagree because UK competition policy does give appropriate weight to these considerations. The benefits of competition are indeed wider than the benefits of low prices and high quality goods. Effective competition also provides the main stimulus for innovation, technological or otherwise, and provides the most powerful and enduring basis for the international competitiveness of UK firms.

Firms which are subject to vigorous competition in their domestic markets are far more likely to be effective competitors abroad than those which are not subject to such pressures. Equally, firms which are subject to intense competitive pressures are most likely to seek to gain competitive advantage through product or process innovation or through the development of new products. This is the first theme I wish to discuss today.

Now firms, however large or small, which achieve their goals through innovation, efficiency or competitiveness should not be penalized for so doing. If competition policy is too heavy handed with such firms, other firms will be less likely to follow the same path and potential benefits to society will be lost. Also, there will be cases where cooperation in research and development will be beneficial to firms, consumers and society. Again, it is important that competition policy should not be unduly harsh on such ventures. This is my second theme.

The source of innovation and competitiveness

Competitive markets promote innovation. Competitive markets promote international competitiveness. I am a firm believer in each of these statements. But neither is free from controversy.

Competition and innovation

The question of which market structures are most likely to generate innovation has been the subject of lively academic and political debate for many decades. On one side stand those who argue that large firms with market power are the most likely to produce innovation and technological change. On the other are those who believe that competitive market structures are more likely to stimulate innovative behaviour in firms. I should say at this point that by 'competitive market structures' I do not necessarily mean industries populated by small fragmented firms. In some industries economies of scale and scope will necessarily limit the number of competitors and the size of those competitors. In such industries it is vital that the firms should be vigorously competitive rivals, that they should continue to face pressure from each other to meet customers demands, to maximize their efficiency, and to seek to gain other competitive advantages over each other.

The first, and perhaps still the most influential, comprehensive statement of the benefits of large dominant firms, was the economist Joseph Schumpeter's classic book *Capitalism Socialism and Democracy* published in 1942.[1] Schumpeter argued that the main driver of investment in research and development was the prospect that successful firms would gain a position of market power (and monopoly profits) through being the only supplier of the new product, or through pioneering a new cost-reducing production process. But, he went on, this market power would only be temporary. Other firms would attempt to "catch up" with the innovating firm and "leap-frog" it, aiming to attain a new position of market power themselves to gain or share high profits. Over time these forces would generate a gale of "creative destruction" which would drive technological development and raise the productive capacity of the economy.

Schumpeter drew two conclusions from his thesis. The first conclusion was that intervention by competition authorities to prevent the exploitation of market power achieved through innovation would be extremely damaging. I agree with this view wholeheartedly. It is an important subject to which I will return to later. The second conclusion was less convincing. Schumpeter argued that large firms which *already had* market power would be most likely to commit resources to research and innovation. Here my views and Schumpeter's diverge.

There are many reasons why large firms might spend more on innovation than small firms. Large firms have access to internal funds whereas small firms might be more reliant on external finance. Large firms which use external capital tend to face lower costs than those on offer to small firms. Large firms are better able to absorb the risks of particular projects, whereas a small firm might face bankruptcy if the project fails. A large firm with a protected market may have greater certainty that competition will not erode the future revenues necessary to recoup the up-front costs of research and development. And large firms may have economies of scope in the various technologies and know-how necessary to develop new products and processes. No doubt this sounds familiar to many of you.

But one key stimulus will be missing. A large firm with market power has less *incentive* to innovate if the resultant 'creative destruction' merely destroys its own existing position of market power, and replaces it with a new one. The British economist J.R. Hicks' classic quote "one of the privileges of monopoly power is to enjoy a quiet life"[2] holds for innovation and product development as much as for price, product quality and customer service. Firms which do not face current (or potential) competition are not pressurised to cut their prices, to improve their product or service quality and reliability. They also face fewer pressures to innovate in the search for competitive advantage. Managers may be encouraged to adopt a conservative approach to research and development - why risk a secure position? Or managers may be encouraged to build research and development 'empires' where academic research may not be closely honed to the needs of the market and of competitiveness.

