MEASURING MARKET POWER IN IRISH MERGER CONTROL: THE ECONOMICS UNDERLYING THE ASSESSMENT OF MERGERS.

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Presentation to ICEL conference 16th June 2005.

Introduction.

The economic analysis of the competitive effects of mergers between competing firms has evolved dramatically over the past twenty years. Such developments have influenced and been reflected in the evolution of merger control in Ireland. Legislation regulating mergers between firms above a certain size was first introduced in Ireland in 1978. The original competition rules in the EU Treaty made no provision for the control of mergers and the EU Merger Regulation only came into force in September 1990. Many EU Member States only introduced merger controls following the introduction of the EU Merger Regulation. Ireland has therefore been to the fore in terms of merger policy, at least when compared with other EU States. In political terms, the transfer of jurisdiction for merger control to the Authority under the Competition Act, 2002, represented a brave experiment.

An effective merger control regime is generally regarded as an essential element of competition law and policy. Many of the early US antitrust cases, such as *Northern Securities*[1] and *Standard Oil,*[2] involved mergers. Competition is inhibited where a merger increases market power, because market power enables firms to raise price and/or reduce output. Therefore, such mergers are likely to reduce overall welfare and are unlikely to be in society's interests. This paper deals only with competition concerns that arise in 'horizontal' mergers, i.e. mergers between firms that are in the same market, since these, almost by definition, involve a reduction in the number of competitors.

Traditionally, merger analysis tended to be something of an inexact science. In the 1960s, the US Supreme Court blocked mergers where the merging parties had market shares of less than 8% in *Brown Shoe*[3] and *Von's Grocery Stores.*[4] Both judgements were based on 'incipiency' theory which held that even mergers involving small market shares should be prohibited on the grounds that they would give rise to further mergers, leading

[1] *US v. Northern Securities Co. et. al.*, 193 US 197 (1904).
[2] *Standard Oil Company of New Jersey et. al. v. US*, 221 US 1 (1911).
[3] *Brown Shoe Co. v. US*, 370 US 294 (1962).
4 *US v. Von's Grocery Company et. al.*, 384 US 270 (1966).

eventually to a situation where only a small number of competitors remained.[5] Until the early 1980s, the focus in US merger control was firmly on concentration, as measured by the four-firm concentration ratio, and a merger which would significantly increase concentration was regarded as creating monopolistic market power, enabling the merged firm to raise price. Such evidence was sufficient to justify blocking the merger.[6] As recently as 1998 one commentator describing the uncertainty surrounding UK merger decisions concluded that the process involved "rough justice: some deals get stopped while others sneak through. But rough justice is better than no justice at all."[7]

The picture has altered significantly in recent years. The US Department of Justice 1982 Merger Guidelines constituted a significant landmark in merger analysis and arguably represented the first serious attempt to develop a rigorous economic based approach to merger analysis drawing on oligopoly theory and the role of efficiencies. This approach has been further refined in subsequent versions of the Guidelines. Until relatively recently EU merger investigations relied on a more traditional approach, involving the assessment of market shares and qualitative criteria such as ease of entry and buyer power. In recent years, however, many of the analytical tools contained in the US Merger Guidelines have been adopted on this side of the Atlantic.

The Evolution of Merger Control in Ireland.

Merger controls were first introduced in Ireland in 1978 with the enactment of The Mergers, Takeovers and Monopolies (Control) Act, 1978. As pointed out, Ireland was ahead of many EU Member States in introducing a merger control regime. The 1978 Act followed a report by the RPC which found that the level of concentration was high or rising in more than half of Irish manufacturing industries and warned that:

[5] R.H. Lande, (2001): Resurrecting Incipiency: From *Von's Grocery* to Consumer Choice, *Antitrust Law Journal,* 68(3): 875-98.
[6] E.J. Lopez, (1999): *New Anti-Merger Theories,* The Independent Institute, Working Paper #12, December 1999.
[7] P. Martin, (1998): The Merger Police, *Financial Times,* 12.3.1998.

> "There remains, however, the need to monitor concentration in a number of sectors where oligopoly, with its attendant risks to competition, is prevalent."[8]

The 1978 Act was, however, seriously deficient in a number of respects and these were not addressed by the various amendments to the legislation that were introduced over the years.[9] The Competition Act, 2002, involved a thorough overhaul of the merger control regime that was long overdue. The most notable features of the new legislation was the decision to de-politicise merger decisions, by transferring responsibility for such cases to the Authority, and to establish the impact on competition as the sole criterion by which mergers should be evaluated. The decision to transfer responsibility for mergers to the Competition Authority was introduced in the face of strong opposition both from IBEC[10] and from officials within the Department of Enterprise, Trade and Employment. Departmental memos argued that the existing arrangements worked well and one actually stated that: 'Most of the pressure to "give mergers to the Authority" arises from "empire building" on their behalf when they have yet to fully prove themselves'.[11] Perhaps the clearest indication of the success of the new regime is that, although it has only been in operation for two and a half years, no one has suggested a return to the *ancien regime*. Indeed it is hard to know what all the fuss was about.

