Preliminary -- Not to be quoted without permission of the authors.

THE ECONOMICS OF RESALE PRICE MAINTENANCE

by

Benjamin Klein

and

Kevin M. Murphy*

UCLA Dept. of Economics

Working Paper #332

July 1984

---

*University of California, Los Angeles and University of Chicago. We are grateful to the Sloan Foundation grant to UCLA for the study of contractual arrangements for financial support, to Kevin Green for research assistance, and to Roy Kenney for useful comments.

I. Introduction

Nearly twenty-five years have passed since Telser's now classic article on "fair trade" rationalized the existence of manufacturer imposed resale price maintenance.[1] Telser's rationale is based on creating an incentive for retailers to supply "special services", such as a product demonstration. These services are costly for each retailer to provide, yet they increase the demand for the product facing all retailers. Hence it pays each retailer not to supply the services in the optimum (group profit-maximizing) amount. By "free riding" on the retailers that do provide full services, a retailer obtains a cost advantage and the incentive to increase sales and profit by lowering price.[2] Consumers are assumed to be able to receive services from a higher cost full service retailer before purchasing the product from a free-riding discount store. Telser argues that minimum resale price maintenance, by preventing such discounting, encourages retailers to compete with one another in non-price ways and thereby to provide these special services to consumers.

This analysis is now generally accepted by economists and has made a major impact on the law. The Supreme Court, in its recent Sylvania decision,[3] recognized the special services free riding problem and the potential of manufacturer imposed vertical marketing arrangements to solve the problem

---

[1]Lester G. Telser, "Why Should Manufacturers Want Fair Trade?" Journal of Law and Economics (Oct. 1960), 86-109. Earlier articles that contain similar reasoning include T.H. Silcock, "Some Problems of Price Maintenance," 48 Economic Journal, 42 (1938), and F.W. Taussig, "Price Maintenance," 4 American Economic Review, Supplement, 170 (1916).

[2]It is assumed that it is efficient to provide the services at the retail level free of charge, or at least at less than cost.

[3]Continental T.V., Inc. v. GTE Sylvania Inc., 433 U.S. 36 (1977).

efficiently.[4] However, while the general consensus in the economics profession and the movement in the law have been beneficial, acceptance of the special services argument has proceeded too far. In particular, a marketing arrangement which includes resale price maintenance now produces the knee-jerk search by economists for the special services that create a free rider possibility. The existence of special services has become not only a sufficient condition but also close to a necessary condition in order to demonstrate efficiency effects of vertical restraints.[5]

The special service argument regarding resale price maintenance has two major difficulties. First, how do we know that the creation of a price-cost margin will lead retailers to provide special services? In fact, as we shall demonstrate, the Telser theoretical framework implies that special services will not be provided. A free riding retailer will engage in non-price competition with the greatest direct value to consumers (for example, supply a free gift with the product) and let the consumer continue to free ride on the full service retailers. Therefore, the manufacturer must monitor retailers directly on their non-price competition effort. Merely monitoring the retail price will not assure the supply of special services.

---

[4]433 U.S. 36, and 55. The court recognized the potential of non-price vertical arrangements such as exclusive territories to solve the retailer free riding problem, but explicitly refused to extend the analysis to vertical price arrangements such as resale price maintenance.

[5]For example, Richard A. Posner, "The Rule of Reason and the Economic Approach: Reflections on the Sylvania Decision," 45 U. Chi. L. Rev. (1977), includes as one required step in the procedure to apply the rule of reason criteria of Sylvania the specification of the particular special services involved in the marketing arrangement. Also see Robert H. Bork, "Vertical Restraints: Schwinn Overruled," Supreme Court Review (1977), 171-92. Posner has more recently argued for the adoption of a per se legal approach to these practices (Richard A. Posner, "The Next Step in the Antitrust Treatment of Restricted Distribution: Per Se Legality," 48 U. Chi. L.R. 6 (1981)).

Secondly, the standard special services argument does not appear to explain many observed cases of resale price maintenance. While there are examples, such as new hi-fi equipment and cameras, that fit the special services free riding paradigm, many other products, such as boxed candy, toiletries, or clothing, do not appear to require special services.[6] Nonetheless, given the relatively small size of many of these manufacturers and the fact that they operate in highly unconcentrated retail markets, resale price maintenance appears to be a part of a procompetitive marketing arrangement in these cases.

An obvious example of the failure of real world cases to fit the commonly accepted special services model is the Coors case. Coors, a producer and marketer of beer in the Western United States, used resale price maintenance at the retail level until 1975, when the practice was successfully challenged by the Federal Trade Commission. Unlike most bottled beer, Coors beer is not pasteurized. Therefore, the major service required to be provided by retailers of Coors is refrigeration to maintain the beer's quality. Although refrigeration services are costly for retailers to provide, they clearly do not fit the Telser "free riding" paradigm. It is not possible for consumers to receive a "complete" product by obtaining the refrigeration services

---

[6]Recent Federal Trade Commission actions include FTC v. Russell Stover Candies, Inc. D-9140 (7-1-82) (reversed by Eighth Circuit - get cite), FTC v. Germaine Montiel Cosmetiques Corporation C-3098 (11-19-92) and FTC v. Palm Beach Company C-3073 (8-4-81) (from Thomas R. Overstreet Jr., Resale Price Maintenance: Economic Theories and Empirical Evidence, FTC Bureau of Economics Staff Report, November 1983). Long lists of products that have employed resale price maintenance in the past can be found in W.G. Bowman, Jr., "Prerequisites and Effects of Resale Price Maintenance," U. Chi. L. Rev. 825 (1955), 833-835, in Report of the Federal Trade Commission on Resale Price Maintenance 498, (1945), and in Claudius T. Murchison, "Resale Price Maintenance," Columbia University Studies in History, Economics and Public Law, 82(2) (1919), 415-421.

separately and free of charge from a retailer refrigerating the beer and then purchasing the beer at a discount price from a retailer that does not refrigerate it. In addition, there is no obvious reason, within the context of the Telser model, why resale price maintenance would induce retailers to supply refrigeration services.[7]

In what follows we present a mechanism that permits a manufacturer to induce a retailer to supply not only special services but any inputs, such as refrigeration services, that may influence the demand for the manufacturer's product. We refer to these retailer inputs as general "quality service inputs". Resale price maintenance, by creating a retailer premium stream that is lost upon termination, is shown to be part of this mechanism to assure retailer performance.

II. Perfectly Competitive Retailing Benchmark

We begin our analysis by assuming that the demand price for a manufacturer's product, P, is given by equation (1).

$$P = D(Q,S), \tag{1}$$

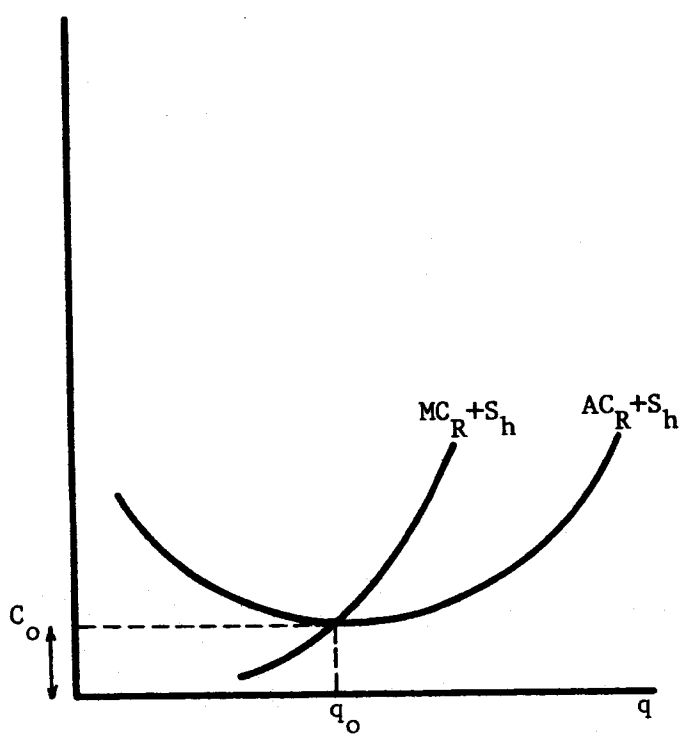
where Q is the total sales of the manufacturer's product and S is the per unit expenditures made by retailers on "quality service inputs", and where $dP/dQ < 0$ and $dP/dS > 0$.

