Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e.V.

McCorriston, S.: Price Transmission in Vertically-Related Markets under Imperfect Competition. In: Bauer, S.; Herrmann, R.; Kuhlmann, F.: Märkte der Agrar- und Ernährungswirtschaft – Analyse, einzelwirtschaftliche Strategien, staatliche Einflussnahme. Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e.V., Band 33, Münster-Hiltrup: Landwirtschaftsverlag (1997), S.59-68.

Schriften der Gesellschaft für Wirtschafts- und Sozialwissenschaften des Landbaues e.V., Bd. 33, 1997, S. 59-68

PRICE TRANSMISSION IN VERTICALLY-RELATED MARKETS UNDER IMPERFECT COMPETITION

by

S. McCORRISTON*

1 Introduction

In general, agricultural and trade policy analysis falls into three categories. The first, and perhaps most common, uses a partial equilibrium framework focussing solely on the agricultural sector. The typical scenario here is to evaluate changes in consumer and producer surplus following a given change in government policy assuming that the demand curve facing farmers is the consumers' demand curve and that the price consumers pay is (approximately) equivalent to the price producers receive for their output. Even if there is a fixed margin introduced to separate the consumer demand curve from the demand for farm products, there will nevertheless be a one-to-one correspondence between changes in farm-support prices and consumer prices. Much of the research on CAP and GATT reform would fall into this category. A second approach is to use a general equilibrium model that links agriculture with other sectors of the economy. Recently, there have been several applications of computable general equilibrium models to agricultural and trade policy analysis, the results of which show that policy reform directed at the agricultural sector will affect other sectors of the economy even if these other sectors are only indirectly associated with the agriculture via factor markets (see, for example, HERTEL, forthcoming). The third category is to tie agriculture directly with its immediate downstream sectors: by doing so this approach de-links the direct correspondence between producers and consumers that characterises the standard partial equilibrium approach by introducing a farm-retail spread. This follows largely the framework introduced by GARDNER (1975) and characterizes the downstream sector as involving one or more processing/retailing stages such that the consumer demand curve is not equivalent to the demand for farm products, the difference being due to the size of the farm-retail margin. This framework, which has been commonly used to evaluate the effects of research and development, will apportion changes in surplus to various parts of this 'food-chain' following policy reform. It is essentially this category of policy analysis which is the focus of this paper although the alternative models proposed in this paper should enhance our understanding (and perhaps create misgivings) about how we interpret policy reform outcomes from all three methodologies.

Although there are occasional exceptions, most policy analysis in the agricultural economics literature assumes that markets are perfectly competitive. This is also true of the vertical market models that make explicit the linkages between the farm and downstream processing/retailing sectors. Yet even casual observation would suggest that it is difficult to sustain such an assumption. There is considerable evidence from most developed countries that food processing industries are dominated by a few firms. There is further evidence to suggest that retail sectors also are dominated by a small number of firms. Moreover, there is a tendency in recent years for the concentration of food processing and retailing markets in Europe to increase. Although there has been some recent research documenting and measuring the degree of oligopoly in food markets, the departure from the perfect competitive assumption in policy analysis has yet to be addressed.

* Steve McCorriston, Agricultural Economics Unit, University of Exeter, St. German's Road, Exeter, EX4 6TL, Devon, England.

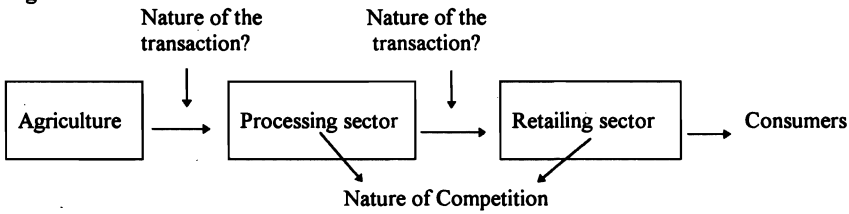
In principle, the industrial organisation of downstream markets can impinge directly on the outcome of government policy reforms. Specifically, it can influence how the benefits and costs of policy reforms are evaluated and how the corresponding welfare changes are distributed. This arises due to the impact of market structure on the degree of transmission of price changes arising in upstream stages through to changes in final consumer prices. Although it is possible to show that imperfect price transmission can arise in Gardner-style multi-market models with perfect competition (due to the assumption made about the substitutability of farm products with other marketing inputs), the degree of competition in each downstream stage will also generate price transmission less than (and, under certain conditions, greater than) one. As much of policy analysis is concerned with distributional effects, the implication of less than perfect price transmission will lower the expected consumer gains following policy reform. Since the consumer gains are reduced, it is the (few) firms in the intermediate stages that capture part (and in some cases most) of the benefits of policy reform. However, we can go further than this: since price transmission is endogenously determined by the degree of competition, the re-distribution of the expected consumer benefits are also endogenous. Furthermore, since there can be several oligopolistic stages in this vertical food chain, the degree of price transmission and the corresponding distribution of the gains from policy reform will be determined by the number of successive downstream stages and the degree of competition at each successive stage.