Table 1 provides an overview of the Competition Authority's performance in dealing with mergers under the 2002 Act. In the first two years 128 mergers were notified, with 121 being cleared at Phase I. Around 5% of cases have gone to a Phase II investigation. This is significantly higher than under the previous regime - less than 2% of mergers notified between 1991 and 2002 were subject to a referral to the Authority by the Minister - but is broadly in line with international norms.[12] To date only one transaction

[8] Restrictive Practices Commission, (1975): *Report of Studies into Industrial Concentration and Mergers in Ireland,* Dublin: Stationery Office, Prl.5601, p.38.
[9] On this point see, P. Massey, (2001); Merger Control in Ireland, *Irish Banking Review,* Autumn: 30-42 and P. Massey and D. Daly, (2003): *Competition and Regulation in Ireland The Law and Economics,* Dublin: Oak Tree Press, Chapter 14.
[10] IBEC plea on mergers Bill, *Sunday Business Post,* 29.4.2001.
[11] *Irish Times,* 25.11.2000.
[12] See Massey and Daly (2003), supra note 9.

has been prohibited while two others have been subject to conditional clearance. All cases have been dealt with within the statutory time limits.

Table 1: Summary of Merger Notifications to Competition Authority

	2003	2004	Total
Mergers Notified	47	81	128
Cleared in Phase I	43	78	121
Cleared in Phase II	1	1	2
Conditional Clearance	1	1	2
Prohibited	0	1	1
Withdrawn	1	0	1
Referred to EU	1	0	1

Notes: Figures relate to years in which merger was notified.
Source: Competition Authority, Annual Reports, 2003 and 2004.

The Authority has also produced Guidelines setting out its approach to analysing mergers. All in all, therefore, it is fair to say that the Authority's handling of mergers has been a success.

Analysing the Impact of Horizontal Mergers on Competition.

Assessing whether a merger is likely to result in a substantial lessening of competition, which is the test set out in the 2002 Act, reduces to an analysis of whether it would result in a significant price increase and thereby harm consumers. There are five stages involved in the competitive analysis of horizontal mergers.

1. Define market.
2. Measure market concentration.
3. Identify potentially viable theories of harmful effects.
4. Analyse whether potential for entry would make anticompetitive effects unlikely; and
5. Assess potential efficiencies.

It is fair to say, however, that the importance of structural considerations which are addressed in steps 1 and 2, has declined with the emphasis switching more to consideration of the likely impact on firm conduct. The methodologies underlying the SSNIP test used by the Authority to define markets and the Herfindahl-Hirschman Index (HHI) used to measure market concentration are widely known and so are not discussed here.[13] Some comments on the Authority's approach to market definition and concentration may be appropriate.

In *Grafton/Heiton* the Authority rejected econometric analysis similar to that used in *Staples* conducted on behalf of the parties in finding that DIY superstores constituted a distinct product market. It cited company documents suggesting that the firms viewed other superstores as their main rivals. The Authority also cited evidence from a consumer survey which it had commissioned. The Authority decision notes that a high proportion of consumers interviewed visiting a particular superstore had visited a rival DIY superstore within the past year. It goes on to state:

> "Crucially, over 60% of respondents, when asked where they would have shopped if they had not found their products in Woodies, stated that they would have gone to Atlantic Homebase, with roughly the same proportion of Atlantic Homebase customers saying they would have gone to Woodies."[14]

It is recognised that properly conducted surveys can provide useful insights that can assist in defining relevant markets.[15] The SSNIP test, however, asks whether a hypothetical monopolist could increase price by 5%. The question that needs to be asked is how consumers would react if all DIY superstores increased their prices by 5%. The survey information, at least as reported by the Authority in this instance, does not answer that question. Similarly Massey and Daly commenting on market definition in *Mars/HB* observe:

> "In order to establish whether or not a firm is dominant it is necessary to ask if it has the power to raise price. That question is not answered by asking whether an

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[13] For a description of the SSNIP test see Massey and Daly, supra note 9, Chapter 5. The HHI is calculated by adding the squares of the market shares of all the firms in the market.

[14] Competition Authority Merger Determination No.M/04/051, *Grafton/Heiton,* para 3.11.

