

Structural Change and Competition in Seven U.S. Food Markets

A.J. Reed and J.S. Clark

Introduction

This bulletin presents empirical analyses of market structure and competition for seven major U.S. food markets: beef, pork, poultry, eggs, dairy, fresh fruit, and fresh vegetables. The analyses account for structural change. Our work emerges from a theory first developed by Heiner in which consumer demand and input supply mesh with the output supply and the input demands of nonidentical firms. While Chavas and Cox have recently generalized this theory, Wohlgenant (1989) and Wohlgenant and Haidacher (WH) were the first to extend and apply it to food markets. This bulletin builds on the work of WH by accounting for structural change.

We appeal to the economic theory found in WH and Wohlgenant (1989, 1996) to test for market power. However, the market data that we use to implement the tests appear to be driven by trends. In food markets, we hear about trends in technical change among firms (e.g., Clark and Youngblood), about trends in the industrial reorganization of industries (e.g., Martinez and Reed, MacDonald and Ollinger), and about trends in food consumption (Kinsey and Senauer). In this study, we define structural change as trends in market variables and account for different types of trends in tests of market power.

Unlike approaches that define structural change by changes in a model's parameters (e.g., Goodwin and Brester), our approach allows us to capture a key feature of some types of structural change: its changing trends are unpredictable. This view allows us to describe and to test for unpredictably changing trends in consumer and producer behavior. It allows us to test for market-clearing and to estimate longrun structural relationships despite such unpredictability. Finally, it allows us to test for market power in markets that may have undergone a series of permanent changes over time.

Our work sheds light on policy concerns associated with trends in the industrialization of food industries and in consumer behavior. Economic theory suggests such trends would be linked if markets clear (Engle and Granger). A *cointegrated* model links trends across variables and, in our case, provides a market-clearing representation. By failing to reject competition with a cointegrated model, our results suggest that trends in concentration and industrialization may be efficient solutions to unpredictable trends in consumer demand for food (Paul).