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## CONTINUITY AND CHANGE IN CHINA'S RURAL PERIODIC MARKETS

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Marketing patterns in rural China are complicated because they have evolved to meet the needs of and are being shaped by the features of an economy that is in the midst of change. Our article seeks to show, however, that, despite adaptation to China's rapidly modernizing rural economy, China's local rural markets have retained many of the characteristics of the markets of traditional China.<sup>1</sup>

Given these ties of markets to the past, our article seeks to add to G. William Skinner's seminal work on marketing in rural China.<sup>2</sup> It will be seen in the following sections that marketing patterns in rural China today diverge strongly

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<sup>1</sup> To date, only a few unpublished papers have examined this persistence of traditional marketing forms: for example, Yasutomi Ayumu, "Rural Marketing Systems in Manchuria", paper presented at Asian Studies Conference—Japan, Tokyo, Japan, 2001; and Soo Hyun Jang, "The Post-Mao Economic Reform and the Changes and Continuity in the Power Structure of Rural China", Working Paper, Department of Anthropology, University of Illinois, Urbana-Champaign, 1993.

<sup>2</sup> G. William Skinner, "Marketing and Social Structure in Rural China, Part I", *Journal of Asian Studies*, Vol. 24, No. 1 (November 1964) pp. 3–43; "Part II", Vol. 24, No. 1 (February 1965), pp. 195–228; "Part III", Vol. 24, No. 3 (May 1965), pp. 363–99.

from what Skinner's theory predicted would occur as the Chinese countryside modernizes. The article's final section seeks to provide an explanation of why developments in China are not in accord with Skinner's predictions. Our explanation will reveal the unexpected, significant ramifications on rural marketing of China's current regulatory regime.

### Ties to the Past

Colourful, robust marketing activity constituted an important part of China's economic past.<sup>3</sup> Traditionally, markets convened in small towns within walking distance of surrounding villages. As in many poor rural societies, there was not enough trade to support daily markets or permanent shops. Hence, markets met on a specified local schedule, and on other days the market-place was deserted. Itinerant merchants moved between rural towns and set up their temporary stalls in one town after another on a regular cycle as each local area in turn held its market day.

Social scientists have traced the evolution of periodic markets from imperial times to the early Communist era,<sup>4</sup> and have documented the multitude of goods and services bought and sold on the days that the market convened in a given area: grains, fruits and vegetables, eggs, meat, fish, herbal medicines, textiles and shoes appeared in most markets.<sup>5</sup> Sales of exotic items also caught the attention of observers—monkeys, fireworks, coffins—as well as such services as reading and writing assistance or geomancers practicing *fengshui*. Markets had so proliferated by late Imperial and Republican times that almost everyone in China except in the most remote regions had relatively easy access to a periodic local marketing venue.<sup>6</sup> J. E. Spencer estimated that in the 1930s in Sichuan province half of all families were represented throughout the year by at least one member at every marketing session.<sup>7</sup>

Earlier observers had little to say about the *management* of markets, most likely because most markets required little state intervention. G. William Skinner indicates that the local markets were mostly “self-regulating and self-taxed”.<sup>8</sup> Others have also noted the *laissez-faire* nature of traditional markets, pointing out that officials typically did not participate in the layout of the market, entrusting

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<sup>3</sup> Skinner, “Marketing and Social Structure”, Part I; also J. E. Spencer, “The Szechuan Village Fair”, *Economic Geography*, Vol. 16, No. 1 (1940), pp. 48–58; Martin C. Yang, *A Chinese Village: Taitou, Shantung Province* (New York: Columbia University Press, 1945); Fei Hsiao-Tung and Chang Chih-I, *Earthbound China: A Study of Rural Economy in Yunnan* (London: Routledge & Kegan Paul Ltd., 1948).

<sup>4</sup> Dwight Perkins, *Agricultural Development in China, 1368–1968* (Chicago: Aldine Publishing Company, 1969).

<sup>5</sup> Spencer, “The Szechuan Village Fair”; and Yang, *A Chinese Village*.

<sup>6</sup> Skinner, “Marketing and Social Structure”, Part I, p. 6.

<sup>7</sup> Spencer, “The Szechuan Village Fair”, pp. 48–58.

<sup>8</sup> Skinner, “Marketing and Social Structure”, Part I, p. 31.

management to merchants, and were unable to tax most of the buyers and sellers.<sup>9</sup> Skinner does describe how authorities sometimes encouraged an increase in market periodicity and had an incentive to register and tax marketers.<sup>10</sup>

Under Mao, the rural local markets shrivelled as the state purchased agricultural produce directly from the collective agricultural production teams and allocated the sale of most wares through government channels. In the early to mid 1970s, during periods when the radicals around Mao had the upper hand, in many parts of China the local peasant markets were entirely banned. Maoist authorities were particularly determined to destroy the vertical exchange component of traditional rural markets, replacing the markets with their own supply and marketing cooperatives.<sup>11</sup>

With the disbandment of the collectives and the return to household farming in the early 1980s the local periodic markets sprang back to life. Visitors to market towns in China today cannot fail to catch many glimpses of what appear to be traditional marketing cycles. On one day, a town's central plaza, surrounded by rows of stalls with tattered tin roofs, lies bare and empty, disturbed only by loud single-piston tractors and scavenging dogs. On the next, the centre of town explodes into life. In the pre-dawn hours, trickles of buyers and sellers converge on the market-place. By early light, restaurateurs have lit fires and hawkers have spread out their wares. Trucks and trailers stream off the highway and carts and donkeys emerge out of the hills. By mid-morning teeming crowds, in a bargaining frenzy, fill the central market-place and spill out into every lane and bare patch of land. Roads become clogged and traffic frequently cannot pass until late afternoon sends the buyers back home and the mobile merchants to their next day's destination at another small rural town as it hosts a market day in turn.

In markets throughout China sellers have every imaginable product for sale, and buyers squeeze from stand to stand looking for the best deals, visiting different corners of the market to purchase different goods—specialized merchandise such as bulk fertilizer, tools, timber, rat poison, piglets, donkeys and the next year's seeds. Grain sacks are piled high. Livestock bleat as they stand passively awaiting their fate. Dentists advertise their skills with the dentures of previous clients. As in pre-Communist times, stalls selling similar products cluster together, and markets-within-markets spring up in the same places on each marketing day.

Village and township officials remark that most of the market activity arose and has evolved without their direct involvement. In many local markets, especially in more remote areas, the most common response to questions about

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<sup>9</sup> Susan Mann, *Local Merchants and the Chinese Bureaucracy, 1750–1950* (Stanford: Stanford University Press, 1988); Spencer, “The Szechuan Village Fair”; and, Xiaotong Fei and Chih-I Chang, *Earthbound China*.

<sup>10</sup> Skinner, “Marketing and Social Structure”, Part I, pp. 16 and 37.