[15] P. Massey, (2000): Market Definition and Market Power in Competition Analysis: Some Practical Issues, *Economic and Social Review*, October, notes that the US FTC had used consumer surveys to define markets in soft drinks merger cases.

> individual, wishing to purchase an ice cream, would buy something else if the shop had run out of ice cream. Rather the question is whether the individual would buy something else if the price of ice cream had increased. If enough people were prepared to pay a higher price, then the firm has sufficient market power to raise price and the reason for defining the market is to establish if the firm has market power."[16]

While the Authority's Merger Guidelines make reference to different HHI thresholds, they state that lower concentration levels than those specified do not constitute safe harbours.[17] Nevertheless, market concentration can help screen out mergers that are unlikely to pose any competition problems. The US Merger Guidelines use concentration thresholds to define "safe harbours". Coate and McChesney observe that, using concentration measures to identify cases requiring more detailed investigation is consistent with economic theory.[18] Shapiro notes, however, that market shares must be interpreted in conjunction with evidence about the proximity of the merging brands.[19]

In the past, commentators have criticised the Authority for adopting the HHI thresholds contained in the US Merger Guidelines. Such criticisms argued that, as the Irish economy is much smaller than the US, many markets will be more highly concentrated and therefore one should adopt significantly higher concentration thresholds than those applied in the US. Such criticisms are misguided. The thresholds attempt to identify market concentration levels above which competition problems might arise. There is no basis for arguing that higher concentration levels would be less likely to pose competition problems in a smaller economy. Rather the point is that, given market concentration is likely to be higher in a smaller economy, mergers may be more likely to raise competition problems in a smaller economy.

[16] Supra note 9.
[17] Competition Authority, (2002): *Notice in Respect of Guidelines for Merger Analysis*, Dublin: Competition Authority.
[18] M.B. Coate and F.S. McChesney, (1992): Empirical Evidence on FTC Enforcement of the Merger Guidelines, *Economic Inquiry,* 30:277-93.
[19] C. Shapiro, (1995): *Mergers with Differentiated Products,* American Bar Association, mimeo.

Economic analysis has identified two broad ways in which mergers may adversely affect competition.

- Unilateral effects; and
- Co-ordinated effects.

Unilateral Effects.

Unilateral effects theories have emerged within the past 20 years. The 1982 US Merger Guidelines, for example, contained no reference to unilateral effects, although it did include a "leading firm proviso" which dealt with the creation or enhancement of the market power of a dominant firm.[20] Unilateral effects were first included in the 1992 version of the Guidelines and the *Staples*[21] case in 1997 is generally considered the first unilateral effects merger case.

Unilateral effects arise where the merger gives rise to a situation where the firm will be able to unilaterally increase price. Perhaps the most straightforward example of unilateral effects arises where a merger creates or strengthens a dominant position. Under most plausible behavioural assumptions, the remaining "competitive fringe" firms will also tend to raise their prices. In *Kimberley-Clark/Scott*[22] the EU Commission concluded that retailers would have little incentive to resist price increases for branded tissue products because it would enable them to increase the prices of their private label brands.[23]

Modern unilateral effects theories developed over the past twenty years, however, have focused primarily on the idea that unilateral effects may also arise in circumstances where the merged firm would not satisfy traditional measures of dominance under EU law. In differentiated product markets, the closer are the merging firms' brands in the minds of consumers, the greater the likelihood that an increase in the price of one, will cause consumers to shift to the other. This increases the ability and incentive for the merged firm to unilaterally raise its prices. The relative closeness of the merging products

[20] J. Baker, (1997): Unilateral Competitive Effects Theories in Merger Analysis, *Antitrust* 11, Spring: 21-6.
[21] *FTC v. Staples, Inc*., 970 F. Supp. 1066 (D.D.C.) 1997.
[22] OJ1996 L183/1.

in the minds of consumers, therefore, plays an important role in assessing the competitive impact of a merger in differentiated product markets.

The Diversion Ratio provides an indicator of the relative closeness of merging products. It attempts to measure the proportion of buyers of each of the merging products who would switch to the other merging product in the event of a price increase. A high Diversion Ratio indicates that the products are perceived as close substitutes by consumers, while other products are regarded as less effective substitutes. The higher the Diversion Ratio the greater the proportion of the sales lost as a result of a price increase by one of the merging firm's products that will be captured by the other, thus offsetting any loss of profits due to a decline in sales caused by a price increase. The Appendix illustrates how the Diversion Ratio can be used to estimate the likely price increase as a result of a proposed merger.

