Differences in Prices Across Markets

Different fields of economics make contrasting assumptions on whether, theoretically, prices differ across markets. International economics researchers often make the assumption that the possibility of arbitrage across markets implies that the same product must sell for the same price in different markets, while industrial organization economists often make the assumption that a firm can set different prices in geographically distinct markets. In the case of the coffee market, Hilke and Nelson (1989) argue, as part of an antitrust case against Maxwell House, that "while transshipment does occur . . . it is sufficiently constrained that it does not equalize prices."

This section analyzes how much both retail and manufacturer prices differ across markets using Nielsen retail price data from 2000 through 2004 and Promodata manufacturer prices from 1997 through 2004.[7]

[7]For manufacturer prices, exact sample dates differ by market.

While there are statistically significant differences in manufacturer prices across markets over the entire sample period, the differences are fairly small in economic terms: no more than half a cent per ounce, or 2-3 percent of the manufacturer price. However, when comparing specific products across markets at one point in time, the differences are larger; 1 to 2 cents or 5-10 percent of the manufacturer price.

Manufacturer price data distinguish between changes in "regular" manufacturer prices and trade deals. Trade deals take a variety of forms, sometimes requiring that the retailer show evidence that a promotion has been carried out for the product.[8] Trade deals are typically quoted per case, and often last for a month or more. The size and frequency of trade deals differ across markets and product types. The median trade deal lasts for 3 weeks, although 5 percent of trade deals last for 25 weeks or more.[9] Differences in manufacturer prices across markets arise both from differences in "regular" manufacturer prices, as well as different trade deals, though the cross-sectional differences in trade deals are much larger than the regular price differences.

[8]Trade deals generally take three forms: 1) off-invoice allowances that generally do not entail wholesale or retailer action; 2) bill-back allowances, which are promotions that often require either advertising, displays, or a minimum amount of sales by the wholesaler or retailer; or 3) category development funds, which are based on various arrangements to promote a specific product or group of products.

[9]Some markets, such as Chicago, IL, have deals in effect for more than 20 percent of the UPC-week observations, while other markets, such as Sacramento, CA, have deals in effect for less than 7 percent of the observations.

In the past, some trade deals were used to price-discriminate across markets, according to Maxwell House internal documents cited by Nelson, Siegfried, and Howell (1992). In the 1970s, Maxwell House was owned by the General Foods Corporation. According to Maxwell House documents, General Foods' trade-dealing practices in the 1970s were based on percentages of competitive share. For example:

- If the competitive share was less than 30 percent of Maxwell House's share, the competitor was not a significant factor;
- If the competitive share was between 30 percent and 50 percent of Maxwell House's share, Maxwell House's shelf-pricing objective was to be within 10 cents per pound above the competitor;
- If the competitive share was between 50 percent and 70 percent of Maxwell House's share, Maxwell House's shelf-pricing objective was to be within 10 percent of the competitor;

- Otherwise, Maxwell House's objective was to obtain absolute parity (Nelson, Siegfried, and Howell, 1992).

A clear relationship did not appear to exist between manufacturer market prices or relative prices and the Herfindahl index of the market or the one-firm concentration ratio. We found (as did Hilke and Nelson (1989)), that highly rivalrous markets such as Chicago tend to have many trade promotions.

Consistent differences in prices for the same item in different markets are much more common for retail prices. Retail coffee prices in California were, on average, 4 to 5 cents higher than the national average price during 2000-04. Moreover, the time-series variation in coffee prices is much less correlated across products for retail prices than for manufacturer prices. For manufacturer prices (either Folgers or Maxwell House), 40 to 50 percent of the variation in market-specific growth rates of coffee prices can be explained by national trends. For retail prices, 10 to 15 percent of the variation can be explained by national trends.[10] This implies that other market-specific effects, such as retail food market competition, have a bigger effect on retail prices than on manufacturer prices.

[10]These statistics are based on regressions of the growth rate of coffee prices on year and quarter fixed effects.