<sup>11</sup> G. William Skinner, “Rural Marketing in China: Repression and Revival”, *The China Quarterly*, No. 103 (1985), pp. 393–413; and Dorothy Solinger, *Chinese Business Under Socialism* (Berkeley: University of California Press, 1984).

who runs or manages them is “no one!” In the early dawn hours, watching the arriving sellers reveals the predominance of self-organization. Hawkers try to move in on the best locations. Arguments and minor scuffles sometimes break out between established vendors and newcomers over trading rights and prime locations. One old Hubei trader of rat poison, cockroach spray and mosquito coils, a non-local who has attended the circuit through the far-flung markets of northern Shaanxi for the past ten years, explained his relationship with the local authorities most concisely: “Get there early, dig your table in, light your breakfast fire, pay your fee, sell your goods, pick up your trash, and get ready for a quick getaway—there is always another market elsewhere tomorrow”.

In a minority of the markets, though, officials take an active role, and some even claim to have initiated new markets. In northern Jiangsu, an area where farmers traditionally have been involved in tree nursery activities, a local official invested town funds in a canopied outdoor marketing area. As a result, one of the largest seedling markets in the province has emerged, meeting twice per *xun* (10-day period). The seedling market has become synchronized with the other markets around the region. Village and township leaders also have invested local funds to widen streets, set aside plazas and construct marketing facilities in an effort to attract sellers to provide local residents with more convenient sources of goods and services, and to attain the increased status that comes with greater economic activity.

### **A Model of Rural Periodic Market Development**

Given that the local markets that we see today in rural China closely resemble traditional periodic markets, what should we expect in terms of their patterns of development? Are markets developing over time during the current period of post-Mao economic reforms in the same way that markets developed in traditional times? What is the future of China’s periodic markets? To answer these questions, in this section we will briefly review the model of market development proposed by G. William Skinner in his set of three influential papers in the *Journal of Asian Studies* in the mid 1960s, “Marketing and Social Structure in Rural China”. In this important work, Skinner lays out a theory of the conditions under which local rural markets expand or contract. After explaining Skinner’s analysis, we will test whether markets in China today are developing in ways predicted by Skinner.

In his articles, Skinner describes how traditionally the typical local market in which farmers bought or sold their wares met regularly, approximately one out of every ten or twelve days in remote areas, up to every other day in the busiest parts of the countryside. The key reason for the existence of a periodic system was the low density of demand. Meeting periodically concentrated in a single day the marketing of low-income, subsistence farm households living in areas served by only crude methods of transport. Markets spaced themselves densely enough across the landscape to enable most villagers to manage the trip to market within a reasonable amount of time.

Each of the market towns was part of a hierarchical marketing network. They were linked up with intermediate market towns which, in turn, linked up with

central market towns. The higher-level markets served central place functions for the markets below them—bulking and shipping out goods coming from below and wholesaling and distributing goods coming from above. In short, while at the local periodic markets farmers walked in from the nearby villages to sell their crops or household handicrafts and local traders sold their wares and purchased the goods of farmers for later disposal at the intermediate market,<sup>12</sup> wholesalers at the larger, more distant markets specialized in supplying traders with wares as well as purchasing goods collected by them.

Even during traditional times, the local rural markets were dynamic, and, as population, production and demand in an area rose, more people initially would crowd into the existing market site on its scheduled meeting day, and the volume of trade would rise. When demand rose further, the number of days that the market met per *xun* would increase. Finally, when trade was sufficiently extensive, new open-air market sites would open at points closer to some of the clients by springing up where paths converged closer to some of the villages. Hence, Skinner's analysis provided a set of predictions about how markets would respond to incremental economic activity during the intensification phase of market development: first higher participation in existing markets, then a rise in the number of market days per *xun*, followed by an increase in the number of market sites.<sup>13</sup>

In traditional China, several different forces drove the rise in demand and thus the intensification process. Expanding populations underlay most of the growth in marketing activity and the establishment of new market-places closer to some of the homes of the market participants.<sup>14</sup> When more people moved into an area or when populations increased due to rising fertility, the collective spending power of the rural economy could support larger markets and create a more concentrated mosaic of markets.<sup>15</sup> Skinner also states that specialization and rising agricultural productivity affected market intensification, but these may not have been so much causal factors as they were activities that arose simultaneously with new local markets, the result of many of the same demand-increasing factors that gave rise to the markets themselves.<sup>16</sup> Ultimately, Skinner's theory predicts that

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<sup>12</sup> Yang, *A Chinese Village*.

<sup>13</sup> Skinner, "Marketing and Social Structure", Part I, p. 11.

<sup>14</sup> *Ibid.*, Part I, pp. 9, 11, 33; Part II, p. 196, and *passim*.

<sup>15</sup> *Ibid.*, Part I, pp. 10, 11; and Part II, p. 196. Increasing incomes also can increase the demand of a static population base, a point that is taught in elementary economics classes. Although Skinner mentions the expected effect of income rises on demand, he spends little time analyzing it since he does not believe there was significant per capita income growth during the traditional period, an issue to which we return later in the article.

<sup>16</sup> *Ibid.*, Part II, pp. 209 and 198. It is possible, however, that, all else being equal (including both population and income), a rise in the level of commercialization of a rural economy would lead to a greater demand for goods in a local or secondary market, as more farmers turn away from subsistence farming in order to specialize in particular crops, while purchasing what they themselves had formerly produced. This specialization often has

changes in population and income and any other variable that increased commercialization are positively related to market activity.

According to Skinner, the rise of modern transport differentiates the contemporary period from the traditional era and has a profoundly different effect on market development.<sup>17</sup> Better roads mean that people on bicycles or carts or taking a bus can bypass the lowest and most local level of the market system and can go directly to a secondary or more central market to get slightly better prices for their produce and slightly cheaper consumer products. Skinner believes that improved marketing infrastructure in a modern economy eventually outweighs the pressures that triggered intensification in a traditional economy. Improved roads within the intermediate marketing systems reduce the “friction of distance” at the local level, raising the effective demand at the higher, more distant market to a level that can begin to support daily markets or large numbers of permanent shops. When the process of modernization proceeds far enough, it is supposed to lead to a disappearance of rural periodic markets, in the same way that improved transportation promoted the rise of the modern supermarket in developed countries and led to the demise of the mom-and-pop grocery shops that were located on the street corners in residential neighbourhoods. On a grander scale, urbanization and infrastructure developments will lead to the creation of a modern trading system, which will signal the end of traditional periodic marketing. This process of decline should begin in the most developed rural areas next door to core metropolitan areas, and could proceed even while activity in periodic markets continued to expand in the more outward regions. With the greatly accelerated pace of national development and modernization of the transport system during the reform period, some, including Skinner, even predicted an end to periodic markets by the end of the twentieth century.<sup>18</sup>

In sum, using Skinner’s theory as a guide to understanding the expansion and contraction of rural periodic markets in China generates several hypotheses:

- rising population will lead to more market activity, increased periodicity and the emergence of new markets;
- rising incomes will lead to more market activity, increased periodicity and the emergence of new markets;

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resulted in higher living standards, but, notably, in history there have been cases of rises in commercialization that occur at the same time as rural populations have become more impoverished. For example, in colonial Vietnam and Dutch Indonesia, farmers were forced by the colonial state to pay higher taxes in either cash or in kind. Such strategies forced farmers to shift from subsistence crops to commercial crops, and as a consequence they needed to interact more with markets, often on adverse terms.