The aim of this paper is therefore to explore in more detail the role of imperfect competition in vertically-related markets on price transmission and how it may influence our evaluation of policy reform. In doing so, we will avoid specific technicalities that are typically part and parcel of models of imperfect competition. Rather the aim is to highlight how structural characteristics associated with any particular market are likely to be important in addressing price transmission and policy-related issues. Specifically, the paper is organized as follows. The first section provides some general observations of market structure in food markets drawing upon casual observation and academic research. This forms the background for section 2 which discusses how market structure issues will influence price transmission and policy reform outcomes. In section 3, some recent empirical research that evaluates the effect of policy reforms while explicitly accounting for imperfect competition in vertically-related markets will be presented. Section 4 summarises and concludes.

2 General Observations of Market Structure in Vertically-Related Markets

To focus our attention, consider figure 1 which will help us identify factors relevant in identifying key features of imperfect competition in vertically-related markets. In this figure, we have a perfectly-competitive agricultural sector that supplies raw farm products to a processing sector. The processed product is sold to consumers via the retail sector. The figure pin-points where market structure issues are likely to be relevant in this vertically-related chain. In terms of linking the various stages, the nature of the transaction (i.e. whether it occurs in spot markets or under an alternative contractual form) is likely to be important. This issue is addressed below. In addition, the nature of competition between firms - as well as the number of firms - is also a pertinent feature of this vertically-related chain. Imperfect competition in vertically-related markets can arise in either the processing or the retailing sectors - or both. Is there any evidence that this is the case?

Figure 1



2.1 The Food Processing Sector

There is considerable evidence that the food processing sector in most EU countries is dominated by a small number of firms. Table 1 reports four-firm concentration ratios (CR4) for a large number of food processing industries in the UK, France, Germany and Italy. The general impression from this table is that, with some exceptions, the CR4 is generally high across a large number of food processing industries.

Table 1: Four-firm seller concentration ratios, European Food Processing Industries

Industry	France	Germany	Italy	UK
Bread	4.5	7.0	4.0	58.0
Canned vegetables	40.0	N/A	80.0	81.0
Flour	29.0	38.0	6.7	78.0
Processed meat	23.0	22.0	11.0	N/A
Salt	98.0	93.0	80.0	99.5
Sugar	81.0	60.0	72.0	94.0
Baby foods	88.0	83.0	88.0	80.0
Beer	82.0	25.0	55.0	59.0
Biscuits	62.0	49.0	46.0	62.0
Mineral water	77.0	27.0	55.0	73.0
Pet foods	86.0	93.0	N/A	83.0
Soft drinks	70.0	57.0	84.0	48.0
Soup	91.0	84.0	N/A	75.0
Sugar confectionary	51.0	39.0	29.0	38.0

Source: Sutton (1991)

The CR4 figures shown in Table 1 can perhaps obscure the fact that the degree of concentration is higher than these statistics suggest. Particularly notable here is the sugar, chocolate confectionary, savoury snacks, instant coffee, breakfast cereals, and canned soup sectors in the UK where the dominant two or three firms account for over 70 per cent of sales in that industry. The implication of the market share data presented in these tables is self-evident: industries that comprise the processing sector are dominated by a small number of firms. It would seem relevant to take this into account in formal analysis.

2.2 Structure of the Food Retailing Sector

Similar to the food processing sector, food retailing also shows signs of market dominance by a small number of retail outlets. Relative to the food manufacturing sector, the degree of dominance is more variable across EU countries though the degree of concentration is still

considerable. For example, in France and Belgium the CR5 is around 40 per cent. In the Netherlands, the CR5 is 33 per cent while in Spain it is lower than 20 per cent. In Germany, the CR5 is close to 50 per cent while, in the UK it is higher still at 68 per cent. The relevant data for the UK and Germany is shown in Table 2.

