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The emergence of agricultural commodity markets in China

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Abstract

By conscious design, reformers in China only gradually focused their efforts on expanding the role of markets for the allocation of goods and services in the economy. As a result, markets—especially in the agricultural sector—developed slowly. Throughout the 1990s there was a heated debate about the degree to which markets had emerged. The main goal in this paper is to bring together a number of simple and revealing facts on the emergence of China's markets. To do so we examine several sets of price data and analyze spatial patterns of market prices contours over time and text the extent to which market prices are integrated among China's regions. According to our analysis, we find that to a remarkable degree, agricultural commodity markets have emerged; price patterns look much like those in market economies in the rest of the world and prices are highly integrated across space.

JEL classification: Q13; D40; 053
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Although the initial reforms in China and other successful transition nations centered on improvements to property rights and transforming incentives (Fan, 1991; Lin, 1992; McMillan, Whalley, & Zhu, 1989), the other, equally important task of reformers was to create more efficient institutions of exchange (McMillan, 1997). Markets—whether classic competitive ones or some workable substitute—increase efficiency by facilitating transactions among agents to allow specialization and trade and by providing information through a pricing mechanism to producers and consumers about the relative scarcity of resources. But markets, in order to function efficiently, require supporting institutions to ensure competition, define and enforce contracts, ensure access to credit and finance and provide information (McMillan, 1997). These institutions were

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either absent in the Communist countries or, if they existed, were inappropriate for a market system. In assessing the determinants of success and failure of 24 transitions during their first decade of reform, Rozelle and Swinnen (2004) demonstrate that improved institutions of exchange were absolutely essential for nations to make progress. A study by de Brauw, Huang, and Rozelle (2004) has shown the positive effect that market development had on the efficiency of China's agricultural producers and their welfare during the 1980s and early 1990s. Continued success of transition nations during the second decade of reform and beyond almost certainly also will depend on continued market development. Somewhat surprisingly, despite the importance of market performance in the reform process there is little empirical work on the success that China (or any other transition nation) has had in building markets.

In part in response to the lacunae of research on the performance of markets in China's rural economy, our main goal is to bring together a number of simple and revealing facts on the emergence of China's markets. To do so we will have two specifics objectives. First, after briefly documenting the market-reform policy environment that has unfolded during the reform era, we examine several sets of price data by looking at spatial patterns of market prices contours over time. Second, we examine the extent to which market prices are integrated among China's regions.

In order to examine such a broad topic, it is necessary to limit the scope of the analysis. To do so, we restrict ourselves to China's main staple commodities—rice, maize and soybeans. These commodities —especially maize and soybeans—are ideal since the quality differences among regions are relatively narrow, a characteristics that facilitates integration analysis. Data on these commodities are available over time and across space. Data quality, however, restricts most of our analysis to after mid-1990s.

1. Commodity price and marketing policies

Although ever since the start of transition in the late 1970s China's leaders pursued price and marketing reform with different degrees of enthusiasm, there has been a steady shift towards more liberalization (Huang, Rozelle, & Chang, 2004). The key characteristic of the reform strategy, however, was gradual. For example, the initial price and market reforms in the late 1970s were aimed only at raising farm level procurement prices and gradually liberalizing the market. These reforms included gradual increases in the agricultural procurement prices toward market prices and reductions in procurement quota levels. In the initial years, however, there was little effort to move the economy to one in which resources and factors were allocated according market price signals.

As the right to private trading was extended to include surplus output of all categories of agricultural products after contractual obligations to the state were fulfilled, the foundations of the state marketing system began to be undermined (Sicular, 1995). After a record growth in grain production in 1984 and 1985, a second stage of price and market reforms was announced in 1985 aimed at radically limiting the scope of government price and market interventions and further enlarging the role of market allocation. Other than for rice, wheat, maize and cotton, reformers gradually began to eliminate planned procurement; government commercial departments still existed, but they could only continue to buy and sell at the market. For grain, incentives were introduced through the reduction of the quota volume and increase in procurement prices. In subsequent years, although mandatory procurement of rice, wheat, maize, soybean, oil crops and cotton continued, to provide incentives for farmers to raise productivity and to encourage sales to the government, quota procurement prices were raised over time (Huang et al., 2004).

True to the spirit of gradualism, as grain production and prices stabilized in the early 1990s, plans to abolish the grain ration system led a new round of reform (Rozelle, Park, Huang, & Jin, 2000). Urban officials discontinued sales at ration prices to consumers in early 1993. Although the