<sup>17</sup> Ibid., Part II, pp. 202 and 212.

<sup>18</sup> Skinner, “Rural Marketing in China: Repression”.

- modernized transportation and other improvements to marketing infrastructure will lead to a contraction of local market activity and a disappearance of local markets.

### **A Survey of Rural Market Trends in the 1980s and 1990s**

Our inquiry into the nature today of local rural markets relies on survey questions that we devised, answers to which were collected in 1996 from a sample of 207 villages spread across eight provinces. We consider this sample to be nearly representative of rural China as a whole.<sup>19</sup> The survey design chose prefectures, counties, townships and villages using a comprehensive sampling frame stratified on the basis of gross value of industrial output, a variable that had been shown to account for large differences in regional development.<sup>20</sup> In each of the eight representative provinces, the enumeration team surveyed four villages in each of eight counties, a total of 32 villages per province.<sup>21</sup> The enumeration group, a team of social scientists from Beijing, asked three leaders from each sampled village to provide information based on their best judgment about the timing, size, composition and structure of the markets that were most frequently attended by people from their own villages in 1995, 1988 and 1980. We will use the findings to subject Skinner's predictions to quantitative testing to aid us in updating his theory. This will enable us to account for institutional peculiarities in the contemporary period that may be causing the evolutionary path of rural markets to depart from that predicted by Skinner's theory. It should be noted the survey focuses exclusively on local and secondary markets in rural areas and does not have the data to address issues pertaining to higher-level or urban markets.

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<sup>19</sup> The sample needs to be classified only as "nearly" representative for several reasons. First, there are no villages from south China. The original sampling frame included Guangdong province; but the demands by village leaders for payment for their time were so high that financial considerations led to a decision to drop these villages and replace them with villages from Shandong, another coastal province. Moreover, if villages were more than four hours from a township by car, the enumerators were authorized to select a replacement village in the same township that was similar in nature, though only 3 of more than 200 villages in the sample were selected in this fashion. In Hebei and Liaoning 25 of the 31 villages were selected randomly, but the other 6 are the same villages that had been surveyed by Loren Brandt and Rozelle in a 1995 investigation in those two provinces. Dwindling budgets induced the authors to reduce the sample size to 24 villages in Yunnan Province, a province with the highest survey costs in terms of money and time.

<sup>20</sup> Scott Rozelle, "Stagnation without Equity: Patterns of Growth and Inequality in China's Rural Economy", *The China Journal*, No. 35 (January 1994), pp. 63–96.

<sup>21</sup> The provinces are Zhejiang, Hebei, Liaoning, Shandong, Hubei, Sichuan, Yunnan and Shaanxi.

### **Rapid Expansion of Periodic Marketing Activity in the Reform Period**

Because of the counterbalancing forces that accompany modernization—economic growth, rising population counts and improvements in China's road, rail and water networks during the reform era—Skinner's thesis about market development provides no clear-cut predictions about the expansion or contraction of periodic markets. On a national scale, China's gross domestic product rose by 389 per cent in real terms between 1978 and 1995, and the rural population expanded by more than 109 million people, or 13.5 per cent;<sup>22</sup> and, according to the hypotheses discussed above, rises in demand from income and population increases should stimulate market activity. On the other hand, infrastructure in rural areas, including transportation, has also improved dramatically, and should cut the friction of distance and, according to Skinner, enlarge marketing areas, with some local markets disappearing and others meeting less frequently.<sup>23</sup>

Based on this market development paradigm, there is similarly no way to unambiguously predict which forces would prevail in our sample villages. Households in the sample villages in all provinces experienced rapid growth in incomes (Table 1, column 1), and the villages also exhibited population growth (column 2). Although we do not have the data on access to transportation for all of the surveyed periods, the differences that are observed between the measures of access to transportation in the two poorest provinces, Yunnan and Shaanxi (rows 13 to 16, columns 3 to 8) and the rest of the provinces (rows 1 to 12, columns 3 to 8) suggest that villages have become increasingly integrated into national markets through improved access to transportation.

Inasmuch as different markets often serve different functions, farm households in most villages frequently attend at least two distinct markets, as is illustrated by our survey. Our respondents told us that villagers travel most often to their local market mainly to buy grain, vegetables and other food products (Table 2, column 1). They also stock up on small items such as toothbrushes and toothpaste, paper products, small mirrors, hair brushes and soap (Table 2, column 2). Farmers clearly use their most frequented markets to service their basic consumer needs. Our survey also discovered, however, that the residents of only about 30 per cent of the villagers attend a single market. In the other localities, most villagers travel to more distant and more specialized markets to conduct larger transactions. The average distance to these secondary markets exceeds that of the primary market by 54 per cent (8.5 kilometers versus 5.5). Farmers reported that they attend secondary markets mostly to sell their harvests and other

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<sup>22</sup> *Zhongguo nongcun tongji nianjian* (China Rural Statistics Yearbook) (henceforth, *ZGNCTJNJ*) (Beijing: Zhongguo Tongji Chubanshe, 1996).

<sup>23</sup> Vincent Benziger, "China's Rural Road System During the Reform Period", *China Economic Review*, No. 4 (1 1993), pp. 1–17; and Albert Nyberg, "Grain Transport by Rail Has Increased", *Agricultural Outlook* (Washington, DC: Economic Research Service, United States Department of Agriculture, 1996).



**Table 1: Economic Growth, Rising Population Density, Road Quality and Access to Infrastructure of Sample Villages**

| Province           | Year | (1)                     | (2)             | (3)                                          | (4)              | (5)               | (6)                        | (7)   | (8)                  |
|--------------------|------|-------------------------|-----------------|----------------------------------------------|------------------|-------------------|----------------------------|-------|----------------------|
|                    |      | Rural income per capita | Cultivated land | Average distance from village to market (km) |                  | Road quality      | Distance by road type (km) |       |                      |
|                    |      | Real yuan               | Person per mu   | Primary market                               | Secondary market | Code <sup>b</sup> | Paved                      | Earth | Distance of Railroad |
| China <sup>a</sup> | 1988 | 535                     | .90             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1531                    | .96             | 5.2                                          | 8.1              | 4.3               | 3.6                        | 7.3   | 85                   |
| Zhejiang           | 1988 | 902                     | 1.4             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 2966                    | 1.5             | 5.5                                          | 7.1              | 4.4               | 2.6                        | 9.2   | 129                  |
| Hebei/<br>Liaoning | 1988 | 584                     | –               |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1715                    | –               | 6.4                                          | 7.7              | 4.8               | 5.4                        | 11.1  | 39                   |
| Shandong           | 1988 | 594                     | .64             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1695                    | .66             | 2.3                                          | 6.0              | 4.4               | 1.6                        | 3.2   | 55                   |
| Hubei              | 1988 | 498                     | .97             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1511                    | 1.1             | 5.4                                          | 6.3              | 4.3               | 5.8                        | 4.3   | 74                   |
| Sichuan            | 1988 | 449                     | .94             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1158                    | .99             | 5.4                                          | 7.1              | 4.2               | 2.9                        | 7.0   | 93                   |
| Yunnan             | 1988 | 428                     | .75             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 1011                    | .80             | 7.8                                          | 16.5             | 4.0               | 6.1                        | 11.2  | 443                  |
| Shaanxi            | 1988 | 404                     | .81             |                                              |                  |                   |                            |       |                      |
|                    | 1995 | 963                     | .93             | 6.7                                          | 12.3             | 4.1               | 4.1                        | 10.7  | 115                  |

*Source:* Authors' data.