We assume a perfectly competitive retailing industry exists consisting of a large number of price taking retailers. In addition, we assume that the

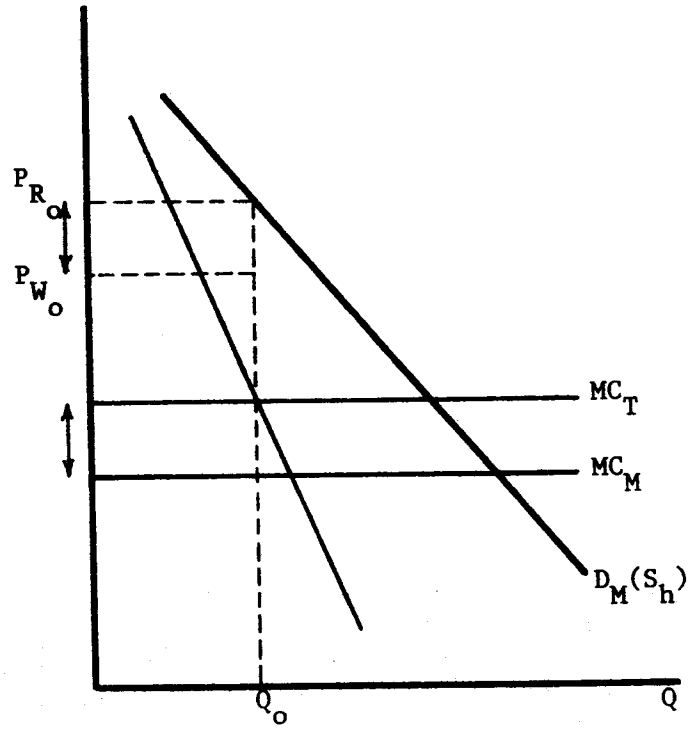
---

[7]For a complete discussion of the Coors case, see Klein, McLaughlin and Murphy, "Contract Enforcement and Vertical Restraints: The Coors Case." The paper includes not only an analysis of resale price maintenance at the retail level, but an analysis of the similar role served by exclusive territories at the wholesale level.

Figure 1. Perfectly Competitive Retailing Equilibrium



1A.



1B.

manufacturer can costlessly specify and enforce by a third party (for example, court sanctioned) contractual mechanism the appropriate level of retailer quality service inputs, S_h. The manufacturer can allow competition to occur among retailers, thereby driving the retail-wholesale price gap down to the level of the representative retailer's minimum average cost, with the assurance that the contractual arrangement will guarantee supply of the desired level of retailer quality service inputs.

This perfectly competitive equilibrium is represented in Figures 1A and 1B. Figure 1B represents the demand for the manufacturer's product, $D_M(S_h)$, which we assume depends upon the per unit level of retailer supplied "quality service inputs". The manufacturer is assumed to have a constant marginal cost of producing his product, MC_M, and leaves it up to independent retailers to market the product to consumers. The retailers are assumed to have costs of selling the manufacturer's product as well as per unit costs of supplying quality service inputs. For simplicity, the retailer's selling costs $C_R(q)$, are assumed to be related to the quantity of product supplied and to be independent of the level of quality inputs supplied.

Figure 1A represents the retailers' costs of marketing the product with the desired level of per unit quality services, S_h. The minimum average cost, C_o will determine the competitive gap between retail and wholesale prices, with the efficient retailer size, q_o, determining the number of retailers supplying the manufacturer's product.

In Figure 1B, the manufacturer adds to his constant marginal production cost, MC_M, the constant marginal cost of selling his product through retailers, C_o, to obtain his total marginal cost of producing and selling

his product, MC_T, where $MC_T - MC_M = C_o$.[8] The manufacturer's output, Q_o, is determined where the marginal revenue schedule, MR, intersects MC_T. This implies a profit maximizing retail price, P_{R_o}, and, given the competitive costs of supplying retailing services, a profit maximizing wholesale price, P_{W_o}, equal to $P_{R_o} - C_o$.

Under our assumed perfectly competitive conditions the manufacturer need only specify contractually the desired level of retailer quality inputs, S_h, and set the profit maximizing wholesale price, P_{W_o}. Competition among retailers implies that consumers will receive the high quality product at the price of P_{R_o}. Given consumer demand of Q_o at P_{R_o}, there will be n retailers supplying the manufacturer's product, where $n = Q_o/q_o$.

III. A Model of Two-Party Contract Enforcement

We now drop the assumption that the supply by retailers of quality services can be costlessly enforced by a third party. We take as the starting point of our analysis, as Telser implicitly does, that it is not economically feasible for the manufacturer to write an explicit, enforceable contract with the retailer for the supply of these inputs. If such a contract could cheaply be written and enforced, then the manufacturer need not rely on resale price maintenance to induce the retailer to supply the inputs. However, the fully contingent, costlessly enforceable contracts of pure economic theory do not

---

[8]There are assumed to be a sufficiently large number of potential retailers with costs as given in Figure 1A. In addition, selling through independent retailers is assumed to be cheaper than using employees.

exist in the real world.[9] Particular performance, such as the exact level of retailer inputs, may be prohibitively costly to measure and contractually specify in a way that contractual breach and the extent of damages can be proven to the satisfaction of a third party enforcer such as a court. In the case of a retailer shirking on quality inputs, assessing damages entails the extremely difficult task of determining the length of time the cheating occurred and the effect of the cheating behavior on the future profits of the manufacturer. In addition, because the probability of detection is not equal to one, an effective contractual sanction must impose an unenforceable penalty-type sanction on the retailer.[10]

These considerations imply that most contractual arrangements are chosen so that at least some elements of performance will be enforced, not by the threat of termination of the transactional relationship rather than by invoking the power of some third party. Such "two party" contracts economize on the transaction costs of writing explicit third-party enforceable contracts and also permit the possibility of penalty-type sanctions. These potential gains are weighed against the costs associated with a two-party contract of paying quality-assurance premiums and the possibility that inefficiently large "brand name" (firm specific, nonsalvageable) investments will have to be made.[11]

---

[9]See Benjamin Klein, "Transaction-Cost Determinants of 'Unfair' Contractual Arrangements," 70 Am. Econ. Rev. Papers & Proc. 356 (1980).

[10]Although contract law permits liquidated damage clauses explicit penalty terms generally were unenforceable.

[11]See Benjamin Klein and Keith Leffler, "Non-Governmental Enforcement of Contracts: The Role of Market Forces in Assuring Contractual Performance," 89 J. Polit. Econ. 615 (1981).

Our model of two party (premium-termination) contract enforcement for the supply of retailer services is similar to that given in Klein-Leffler (1981), where consumers attempt to assure, via a two party enforcement mechanism, quality supply by firms. Our manufacturer is analogous to the quality demanding consumers and our retailer is analogous to the quality supplying firm of that earlier model. The manufacturer is attempting to assure via a two party enforcement mechanism that the retailer supply a desired level of quality service inputs, S_h. Because quality service inputs are costly for the retailer to provide and increase the demand facing not only the individual retailer but facing the manufacturer generally, a short-run profit maximizing retailer has an incentive to "shirk" on supplying these inputs. In particular, we assume that shirking retailers will only supply quality service inputs at the levels of S_ℓ.