The ability of economists to estimate diversion ratios and analyse the extent to which particular products are regarded by consumers as close substitutes has been greatly enhanced by the adoption of modern technology in retailing. Detailed price and sales data can be obtained from stores' price scanning records and has been widely used in US merger cases including *Interstate Bakeries/Continental Baking,*[24] *Kraft/Nabisco*[25] and *Staples/Office Depot.*[26] Such analysis was employed by the merging parties in *Grafton/Heiton*[27] and it has also been used to assist strategic planning by firms. Even where such detailed data is not available it may be possible to estimate the likely price effects of a merger from survey data and other documentary information which is likely to be in the possession of the merged firms. Shapiro has pointed out that "even when data are limited, the theory of monopolistic competition can provide some very helpful rough predictions based on pre-merger gross margins and market shares."[28]

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[23] N. Levy, (1996), Kimberly-Clark/Scott and the Power of Brands, *European Competition Law Review:* 403-10.
[24] *US v. Interstate Bakeries Corporation and Continental Baking Company,*
[25] *State of New York v. Kraft General Foods, Inc., Nabisco Cereals, Inc., et al.,* SDNY.
[26] Supra note 21.
[27] Supra note 14.

The anti-competitive potential of a merger involving brands that are relatively close may be offset if rival brands are able to reposition themselves after the merger, thereby increasing the extent to which consumers regard them as an alternative to the merged products. The merger should only be considered anti-competitive if a price increase would be profitable after accounting for supply side response by rivals. Factors such as the history of brand entry, exit, positioning and associated costs must be taken into account in assessing potential supply side responses.

The US antitrust authorities have developed simulation models in order to answer the question of whether a merger will lead to an increase in prices. Ivaldi and Verboven developed an oligopoly model of this type for running merger simulations which they claimed would improve EU merger analysis without requiring drastic changes in policy principles.[29] It is perhaps inevitable that such models will be employed in Irish merger cases.

The Competition Authority merger guidelines also refer to unilateral effects problems arising where a merger results in a change in the non-cooperative market equilibrium. Modern game theoretic models of oligopoly indicate that non-cooperative behaviour can produce a non-competitive outcome. The Authority Guidelines are somewhat unclear on this issue and in places, what they describe as a change in a non-competitive equilibrium appears rather similar to traditional coordinated effects.

Unilateral effects are less likely to occur in homogenous products markets. Where other firms in the market are operating at full capacity a merger might enable a firm to reduce its output and thereby drive up prices since, the remaining firms, by definition, would not be able to increase their output in response to such behaviour.

A number of authors have questioned the validity of unilateral effects theories. As pointed out the theory suggests that the ability of the merging firm to increase price

[28] Supra note 19.

depends on the merging firms products being regarded by consumers as very close substitutes for one another, certainly closer than those of other firms. It has been suggested that there is an inherent contradiction between the idea that products are differentiated and yet are perceived by consumers as the best substitutes for one another.[30]

Coordinated Effects.

Coordinated effects problems arise where a merger increases the ability of the remaining firms to collude either overtly or tacitly. Thus a merger may facilitate the operation of a formal cartel, because a reduction in the number of competitors may make it easier to detect cheating, and thereby ensure that the remaining firms adhere to any cartel arrangement. Alternatively a merger may reduce the number of firms to the stage where each of the remaining firms is far more likely to recognise that they can gain if they compete less vigorously, while again making it easier to detect and punish deviations from tacit collusion.

Co-ordinated effects concerns were raised by the Competition Authority in its 1996 report on the *Statoil/Conoco* merger. The Authority noted that the motor fuels market was highly concentrated, and that, following the proposed acquisition, the number of significant suppliers would be reduced from six to five. *Conoco*, which traded as *Jet*, had a reputation as a low price supplier. The Authority concluded that "the strong price competition which in the past was offered by *Conoco* would simply disappear, *lessening the competitive pressure on the remaining supplier.*"[31] The economics literature recognises that the takeover of a "maverick firm", i.e. one with a reputation of being a price cutter increases the likelihood of coordinated effects. Interestingly the Authority was criticised on the grounds that the decision was an indication that a market share of 27% amounted to dominance. Nowhere in the decision was it suggested that the merger

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[29] M. Ivaldi and F. Verboven, (2001): *Quantifying the Effects of Horizontal Mergers in European Competition Policy,* Centre for Economic Policy Research, Discussion Paper No. 2697.
[30] Lopez, (1999): supra note 6.
[31] Competition Authority, (1996), *Report of Investigation of the Proposal whereby Statoil Ireland Limited would Acquire the Entire Issued Share Capital of Conoco Ireland Limited,* Dublin, Stationery Office, p.50 emphasis added.

would result in *Statoil* obtaining a dominant position. It would appear that legal practitioners at least, versed in the dominance test applied under the EU Merger Regulation, largely overlooked co-ordinated effects issues. As noted earlier, however, the RPC report which led to the introduction of the 1978 Act had stressed the problem of oligopoly behaviour.