<sup>a</sup> Weighted average by rural population of eight sample provinces, except for rural income.

<sup>b</sup> A paved road is given a 5, an earth road able to pass a car is given a 4, roads not able to pass a car were given less than a 3.

home-produced goods (Table 2, column 3) or to buy specialized products such as construction material, farm inputs or materials needed for home businesses and handicraft production. Only in Shandong Province was there not much difference between the reasons for attending each of the markets. Villagers in most of our sampled communities have a clear distinction in their minds that different markets serve different purposes.

**Table 2: Characteristics of Primary and Secondary Rural Periodic Markets in China, 1995**

| Province             | Market type | Primary Reason for Going to Market  |                                     |                                      |              | Non-local Buyers and Sellers |                |
|----------------------|-------------|-------------------------------------|-------------------------------------|--------------------------------------|--------------|------------------------------|----------------|
|                      |             | (1)<br>To buy grain and other crops | (2)<br>To buy articles of daily use | (3)<br>To sell grain and other crops | (4)<br>Other | (5)<br>Buyers                | (6)<br>Sellers |
| China <sup>a</sup>   | Primary     | 41                                  | 39                                  | 17                                   | 2            | 45                           | 48             |
|                      | Secondary   | 29                                  | 21                                  | 34                                   | 16           | 68                           | 67             |
| Zhejiang             | Primary     | 81                                  | 13                                  | 3                                    | 3            | 42                           | 42             |
|                      | Secondary   | 13                                  | 19                                  | 50                                   | 18           | 100                          | 100            |
| Hebei/<br>Liaoning   | Primary     | 12                                  | 60                                  | 24                                   | 4            | 74                           | 70             |
|                      | Secondary   | 21                                  | 29                                  | 43                                   | 7            | 72                           | 78             |
| Shandong             | Primary     | 34                                  | 47                                  | 13                                   | 6            | 48                           | 81             |
|                      | Secondary   | 38                                  | 38                                  | 19                                   | 5            | 52                           | 74             |
| Hubei                | Primary     | 31                                  | 66                                  | 3                                    | 0            | 52                           | 52             |
|                      | Secondary   | 42                                  | 14                                  | 17                                   | 27           | 76                           | 76             |
| Sichuan <sup>b</sup> | Primary     | 48                                  | 26                                  | 26                                   | 0            | 20                           | 20             |
|                      | Secondary   | 23                                  | 13                                  | 23                                   | 41           | 60                           | 60             |
| Yunnan               | Primary     | 42                                  | 33                                  | 25                                   | 0            | 73                           | 36             |
|                      | Secondary   | 25                                  | 4                                   | 71                                   | 0            | 67                           | 100            |
| Shaanxi              | Primary     | 28                                  | 41                                  | 22                                   | 3            | 47                           | 50             |
|                      | Secondary   | 25                                  | 16                                  | 59                                   | 0            | 77                           | 70             |

*Source:* Authors' data.

<sup>a</sup> Weighted average by rural population of eight sample provinces.

<sup>b</sup> Includes only five villages in Sichuan on the origins of buyers and sellers; data are missing for others.

The year of establishment for many of the local periodic markets leaves no doubt that these are the continuation of the traditional rural markets. In all of the sampled provinces, leaders and farmers reported that over 80 per cent of the periodic markets were established before 1949, and in Sichuan Province *all* markets began long before the Communist regime took power (Table 3, row 1).<sup>24</sup> Even in the provinces with the lowest proportion of markets, Hebei and Liaoning, 56 per cent of periodic markets existed before 1949.

How old are these markets? In many cases, villagers do not know when they actually started. In others, the collective memory clearly identified the time of origin. In one Shandong village, for example, when asked when the market was founded, the village leader proudly responded, "Song", meaning that the market convening in his township was the same one that met during the Song Dynasty (907–1277 AD).

In a 1985 article, Skinner proposed that the forces of modernization, triggered by the improvement of transportation, would dominate and permanent shops in central market towns would become the principal shopping places for rural residents, leading to the disappearance of many of the local periodic markets by the end of the twentieth century.<sup>25</sup> Contrary to that prediction, our survey shows that rural periodic market activity has risen continuously, according to a number of measures. During the period of economic recovery following Mao's death, the *number* of periodic markets increased rapidly, rising from 33,000 to 48,000 between 1978 and 1983. The number continued to rise, to 61,000 in 1985, 72,500 in 1990 and 83,000 in 1995.<sup>26</sup> The *value of transactions* during the same time periods also increased rapidly and, in fact, the rate of increase accelerated throughout these periods.

The pattern of newly emerging markets during the reform period followed that of pre-1949 markets (Table 3, rows 4 to 7). In our sample of 207 villages, the leaders of 35 villages (13 per cent of the sample) reported that residents attended markets whose market days had increased since 1980 (rows 4 and 5), while 43 leaders (16 per cent) reported that villagers began attending new markets that had opened between 1978 and 1995 (rows 6 and 7). Increases in the number of marketing days and the emergence of new markets occurred in both the first half of the reform period, from 1980 to 1988 (rows 4 and 6), and in the later period, 1988 to 1995 (rows 5 and 7). On the aggregate national level, however, it is difficult to determine whether during the reform period a rising periodicity in marketing days preceded the emergence of new markets, as Skinner hypothesized for new market sites in traditional China.

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<sup>24</sup> The fact that a market was established before 1949 does not mean that the markets were continuously in operation during the socialist period. The re-establishment of markets is discussed later in the text.

<sup>25</sup> Skinner, "Rural Marketing in China: Repression".

<sup>26</sup> *Zhongguo tongji nianjian* (China Statistical Yearbook) (hereafter *ZGTJNJ*) (Beijing: Zhongguo Tongji Chubanshe, 1980–96).