The incentive for retailers to shirk implies that the manufacturer must police them to insure that the desired level of quality service inputs is supplied. We assume that this policing effort takes the form of a Poisson process with parameter λ. Therefore, the time a retailer can cheat on quality without being detected is distributed exponentially with an expected value of $1/\lambda$. The probability of detecting a given cheating retailer in some short interval of length t is then approximately λt.[12] Hence the parameter λ is roughly the probability of detection, with an increase in λ representing more vigorous manufacturer policing.

As in the Klein-Leffler model, where consumer termination of the retailer represents the sanction for nonperformance, a two party contract can assure

---

[12]The actual probability of detection is $1 - \exp(-\lambda t)$.

retailer performance only if termination of the retailer by the manufacturer imposes a capital loss on the retailer which is greater than his expected short run gain to shirking on these inputs. This condition will be met when the expected present discounted value of the future quasi-rent stream earned by an honest retailer is greater than his expected short-run cheating potential.

If the retailer's assumed perpetual rate of profit from providing the high level of quality inputs is π_h, and "the" interest rate is r, then the capital value from continued high quality performance is

$$W_h = \pi_h/r. \tag{2}$$

Given the assumed policing scheme, if the rate of profit from providing the low quality level of output is π_ℓ, then the expected capital value for a cheating retailer is

$$W_\ell = \pi_\ell/(r+\lambda). \tag{3}$$

A wealth maximizing retailer will provide the high level of quality when the capital value of continued high quality performance, W_h, exceeds the expected short run cheating gain from providing low quality, W_ℓ, or when

$$\pi_h/r > \pi_\ell/(r+\lambda). \tag{4}$$

If π_h equals zero, that is, the retailer earns a "competitive" rate of return, then equation (4) implies that the retailer will always cheat on quality. Since the competitive equilibrium described in Section II above eliminates all retailer profits, perfect competition will not be viable when a two party enforcement mechanism is used to assure the supply of retailer quality inputs above the minimum level. In order to induce the retailer to provide the high quality product, the manufacturer must allow the retailer to have future receipts in excess of future costs when producing the high quality

output. A retailer premium or quasi-rent stream must exist so that the threat of termination by the manufacturer for nonperformance implies a sufficient expected capital loss to the retailer to assure his performance.[13]

IV. The Role For Resale Price Maintenance

To assure the desired supply of quality service inputs manufacturers must provide the retailers with a quasi-rent stream, the capital value of which exceeds the short-run retailer gain from shirking. Since the manufacturer desires the retailer to supply a particular level of per unit expenditures on quality services, the retailers' potential gain from not supplying these inputs is proportional to output. Hence the manufacturer must create a quasi-rent stream for retailers that is also proportional to output.

One way to generate the necessary per unit retailer premium is resale price maintenance. If the manufacturer lowers the wholesale price below P_{W_o} to, say, P_{W_1}, and imposes a minimum retail price at P_{R_o}, the previously defined competitive equilibrium price, then a retailer premium is generated. This is illustrated in Figure 2 which converts the retailer cost (or $P_R - P_W$) scale of Figure 1A to the retail price (P_R) scale of Figure 1B by adding the wholesale price to the retailers' costs. At a wholesale price of P_{W_1}, rather than the "perfectly competitive" higher price of P_{W_o}, the minimum retail price of P_{R_o} generates a premium stream for each retailer equal to the shaded area. Since the retail price remains unchanged

---

[13]This does not imply that the retailer must earn a true profit since this rent stream may be a normal rate of return on the retailer's investment in a firm-specific asset or the return on an initial franchise fee. When such investments occur, the need for resale price maintenance is eliminated. However, a "reverse cheating" problem, discussed in some detail in Klein, McLaughlin and Murphy, is created. In this paper we assume that such initial investments are not made.

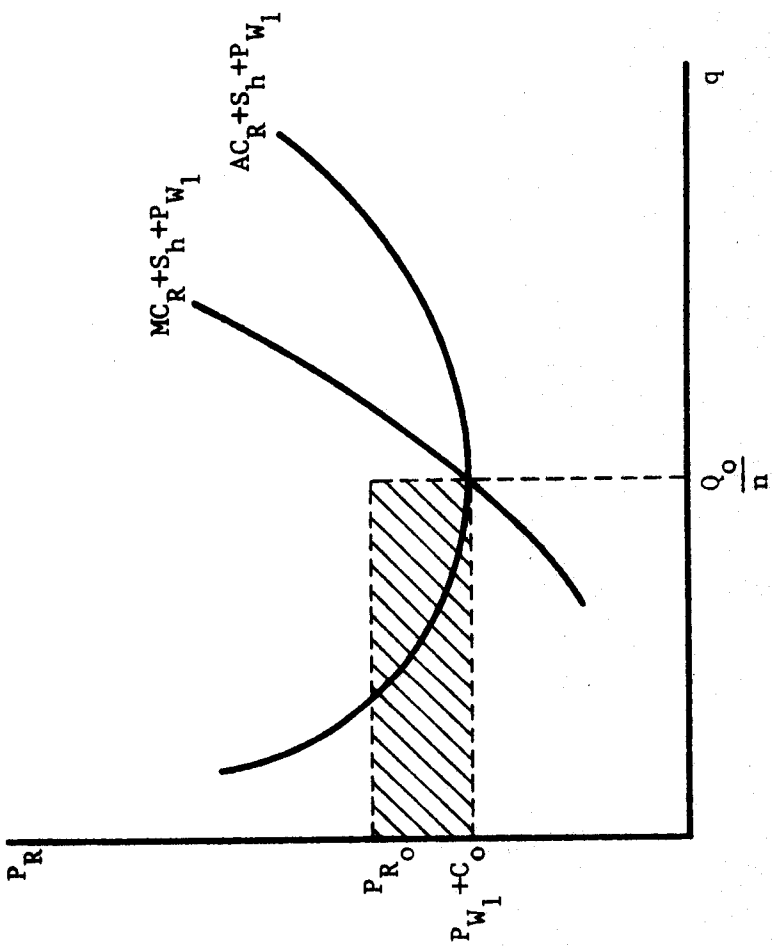


Figure 2. Retailer Premium with Resale Price Maintenance

at P_{R_o}, the total market demand also remains unchanged at Q_o. We assume that each of the existing retailers sells an equal share of that output, or Q_o/n. Therefore, although a price-marginal cost gap now exists, retailers cannot engage in price competition in an attempt to expand their output.[14]

If the wholesale price is chosen such that the present discounted value of the premium is greater than the short-run gains to providing low quality, then it will be in the interest of the retailers to provide the high level of quality inputs. The amount that the wholesale price must be lowered to generate the required premium can be computed easily. With the minimum resale price in effect and the simplifying assumption of equal allocation of sales, each retailer's output is always Q_o/n.[15] At the minimum retail price of P_{R_o}, a wholesale price of P_{W_1}, and the specified level of retailer inputs of S_h, the retailer's alternative profit rates from providing high or low levels of quality inputs, π_h or π_ℓ, are given in equation (5a) and (5b) respectively.

$$\pi_h = (P_{R_o} - P_{W_1} - S_h)\, Q_o/n - C_R(Q_o/n) \tag{5a}$$

---

[14]This initial arbitrary market sharing assumption is a useful device to illustrate the essential properties of the resale price maintenance equilibrium. The assumption is modified in Section V which analyzes the equilibrium when output is allocated among individual retail firms by a non-price competition mechanism.