Table 2: Market Shares in the UK and German Food Retailing Sectors, 1994

Firm	Market Share (%)	Firm	Market Share (%)
UK:		**Germany:**	
Sainsbury	21.2	Edeka/AVA	12.0
Tesco	19.7	Rewe	11.3
Argyll	9.1	Metro/Asko	9.7
Asda	11.5	Aldi	8.5
Gateway	6.5	Tengelmann	6.4
TOTAL	68.0	TOTAL	47.9

Source: BURNS and HENSON (1995)

In sum, taken together, the data suggests that the European food sector can be characterized as one of successive stages (agriculture, food processing, food retailing) with the latter two stages being characterized by varying degrees of dominance by a small number of firms at each stage and in sub-sectors of activity. In the terminology of the industrial organisation literature, we have a food sector characterized by *successive* oligopoly. However, in characterizing the industrial organization of the food sector, it is also important to consider the nature of the transactions that occur between these successive stages (see Figure 1).

2.3 Linkages Between Successive Stages

The simplest way of thinking about linkages between the food retailing and manufacturing sectors focuses on arms' length transactions. In this case, it is assumed that the food manufacturers produce a certain quantity of output (which depends of course on the nature of competition at that stage) and sell the good on the market for whatever price it gets. The food retailing firms, at the other side of this transaction, take the manufacturers' price as given, the amount they demand also being dependent on the nature of the competition, in this case at the retailing stage. The key point here is that while competition matters, it matters only at each horizontal stage, i.e. there is no bargaining *between* the manufacturing and retailing stages over what the appropriate price for the product (input) should be. Although it makes modelling of the 'food chain' simpler, this notion of arms' length pricing can be criticised insofar as it is an inappropriate characterization of competition between the two stages. The somewhat crude alternative to arms' length pricing is to assume bilateral bargaining between each stage. This appears to be particularly relevant in the UK case where the leading food retailers are seen to exert their influence on the food manufacturing sector. Indeed, there appears to be important circumstantial evidence of this (e.g. Monopolies and Mergers Commission 1981). Thus the alternative to arms' length pricing assumption would appear to be a model of bilateral oligopoly.

However, the mechanism of this bilateral market power is typically more subtle than the rejection of arms' length pricing would suggest. Specifically, vertical market power is likely to be reflected more in the nature of the contracts between the food retailing and manufacturing sectors both in terms and conditions of the various contracts and in the specification of the

products that food manufacturers provide to the retailers. The important point about vertical contracts is that not only will they influence prices charged by the upstream stage but that, depending on their form, they may also lead to market foreclosure which reduces the extent of competition in the vertical chain as a whole. However, other contractual forms may circumvent the double-marginalisation problem that characterises successively oligopolistic markets thus appearing to make the vertical chain more competitive despite the fall in the number of firms.

Vertical contracts that deviate from arms' length pricing can be characterized by non-linear pricing or vertical restraints. 'Vertical restraints' captures a multitude of practices, including: discounts in a variety of forms (e.g. overriders, aggregate rebates, etc); slotting allowances (e.g. provision of retail equipment such as freezers); and tying where the manufacturer sells a bundle of the goods at a price lower than buying each good separately. These practices are common between the food retailers and manufacturers and are often viewed with suspicion by competition authorities as the number of referrals to the UK's MONOPOLIES AND MERGERS COMMISSION would testify.[1] It is in the nature of these contracts that the balance of power between retailers and manufacturers is reflected. For example, in motivating his analysis of alternative vertical restraints, SHAFFER (1991) argues that it is scarcity of shelf space relative to the large number of new products that manufacturers provide that tilts the balance of power in favour of the food retailers. In this regard, it is notable that following the investigation of vertical restraints in the UK food industry, the UK's Monopolies and Mergers Commission also concluded that the balance of power lay with the food retailing sector.

Another type of 'contract' that may characterize links between successive stages is vertical integration. In this case, there is no market as such between the successive stages, the quantity of the good produced (and the internal transfer price) being decided by a single firm. While vertical integration reduces the total number of firms in the vertically-related chain, it can nevertheless be efficiency enhancing as it circumvents the 'double make-up' problem that characterizes successively-related imperfectly competitive markets. Although evidence on the degree of vertical integration in the food sector is sparse, FRANK and HENDERSON (1992) present evidence from the US to show that it is important in several food/agricultural activities.