**Table 3: Year of Establishment and Changes in Scheduled Frequency of Rural Periodic Markets in China**

|                                             | China           | Hebei/   |          |          |       |         |        |         |  |
|---------------------------------------------|-----------------|----------|----------|----------|-------|---------|--------|---------|--|
|                                             |                 | Zhejiang | Liaoning | Shandong | Hubei | Sichuan | Yunnan | Shaanxi |  |
| Year market was established 1949 and before | 77 <sup>a</sup> | 69       | 56       | 78       | 62    | 100     | 66     | 72      |  |
| 1950–1977                                   | 5 <sup>a</sup>  | 13       | 7        | 0        | 0     | 0       | 17     | 13      |  |
| 1978–1995                                   | 18 <sup>a</sup> | 19       | 37       | 22       | 38    | 0       | 17     | 15      |  |
| Increase in scheduled frequency             |                 |          |          |          |       |         |        |         |  |
| 1980–1988                                   | 22 <sup>b</sup> | 1        | 0        | 1        | 0     | 10      | 1      | 9       |  |
| 1988–1995                                   | 13 <sup>b</sup> | 0        | 0        | 1        | 0     | 9       | 1      | 3       |  |
| New markets established                     |                 |          |          |          |       |         |        |         |  |
| 1980–1988                                   | 24 <sup>b</sup> | 3        | 5        | 6        | 3     | 0       | 2      | 5       |  |
| 1988–1995                                   | 19 <sup>b</sup> | 3        | 5        | 1        | 8     | 0       | 2      | 0       |  |

Source: Authors' data.

<sup>a</sup> Weighted average by rural population of eight sample provinces.

<sup>b</sup> Total for eight sample provinces.

**Table 4: Attendance and Frequency of Rural Periodic Markets in China**

|                                                      | China <sup>a</sup> | Zhejiang | Hebei/<br>Liaoning | Shandong | Hubei | Sichuan | Yunnan | Shaanxi |
|------------------------------------------------------|--------------------|----------|--------------------|----------|-------|---------|--------|---------|
| Average market days<br>per <i>xun</i> per village    |                    |          |                    |          |       |         |        |         |
| 1980                                                 | 4.0                | 6.6      | 4.4                | 1.9      | 6.2   | 3.5     | 3.7    | 3.9     |
| 1988                                                 | 4.6                | 7.1      | 5.3                | 2.3      | 7.2   | 4.0     | 4.9    | 4.6     |
| 1995                                                 | 5.6                | 8.1      | 6.0                | 2.3      | 10    | 5.1     | 6.1    | 4.7     |
| Average market<br>attendance per day                 |                    |          |                    |          |       |         |        |         |
| 1980                                                 | 5140               | 6580     | 4106               | 9148     | 1783  | 5172    | 2612   | 2107    |
| 1988                                                 | 8921               | 8645     | 9516               | 16859    | 4963  | 7309    | 4718   | 4353    |
| 1995                                                 | 12313              | 11119    | 15219              | 21859    | 7900  | 9058    | 9181   | 6762    |
| Average customer visits<br>per <i>xun</i> per market |                    |          |                    |          |       |         |        |         |
| 1980                                                 | 20457              | 35161    | 22554              | 21396    | 14944 | 22429   | 10660  | 8458    |
| 1988                                                 | 38297              | 51859    | 57036              | 38375    | 45348 | 34365   | 19545  | 19525   |
| 1995                                                 | 62030              | 82394    | 89896              | 51095    | 79000 | 51916   | 63074  | 33278   |

*Source:* Authors' data.

<sup>a</sup> Weighted average by rural population of eight sample provinces.

## Regional Patterns

Disaggregated measures of market activity reinforce the pronounced upward trends in market activity. One important measure—average market days per *xun* per village—rose in all but one province (Table 4, rows 1 to 3): the result holds for all provinces for the period 1980–88, while between 1988 and 1995 it is found for every province except Shandong. The value of market transactions similarly increased.<sup>27</sup>

Average market attendance per day, an even more basic measure of periodic market activity, provides further evidence of the upward trend (Table 4, rows 4 to 6). The attendance figures everywhere rose steadily, increasing by two to three times between 1980 and 1995.<sup>28</sup> Even Shandong, the one province in the survey without a significant rise in numbers of market days, experienced more than a doubling in attendance between 1980 and 1995.

In percentage terms, customer visits per *xun* market-day cycle shows a surge of market activity in the 1980–88 period (78 per cent—Table 4, rows 7 to 9, column 1), and this rate of expansion is nearly sustained in the 1988–95 period (63 per cent).<sup>29</sup> Surprisingly, in Zhejiang, the most developed province (and presumably the province in which markets should disappear first), the rate of increase in the second period (59 per cent) exceeds that in the first (48 per cent—column 2). At the provincial level, analysis of the overall trend shows that the counterbalancing effects of modern transportation systems had not begun to dampen market visits as of the mid-1990s.

In a separate set of writings Skinner argues that analysing economic data in China at the provincial level is not appropriate. He notes that provincial boundaries are drawn in such a way that they contain regions that are both rich and poor, urban and rural, and advanced and backward, and thus comparing provincial averages could be misleading.<sup>30</sup> To rectify this possible problem, Skinner has assigned both core-periphery zones (CPZ) and urban-rural continuum indices (URC) to every county in China and has made these available to us. A CPZ measure is assigned to each county using a macro-regional index of highly correlated variables, such as electricity use, meat output and age

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<sup>27</sup> This is as discussed above and reported in *ZGNCTJNJ*, 1990–96.

<sup>28</sup> Figures for average customer visits per *xun* per market were calculated by multiplying attendance per market day by markets per *xun*.

<sup>29</sup> It may be that the increase in market activity in the early 1980s is measuring other factors besides changes in population, income, commercial activity and transport, since policies were also changing during the period. In this vein, the changes in marketing activity in the later period of 1988 to 1995 may be a fairer measure, since both collectives and rationing had been eliminated.

<sup>30</sup> G. William Skinner, "Differential Development in Lingnan", in Thomas P. Lyons and Victor Nee (eds), *The Economic Transformation of South China: Reform and Development in the Post-Mao Era* (Cornell East Asian Series, No. 70; Ithaca: East Asia Program, Cornell University, 1994), pp. 17–54.

structure.<sup>31</sup> The formulation of URC depends essentially on (i) whether the highest level city is a metropolis, regional city, greater city, local city or market town and (ii) the proportion of the county's population that is urban.

**Table 5: Income, Location, Transportation and the Intensity of Rural Periodic Market Activity in China, 1995<sup>a</sup>**

|                                          | Average customer visits per <i>xun</i> per market | Increase in average customer visits per <i>xun</i> per market, 1988–95 (%) |
|------------------------------------------|---------------------------------------------------|----------------------------------------------------------------------------|
| Core–Periphery Zone (CPZ) <sup>b</sup>   |                                                   |                                                                            |
| Inner                                    | 71952                                             | 88                                                                         |
| Outer                                    | 53480                                             | 71                                                                         |
| Urban–Rural Continuum (URC) <sup>c</sup> |                                                   |                                                                            |
| Urban                                    | 85859                                             | 102                                                                        |
| Rural                                    | 52927                                             | 62                                                                         |
| Income <sup>d</sup>                      |                                                   |                                                                            |
| Rich                                     | 89554                                             | 90                                                                         |
| Poor                                     | 37238                                             | 57                                                                         |
| Distance to railroad <sup>e</sup>        |                                                   |                                                                            |
| Near                                     | 67709                                             | 64                                                                         |
| Far                                      | 56681                                             | 99                                                                         |

*Source:* Authors' data. Data used to create CPZ and URC categories provided to authors by G. William Skinner.