[15]This is one of the benefits of resale price maintenance. By limiting the ability of retailers to expand output when cheating on product quality, the necessary premium stream is reduced for any level of manufacturer policing expenditures, thereby increasing manufacturer profits. Similarly, manufacturer prohibitions on price advertising by retailers serve the same purpose by decreasing the effective elasticity of demand facing retailers and hence decreasing the retailer short-run cheating potential. Such restrictions on price advertising are quite common. (Thomas R. Overstreet, Resale Price Maintenance: Economic Theories and Empirical Evidence, FTC Bureau of Economics Staff Report, November 1983, table V-11.)

(5b) $$\pi_{\ell} = (P_{R_o} - P_{W_1} - S_{\ell})Q_{o/n} - C_R(Q_o/n)$$

Substituting for π_h and π_{ℓ} from equations (5a) and (5b) into equation (4), yields equation (6) as a necessary condition for the retailer to provide the high level of quality inputs.

(6) $$P_{R_o} - P_{W_1} - S_h - AC_R(Q_{o/n}) \geq r/\lambda * (S_h - S_{\ell})$$

Equation (6) implies that the equilibrium per unit premium must be equal to r/λ times the cost differential between high and low quality output. Given the level of manufacturer policing, the premium is just the normal rate of return on the expected gains from cheating on quality.

This equilibrium must be modified in a number of ways. First, we have implicitly assumed that since P_{R_o} was the retail price that maximized the total return to the manufacturer under perfect competition-costless enforcement conditions, it would remain as the fixed price under resale price maintenance. We have assumed implicitly that the manufacturer merely shares some of this maximum return with the retailer in the form of a premium by lowering his wholesale price from P_{W_o} to P_{W_1}. However, the per unit premium represents a marginal cost to the manufacturer. Hence the profit maximizing price will be higher than P_{R_o}. In addition, because it now costs something to enforce retailer quality and these costs increase with the level of quality, the optimum level of quality will be lower than that desired under costless enforcement conditions.[16]

---

[16]Because of the generally small magnitude of the required premium stream, these two effects are likely to be small. For example, equation (6) implies that if quality services represent 10 percent of the total retail price, a cheating retailer can expect to shirk on these services for one year, and the interest rate were 5 percent, then the required premium would only be one half of one percent of the retail price. If quality services represent a laarger fraction of total value and/or shirking could be expected to occur for more than one year, the required premium would be larger.

This optimization process by which the manufacturer chooses, given resale price maintenance, the wholesale price, the retail price and the number of retailers can be formalized as follows. We denote the manufacturer's cost of producing Q units of output by $C_M(Q)$. The manufacturer's profit maximization problem is then

(7) $$\text{Max } P_W \cdot Q - C_M(Q),$$

where P_W is the manufacturer's chosen wholesale price. There are two constraints on this problem. First, the present value of the profits to the retailers from providing the specified level of quality inputs must exceed the expected potential short run gain to shirking on these inputs and suffering eventual termination. The minimum necessary return is found by imposing equality in equation (6). The second constraint is that the quantity demanded by consumers must be equal to the quantity sold by the manufacturer, which implies that

(8) $$P(Q,S_h) = P_R,$$

where P_R is the minimum retail price chosen by the manufacturer. Imposing equality in equation (6) and solving for P_W in terms of the other quantities yields equation (9).

9(8)

$$P_W = P_R - S_h - AC_R(Q/n) - r/\lambda * (S_h - S_\ell).$$

Substituting for $P(Q,S_h)$ for P_R in equation (9) and then substituting this into equation (7) yields the manufacturer's profit maximization problem as

(10) $$\text{Max}(P(Q,S_h) - S_h - r/\lambda * (S_h - S_\ell) - AC_R(Q/n)) * Q - C_M(Q).$$

After making these substitutions, the manufacturer's remaining choice variables are: the level of retailer quality inputs S_h, the number of retailers n, and total output Q (which is equivalent to the choice of the corresponding minimum resale price on the demand curve).[17] Differentiating equation (10) with respect to n, Q and S yields the appropriate first order conditions:

$$AC_R'(Q/n) = 0 \tag{11a}$$

$$MR = MC_M + S_h + AC_R(Q/n) + r/\lambda\ (S_h - S_\ell) \tag{11b}$$

$$dP/dS = 1 + r/\lambda \tag{11c}$$

Equation (11a) states the intuitively obvious result that n should be chosen so that retailers are of the minimum average cost size. Equation (11b), with MR denoting the marginal revenue function of the market demand curve and MC_M denoting the manufacturer's marginal cost of production, indicates that the manufacturer treats the retailer premium stream, in addition to the retail costs of selling the product and supplying high quality services, as a cost on the margin. Equation (11c) also reflects the added cost of quality; the marginal return from increasing retailer quality inputs by 1 dollar, dP/dS, exceeds the cost of these inputs by the corresponding increase in the premium, equal to r/λ. This demonstrates that increases in product quality have an additional cost, namely the premium stream that must be paid to assure retailer performance. Marginal costs of quality are then augmented by the associated marginal premium stream. As we stated earlier, this will, in general, reduce the equilibrium level of product quality

---

[17] The level of policing expenditures, λ, is assumed given. See Klein, McLaughlin and Murphy for a discussion of the "reverse cheating" ("overpolicing") problems created when these expenditures can vary.

compared to the case of costless enforcement of retailer inputs.[18]

V. Non-Price Competition

The analysis above was based on the unrealistic assumption that total demand at the minimum resale price could be allocated costlessly and equally among each of the identical retailers. In this section we drop this assumption and consider the role of retailer non-price competition in determining the distribution of output among retailers. The particular question we focus upon is whether non-price competition eliminates the retailer premium stream created by resale price maintenance. If non-price competition did eliminate the retailer rent, as Telser claims, it would destroy our two-party enforcement mechanism and our rationale for resale price maintenance. However, we demonstrate that at a very small cost the manufacturer can and will prevent this from occurring.

The motivation for retailer non-price competition is straightforward. The equilibrium described in the previous section implies that retailers are willing to supply more output than consumers demand at the effective minimum price. Since price cutting by retailers to drive the price down to the competitive level where demand equals supply is not possible, retailers can be assumed to take the alternative avenue of attempting to increase sales by improving some non-price aspect of the product or retailing service.

---

[18]This distortion is created because the resale price maintenance generated premium is proportional to output and not a per unit time payment. However, a per unit time payment may not be possible because of the uncertain variation in demand across retailers. Since a retailer's short-run cheating potential is positively related to its sales, the per unit time premium cannot be set at the average value expected across all retailers. If the actual demand facing a retailer turned out to be greater than the anticipated demand upon which the premium is based, the retailer would cheat.

For simplicity of exposition we consider a form of non-price competition in which the retailer can make a per unit expenditure, z, which lowers the effective price to the consumer by αz, where α is some number greater than zero and less than one.[19] If the equilibrium per unit level of expenditures on the non-price variables is z_o then the quantity demanded by consumers would correspond to a price of $P_R - \alpha z_o$. The inefficiency of non-price competition creates a wedge between the effective price paid by consumers, $P_R - \alpha z_o$, and the net price received by the retailer, $P_R - z_o$.

Under the assumption of perfect competition among retailers, expenditures on non-price variables would occur up to the point where the retailer's marginal cost of output equals the price, net of expenditures on the non-price variables, or simply where marginal cost equals $P_R - z_o$. No matter how inefficient non-price competition is, i.e., no matter how low α, retailers would engage in such competition until all marginal profits were eliminated. This result depends upon the assumption of perfect competition on the retail level, namely that sales can be increased by an arbitrarily large amount with an arbitrarily small decrease in the effective retail price a retailer charges consumers.