Some have argued that this was one of the problems faced by IBM, a firm which was transformed from a position of innovative market leader to virtual bankruptcy within a decade due in part to its failure to appreciate the potential competitive pressures it faced. If size brings risk aversion, or a tendency to pure research, there may be a significant diseconomy of scale when compared with innovative small organisations with a focus on innovative products or services.

It is my view that markets with a number of competitive rival firms are those markets most likely to generate innovation. Where a market is dominated by a single firm it is desirable that firm should not be unduly protected from potential competition by the existence of barriers to entry into the market. If barriers to entry are low the threat of competition by smaller, more nimble and flexible firms may still force the large incumbent firms to maintain their innovatory effort.

Many markets are increasingly international.

Often the most intense competition faced by UK firms is from overseas. Competition from overseas can be as strong a stimulus for innovation as domestic rivalry. Look at competition between Boeing and Airbus. But in many industries still, domestic rivalry carries greater weight. An interesting example has been the design and development of Formula One racing cars is now concentrated in Oxfordshire and Berkshire. Even Ferrari have relocated there to take advantage of the intensely competitive, but extremely successful, cluster of knowledge and experience which has emerged there.

So what about the benefits of firm size and market power? If competitive markets are the norm how can the benefits from risk sharing and complementary skill and know-how be realized? Where such benefits appear to be in prospect, where real complementarities exist and where the risks could not be diversified through the financial markets, the competition authorities will be able to approve joint ventures in research and development. Joint ventures allow the pooling of skills and a degree of risk sharing without eliminating competition in the downstream market.

A note of caution, however. The benefits of 'creative destruction' derive from rivalry between competitive innovating firms. If too many firms in a market join joint ventures, competition between potential innovators may be lessened. Thus while joint ventures can be an appropriate route for increasing research and development, and stimulating innovation, if where they appear likely to reduce innovatory effort or to limit competition between the partners in other respects, a less lenient view will be taken by the competition authorities.

To recap, I do not accept that large firms with market power are more likely to invest in research and development than smaller firms facing effective competition. Where there are such firms it is important, that they are not unduly protected from competition by barriers to entry in to the market.

There have been a number of empirical academic studies on the issues I have discussed, and unfortunately most have been inconclusive. Some early evidence showed that higher rates of innovation (or at least spending on innovation) is positively linked to the size of the firm and to market concentration. However, these studies have not taken into account the differing technological opportunities available to firms operating in different industries. For example, chemicals are characterized by high rates of research and development and by a fairly high degree of market concentration. But this is unsurprising since chemical products embody a high level of research and development, and chemical production can generate large economies of scale. The economist Paul Geroski studied the relationship between market concentration and innovation but corrected for the degree of 'technological opportunity' in different markets.[3]

He found that higher concentration can be negatively related to innovation. Other studies have shown that new entrants and smaller firms can often be quicker to adopt new innovations than established market leaders. Thus the empirical evidence offers little support for Schumpeter's hypothesis, but some support for my view that competition provides the incentives for innovation.

What are the implications for competition policy? The first is that the general objectives of competition policy - to maintain and promote competitive markets -are not at odds with initiatives to promote research and development and innovation. On the contrary a competition policy which emphasizes tough merger control where mergers are likely to significantly reduce rivalry in a market is likely to maintain the conditions in which innovation should thrive. A competition policy which clamps down hard on price-fixing cartels and market sharing agreements will also maintain rivalry between firms in the market and will intensify the pressure to innovate. A competition policy which seeks to reduce and eliminate barriers to entry in to markets (except where these reward innovation itself) will force incumbent firms to face the same pressures from potential entrants. And a competition policy which is sensitive to the benefits which can derive from cooperative joint ventures will aid innovation further. But the key point I wish to make is that competition policy promotes rivalry; and rivalry, not cosy protection, is what drives innovation.