<sup>a</sup> All category divisions are made at approximately median values.

<sup>b</sup> Zones 3 and below are “inner” regions near core metropolises.

<sup>c</sup> Zones 4 and below are “urban”.

<sup>d</sup> Incomes above 1240 yuan (the mean sample income) are “rich”.

<sup>e</sup> “Distance” measures in kilometres the distance between the village and nearest rail station. Below 45 kilometres (the mean distances of the sample) is “near”.

<sup>31</sup> The CPZs have been “de-urbanized” so as to make them statistically distinct from the URCs (although still correlated with it at about the .50 level). We thank Professor Skinner for providing us with these measures.

**Table 6: The Rise of Permanent Shops in China, 1988 and 1995**

| Province           | Number of permanent shops per 100 residents |      |
|--------------------|---------------------------------------------|------|
|                    | 1988                                        | 1995 |
| China <sup>a</sup> | 0.41                                        | 0.86 |
| Zhejiang           | 0.55                                        | 1.05 |
| Hebei/             |                                             |      |
| Liaoning           | 0.61                                        | 1.14 |
| Shandong           | 0.30                                        | 0.65 |
| Hubei              | 0.45                                        | 0.86 |
| Sichuan            | 0.50                                        | 1.02 |
| Yunnan             | 0.20                                        | 0.52 |
| Shaanxi            | 0.13                                        | 0.67 |

*Source:* Authors' data.

<sup>a</sup> Weighted average by rural population of eight sample provinces.

Applying these two indices provides further evidence of marketing activity that is contrary to Skinner's predictions (Table 5, column 1). Periodic marketing activity (measured by customer visits per *xun* per market) during the reform period in the zone nearest the core (the "inner core" zones—row 1) is greater than activity in the outer rings (row 2). Likewise, periodic marketing activity is higher in the most urban regions (row 3) than in the areas that are less urban (row 4). The percentage increase in the average customer visits per *xun* per market also has increased faster in areas with higher incomes (90 per cent) than in poorer ones (57 per cent) (Table 5, column 1, rows 5 and 6). In fact, for three of our categories of comparisons (rows 1 to 6), the percentage increase in customer visits per *xun* per market between 1988 and 1995 is *higher* in the more developed areas (column 2). Overall, China's leaders have invested in modern transport (as proxied by the average distance between a village and the nearest rail line), and periodic marketing activity is higher (Table 5, column 1, rows 7 and 8), instead of falling as Skinner predicted.

In China, the same forces that are supposed to undermine markets bolster the construction of shops at permanent locations. Permanent shops are supposed to provide more efficient retailing and wholesaling services than do periodic markets. But, while the rise in incomes did trigger an expansion of permanent



shops in all of the provinces (Table 6, columns 1 and 2), this happened at the same time that the local periodic markets have continued to expand.<sup>32</sup>

The pattern that has emerged in the data is clear—there is no obvious sign of a decline in the use of periodic markets even in the most developed areas. As shown by the figures in seven of eight cells for Skinner's CPZ and URC indices (Table 5, rows 1 to 4), intensification of markets is continuing even under modernization. Skinner himself, however, created his spatial hierarchy measures to be used together in a matrix.<sup>33</sup> In Figure 1, Panel A, we show such a CPZ–URC matrix for total customer visits in 1995. Although we have observations for 24 individual cells, we have had to group them into only three segments in order to get a clear trend. At this level of aggregation, the pattern in the matrix indicates that those villages in the upper left-hand segment (the most developed regions of China) have more than five times the customer visits per *xun* than those in the lower right-hand cells. Panel B shows the matrix for new market activity (that is, whether villages reported new markets being established or increased frequency of market days at existing markets). Again, there is clearly more new market activity in the more developed regions (upper left-hand corner).<sup>34</sup>

Regression analysis is used to measure the net effect of individual variables on market activity while controlling for the effects of other independent variables, and this avoids the problems inherent in simple descriptive statistics (Appendix). In the first step of our analysis we explain the average number of customer visits per *xun* per market (Appendix Table 1a). The multivariate regression analysis provides strong evidence in support of Skinner's predictions of the demand-related determinants of market development. The variables representing income and population are all positive and statistically significant. When incomes rise or when populations become denser, holding all other things equal, periodic market activity becomes more intense. Hence, the multivariate findings illustrate that the story that is told by the descriptive statistics in the rest of the article holds up to more rigorous analysis.

But, whereas the effect of demand density variables appears to be strongly supported by the data, the pre-1949 observations on the importance of the rise of modern transport in explaining the decline of periodic markets does not have overwhelming support. In some of the specifications, there is weak evidence that

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<sup>32</sup> Correlation coefficients measuring the co-movement of the village-level shops and income are positive and significant (at the 1 per cent level), a result consistent with observed pre-1949 patterns of market development. However, the correlation coefficient between permanent shops and periodic markets is also positive and significant (at the 10 per cent level), a finding inconsistent with the hypothesis that markets are crowded out as an economic environment that can support permanent shops develops.

<sup>33</sup> The CPZ index measures the level of development of a region, with a low number meaning a region is near the core, while a higher number means one that is far in the periphery. The URC index measures the degree of urban development, with a low number meaning a region is very urban, while a high number means it is very rural.

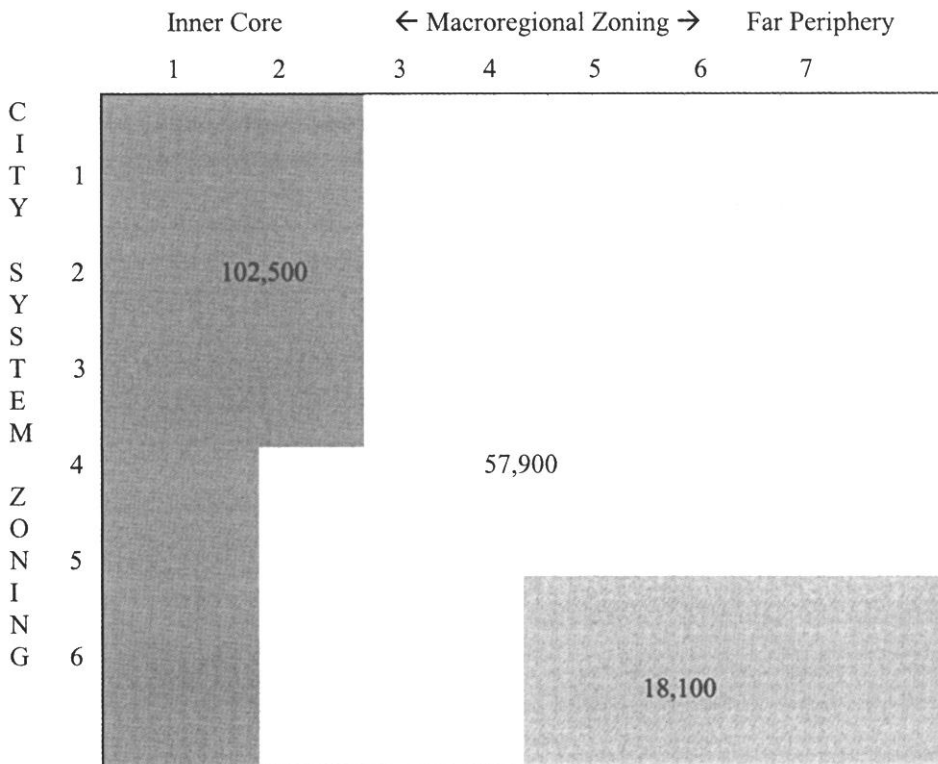
<sup>34</sup> Skinner, "Differential Development in Lingnan".

