The Conventional Wisdom About Cross-Haul

Phillip E. Giffin, E. Bruce Hutchinson* and Joseph W. Kusner**

The current contention [see Haddock, pp. 289-306] of many proponents of neoclassical solutions to problems seems to exclude the role of monopoly power as a serious explanation for real world occurrences. One such issue that has traditionally been explained, though not solely explained, as an outcome of less than perfectly competitive markets is the basing-point pricing system [Burns, pp. 477-489; Commons, pp. 595-599; Machlup; McGee, pp. 369-379; Smithies, pp. 705-726; and Stigler, pp. 213-225]. Some economists [Achian; Haddock, pp. 289-306; and Loescher, pp. 6-35] now suggest that basing-point pricing systems represent merely an indication that sellers are unable to collude successfully and that such schema are indicative of imperfect but of perfect competition.

We disagree with this view. In particular, we believe that the issues of cross-hauling, phantom freight, and freight absorption in basing-point pricing situations are explained better by models that assume something less than "perfectly" perfect competition. Economists have developed various models which yield cross-hauling and freight absorption; included among these models are spatial Cournot behavior, Nash-in-prices and the dominant firm models. This paper, rather than developing another model, focuses attention on the competitive model's need to rely on special assumptions or exogenous factors to justify observed behavior such as cross-hauls; whereas in an imperfectly competitive model such observed behavior becomes an implication. We, therefore, posit a simple spatial model which assumes a group of firms that receive monopoly profits due to imperfect competition. This model is offered not only as the explanation but is intended to demonstrate the greater internal robustness of an imperfectly competitive model over that of the perfectly competitive model for explaining various behaviors associated with basing-point pricing.

COMPETITION AS A PREREQUISITE FOR BASING-POINT PRICING:

Haddock purports to demonstrate that basing-point pricing with cross-hauling is fully compatible with a competitive market. In our opinion, his effort is a prime example of the overly rigorous application of Pareto optimality theory or what Melvin W. Reder [p. 11] aptly calls "light price equilibrium." Further, we believe that effort is largely irrelevant to real world application of the antitrust laws. Haddock's conclusion generally relies on rigorous application and interpretation of profit maximization; yet, when necessary to account for an outcome, he relies on approximating behavior, such as the possible interruption of supply and imperfect information, to explain cross-hauling; these explanations somewhat belies competition [see McGee, p. 377 for an earlier discussion of supply interruption]. The approach produces a non-compelling model, at best, if not a merely self-serving model. We focus on a model à la Haddock of basing-point pricing in the belief that he and others fail to completely note the implications and shortcomings of that model for explaining the

*University of Tennessee at Chattanooga, Tenn, 37403; **Valdosta State College, Valdosta, Georgia.
antitrust issues of basing-point prices, cross-hauling, freight absorption and phantom freight. Haddock's (pp. 294-300) model of basing-point pricing relies on the particular assumptions that firms at site I (the base) are competitive among themselves and that the site II firm is a monopoly. The assumption of competition at site I substantially eliminates the antitrust debate. The problem has been assumed away. Quite simply competition in the model restrains, at some location, the monopolist's price behavior. Surely, logic denies that pricing to meet competition is an antitrust violation. If any violation of antitrust law is buried in the model, it is how the site II monopoly is maintained. The assumption of competition eliminates such explanations for cross-hauling as freight absorption or monopolizing behavior and collusion in order to maintain economic profit; thus to explain cross-hauling, the competitive model must rely upon factors such as supply diversification. Supply diversification according to Haddock includes the following instances: the buyer intentionally cross-hauls paying a higher price to avoid becoming entirely dependent on a local supply. Alternatively, the cost of "detecting and eliminating individual instances of cross-hauling" may exceed the firm's benefits in which instances the cross-hauling is ignored. Or, some natural cost advantage of a site or strong economies of long haul transportation may induce efficient cross-hauling [Haddock, p. 292]. The reader should understand that the same motivations to reduce supply risk will typically exist even when collusive behavior accounts for the cross-haul. Thus the existence of supply diversification does not exclude the potential for antitrust violations.