Although most retailing markets are at least to some extent (due to locational advantages, brand names, etc.) imperfectly competitive, the unrealistic perfectly competitive assumption usually is reasonable. The

---

[19] If α equals one, then consumers value the added service just as much as a reduction in price and hence the minimum price is completely ineffective. The minimum price simply results in a higher retail price with an increase in the non-price aspects of the sale so as to leave the consumers and retailers in the same position as if no minimum resale price existed. If α were larger than one, these services would have been provided without the minimum resale price and hence would be included in the original definition of the product or retailing services.

assumption simplifies the analysis while producing results that are close to those actually observed. However, in this case of non-price competition, the assumption of perfectly competitive retail markets affects the results in a qualitative manner. In particular, the existence of imperfect competition eliminates the retailer incentive to engage in a broad range of non-price competition mechanisms. Therefore, it is necessary to consider explicitly the imperfectly competitive case.

We begin our analysis at the equilibrium given in Section IV where equal allocation of output among retailers is determined costlessly by the manufacturer. If it does not pay individual retailers to engage in non-price competition and move away from this point, then the solution to the manufacturer's profit maximization problem remains unchanged as a viable equilibrium. In such a case resale price maintenance will be an effective means of providing the necessary retailer premium at a minimum cost to the manufacturer.

With the number of retailers, total output and the level of retailer quality service inputs at the optimal levels determined by the solution to equations (11a)-(11c), which we denote as $\hat{n}$, $\hat{Q}$, and $\hat{S}_h$, each retailer has a price marginal cost gap equal to the amount of the premium, or $r/\lambda(\hat{S}_h - S_\ell)$. With a perfectly elastic demand curve facing the individual retailer, non-price competition would lead to the elimination of a portion of this gap and to an expansion in output. However, if we assume that an increase in a retailer's sales due to a price cut are not potentially infinite but can be represented by an individual retailer's "demand curve," it may no longer be true that an effective price cut through non-price competition is profitable.

Let $D(P_e)$ be the amount the retailer perceives it can sell by charging its customers an effective price of P_e. In general this demand curve will depend on the amount of non-price competition and the prices of the other

retailers. In this case we evaluate these variables at the proposed equilibrium point where price equals the optimum minimum retail price, $\hat{P}_R$, and there is zero non-price competition beyond the level desired by the manufacturer, $\hat{S}_h$. If the retailer expends resources on non-price competition of z per unit of output, the effective price to consumers will be $\hat{P}_R - \alpha z$ and the retailer's level of sales will be $D(\hat{P}_R - \alpha z)$, where, as above, α represents the relative efficiency of non-price competition. In this case an increase in z (from the initial level of zero) will pay so long as revenues increase more than cost.

As stated above, our proposed equilibrium point will be viable so long as $z = 0$ yields a higher level of retailer profits than any positive level of non-price competition. Mathematically, $z = 0$ must maximize the firm's profit function given the market price and his perceived demand as a function of his per unit expenditures on non-price competition, z.

At the proposed equilibrium point the retailer's optimization problem is to maximize $\pi_R(z)$, where

$$\pi_R(z) = (\hat{P}_R - P_W - \hat{S}_h - z) * D(\hat{P}_R - \alpha z) - C_R(D(\hat{P}_R - \alpha z)). \tag{12}$$

For $z = 0$ to be the optimal level of non-price competition for a representative retailer, we must have $d\pi_R(z)/dz < 0$ at $z = 0$. A necessary condition for the retailer not to engage in non-price competition is then that

$$\alpha(dD/dP)(\hat{P}_R - P_W - MC_R(q) - \hat{S}_h) - q < 0. \tag{13}$$

Since $\hat{P}_R - P_W - MC_R(q) - \hat{S}_h$ is precisely the price-marginal cost gap, we can replace this via equation (6) by the premium $r/\lambda\ (\hat{S}_h - \hat{S}_\ell)$. Dividing through by q and α we obtain a necessary condition for the retailer not to engage in non-price competition, or

$$(14) \qquad (\hat{S}_h - S_\ell)/\hat{P}_R < E_D/\alpha,$$

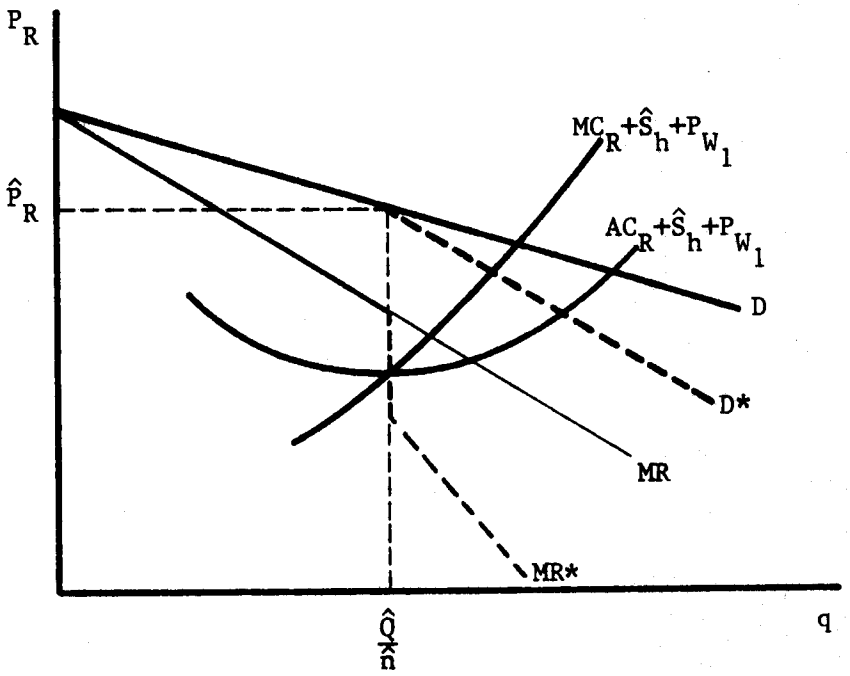
where E_D is the elasticity of the individual retailer's demand curve.

If the inequality in equation (14) is satisfied, it will not pay the retailer to make an effective price cut through non-price competition. In such a case expenditures on non-price competition will not be made and the premium stream will not be reduced. The manufacturer therefore can implement the same solution as in the case where output is allocated costlessly among retailers. Hence the potential for non-price competition will not affect the equilibrium solutions given in equations (11a)-(11c) for the optimal minimum retail price, wholesale price, and number of retailers.

The inequality of equation (14) is likely to hold even for large retailer demand elasticities if the premium is a small fraction of the product price or if non-price competition is relatively inefficient. For example, if non-price competition is one half as effective as price competition, i.e., $\alpha = .50$, and the premium stream is 5 percent of the retail price, then any demand elasticity of less than 40 will result in zero non-price competition by retailers. In such a case non-price competition will not eliminate the premium stream created by resale price maintenance and full retailing efficiency can be achieved, i.e., the manufacturer can give the retailers the necessary premium and still obtain retailing services at minimum average cost.

Figure 3 illustrates the equilibrium for an individual retailer when the inequality in equation (14) is satisfied. In this case the slope of the retailer's effective demand curve is drawn as a function of the retailer's price net of expenditures on non-price competition. The inefficiency of non-price competition ($\alpha < 1$) implies that reductions in the net price to the retailer result in smaller increases in sales than under price competition. Hence, for effective prices below the minimum retail price, the effective

Figure 3. Retailer Equilibrium with Non-Price Competition



demand curve for the retailer lies to the left and below that corresponding to price competition. This is represented by a steeper demand curve, D^*, for effective price decreases below $\hat{P}_R$ via non-price competition, than the demand curve, D, which is drawn assuming price decreases can be made by price competition.