as transportation and communications improve periodic markets begin to decline. For example, in the far periphery, this may be true; in Yunnan province we see evidence that Skinner’s predictions hold up. Most of the regression findings, however, fail to demonstrate that better transportation leads to a contraction of activity in local rural markets.

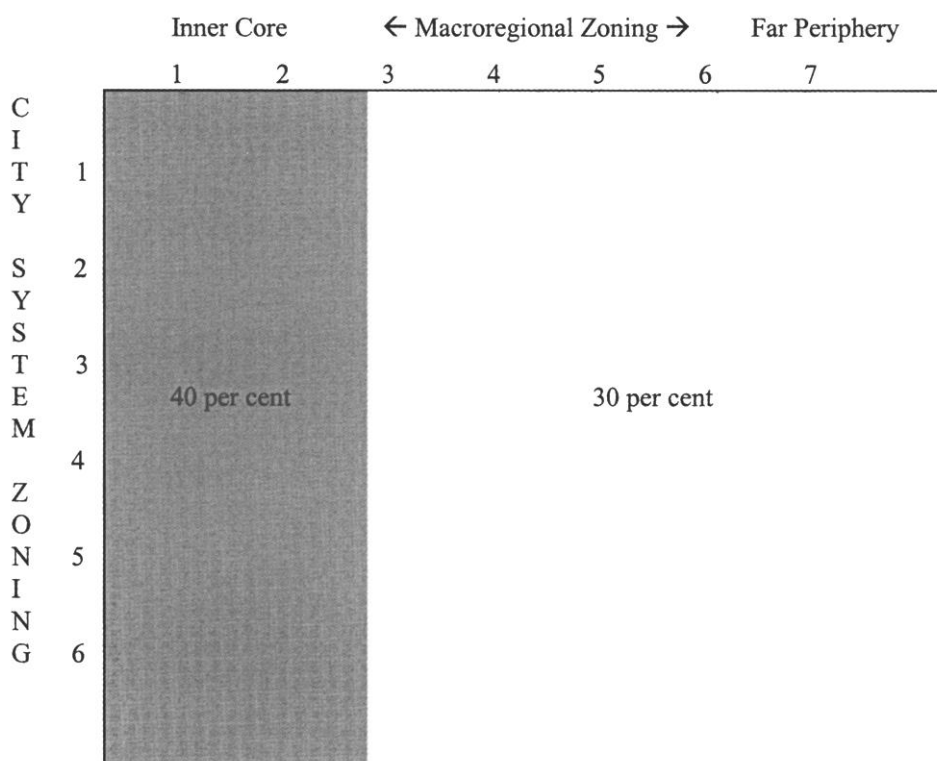
Even so, careful examination of the aggregate trends suggests that China may be nearing the point at which the number of periodic local markets has peaked, and they will soon begin to be replaced by more modern marketing systems. According to national aggregate statistics, the *rate* of increase in the number of markets, as stated above, has declined over each five-year period. In fact, between 1994 and 1995, for the first time, the total number of periodic markets showed an absolute decline. And, unlike the slowdown in market expansion that accompanied China’s recession in 1989, the reversal in the nationwide growth rate of periodic markets occurred at a point when the rural growth in the mid-1990s was hitting its highest rate since the mid-1980s.

**Figure 1: Market Development Patterns Using Core–Periphery and Urban–Rural Continuum Matrices**

Panel A. Total Customer Visits per *Xun*, 1995



Panel B. Villages with New Markets or Increasing Periodicity, 1995



Moreover, our survey evidence showed that, while periodic market activity had risen both in areas with better and poorer transportation (Table 5, rows 7 and 8, column 1), the rate of increase was faster in areas with poorer transport (99 per cent) than in areas with better transport (64 per cent—column 2). In some of the richest villages in Zhejiang province, leaders reported that villagers were attending only one market and were using them primarily for purchasing a narrow range of commodities such as vegetables and fresh meat. This shift in marketing habits in the richest villages in our sample may be a sign that some of the marketing functions were taking place through other channels (see below).

### **An Alternative Explanation for Understanding Market Change**

In this concluding section, we offer several explanations as to why periodic markets have not disappeared and why their growth has been so robust. We also briefly describe a framework that offers a more complete analytical approach to understanding market emergence and persistence.

The appearance of new periodic markets demonstrates that the counterbalancing effect of modern transport has been surprisingly weak. One explanation is that a set of barriers has arisen that holds back the development of

permanent shops at more central locations (the hypothesized substitute for periodic markets). In our attempt to discover such barriers, we interviewed traders and permanent shop owners and managers in 16 markets across China in 1997. On the basis of these interviews, we identified a number of reasons why periodic marketing activity was still popular and why permanent shops had not proliferated to a greater extent. The most common answers related to tax policy, land regulations and shortage of capital.

Local officials clearly understand how difficult it is to collect taxes from itinerant peddlers. As a consequence, officials spend little time trying to collect value-added taxes, relying instead on simple taxation methods such as collecting stall fees or negotiating a lump sum fee.<sup>35</sup> However, given the magnitude of marketing activity and volume of transactions, the tax is minimal when placed in the context of the average buyer's total transactions on any given periodic market day in China—perhaps less than 0.50 yuan per market visit.<sup>36</sup> Tax officials can more accurately gauge the volume of sales and tax burdens of permanent shops, and, on the basis of our small sample, the average tax rate on permanent shops, at 15 per cent of sales (9 per cent in national taxes and 6 per cent in local taxes) far exceeds that of the typical seller at periodic markets (less than 1 per cent).

Poorly developed land markets also may be retarding the rapid rise of permanent shops in some areas. Several periodic market vendors expressed their frustration at not being able to buy land at busy locations. One official blamed recent national and local restrictions on the conversion of cultivated land to non-farm use. Even when land was available, however, a long-time peddler believed that the high cost of paying a plethora of taxes, fees and side payments in order to lease land made it unattractive to set up shop.