Of course, with perfect communication and enforceability a cartel takes all the above into account. In collusion enforceability cannot be assumed (contrasts contrary to policy have no legal force). To allocate markets as well as fix prices might require doubling the conspiracy size to include site I and II sellers, would require far more (potentially observable) negotiation, and may be overtly observable by the Antitrust Division [Hay, 1981]. As long as there are decreasing returns to scale in the non-agreed upon competitive tools (e.g., geographic scope, advertising) in the long run (short run) then price fixing will raise rents [quasi-rents]. Hence, collusive agreements generally will not act like cartels.

The competitive model explains basing-point pricing as the outcome of competitive pricing behavior coupled with transportation which spreads the competition at site I over a wide area. This is only a possible explanation for the observed behavior. In particular, the assumption of competition diverts attention from alternative explanations by implying that the behavioral pattern is innocent and to be expected; whereas, antitrust enforcement should be ever alert to behavioral and price patterns as possible indicators of an antitrust violation.

COLLUSIVE PRICING POLICIES:

The central antitrust thrust of basing-point pricing appears to be the issue of collusion (not restricted to formal agreements [Hay]) or monopolizing behavior. In particular, collusion, which reduces price competition and possibly entry, is generally considered an anti-competitive practice and hence an antitrust violation. Collusion facilitates maintenance of monopoly prices to the detriment of buyers.

In contrast to Haddock's competitive model, we present an analytical framework which demonstrates that basing-point pricing with accompanying freight absorption and cross-hauling are "naturally" consistent with the longer run prices typically assigned to imperfect competition. Let us assume therefore the existence of positive mill profits at site I due to imperfect competition. These profits result from the collective firms' ability to maintain price above marginal revenue equals marginal cost. The pricing behavior cum profits may be explained by a variety of causes. For example, one or a few firms may dominate the market with each individually recognizing its mutual gain from avoiding cut-throat competition; or, differences in cost structures or accessibility to key inputs as well as other factors may account for the continued maintenance of the imperfect competition at site I. In the long run, the interaction of economies of scale and demand elasticity may make entry at site I infeasible even while existing firms generate profits.

Figure 1 illustrates our assumptions. The curves marked MC_I and MC_{II} represent the respective sites' marginal cost to prospective locations and hence the competitive price schedule. We assume that site I firms set price, inclusive of monopoly profit, along P_I. The site II basing-point price schedule is P_{II}. Site I is a basing-point for the region to the right of S with site I the base to the left. However, the two production bases can price compete throughout region R-T. Site I firms can trade-off some profit in the R-S region in order to underprice site II. Similarly, the monopoly at site II can always underprice site I firms in the S-T region if it trades-off monopoly profits. Generally then in the area R-T the sites price compete. The result is that in R-T, cross-hauls with apparent freight absorption occur and buyers potentially supply diversify at no cost to themselves. Within the R-T region the result of firms trading-off profits to price match along P_I in region R-S and P_{II} in S-T is that a buyer chooses among suppliers upon some non-price basis which encourages supply diversification cross-hauling by making it costless. The cross-hauling results from buyers choosing among geographically identifiable firms offering identical C.I.F. (cost, insurance and freight) prices. Additional cross-hauls from site I into site II's absolute base (to the right of T) result if buyers opt to pay a premium in order to diversify their sources of supply. Buyers to the left of R pay a premium if they choose to diversify supply away from the site I market to the site II monopoly. Risk avoiding cross-hauls can be economically justified provided they substitute (transportation) for a real risk (supply disruption) at a lower cost. Trading-off monopoly profits through price competition to absorb freight, which might be termed a seller initiated cross-haul, is not an antitrust violation; nor is a buyer's solicitation Haddock paying a premium to reduce the risk of supply disruption, which might be termed a buyer initiated cross-haul, a violation of antitrust law. ("The good faith" defense,

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\begin{array}{c|c|c|c|c|c}
& P_{II} & P_{I} & MC_{II} & MC_{I} & Site I \\
\hline
P_I & & & & & \\
\hline
MC_I & & & & & \\
\hline
Site I & R & S & T & Site II & \\
\end{array}
\]
that the absolute mark-up at site I is unequal to the mark-up at site II. Then the common firm will absorb freight for some sales (i.e., sell at site I plus freight, but ship out of the site II plant). If there are locations where the common firm is doing this systematically (i.e., not sporadically due to demand fluctuations), then at least site II is revealed to be non-competitive (and a minimum bound on how non-competitive can be calculated through the implied freight absorption).