In particular, since it takes $1/\alpha$ dollars to lower the effective price to consumers by 1 dollar, the slope of the retailer's effective demand curve for output greater than $\hat{Q}/\hat{n}$ is $1/\alpha$ times the original slope. Hence, the resulting demand curve has a kink at the minimum retail price. This kink in the firm's effective demand curve implies a discontinuity in the retailer's marginal revenue schedule. In the case where the inequality of equation (14) is satisfied, the firm's marginal cost curve (equal to average cost at this equilibrium) passes through this discontinuity. In this case increases in sales through non-price competition are not profitable. As α goes to zero, i.e., non-price competition becomes less effective, the size of this gap in the marginal revenue schedule increases and non-price competition is less likely to occur.[20]

There will certainly be some very efficient (high α) means of non-price competition, such as tie-in sales, discounts on other items, and giveaways, that it will be profitable for the retailer to engage in. Therefore, to preserve this equilibrium and the retailer premium, it will be necessary for the manufacturer to police the retailer and prevent non-price competition

---

[20]This is merely the standard "kinked demand" model, originally proposed by R.L. Hall and C.J. Hitch, "Price Theory and Business Behavior," Oxford Econ. Papers, 2 (May 1939), 12-45 and Paul M. Sweezy, "Demand Under Conditions of Oligopoly," J. Polit. Econ., 47 (August 1939). Although we do not believe the model is a satisfactory explanation for industrial price rigidity, it is a useful theoretical framework for analyzing non-price competition.

along these efficient avenues. As opposed to the Telser framework, where the manufacturer need only monitor the minimum retail price, our model implies that the manufacturer must also monitor the retailer's non-price competition effort. The manufacturer must determine if the retailer is supplying the particular desired level of quality services (and hence whether the sanction of termination should be imposed or not) and if the retailer is supplying non-price services that eliminate the premium (and hence the effectiveness of the termination sanction).

VI. Limited Distribution

To illustrate the gains from resale price maintenance it is useful to compare the resale price maintenance equilibrium derived above with the equilibrium that would result if the manufacturer attempted to create the necessary retailer premium merely by limiting the distribution of its product without constraining price competition. For this analysis we use equation (13), which relates the equilibrium price-marginal cost gap to the elasticity of the firm's demand curve, and equation (6), which gives the premium stream necessary for retailer performance.

First, we can modify equation (13) to obtain equation (15), which gives an equilibrium relationship between the price-marginal cost gap and the elasticity of the firm's demand curve and the effectiveness of non-price competition.

$$(15) \qquad (P_R - P_W - MC_R(q) - S_h - z) \,/\, P_R < (E_D \alpha).$$

Equation (15) is a variant of the familiar relationship between the percentage difference between price and marginal cost and the firm's demand elasticity. That is, the percentage difference between price and marginal cost is simply equal to the reciprocal of the firm's demand elasticity. Equation (15)

follows immediately from this by noting that the left hand side is exactly the firm's price marginal cost gap and that the effective demand elasticity for the firm is αE_D.

Further, in equilibrium, the difference between the retail price and the retailer's average cost must represent a normal return on the potential gains to cheating on product quality. In particular, equation (6) implies that the necessary premium stream is $r/\lambda\ (S_h - S_\ell)$. In equilibrium this per unit premium is simply the price-average cost gap, or

$$(16) \qquad (P_R - P_W - AC_R(q) - S_h - z) = r/\lambda\ (S_h - S_\ell).$$

Subtracting (15) from (16) and dividing by P_R we obtain equation (17).

$$(17) \qquad \frac{MC_R(q) - AC_R(q)}{P_R} > \frac{r}{\lambda}\frac{(S_h - S_\ell)}{P_R} - \frac{1}{E_D\alpha}$$

If the inequality in equation (14) is satisfied, then the right hand side of equation (17) will be negative and, as stated above, an equilibrium where marginal cost equals average cost for the retailers can be achieved.[21] When equation (14) does not hold, the right hand side of (17) will be positive, and retailer marginal cost must be greater than average cost in equilibrium.

---

[21] In the above analysis we assumed that non-price competition has a constant effectiveness of α. However, the effectiveness in general will be equal to 1 on the margin at the level of non-price services with an unrestricted retail price. The analysis can be extended to this more general case by considering the consumer value of the non-price expenditures to be $V(z)$ and finding the firm's first order condition for the optimal z. With this definition of $V(z)$, equation (17) becomes:

$$(17') \qquad \frac{MC_R(q) - AC_R(q)}{P_R} > \frac{r(S_h - S_\ell)}{P_R} - \frac{1}{E_D V'}.$$

In this case some non-price competition will occur in equilibrium which will represent an additional cost of $z - V(z)$ per unit. However, if V' declines rapidly from its initial value of 1 then resale price maintenance will still be efficient.

These results imply that when equation (14) does not hold, some expansion in retailer output beyond the minimum average cost level is inevitable. Hence full retailing efficiency cannot be obtained.[22]

Eliminating resale price maintenance and using limited retail distribution alone is equivalent to setting α equal to one, i.e., allowing the full effect of price competition). Therefore, equation (17) can be applied with α equal to one to obtain the minimum possible marginal cost-average cost gap (or, equivalently, the minimum loss of retailing efficiency) achievable under a policy of limited retail distribution as the sole avenue of creating the required retailer premium. In particular, equation (17) indicates that eliminating resale price maintenance will lead to an increase in the gap between marginal and average cost. This implies less efficient retailing and hence a reduction in the manufacturer's profits. In particular, when equation (14) is satisfied, i.e., the premium stream is a sufficiently small fraction of the retail price and the available forms of non-price competition are relatively ineffective, resale price maintenance will allow for full retailing efficiency with retailers producing at minimum average cost.

---

[22]The manufacturer will always choose the number of firms as well as wholesale and retail prices such that there will be no non-price competition in equilibrium. This can be seen by assuming that retailers are engaging in a particular amount of non-price competition, z_o. If the manufacturer lowers the minimum wholesale price by αz_o and raises the wholesale price by $(1 - \alpha z_o)$, then equation (14) implies that z must fall to zero to maintain the necessary price marginal cost gap and supply will be unchanged. The net price to consumers will be unchanged and the total supply and demand will still be in equilibrium, while the manufacturer's profit is increased by the increase in the wholesale price of $(1 - \alpha z_o)$ per unit.

Even if retailing services were provided at constant average and marginal cost, the delivered cost to consumers, inclusive of transportation and convenience costs, is likely to rise with retailer output. Therefore, it will be in the manufacturers interest to have a relatively larger number of retailers.[23] Since the imposition of resale price maintenance decreases α from 1 to some number less than 1, its imposition will lead to a decrease in retailer size via equation (17) and a corresponding increase in the number of retailers. Prohibiting price competition has the effect of reducing the demand elasticity facing a representative retailer for a given n. The decrease in the elasticity of the retailer's effective demand curve caused by the retail price maintenance is a substitute for the inefficient alternative (in terms of customer convenience) of reducing the number of retailers. With more retailers, customers can be served at a lower delivered cost.

Our analysis implies that resale price maintenance allows a manufacturer to provide retailers with the necessary premium without the loss in retailing efficiency associated with limited distribution. When resale price maintenance cannot be employed, for example, due to legal constraints then an alternative arrangement such as more limited distribution must be used. If a manufacturer attempts to create a quality assuring premium with limited distribution alone, he must decrease the number of retailer outlets below the efficient number and increase retailer size beyond the level of minimum average cost. Hence, laws which restrict the use of resale price maintenance

---

[23]This is related to the "outlets hypothesis" for resale price maintenance, see B.S. Yamey, The Economics of Resale Price Maintenance, (1954), pp. 49-52 and J.R. Gould and L.E. Preston, "Resale Price Maintenance and Retail Outlets," Economica, (August 1963), pp. 302-312, where the manufacturers' demand is assumed to be a positive function of the number of retailers.

will decrease the number of outlets selling an individual product, with a corresponding increase in retailer size.[24]

Resale price maintenance's negative effect on retailer size has been found in a number of empirical studies of resale price maintenance. For example, Leonard Weiss uses the 1963 Census of Retail Trade to demonstrate that sales per drug store in six of seven large metropolitan areas that had never had fair trade laws were substantially larger than the sales per drug store in other large metropolitan areas.[25] Our analysis presents a theoretical rationale to explain this empirical phenomenon.[26]

Our model has unique implications for the effect of non-signer clauses, i.e., legislation which permitted a manufacturer to enforce resale price maintenance within a state upon both retailers that had and those that had not signed a resale price maintenance agreement. The Telser model implies that without a non-signer clause resale price maintenance would have no effect.