The EU Commission developed the concept of joint or collective dominance, "a concept largely unknown to economics or business strategy until European lawyers invented it",[32] to address the problem of co-ordinated effects under the original EU Merger Regulation. In *Nestle/Perrier*, for example, the Commission identified tacit collusion or oligopoly behaviour as a serious risk and found "that the incentive and possibility to increase prices jointly had already been recognised by the companies in the past and that the proposed concentration would facilitate and reinforce the likelihood of such a strategy."[33] Interestingly subsequent analysis by Compte et. al. suggest that the divestment requirement imposed by the Commission as a condition for approving the transaction actually enhanced the potential for collusive behaviour.[34] This highlights the need for careful analysis of proposed remedies.

The ECJ confirmed the application of joint dominance in mergers cases in *Kali and Salz*[35] but stated that, in order to establish joint dominance, there was a strong onus of proof to show that the merged firm would act as a single entity with its competitors. In *Enso/Stora*[36] the Commission found that certain key characteristics of an oligopoly were not present. In particular the market lacked transparency, which meant that competitors could not readily obtain information on prices and quantities supplied, and on whether secret discounts existed.

[32] J.A. Kay, (2002): Mario Monti's Parallel Universe, *Financial Times,* 6.11.2002.
[33] OJ 1992, L356/1. For a more detailed discussion of this case see J. Venit, (1998): Two Steps Forward and No Steps Back: Economic Analysis and Oligopolistic Dominance After Kali & Salz, *Common Market Law Review,* 35(5) (October): 1101-34.
[34] O. Compte, F. Jenny and P.Rey, (2002): Capacity Constraints, Mergers and Collusion, *European Economic Review,* 46(1): 1-29.
[35] Cases 19 & 20/74 *Kali und Salz and Kali-Chemie v. Commission* [1975] ECR 499.
[36] *Case IV/M.1225*

In *AirTours/First Choice* the Commission sought to extend the concept of joint dominance to a merger reducing the number of major firms from four to three.[37] Korah criticised the decision as leading to confusion and uncertainty as the market did not have the characteristics normally associated with oligopoly markets.[38] The Commission decision was subsequently overturned by the CFI on appeal.[39] The CFI concluded that the Commission had "prohibited the transaction without having proved to the requisite legal standard that the concentration would give rise to a collective dominant position of the three major tour operators, of such a kind as significantly to impede effective competition in the relevant market."[40] The judgement confirmed earlier precedents that a situation of joint dominance would arise where the merger was likely to result in tacit collusion, but rejected the Commission findings that the *Airtours/First Choice* merger would facilitate such behaviour.

The CFI pointed out three necessary conditions to establish collective dominance:

- The market must be sufficiently transparent for each member of the oligopoly to monitor the behaviour of other members;
- There must be a clear incentive for individual members of the oligopoly not to cheat by departing from any common policy on the market. Therefore, there should be adequate deterrents to ensure long-term compliance; and
- It must be established that the reactions of any actual or future competitors, customers or consumers will not be able to jeopardise the results expected from the common policy.

The CFI found that, in the event of the merger, the firms would have insufficient information to detect "cheating", i.e. firms deviating from the collusive outcome. It also found that there would be no credible deterrent that would discourage "cheating" and provide firms with an incentive not to compete. Consequently, the CFI found that:

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[37] 5 CMLR 25.
[38] V. Korah, (2000): *An Introductory Guide to EEC Competition Law and Practice, 7th edition,* Oxford, Hart publishing.
[39] Case T-342/99 *Airtours plc v. Commission* judgement of 6 June 2002.
[40] Para 294.

> "the Commission made errors of assessment when it concluded that if the transaction were to proceed, the three major tour operators remaining after the merger would have an incentive to cease competing with one another."[41]

The CFI expressed strong criticism of the Commission's economic analysis and stated that:

> "…the Decision, far from basing its prospective analysis on cogent evidence, is vitiated by a series of errors of assessment as to factors fundamental to any assessment of whether a collective dominant position might be created."[42]

It is worth comparing the Commission's decision in *Airtours/First Choice* with the US FTC cruise ships merger which involved similar issues. As in *Airtours/First Choice* the net issue in the cruise ships case was whether the merger would increase the likelihood of tacit collusion. The FTC economic analysis ran to over 200 pages and 100GB of price data was obtained and analysed. It found that a consensus on pricing would have been difficult to reach due to the complexity of the industry. Variability in demand for cruises would make it difficult for firms to arrive at a consensus on price, while variations in the number of passengers making early bookings would make it difficult for any individual firm to determine whether bookings for particular periods were down because of a decline in demand or because of cheating by rivals. In addition it found that a theoretical monopolist would not find it profitable to increase prices across the board so that any coordinated action on prices would also have to involve a degree of price discrimination.[43] These cases indicate the degree of complex analysis that may be required in evaluating such cases.