So far I have concentrated on horizontal competition between firms. But rivalry can also be affected by vertical integration. For example, if firms are vertically integrated they may be able to foreclose either upstream or downstream markets to potential rivals. They may also become less intensive rivals between themselves. While my Office has no presumption that all vertical integration is undesirable (indeed I recognize that it sometimes confers substantial efficiency gains) this is an issue which we frequently have to address, notably in the area of merger control. Although the analysis may be more complex in cases involving vertical integration, my concern remains the protection of the competitive process. In broad terms, unless the vertically integrated firm has market power in the upstream or the downstream market, vertical integration is unlikely to harm competition.

International competitiveness

Similar points also apply to the crucial issue of international competitiveness. Just as research, development and innovation generate benefits for an economy, so does the evolution of domestic firms able to com-

pete with the best firms overseas. And the debate on the best means of achieving this follows similar lines to those on innovation. Which UK firms are more likely to succeed internationally, those that have a monopoly position in the UK market, or those that have to face rivalry from other firms in the domestic market?

Those who argue that dominant domestic firms are best placed to face international competition point to the economies of scale which can be realized from the domestic market. These allow firms to compete more effectively with foreign rivals. An example might be the US film industry which can amortize the very large fixed costs of producing films in the English speaking US market before exporting them around the world.

But few markets actually correspond to this view. Economies of scale are often exaggerated, and producing below the minimum efficient scale does not always spell disaster. One survey suggested that in the European Community, 90% of firms had a minimum efficient scale at less than 10% of the European market. 75% of firms had a minimum efficient scale at less than 5% of the European market. Thus although in some markets economies of scale are clearly necessary for success - for example airliner design and manufacture - this is certainly not always the case, and arguments of this type are often overstated.

Even the US film industry is highly competitive in its domestic market - in part due to action taken under the US anti-trust legislation which broke the Hollywood studios' grip on domestic cinema distribution. (This is a good example of how vertical integration can be damaging to rivalry.) Compare the Japanese and the US car automotive industries since the Second World War. Intense domestic rivalry among Japanese firms, coupled with few sites for very large factories, lead to the introduction of efficient just-in-time production techniques and high standards of manufacture, while at the same time increasing the scope for productivity gains. In the US the 'big three' found themselves in poor shape to combat the Japanese challenge when it arrived in the 1970s. The US car industry has only recently begun to recover. Other examples from around the world abound. Many are documented in Michael Porter's *The Competitive Advantage of Nations.*[4].

The argument against the non-innovatory monopolist is also relevant here. A company which is dominant in its home market may be less likely to move aggressively in to overseas markets -the home market is more likely to provide an 'easy life'. Even in industries where economies of scale are significant, a company which is forced to seek overseas markets to reap those economies may be more likely to be a successful major international performer than one which is not. Switzerland (e.g. chocolate, pharmaceuticals, and watches), the Scandinavian countries (e.g. Mobile telephones and surgical instruments), and Japan have all produced world beating industries without being able to fully realize economies of scale at home.

Again the focus of competition policy is not at odds with the goal of international excellence. I believe that maintaining domestic rivalry is more likely than domestic protection to produce the world beaters we all wish to see.

So, to sum up the first of my themes today, it is my view that competition policy is not at odds with the goals of promoting innovation and the creation and maintenance of the UK's international competitiveness. A strong competition policy aimed at maintaining domestic rivalry through merger control, anti-cartel policing, and acting against inappropriate barriers to entry is one of the pillars on which our economic future depends.

Cooperation through research joint ventures and other more general benefits which trade associations can provide is sometimes appropriate. When it is, and my Office is, and will remain, very sensitive to the benefits such ventures can bring, both in the administration of UK competition law and in our representations to the European Commission on cases falling under their jurisdiction.

Competition Policy and the Rewards to Innovation

The second theme I wish to address is the application of competition policy where a firm has achieved a position of market dominance in the UK. This important issue is closely related to the incentives for innovation and investment in technological development.