---

[24]While our model has unambiguous implications for the number of retail outlets for a particular product, the existence of multiproduct retailers makes the retailer size predictions ambiguous. However, if there are sufficient returns to individual retailers from carrying a large variety of products (which is the motivation for multiproduct retailers in the first place), then the increase in the number of retailers and decrease in retailer size implications will also extend to the case of multiproduct retailers.

[25]Leonard Weiss, Case Studies in American Industry, 2nd ed. (John Wiley 1971), 5, Monopolistic Competition in Retailing [check cite]. Also see U.S. Congress, Hearings Before the Subcommittee on Monopolies and Commercial Law, U.S. House of Representatives, March 25, 1975 and April 10, 1975 Appendix 2, p. 93.

[26]Other interpretations of the data include the presence of a retailer cartel with free entry (Weiss) or the outlets hypothesis (Gould and Preston). Marvel and McCafferty in a recent paper, "Resale Price Maintenance and Quality Certification," Ohio State University (April 1983), consider the reduction in retailer size to be an implication of their certification services theory via the ad hoc assumption that the supply of certification services exhibits diseconomies of scale relative to pure distribution services. However, this is an assumption that is contrary to the existence of large, brand name mail order firms such as Sears.

There is no way to prevent unsigned discount stores from obtaining merchandise and free riding on the signed stores. Similarly, a retailer cartel could not be effective. Our analysis, on the other hand, suggests that as long as the manufacturer can impose a sanction on those retailers that sign a minimum retail price agreement as a requirement for receiving its goods, a non-signer clause is unnecessary. A mechanism exists for preventing nonsigning retailers from obtaining merchandise, namely a potential sanction on approved retailers for transshipping to unapproved retailers, that substitutes for a non-signer clause.

Equation (18) tests this implication by comparing the relative size in 1963 of drug stores to grocery stores across SMSAs (216 observations) for states which have resale price maintenance and for states which prohibit resale price maintenance.[27] Since SMSAs differ in other characteristics (such as income, population density, urban v. rural, etc.), the average size of grocery stores in the SMSA serves as a convenient control variable. The dependent variable of the regression is the natural logarithm of the ratio of the average size of drug stores to the average size of grocery stores within that SMSA. The absolute values of the t-statistics are given in parentheses beneath the parameter estimates.

---

[27]Resale price maintenance was prevalent on the products sold in drug stores and almost non-existent on the products sold in grocery stores. E.G. Herman, "A Statistical Note on Fair Trade," Antitrust Bulletin 4(4) (July-August 1959) notes that in 1954 drug store products accounted for over forty percent of the number and sales volume of fair traded products while food products accounted for less than one percent of such sales.

Data on resale price maintenance laws are from U.S. Congress, Hearings Before the Subcommittee on Monopolies and Commercial Law, U.S. House of Representatives, March 25, 1975 and April 10, 1975, Appendices 1 and 4, pp. 92-94; and abstracts of State Statutes. Average size of retail outlet by SMSA and SIC code is from U.S. Department of Commerce, 1963 Census of Business, Retail Trade Area Statistics, Table 4, establishments (with payroll) and sales (by establishments with payroll).

$$(18)\quad \ln\left[\frac{\text{(Size of drug stores)}}{\text{(Size of grocery stores)}}\right] = \underset{(14.3)}{-.616} - \underset{(5.25)}{.268}\ \text{RPM} + \underset{(1.20)}{.047}\ \text{Nonsigner}$$

$$\bar{R}^2 = .12$$

The results indicate that while the existence of state legislation which permitted resale price maintenance significantly decreased the average size of retail drug store outlets (approximately 27 percent), the existence of state legislation which enforced resale price maintenance on non-signing retailers had no significant effect on retailer size.

VII. Conclusion

It appears irrational for a manufacturer to set the price that a retailer can sell its product for. The retailer is supplying an input, marketing services, to the manufacturer and one would expect the manufacturer to attempt to pay as little as he could to obtain this input. Manufacturer imposed resale price maintenance, by increasing the retail-wholesale price gap, increases the implicit price the manufacturer pays for retail marketing services. Economists therefore assert that such behavior will not occur unless manufacturers are forced by a retailer (or manufacturer) cartel to impose such a policy or unless the resale price maintenance is serving some unspecified efficiency purpose. However, it has been difficult to choose empirically between these two alternative explanations.

The "Chicago" economists begin with the empirical propositions that effective cartels are extremely rare and that resale price maintenance exists in many instances where retailer or manufacturer cartels obviously are not present. Therefore, they conclude that some efficient marketing purpose must

be served by the practice.[28]

The Telser special service analysis, however, remains unconvincing as an explanation of what is actually going on. We have seen that it is not theoretically correct to argue that merely setting the retail price will induce the retailer to supply the right special service in the right amount. More importantly, the special service analysis does not appear to apply to many, if not most, of the actual instances where resale price maintenance is employed. Although some products that use resale price maintenance, such as computers or hi-fi equipment, have special services such as a product demonstration associated with their sale, many recent examples of products that employ resale price maintenance, such as clothing, do not appear to have such services connected with their marketing.

For example, consider the recent newsworthy case of Levi Strauss blue jeans.[29] It is difficult to imagine the "special services" supplied by a department store selling jeans that is not also generally supplied by a discount store selling jeans.[30] The Telser analysis has led individuals to search for special services, such as using the fitting rooms in one store to determine ones size or purchasing jeans at a swap meet and then exchanging them for the correct size at a full service store. These possibilities strain credulity and suggest that the special services theory is not a hypothesis but

---

[28]See, for example, Frank Easterbrook "Restricted Dealing is a Way to Compete," Regulation, Jan./Feb. 1984.

[29]FTC v. Levi Strauss & Co., D-9081 (7-12-78).

[30]Telser claims that his special services argument "applies to products which are unfamiliar to the mass of consumers either because the product is new (or embodies new features) or because it is purchased infrequently by a relatively small proportion of households" (p. 105). Blue jeans do not appear to be a prime candidate for such services.

a tautology. It is just as reasonable (or unreasonable) to take the contrary position that since the existence of special services appears to be rare, resale price maintenance is generally anticompetitive in purpose.[31]

Our analysis solves the problem in a non-tautological way by defining the free riding problem much more broadly. Rather than concentrating on "special services", all that is necessary is that the manufacturer require the retailer to perform in a manner that is not in the retailers' narrow, short-run, self interest and that the desired retailer behavior cannot be contractually specified and enforced cheaply. In particular, the retailer service in question need not be one that consumers can free ride upon, i.e., that consumers can obtain free-of-charge from one retailer before purchasing the product from another "full service" retailer. Any retailer service that affects the quality of the product is a potential candidate.