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[41] Para 182.
[42] Para 294.
[43] For a detailed description of this case see M. Coleman, D. Meyer and D Scheffman, (2003): Empirical Analysis of Potential Competitive Effects of a Horizontal Merger: The FTC's Cruise Ships Mergers Investigation, *Review of Industrial Organization*, also available at www.ftc.gov/be/riocruise0703.pdf

Analytical tools are more suited to quantifying unilateral effects than to measuring the risks of collusion, whether tacit or overt. Markets for most consumer products involve differentiated products.[44]

Entry Barriers.

Firms cannot exercise market power if there is relatively free entry and exit. Consequently, even where mergers are likely to result in markets being highly concentrated, arguably, they are unlikely to have any adverse effect on competition provided entry barriers are relatively low. The prospect of new entry was one of the main reasons advanced by the Authority when clearing the *Grafton/Heiton* merger.

Willig,[45] Salop[46] and Cabral[47] have all argued that the role of entry in merger analysis needs to be clarified. Salop noted, for example, that, while market share thresholds in merger analysis are often clearly identified, the evaluation of entry, which is arguably more important, is much less systematic. He proposed estimating a minimum viable scale (MVS) of entry based on a combination of the following factors:

- Cost or demand disadvantages which mean that entrants face higher costs or must offer a lower price than an incumbent and are thus less likely to enter;
- Entry lags which give incumbents plenty of time to respond before the entrant is established and will therefore deter entry;
- Sunk costs; and
- Economies of scale may cause entrants to fear that they will not win sufficient sales to justify entry. If costs are sunk then scale economies may deter entry.

A high MVS makes entry less likely. The MVS was incorporated into the 1992 version of the US Merger Guidelines.

[44] As stated elsewhere, products are differentiated if consumers perceive that there are differences between them.
[45] R.D. Willig, (1991): Merger Analysis, Industrial Organisation Theory and Merger Guidelines, *Brookings Papers: Microeconomics,* Washington: Brookings Institute.
[46] S. Salop, (1991), Comment on R. Willig (1991), Merger Analysis, Industrial Organisation Theory and Merger Guidelines, *Brookings Papers: Microeconomics*, Washington: Brookings Institute.
[47] L.M. Cabral, (2003): Horizontal Mergers with Free-Entry: Why Cost Efficiencies May be a Weak Defense and Asset Sales a Poor Remedy, *International Journal of Industrial Organization,* 21(5): 607-23.

Werden and Froeb question the tendency of the US Courts to assume that, absent significant entry barriers, a merger is unlikely to have anti-competitive consequences. They argue that "in the absence of strong evidence that an otherwise anti-competitive merger generates efficiency gains, there is a sound basis for presuming that entry obstacles will prevent entry in response. Thus, the best way for courts to treat entry in many merger cases may be not to consider it at all."[48] Massey argued that the Competition Authority might need to re-consider its treatment of entry barriers.[49]

The Role of Efficiencies.

It is standard practice among competition agencies in many countries to consider whether any anti-competitive effects of a proposed merger are likely to be outweighed by efficiency gains arising as a result of the merger, reflecting arguments put forward by Williamson.[50]

Price could fall if the price reducing effect of a decline in marginal cost (MC) due to efficiency gains exceeds the price increasing effect of a reduction in rivalry as a result of the merger. Werden points out that, in conventional one period oligopoly models, it is not difficult to calculate how much of a decline in MC is required to keep price unchanged, and the formula for doing so is given in the Appendix.[51] Alternatively, if a merger produces efficiencies, but prices nevertheless rise due to reduced competition, producers may gain while consumers lose out. The effect on total welfare will depend on the relative size of these gains and losses. The Competition Authority has indicated that it will only take account of efficiency gains where they offset a potential price increase.[52] This is consistent with its decision to interpret a substantial lessening of competition in terms of consumer welfare rather than total welfare, i.e. consumers plus producers' welfare, and is in line with the practice of many competition authorities in other jurisdictions. Gotts and Goldman expressed strong criticism of the consumer oriented