An example of the above analysis might be found in the plywood Case which Haddock references concerning price-taking [Haddock, p. 297]. Let the Pacific Northwest (PNW) be site I and the Southeast (SE) be site II; assume SE firm operates plants in the PNW and prices quoted by SE firms to Florida buyers are PNW plus freight. In such circumstances Haddock would assert that the SE was merely price-taking. But what if the SE also shipped to an intermediate destination (D) between itself and the PNW? Begin by dividing linear transport costs (X) from the PNW to SE into transport costs between PNW and D (X) and between SE and D (X'),

$$X = X + X'.$$

Since the SE is competitive and price-taking, the SE price is

$$P_{SE} = MC_{SE} - P_{PNW} + X + P_{PNW} + X' + X.'$$

(Given the natural resource nature of plywood, different PNW and SE marginal costs should be expected, esp. in the short run.) At D the price situation is

$$P_{D} = P_{PNW} + X = P + X + X'.$$

But substitution in the later expression shows that the SE's marginal cost of supplying D is

$$P_{PNW} + X = P_{PNW} + X + X' = P_{PNW} + X' + 2(X').$$

wheras, the competitive PNW actually charges only $P_{PNW}$ plus $X$. If competitive and price-taking in its local market, the SE firm(s) will not sell to D. Evidence of shipments from the SE towards the PNW is evidence that the SE is not competitive and places the damage at twice the transport costs between the SE and the intermediate location minus twice the actual transport costs.²

CONCLUSION

Based on legal case history and economic consideration, a major focus of antitrust policy should be concerned with the existence and maintenance of monopoly profits. An appropriate focus for antitrust investigation occurs in any situation where competing firms maintain price above cost. When geographically separated firms sell in the same area without increased price competition and consistently quote identical prices, we should question the mechanism at work suppressing price competition. Certainly situations in which firms cross-haul at a declining price even as distance increases suggests a less than perfectly competitive situation. Suppression of price competition, esp. through collusion, violates the antitrust laws. Continuation of monopoly profits presents an incentive to suppress competition. Should a situation with cross-hauls continue, an antitrust investigation would seem appropriate. A successful attack on a basing-point pricing system might be easier under Section 5 of the Federal Trade Commission Act which does not require proof of an agreement (for a careful discussion of this point see Hay, 1982).

Horizontal Equity and Taxpayer Characteristics: Who Is Advantaged and Disadvantaged by the Federal Income Tax?

Jane H. Leuthold and Ralph D. Husby*

Horizontal tax equity as defined by Musgrave (1959, p. 160) requires that "people in equal positions should be treated equally" by the tax system. As Feldstein (1976) notes, if all individuals have the same utility function, horizontal equity requires simply that taxpayers with the same consumption bundles (goods and leisure) be taxed equally. However, diversity of preferences complicates the matter. When tastes differ across households, Feldstein suggests the following principle of horizontal equity:

If two individuals would be equally well off (have the same utility level) in the absence of taxation, they should also be equally well off if there is a tax.

In other words, a tax should not change the utility order. This implies that horizontal equity cannot be evaluated by a simple ranking of consumption bundles, but that a utility ordering of households becomes necessary.

Since utility levels cannot be observed, Feldstein's proposal appears nonoperational at first glance. The present study proposes to remedy this deficiency by estimating household utility levels indirectly from household labor supply behavior. A sub-sample of data on households is drawn from the 1980 Panel Study of Income Dynamics to estimate labor supply functions for husbands and wives. Assuming an underlying Cobb-Douglas utility function, the estimated parameters of the labor supply functions are used to identify the parameters of the household indirect utility function. Utility levels are computed for each household and households are ranked according to their utility levels both before and after tax. The characteristics of households whose utility rank decreases after tax (disadvantaged households) are then compared with the characteristics of households whose utility rank increases or stays the same (households advantaged by the income tax). Those disadvantaged by the income tax tend to be two-earner professional families while those advantaged by the income tax tend to have more children, own their own homes, and to have one earner.

This study is related to an earlier study by Rosen (1978) in which Feldstein's utility definition of horizontal equity is used to evaluate the equity of the present tax structure. Assuming family utility functions of the constant elasticity of substitution (CES) form, and using 1967 National Longitudinal Sample data for mature women ages 30–44 years, Rosen estimated family utility function parameters. Preferences were allowed to differ by race and by

*University of Illinois at Urbana-Champaign, Box 95 Commerce West, 1206 S. 6th Street, Champaign, IL 61820, USA.