2.4 Related Research

The above discussion of how food markets depart from the perfectly competitive paradigm arises principally from casual observation. In recent years, however, agricultural economists have more formally addressed the question of oligopoly in food markets. While much of this early research was in the spirit of the structure-conduct-performance framework (see CONNOR et al 1985), recent research has drawn upon the so-called new empirical industrial organization (NEIO) literature. The key feature of this NEIO approach is to identify the extent of firm behaviour: specifically, departures from perfect competition are not measured by firm numbers *per se*, but by firm behaviour.[2] Though most studies have focussed on the US food sector, nevertheless the general message from these empirical studies is that perfect competition is not an accurate characterisation of most downstream food sectors. While comparable formal approaches to evaluating the degree of competition using EU case studies are awaited, from the data presented one would expect the same conclusion for EU food markets.

---

1 MCCORRISTON and SHELDON (1997) present an overview of the literature on vertical restraints and the cases investigated by the US and UK competition authorities with reference to the food sector.

2 See PERLOFF (1992) for an overview of the NEIO approach to agriculture and food markets.

3 Imperfect Competition and Price Transmission

The above discussion suggests that imperfect competition is a prevalent characteristic of one or more vertical stages in the food chain. This section explores how oligopoly will influence our evaluation of policy reform focussing on price transmission and distributional effects.[3] To avoid the technicalities involved in modelling oligopoly in vertically-related markets, the discussion will focus initially on a single-stage oligopoly model. The effect of extending single-stage oligopoly to multiple-stage oligopoly will be discussed.[4]

3.1 Single-Stage Oligopoly

Single-stage oligopoly is the most common focus of imperfect competition in the industrial organization literature. In terms of modelling oligopolistic markets, typically one has to consider firms' decision variables (i.e. whether they are choosing prices on quantities to maximize profits) and how they perceive their competitors will respond to their choice of price or quantity. This is typically captured in a conjectural variation term (e.g. firms will conjecture how their competitors will respond given their even choice of price or quantity). Although the notion of conjectural variations receives considerable criticism from game theorists, nevertheless it can be usefully interpreted as an index of competition (DIXIT 1986). This will become more transparent below.

To explore the effect of oligopoly on price transmission, we will assume that the retail stage is the single stage (denoted by superscript R), a general demand function and that firms choose quantities to maximize profits.[5] The inverse demand function facing the industry is given as:

$$p_i^{R_i} = \phi_i\left(\sum_{j=i}^{m_i} x_i^{\,j}\right) \tag{1}$$

where p_i^R is the retail price and x_i^j is the output of firm j. Each of the m_i firms aim to maximize profits as given by

$$\pi_i^{\,j} = x_i^{\,j}\phi\left(x_i^{\,j} + \sum_{j=i}^{m_i-1} x_i^{\,j}\right) - p_i^{A}\, x_i^{\,j} - C\left(x_i^{\,j}\right) \tag{2}$$

where $C(x_i^j)$ is the cost function (similar for all firms) which excludes agricultural raw materials and p_i^A is the agricultural input price that is assumed to be set by government.

The conjecture captures the response by other retail firms to a change in firm i's output. Denoted by λ^R, this is given as

---

3 Other sub-disciplines of economics have also recently focussed on the pass-through issue in imperfectly competitive markets. For example, public economists have been interested in tax incidence (the extent to which final prices change following the introduction of a tax) while international economists have recently focussed on how domestic prices change following changes in exchange rates.

4 The effect of alternative vertical contracts was considered in the original version of this paper.

5 This discussion of a single-stage oligopoly follows MYLES (1995).

$$(3) \qquad \lambda^R = \partial \frac{\left(x_i^j + \sum_{j=i}^{m-1} x_i^j\right)}{\partial x_i^j} \qquad \text{or} \qquad \lambda^R = 1 + v_i^R$$

If firms are playing Cournot (a common assumption in the industrial organization literature), $v_i^R(\lambda^R)$ will equal zero (one). If v_i^Requals -l($\lambda^R = 0$), this represents the competitive outcome, and if v_i^R equals m_i - 1 ($\lambda^R = m_i$) this represents monopoly pricing. The first-order condition for profit maximisation is given by

$$(4) \qquad \frac{\partial \pi_i^j}{\partial x_i^j} = p_i^R - p_i^A + x_i^j \lambda^R \frac{\partial \phi_i}{\partial X_i} - \frac{\partial C}{\partial x_i^j} = 0$$