[48] G.J. Werden and L.M. Froeb, (1998): The Entry Inducing Effects of Horizontal Mergers: An Exploratory Analysis, *Journal of Industrial Economics, (*December): 525-43, at 541.
[49] Supra note
[50] O.E. Williamson, (1968): Economies as an Anti-trust Defence: the Welfare Trade-offs, *American Economic Review,* 58: 18-36.
[51] G.J. Werden, (1998): Demand Elasticities in Antitrust Analysis, *Antitrust Journal,* 66, 363-414.

treatment of efficiencies by many competition agencies and advocate a total welfare test.[53] In reality the issue involves a trade-off between productive and allocative efficiency with competition agencies arguably placing greater weight on the latter.[54]

Efficiency arguments were rejected in the US *Proctor & Gamble c*ase.[55] Kauper suggests that expectations that such considerations would be permitted under the EU Merger Regulation, contributed to the development of the efficiencies defence by the US authorities.[56] Each version of the US Merger Guidelines since 1982 has expanded the efficiencies defence. As Farrell and Shapiro observe "a real sympathy to efficiencies is built into the Guidelines from the start."[57]

The EU Merger Regulation contains no efficiency defence, although it was included in early drafts. Neven et. al. claim that the Commission has blocked mergers on the grounds of efficiency gains, an approach that is completely inconsistent with economic analysis.[58] Kovacic describes the EU's perspective as resembling "U.S. merger policy in the 1960s and early 1970s, where courts and enforcement agencies distrusted efficiency arguments and believed that greater concentration invariably begat the exercise of market power."[59]

In the past the Authority has considered the question of efficiencies in a limited number of cases under the 1978 Act. In *Statoil,* it stated that it was not "provided with sufficient information to enable it to take a view as to the accuracy or otherwise" of claimed efficiency gains. It found that, even if all of the claimed benefits were passed on to consumers, the effect on fuel prices would be relatively limited. In *Lyons Tea,* the

52 Competition Authority, (2002) supra note 17.
53 I.K. Gotts and C.S. Goldman, (2002): The Role of Efficiencies in M&A Global Antitrust Review: Still in Flux?, in B. Hawk (ed.) (2002), *International Antitrust Law and Policy,* New York: Juris Publications.
54 Where a merger leads to increased efficiencies this is equivalent to an increase in productive efficiency. If such benefits are insufficient to offset the price increasing effects then prices and costs will diverge which will reduce allocative efficiency.
55 *FTC v. Proctor & Gamble Co*., 386 US 568 (1967).
56 T.E. Kauper, (2001): The Legacy of LTV/Republic Steel, *Antitrust Law Journal,* 68(3): 753-69.
57 J. Farrell and C. Shapiro, (2001): Scale Economies and Synergies in Horizontal Merger Analysis, *Antitrust Law Journal,* 68(3): 685-710 at 687.
58 D. Neven, R. Nuttall and P. Seabright, (1998), Enforcement of the European Merger Regulation in L. Phlips, ed. *Applied Industrial Economics,* Cambridge, Cambridge University Press.

Authority reported that any efficiency gains would be relatively small and would be insufficient to offset any potential anti-competitive effects. Efficiencies have not emerged as an issue in any of the mergers dealt with by the Authority under the 2002 Act to date. It seems reasonable to suggest, however, that for an otherwise anti-competitive to be cleared on efficiency grounds, the parties will have to prevent strong substantiating evidence.

Only efficiency gains that cannot be achieved by the firms acting unilaterally should be taken into account. For example, efficiencies due to economies of scale could frequently be achieved through internal growth. In many jurisdictions there is considerable onus on parties that advance efficiency claims to "articulate in detail the nature and size of the expected efficiencies, and to bear the burden of proving that achieving the efficiencies is probable and not reasonably attainable by less anticompetitive means."[60] Valentine reported that, in *Staples,* the parties claimed efficiency gains that were five times higher than forecasts provided to the merging parties' respective boards when considering the merger.[61] The case for putting the onus on merging firms to produce evidence of efficiency gains was probably best summarised by Kay:

> "If companies used the argument that it would be too difficult to identify specific benefits, that would tell us everything we need to know about the real merits of their proposals."[62]

Conclusion.

