Pork Quality and the Role of Market Organization

Introduction

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The pace of recent organizational change in the U.S. pork industry has been dramatic. Contracting between pork packers and producers increased considerably in the 1990s. *Marketing contracts* offered by pork processing companies typically specify the quantity of slaughter hogs to be purchased on specified dates and places, and provide hog producers a secure outlet for their hogs and specific pricing terms. Producers are explicitly compensated for hog carcass weight and leanness. Marketing contracts accounted for approximately 69 percent of hogs sold in 2004, compared with less than 2 percent in 1980, and 11 percent in 1993.[1] By contrast, in the beef industry, only 30 percent of steer and heifer slaughter were procured through marketing agreements by the 4 largest beef packers in 2001 (USDA/GIPSA, 2003).

Packer ownership of hogs has also increased in recent years from 6.4 percent in 1994 to over 17 percent in 2004 (R. Smith, 2004; Messenger, 2000). Packers own the hogs from birth and may enter into *production contracts* with producers to raise them. Packers typically provide pigs, feed, veterinary services, and some managerial support, and collect the pigs for marketing. Producers provide housing, labor, water, utilities, and manure management in exchange for a contract fee (Zering and Beals, 1990; Martinez, 2002; Martin, 1997). While on the rise, production contracts between packers and producers remain well below that of the poultry and egg industries, which have relied on such contracts for several decades. In 2001, 81 percent of U.S. poultry and eggs were produced under production contracts (USDA/ERS[c]).

Policymakers have expressed concern about the rapid increase in pork contracting. As marketing contracts replace hog sales on the spot market, spot prices are based on fewer sales. Consequently, prices in these "thin" markets may become highly volatile, subject to manipulation, and less representative of a competitive market equilibrium (Martinez, 1999). In addition, prices in marketing contracts are typically tied to a spot price. Smaller producers also complain that packers prefer to enter into contracts only with large producers and pay the large producers publicly undisclosed premiums.

Past studies of organizational arrangements in the pork industry have focused on the risk-shifting function of contractual arrangements (Martin, 1997) or their effect on farm productivity (Key and McBride, 2003). Relatively little research has focused on their role in addressing pork quality problems (for related research, see Hennessy and Lawrence, 1999; Smith, 1999; and Hobbs, Kerr, and Klein, 1998). Survey evidence suggests that this function could be an important one (Lawrence et al., 2001). In addition, contracting arrangements play a role in addressing quality issues in other

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[1]These figures are based on expert estimates by Economic Research Service/USDA specialists in 1980 (Marion, 1985), a survey of large packers accounting for 86 percent of hog slaughter in 1993 (Hayenga, et al., 1996), and data from USDA's Livestock Mandatory Price Reporting Program accounting for 92 percent of hog slaughter in 2004 (R. Smith, 2004). USDA has a long history of interest in contracting, including broiler contracting, which became an important part of the broiler industry in the 1950s (Martinez, 1999, 2002). Alternative sources of recent and historical contract information are based on USDA farm surveys, including the Census of Agriculture and the Agricultural Resource Management Study (ARMS), formally referred to as the Farm Costs and Returns Survey (Perry). Grain Inspection, Packers and Stockyards Administration (GIPSA) and its predecessors were organized to regulate and oversee the activities of agricultural markets, including contract arrangements.

agricultural industries, including beef (Purcell and Hudson, 2003), fruits and vegetables (Hueth et al., 1999), and tobacco (Dimitri, 2003).

It is important to examine the relationship between changing organizational arrangements and pork quality because policymakers can use the information to facilitate decisionmaking on antitrust issues. Policies that restrict or inhibit changes in markets could reduce social welfare if the changes are in fact efficient responses to market demands. In addition, opportunities for producers to enhance profits and reduce risks may be restricted.

This study's major objective is to examine relationships between changing organizational arrangements and pork quality. For example, do contracts provide a more efficient means of addressing pork quality problems relative to spot markets? In the process, we apply selected theories from the industrial organization literature.