To focus on the effect of competition on price transmission (assuming symmetry $x_i^j = x_i$ for all j), totally differentiate the first-order condition by varying all outputs and agricultural input prices (p_i^A) and substitute the inverse demand function to eliminate dx_i. Assuming marginal costs to be constant, the degree of price transmission is given as

$$(5) \qquad \frac{dp_i^R}{dp_i^A} = \frac{m_i \frac{\partial \phi_i}{\partial X_i}}{\left[m_i + \lambda^R\right]\frac{\partial \phi_i}{\partial X_i} + x_i m_i \lambda^R \frac{\partial^2 \phi_i}{\partial X_i^2}}$$

If the food market is perfectly competitive, ($\lambda^R = 0$), then

$$(6) \qquad \left.\frac{dp_i^R}{dp_i^A}\right|_{\lambda^R=0} = 1$$

i.e. there is perfect price transmission. However, for $\lambda R > 0$, price transmission can be less or greater than one.

$$(7) \qquad \left.\frac{dp_i^R}{dp_i^A}\right|_{\lambda^R>0} \begin{matrix} > \\ < \end{matrix} 1$$

The outcome depends on the convexity of the inverse demand function. If the inverse demand function is sufficiently convex, the price transmission can be greater than one. In this case, reducing agricultural support prices by say 10 per cent would reduce consumer prices by more than 10 per cent. In this particular case, it can be shown that the greater the value of γ^R (i.e. the less competitive the market becomes) and/or the fewer number of competing firms, the lower the degree of price transmission. Explicitly accounting for product differentiation (see, McCorriston and Sheldon, 1995), it can be shown that the more differentiated the firms' products, the lower the degree of price transmission.

3.2 Successive Stage Oligopoly

As the evidence in the previous section suggested, the food sector is more appropriately characterised as multiple-stage or successive oligopoly rather than single-stage oligopoly. However, since the vertical stages are tied directly to each other, the key to modelling successive oligopoly is to explicitly link oligopolistic markets together. Specifically, the inverse

demand function facing the retail stage is the consumer inverse demand function. Equalizing marginal costs with *perceived* marginal revenue is the key to deriving the industry equilibrium. This perceived marginal revenue function is determined by the nature of competition at the retail stage (λ^R), the number of firms at the retail stage (m^R) and the degree of product differentiation (Δ). However, the inverse derived demand function facing the processing stage is the perceived marginal revenue curve of the retail stage. Consequently, when processing firms equalise their marginal cost with perceived marginal revenue in the processing sector, the equilibrium outcome will depend on not only the degree of competition in the processing stage (λ^u) - where superscript u denotes the upstream sector - and the number of firms in the processing stage (m^u) but also the degree of competition at the retailing stage (λ^R), the firms at the retailing stage (m^R), and the degree of product differentiation (Δ). It is important to note that the firms' conjecture in the upstream stage (λ^m) will also reflect the nature of competition in the downstream stage. Consequently, with reference to price transmission through the vertically-related markets taken together (retail and processing), the difference in the impact of a change in agricultural support prices (or tariffs) on final retail prices will depend on competition at *both* stages, the number of firms at *both* stages and a degree of competition at the retail stage.

4 Implications for Policy Analysis

The implications of imperfect competition in vertically-related markets should now be clear. First, the degree of price transmission is *endogenously* determined by the nature of competition, firm behaviour and firm numbers *throughout* the vertically-related food chain. The nature of vertical contracts will also be relevant. Second, and following from this, the distribution of welfare changes following policy reform will also be endogenously determined by these same factors. Essentially, as the food chain (or any one stage) becomes less competitive, the greater the increase in firms' profits and the lower the change in consumer surplus following price reform.

In McCorriston and Sheldon (1996), a successive-oligopoly model was calibrated to the UK dairy/cheese market. A reduction in milk support prices of 30 per cent was then simulated. The base case was one with two stages of production milk distribution/cheese processing with firm behaviour (λ^R and λ^u) being endogenously determined. To explore the effects of firm behaviour, we also simulated the Cournot case (actual behaviour was initially more competitive than Cournot) and varied the number of vertical stages. The results were also compared with the perfect competitive model, the standard assumption of most applied policy analysis.