Economic analysis of mergers has become increasingly more complex over the past decade as economists have devoted considerable attention to developing sophisticated analytical tools for identifying when mergers are likely to have adverse effects on competition. Undoubtedly this increases the importance for merging parties to undertake

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[59] W.E. Kovacic, (2001): Transatlantic Turbulence: The Boeing-McDonnell Douglas Merger and International Competition Policy, *Antitrust Law Journal,* 68(3): 805-73, at 862.
[60] OECD, (1996): *Competition Policy and Efficiency Claims in Horizontal Agreements*, Competition Law and Policy Committee, Roundtables on Competition Policy, No.4, Paris: OECD.
[61] D. Valentine, (2000): Retailer Buyer Power: Abusive Behaviour and Mergers/Acquistions in B. Hawk ed. *International Antitrust Law and Policy*, New York: Juris Publications.
[62] J.A. Kay, (1996): Poor Odds on the Takeover Lottery, *Financial Times,* 26.1.1996.

proper economic analysis in proposed merger cases. The upshot is that mergers will no longer be prohibited simply because firms have large market shares.

Overall the Authority's economic analysis in mergers has been high quality. There is perhaps a need to give some consideration to having clearer criteria in respect of entry barriers. More fundamentally, however, the level and quality of economic analysis applied in merger cases contrasts sharply with that applied in other areas.

Massey and Daly, for example, raised queries about the arguments advanced by the Authority in its "enforcement decision" in the Statoil case.[63] In consultation documents published prior to its Declaration permitting two year exclusive dealing agreements in respect of cylinder LPG, the Authority observed that the cylinder LPG market displayed a number of characteristics which could facilitate collusion and that it had

> "information suggesting that changes in the price of cylinder LPG by Calor and Flogas tend to mirror each other."[64]

Analytical tools have been developed to test whether such outcomes are consistent with non-cooperative behaviour and a submission to the Authority suggested that such analysis should be applied in the cylinder LPG case.[65] There is no indication that this option was pursued. The only justification advanced by the Authority to support its decision is the claim that when exclusive dealing agreements were limited in duration between 1994 and 1999 smaller LPG suppliers increased their market shares and this increased competition in the market. This seems like the sort of discredited structural argument (rightly) rejected by the Authority in merger cases.

Similarly the report on the banking industry prepared for the Authority by LECG states:

> "Nevertheless, we have seen business records indicating that the discussion at payment system-related meetings can at times relate to individual bank pricing or business strategy."

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[63] P. Massey and D. Daly, (2004): Authority's 'Decision' Against Statoil's Pricing Strategy Poses Problems, *Competition* 12(10): 243-6

[64] Para 2.40.

[65] R. Rees, (1993): Collusive Equilibrium in the Great Salt Duopoly, *Economic Journal,* 103: 838-48

The report gives details of a number of examples of such discussions. ISME has pointed out to the Authority that econometric analysis found evidence of collusion by Spanish banks in setting interest rates and suggested that it undertake a similar analysis of Irish interest rates.[66] The Authority, however, has proposed that a requirement to publish the minutes of meetings may be sufficient to address the issue.

It is perhaps surprising that the Authority has failed to apply the same level of sophisticated analysis that is routinely employed in merger cases to non-mergers. Unlike mergers, such decisions are not subject to strict time limits, making the failure to conduct such analysis all the more difficult to understand. There are clear indications that the quality of non-merger decisions would clearly benefit from the application of such techniques.

[66] J. Jaumandreu and J. Lorences, (2002): Modelling Price Competition Across Many Markets (An Application to the Spanish Loans Market), *European Economic Review,* January.

Appendix

Estimating Post-Merger Price Increase in Differentiated Product Markets.

The profit-maximising price increase for a merged entity assuming constant elasticity of demand over the relevant price range and that the merging brands are symmetric is given by the following formula.

$$(p^*-p)/p = mD/(1-m-D)$$

Where p* is the post-merger price, p is the pre-merger price, m is the percentage mark-up, defined as the difference between the pre-merger price and incremental cost, and D is the Diversion ratio, i.e. the proportion of sales lost by brand A due to a price increase that would be captured by brand B, the other merging brand. Where the brands are relatively close to one another or where one of the brands is already dominant the diversion ratio is likely to be relatively high. Where products are roughly equidistant from one another in the market, then the diversion ratio is proportional to their market shares. If the actual elasticity of demand increases as price rises then the formula will overestimate the post-merger price increase, possibly to a significant degree.

Formula for Estimating Decline in Marginal Cost Required to Prevent Post-Merger Price Increase.

For differentiated products where firms engage in Bertrand competition the reduction in each firm's MC required to keep prices unchanged is given by:

$$(m/(1-m)).(D/(1-D))$$

where m is the premerger price-cost margin and D is the premerger diversion ratio.

In the case of homogenous products with Cournot competition the required reduction in MC is given by:

$$s/(\varepsilon - s)$$

where s is the premerger market share and ε is premerger elasticity of demand.