In general, all that is necessary for our analysis to be applicable is that an "externality" be present with regard to the supply of the retailer services in the sense that the manufacturer is affected by the retailer's actions. Exactly what is an externality will depend upon the particular contractual and marketing arrangement and consumer expectations. The retailer services in question need not be "specific" to the product, but may be "general" such as the retailer's courtesy or cleanliness of the outlet. As long as consumers "blame" the manufacturer at least partially for poor retailer performance, i.e., the manufacturer is assumed to be acting as an agent for the consumer in policing retailer performance (such as a franchisor acts as an agent for consumers in policing franchises), an externality will be

---

[31]See Scherer (1980), p. 493, n. 103 and Robert Pitofsky, "Why Dr. Miles Was Right," Regulation, Jan./Feb. 1984.

present.[32]

We have shown, within the context of a two-party enforcement mechanism, how manufacturers can induce retailers to supply inputs that possess such general "externality" characteristics. Our model is distinct from the Telser analysis in that a formal model of non-price competition is presented. Within the Telser framework the desired retailer services will be provided only if they were the most efficient form of non-price (i.e., highest α) expenditures the retailer had available. This is an extremely unlikely event. In addition, Telser assumes that a manufacturer that fixes the retail price need not monitor retailers and that retailers facing perfectly elastic demand curves will compete away all profit.

Our mechanism is entirely different. Retailers are assumed not to face perfectly elastic demand curves and the retailer's profit on the sale of the manufacturer's product is not competed away in the final equilibrium. Instead, it is this retailer premium, created by resale price maintenance and restricted entry, which assures retailer performance. Manufacturers, rather than being passive, must directly monitor retailers and terminate those that do not perform as desired.[33]

This analytical framework broadens substantially the retailer services that may efficiently require resale price maintenance. For example, for Levi

---

[32]Klein, McLaughlin and Murphy contains an analysis of when it is optimal for manufacturers to assume such an agency and hence monitoring function.

[33]This analysis is somewhat distinct from the Klein and Leffler analysis because we are assuming that the manufacturer can credibly commit to supply a premium return to the retailer in the future. Since individual consumers cannot make such a commitment to manufacturers to assure high quality supply firm-specific (brand name capital) investments were necessary in the Klein and Leffler equilibrium. Such investments are likely to be wasteful in the current context and can be avoided.

Strauss jeans we no longer need to rely on a "dressing room" argument. Two other potential retailer services appear much more likely. In particular, resale price maintenance, by creating a premium stream that is lost upon termination, may have prevented approved retailers from a) selling counterfeit jeans[34] or b) shipping the jeans to unapproved retailers.

The prevention of transshipping between retailers is a general phenomenon. It is a key element in the marketing of all goods where an "image" is an important part of the product and hence where it is crucial that the manufacturer control the outlets where consumers may purchase its product.[35] It is not that Saks Fifth Avenue provides particular services in selling the jeans that are not provided by K-Mart but rather that the existence of the jeans in K-Mart destroys some of the jeans image, created at great expense by advertising expenditures. This remains true even if K-Mart sells the jeans at the minimum resale price.

The manufactuers cannot leave up to the individual consumer the decision whether to purchase the jeans at Saks or to purchase them at a lower price at K-Mart because such a decision creates externalities. The mere existence of the jeans at K-Mart implies a reduction in image and hence demand. It is not the higher price, per se, that creates the image, for that could be accomplished by arbitrarily raising the wholesale price. Instead, resale price

---

[34]Counterfeit jeans have become a significant problem in recent years. See "Levi Strauss Discloses Significant Settlement in Bogus Jeans Scheme," Wall Street Journal, Sept. 15, 1978, p. 34 and "Levi Strauss Obtains Order in Suit Alleging Plot to Use Trademark," Wall Street Journal, August 19, 1980, p. 18.

[35]A Lenox china marketing vice president has testified that "we would lose our identity as being a prestige product if every conceivable type of retail outlet were to carry our...line" (cited in Victor Goldberg, "Enforcing Resale Price Maintenance: The FTC Investigation of Lenox," Amer. Bus. Law J., 18(4) (Summer 1980) 225-58).

maintenance, by creating a premium stream, gives the manufacturer the ability to impose a sanction on retailers transshipping its product.

The FTC order against Levi Strauss stated that although the firm could no longer protect resale margins, it could continue to limit sales to outlets meeting particular nonprice criteria determined by Levi and to prohibit transshipment of jeans to unauthorized accounts. However, without a premium stream and hence a termination sanction, the prevention of transshipping is extremely difficult.[36]

An image argument has been stated previously in a consumer free riding context, namely that consumers will observe that the brand name department store such as Saks carries the product and then purchase the product at a discount store.[37] This argument is merely the Telser special service analysis applied to an "intangible" service, quality certification. However, the analysis does not explain why the manufacturer does not merely make a direct payment to the department store for the certification services supplied, such as is done to, say, Underwriters Laboratory. Such separate payment would be difficult in the Telser product demonstration case because of the large number

---

[36]The Colgate legal doctrine (United States v. Colgate and Co., 250 U.S. 300 (1919)) implies that, as long as a manufacturer does not sell to wholesale distributors, it has the right to control the nature of the retail outlets that market its products. However, every retailer is a potential wholesaler. Hence without a termination sanction for transshipping, the Colgate doctrine is meaningless. The recent Supreme Court decision in Monsanto v. Spray-Rite Corp. (March 20, 1984) reaffirms the ability of manufacturers to legally terminate discounting and transshipping retailers unilaterally.

[37]Sharon Oster, "The FTC v. Levi Strauss: An Analysis of the Economic Issues," and Timothy Greening, "Analysis of the Impact of the Florsheim Shoe Case," both in R.N. Lafferty, R.H. Lande and J. Kirkwood, eds., Imperfect Evaluations of FTC Vertical Restraints Cases, FTC Bureau of Economics, 1984 (forthcoming). Also see Robert Steiner, "Vertical Restraints and Economic Efficiency," FTC Bureau of Economics Working Paper, no. 66 (June 1982); and Marvel and McCafferty, op. cit.

of retailers supplying the service and the difficulty of monitoring the actual quantity of services supplied. However, these problems would be mitigated for certification services where the number of brandname certifying retailers is small and all that need be monitored is that the store is actually carrying the product. Also, since the certification services are not per unit sales, there is no reason for resale price maintenance type of compensation which is related to per unit sold. Our analysis, on the other hand, requires such per unit sales compensation since the retailer short-run cheating potential is related to sales.

Moreover, a certification analysis would imply that we would expect resale price maintenance for new products and little known brands and for it to disappear "once a brand became sufficiently well established in the public's mind."[38] This is obviously not the case for Levi jeans or for many, if not most, of the products subject to resale price maintenance.[39] If the manufacturer's brand were little known, the department store could prevent free riding on certification services merely by relabeling the product with the department store name.

Once again, as soon as we are no longer limited to looking for services that consumers can free ride upon but also for services that create a potential for shirking retailers to free ride upon consumers and the

---

[38]Marvel and McCafferty, p. 7.

[39]Oster and Steiner both conclude that the Levi Strauss resale price maintenance policy may have been optimal initially when the brand was little known but that Levi continued to use the policy when it was no longer optimal. This "mistake" explanation for the existence of resale price maintenance (i.e., that the FTC was doing Levi Strauss a favor by bringing their action) seems extremely implausible. Resale price maintenance is used and has successfully survived as a marketing technique for a great many major apparel manufacturers.

manufacturer, the rationales for resale price maintenance become potentially more reasonable. It is important to emphasize that although our model has much broader explanatory power than the "special services" framework, it will not necessarily explain every instance of resale price maintenance. A convincing empirical demonstration of the applicability of our analysis must be made by a case-by-case examination of the facts of various marketing arrangements, including instances of and procedures for distributor termination.[40]

---

[40]The detailed study of the Coors marketing arrangement in Klein, McLaughlin, and Murphy, where Coors desired distributors and retailers to supply refrigeration and rotation services, illustrates this methodology and throws light on the conditions that determine when resale price maintenance will be used and when some other vertical restraint will be employed. The model is also used in Kenneth A. Heyer and Benjamin Klein, "An Economic Analysis of Patent Licensing Restrictions: The Ethyl Case," unpublished UCLA Working Paper to explain on efficiency grounds the price fixing patent licensing terms adopted by Ethyl Corporation.