With perfect competition, changes in farm support prices would be fully transmitted to consumers, i.e. $\left(\frac{dp^R}{dp_a}\right) = 1$. With a 30 per cent reduction in farm support prices, this would increase consumer surplus by £142 million. However, deviating from this assumption will reduce the level of price transmission and the change in consumer surplus. Consider first of all, the number of stages in the vertically-related market. With two successive stages (with actual firm behaviour), price transmission is 0.86. With only a single-oligopolistic stage, price transmission would be 0.90. Varying firm behaviour, however, appears to have a more significant impact. Making the market less competitive (i.e. imposing Cournot behaviour), reduces price transmission to around 0.70 in the single-stage case and to around 0.40 in the two-stage case. With imperfect price transmission it is evident that the standard model over-estimates the gains to consumers following policy reform. With actual market behaviour and two stages, the change in consumer surplus is 10 per cent less relative to the perfectly

competitive case. With two stages and Cournot behaviour, the increase in consumer surplus is only 0.40 per cent of the perfectly competitive outcome. Much of the dissipated consumer surplus is reflected in an increase in firms rents though, as McCorriston and Sheldon (*ibid.*) show, the distribution of rent of firms is dependent on the stage in which the firm operates.[6]

4 Summary and Conclusion

This paper has focussed on imperfect competition in vertically-related food markets. Contrary to standard assumption of most policy evaluation models, food markets are more typically characterized by imperfect - rather than perfect - competition. This paper has shown that the degree of price transmission is endogenously determined by the degree of competition at each vertical stage, the number of firms at each stage, the nature of vertical contracts and the degree of product differentiation of the final products. Imperfect competition in vertically-related markets also endogenously determines the size and distribution of the welfare changes following policy reform. The results from simulation exercises suggest that the extent of price transmission and welfare changes from the standard perfectly competitive case can be substantial.

Research on the industrial organization of the food sector is still in its infancy and there is a considerable research agenda. While much of this will follow in the spirit of the new empirical industrial organization approach in explicitly identifying the level of competition, it is desirable that such researchers do not limit themselves to characterizing the extent of competition in the food sector. Rather since applied economists devote considerable resources (both financial and intellectual) to the evaluation of the outcomes of agricultural, trade and environmental policy, developing models that more accurately characterize the specific market under consideration would appear to be highly relevant and give a more accurate assessment of the outcomes of policy reform.

References

BURNS, J.; HENSON, S. (July 1995): *The Food Manufacturing and Retail Food Distribution System of the Future: Convergence Towards the UK Model?* Paper presented at a conference on Food Retailer-Manufacturer Competitive Relationships in the EU and USA, University of Reading

CONNOR, J.M.; ROGERS, R.T.; MARION, B.W.; MUELLER, W.F. (1985): *The Food Manufacturing Industries.* Lexington, MA.: Lexington Books

FRANK, S.; HENDERSON, D. (1992): *Transactions Costs as Determinants of Vertical Co-ordination in the the US Food Industries.* In: American Journal of Agricultural Economics 74, pp. 941-951

GARDNER, B.L. (1975): *The Farm-Retail Price Spread in a Competitive Food Industry.* In: American Journal of Agricultural Economics 57, pp. 399-409

HERTEL, T.W.: *Global Trade Analysis Using the GTAP Model.* (Forthcoming)

McCORRISTON, S.; SHELDON, I.M. (October 1995): *Trade Reform with Vertically-Related Markets.* Oxford Economic Papers

[6] See MCCORRISTON and SHELDON (1996) for further details.

McCORRISTON, S.; SHELDON, I.M. (1996): *Agricultural Price Reform with Successive Oligopoly*. University of Exeter, Mimeo

McCORRISTON, S.; SHELDON, I.M. (forthcoming): *The Economics of Vertical Restraints and its Relevance to Competition Policy in the Food Marketing System.* In: Agribusiness: An International Journal 13, pp. 237-252

MONOPOLIES AND MERGERS COMMISSION (1981): *Discounts to Retailer*. HC311, HMSO, London

MYLES, G. (1995): *Public Economics*. Cambridge: Cambridge University Press

PERLOFF, J.M. (1992): Econometric Analysis of Imperfect Competition and Implications for Trade Research. In: I.M.Sheldon and D.R.Henderson (Eds.): *Industrial Organization and International Trade: Methodological Foundations for International Food and Agricultural Market Research, Organization and Performance of World Food Systems:* NC-194, Research Monograph Number 1

SHAFFER, G. (1991): *Slotting Allowances and Resale Price Maintenance: A Comparison of Facilitating Practice*'. In: Rand Journal of Economics 22, pp. 120-155

SUTTON, J. (1991): *Sunk Costs and Market Structure*. Cambridge, MA.: MIT Press