Intellectual property rights

In the first part of my address I discussed Schumpeter's theory of 'creative destruction' and the benefits this process has for the prosperity and welfare of the economy. The potential problem for competition policy is that the incentive for innovation and research and development is often that firms aim to achieve a position of market power. A firm will not invest large amounts of money and time in developing a new product or process if its competitors are immediately able to replicate the product or process themselves without investing in its development.

This is particularly so where the costs of producing a product or introducing a process are low in comparison to the costs of developing it, and where there are minimal costs in appropriating the product or process once it has been developed. Many examples immediately spring to mind. Pharmaceuticals can

be produced easily once their make up is known. Films, books and computer software can be reproduced at virtually no cost once the first print is made. And brand names can be copied once established in the minds of consumers. This is the reason why we have patent laws and copyright protection.

I do not propose to discuss in depth the issue of how wide patent protection should be and for how long it should last. But it is useful to note that there is something of a consensus that narrow patents which last a long time are the best formulation. The reason is that narrow patents allow scope for greater rivalry in innovation since firms can innovate around the patent, using any information which has become public knowledge through the original innovation. This helps maintain the cycle of 'creative destruction' while still giving firms the incentive to innovate.

In practice, the potential conflict between patent and copyright laws - which are collectively known as intellectual property rights - and competition policy has rarely emerged. The reason is that the competition authorities are generally sensitive to the desirable incentives intellectual property rights give to firms. This is even more the case in the present than perhaps it has been in the past. This is certainly true of antitrust law in the USA.

There have been only a few UK cases in which firms have been prevented from exercising intellectual property rights as they wished. Normally these have revolved around refusal to licence property rights. In principle if a person is guaranteed exclusive use of a property right, they should be free to decide whether or not to licence use of their property to others. The circumstances where refusal to licence has been condemned have usually been where the property right is derived from a firm's activities in one market, but is used to extend that firm's dominance in to another market. A recent example is the rights for television listings. A complaint to the European Commission - the 'Magill' case - resulted in listings for Ireland being made available in advance to publications other than that owned by the rights holder. Another example is the recent Monopolies and Merger Commission conclusion that the conditions attached to Sega and Nintendo's licences to supply games for their video games consols were too onerous. There have been a few other cases carried out by the European Commission and under the UK legislation (MMC investigations into on-line databases, gas analysers, and Ford car parts).

But these have been exceptional. The norm has been that competition authorities worldwide have left owners of intellectual property rights free to exploit them as they wish; in most cases only where this has restricted competition in other markets has action been taken.

Treatment of abuse of a dominant position

Not all innovatory activity is enshrined in intellectual property rights. Indeed surveys of firms in the US and the UK suggest that firms often do not see patent and copyright protection as the main defence of their research and innovation initiatives. Instead they rely on the costs their rivals face in appropriating the new technology or product, on secrecy, on early mover advantages in learning how to use the technology, and on making large investments in exploiting the technology which dissuade rivals from following their lead.

Thus the potential conflict between competition policy and incentives for innovation emerges in to the wider sphere of policy towards firms with a dominant market position. When my Office investigates a market and concludes that it is dominated by one large firm, or by a number of large firms which impose weak competitive pressures on one another, several possible courses of action are open to me.

First I can decide to do nothing. Where I am satisfied that the position of dominance has been achieved by successful innovation in competition with other potential rivals, and where there is no evidence that the firm is pursuing anti-competitive practices intended to prevent the emergence of competition subsequently, it is my viewthatt firm should be allowed to exploit its position as it wishes, even where this allows it to set high prices to its customers and to earn what may be viewed as excessive profits.To do otherwise would introduce an undesirable degree of risk for future successful innovators. In the long term a heavy handed policy would be extremely damaging to the economic performance of this country.

Sometimes, however, a firm which achieves a position of dominance through innovation will seek to maintain it through anti-competitive practices which create barriers to entry into the market. For example a firm may attempt to drive subsequent entrants from the market - in competition parlance this is known as 'predation' -eliminating them from the market and threatening future entrants with aggressive retaliation if they enter.

