

Summary

For decades, economists have attempted to explain the decline of the share of the U.S. consumer food dollar allocated to farmers. A factor contributing to this decline is the increase in consumer demand for off-farm or marketing services for food. Declining farm shares are often reflected in rising retail-farm price margins. USDA's Economic Research Service (ERS) publishes estimates of retail-farm price margins. However, at the heart of these estimates is the assumption that a food market is comprised of identical firms producing, in fixed-factor proportions, a homogeneous set of final food products. While periodically adjusted to reflect diversity, these adjustments may lead to biased estimates of retail-farm price margins that can be interpreted as evidence of market power.

The key to the computation of the new estimates presented in this study is the evaluation of a single, market-level measure of composite consumer demand. We appeal to an expenditure-based measure, justified by the Generalized Composite Commodity Theorem, that can consistently reflect consumer demand for the many different elementary food products associated with a modern food market. This measure allows a direct link between consumer demand for diverse elementary products and food quality or, equivalently, marketing services. This is important because a competitive retail-farm price margin is the price that consumers are willing to pay for marketing services.

Annual data from 1980-97 for seven major U.S. food markets support the new estimates. Scatter plots of output and price ratios suggest diminishing returns or input substitution at the market level in the pork, poultry, egg, dairy, fresh fruit and fresh vegetable markets, and technological change in the beef market. Evidence of diminishing returns at the market level supports the new estimates, as input substitution arises from both the diversity of technologies among firms and the diversity of final food products. Evidence of technical change also supports the new estimates since technical change is automatically incorporated into variable input-output ratios associated with the new estimates. The annual data indicate that both the current and new estimates follow similar trends, but that they respond differently to changing market conditions. In particular, we find that changes in the new estimates appear to be more 'in phase' with changes in food quality than the current estimates.

We trace differences in the estimates to differences in consumer demand for the diverse elementary products. For example, systematic increases in retail-farm price margins for beef can be traced to systematic increases in consumer purchases of high-valued steak and a relatively constant demand for low-valued ground beef. Such differences in demand suggest that consumers have at least some choice over food quality and as such, over retail-farm price margins.