An example of policy in this area is the bus industry. When the bus industry was deregulated a number of innovatory firms entered the market using new and more efficient vehicles and making many innovations in the routes serviced. Some of these companies have gained a strong market position through their efforts (although mergers have also played their part). But in a number of cases the competition authorities have had to take action against predatory behaviour by these innovatory firms. The focus has been on efforts to reduce barriers to entry and maintain rivalry.

The Monopolies and Mergers Commission rec-

ommended action against the pest control firm Rentokil after it concluded that Rentokil was predating against small pest control firms in some areas. Rentokil is a highly successful UK firm which is achieving similar success overseas. But again the priority must be to retain domestic rivalry. In the long run this maintains the conditions for Rentokil's success to continue.

Where a dominant position is not the result of innovation or excellence, abuse of a dominant position may be dealt with more harshly. The recent MMC report on the Yellow Pages, a product whose present value is the result of decades of consumer recognition, concluded that the Yellow Pages' prices should be capped.

Conclusion

I have discussed two themes in my delivery today. First I presented my view that the best spur for innovation and for international competitiveness is the pressure of domestic rivalry and competition. Second I discussed the way in which competition policy deals with the exploitation of intellectual property rights, and the exploitation of market power achieved through innovation in other ways.

In conclusion I would like to recap the way in which competition policy acts as one of the key pillars on which the conditions for successful innovation and international competitiveness can be based.

First, the aim of competition policy is to promote and maintain effective competition and rivalry among firms. This does not conflict with the aim of promoting innovation and competitiveness. Indeed it enhances it. The tools of competition policy which are relevant in this respect are:

a. *Merger control.* Tough merger control is the most effective means of maintaining competitive rivalry. Firms will often see merger as an 'easy way out'; after all nobody in business prefers to face competitive pressure.

b. *Cartel control.* A tough line on cartels and market sharing agreements will intensify competition and rivalry between existing firms. The proposed strengthening of UK law in this area is an important step in this direction.

c. *Eliminating barriers to entry.* Eliminating barriers to entry intensifies rivalry because it exposes incumbent firms to competitive pressure from firms outside the market. Barriers to entry can arise from other sources than anti-competitive behaviour. Unnecessary or excessive government regulations are a case in point. Others simply have to be accepted - for example economies of scale and scope.

The second way in which competition policy promotes innovation (or at least avoids the risk of inhibiting innovation) is the pragmatic approach it adopts to intellectual property rights and in its dealings with dominant firms. In particular:

a. *Light regulation of intellectual property rights.* This allows the vast majority of firms to exploit patented innovations thus maintaining incentives for innovation.

b. *A balanced approach to dominant firms.* The priority is to reduce barriers to entry which do not derive from the innovations themselves. Again, this maintains rivalry. But the competitionauthorities are very sensitive to the undesirable effect on incentives heavy handed decisions can have.

c. *Joint ventures.* A balanced approach to joint ventures which permits such ventures where complementarities between firms are strong, and where there will be no significant loss of rivalry in innovation or in related markets.

I hope that I have justified the title of my talk. Market change and innovation create many of the new challenges in competition policy. It is a fundamental responsibility for any competition authority to apply policy with due sensitivity to those factors. I do not believe that this should create any fundamental conflict with competition policy. The proper application of policy and the development of innovation and competitiveness are complementary.

Footnotes

[1] J. A. Schumpeter, **Capitalism, Socialism and Democracy,** (1942)

[2] quoted in C.D. Foster, **Privatisation, Public Ownership, and the Regulation of Natural Monopolies,** (1942)

[3] see P. Geroski, **Innovation, Technological Opportunity, and Market Structure,** Oxford Economic Papers 42: pp586-602 (1990)
P. Geroski & R Pomrey, **Innovation and the Evolution of Market Structure,** Journal of Industrial Economics 38: pp299-314 (1990)
P Geroski, **Innovation and the Sectoral Sources of UK Productivity Growth,** Economic Journal (1991)
P. Geroski, **Entry and Market Dynamics,** (Blackwell: 1992)

[4] M. Porter, **The Competitive Advantage of Nations,** (MacMillan: 1990)

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