Finally, a number of traders and permanent shopowners complained that, even in areas where land is available at a price at which profitable shopkeeping is

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<sup>35</sup> According to national tax laws, all transactions are subject to the nation's value-added tax. Sellers should pay to the local tax authority a percentage of the mark-up they charge. Difficulties in monitoring and enforcing this, however, make it impossible for authorities to collect such a tax at the periodic markets. In most localities, designated officials from the township commercial management station (*gongshang guanli zhan*) instead determine a fixed fee for each vendor—sometimes based on the size of the site the vendor occupied or the facilities used. In many areas, county tax authorities split the revenue from the “stall tax” with the township or village governments.

<sup>36</sup> According to Kate Xiao Zhou, *How Farmers Changed China: Power to the People* (Boulder: Westview Press, 1996), an official at a national conference on periodic market activity in 1990 declared that tax revenues for the years 1980 to 1990 equaled 20 billion yuan. Official statistics report an average of 50,000 markets in rural China during this period; if these markets met, on average, 100 times per year (an estimate based on our sample's average), then the average tax attributed to each of the 5000+ people who attended an average market would be 0.80 yuan per customer per visit. It is also likely that a large part of the 20 billion yuan was collected from urban periodic markets, leaving the total tax attributable to each customer's visit at less than 0.50 yuan.

possible, the unavailability of reasonably priced local financing precluded a rush to open shops. In China's reform economy, the rural financial sector remains one of the least liberalized.<sup>37</sup> Bank officials ration credit, often directing it towards politically important projects and collective users, especially in industry, and away from the private sector. Informal credit rates are high and its availability is sometimes questionable. Hence, the "friction of land and capital" may be keeping modern transport from reducing the "friction of distance", providing periodic markets with a competitive advantage even in an era when permanent shops should flourish.

So, is Skinner right or wrong? This question in one sense is misleading and unfair. Skinner's work on the structure of rural marketing during the pre-Liberation period is a remarkable analysis that has provided new insights for countless students of markets and rural society. Skinner brought together in a single analytical framework a rich, diverse set of data and personal observations, bringing order to the heretofore scattered literature on periodic markets. Few works question his explanations of late Imperial and Republican periodic marketing.

A model built primarily to explain a historical phenomenon should not be expected to "forecast out of sample". The overall institutional environment of the late Communist period is quite different from what prevailed under the KMT or the last emperors. The *ad valorem* tax, one of the reasons that permanent shops may be at a competitive disadvantage relative to periodic markets in China today, was not even known to the world of the nineteenth century. The consolidation of the power of the Communist Party and the extension of the reach of the government, which gave it control over most of the rural land and capital, all occurred long after Skinner's visits to rural Sichuan and Shandong in the late 1940s. A complete model of marketing patterns needs to account for tax, land and banking policy, as well as the density of demand and the construction of national and local infrastructure.

Skinner being right about periodic markets in the 1930s thus did not guarantee that his model could provide accurate predictions of market persistence and decline as China's economy changed in the socialist and current reform periods. Using a more general conceptual basis, such as transaction-cost analysis or the ideas of new institutional economics that identify other forces of economic transformation, may provide broader explanatory power.

The new institutional economics approach is guided by three deductive assertions. First, institutions (including markets) are defined and safeguarded by property rights, rules and regulations. Second, the form of a given institution changes over time owing to changing policies, technological innovations, demographic transformation, integration, specialization and other factors. Third,

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<sup>37</sup> Albert Park, Loren Brandt and John Giles, "Giving Credit Where Credit is Due: The Changing Role of Rural Financial Institutions in China", *Working Paper No. 71* (Ann Arbor: The William Davidson Institute, 1997).

not all institutions are efficient since they reflect entrenched interests. The transaction costs of bargaining, measurement and enforcement must be overcome if institutions are going to evolve toward an optimal form.

Such a general transaction-cost approach allows for all of the elements in Skinner's original model, in addition to explicitly considering the tax transactions, property rights issues, imperfections in markets and the regulatory obstacles that our inquiry into the persistence of periodic markets has uncovered. Rising incomes and population densities raise the returns by lowering the average fixed costs to periodic market vendors and, in line with Skinner's assertions, stimulate increased market-day frequencies and the rise of new markets. Similarly, improvements in transportation lower the transaction costs for those wanting to attend permanent shops and might be expected to help hasten the demise of periodic markets. However, even if demand conditions are such that they will support the transition to a new marketing form, such as permanent shops, the tax policies and imperfect land and capital markets could be generating such high transaction costs for prospective shop-owners that they choose to forego the opportunity.

It should also be noted that some of the very forces that were supposed to lead to a demise of periodic markets could be strengthening them, in that modern transport not only reduces the transaction costs of consumers to get to the permanent shops, but also reduces the costs of the itinerant vendors who sell and buy in the periodic markets, which helps keep periodic markets in business.

The use of a more general theoretical framework also broadens the inquiry beyond the dual options of periodic markets or permanent shops. Again, this is not necessarily a criticism of the investigations into rural commerce of the 1930s–1940s. The choice between periodic markets and permanent shops for those wishing to sell to and buy from rural consumers and producers constituted the universe of options at that time. In the 1990s, however, better telecommunications, the changing experience of rural consumers and the rise of commercially oriented state-owned trading firms (grain companies, seed enterprises and other outlets created by administrative edicts of the socialist government and liberalized by Deng's reformers) provide additional marketing channels.<sup>38</sup> There now exist in almost every village in China private grain wholesaling firms, contracting arrangements for crops with large trading corporations and their agents, and private door-to-door salespersons engaged in the wholesaling of fertilizer and the procurement of grain and other crops. The appearance of these new participants in markets throughout rural China has implications for the future evolution of periodic markets. Coming up with a model to explain the impact of these alternative marketing forms presents a new challenge.

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<sup>38</sup> Terry Sicular, "Redefining State, Plan and Market: China's Reforms in Agricultural Commerce", *China Quarterly*, No. 144 (1995), pp. 1020–46.

## APPENDIX

**Regression Analysis Explaining Periodic Markets**

The Appendix Tables present the most comprehensive measure of market activity, "customer visits per *xun* per market", regressed for factors expected to affect the emergence and disappearance of new markets: income per capita (*income*), population density (land to person ratios—*population*), different combinations of two transportation variables (*transport I* and *II*), and Skinner's core-periphery and urban-rural continuum variables (CPZ and URC and an interaction term, a proxy for the general market environment). The analysis also included two control variables, one to account for the distance of each sampled village from the county seat (*distance to county seat*) and the other to hold constant the location of the market (*market location*).<sup>39</sup> Two general forms of the regressions are used, one explaining the *levels* of market activity in 1988 and 1995 (Appendix Table 1a—henceforth the level equations) and the other explaining *differences* in the activity of periodic markets between 1988 and 1995 (Appendix Table 1b—henceforth the difference equations).<sup>40</sup>

Our multivariate analysis supports Skinner's analysis of the demand-related determinants of market development. All 12 specifications of the equations show that, as income and population densities rise, periodic market activity increases in intensity (though in some equations the t-ratios are higher than others). The income variable is most significant in (1) the level equations without the *transport II* variable, Appendix Table 1a, columns 1 and 4, (perhaps a result of collinearity between the measures of income and transportation) and (2) the *linear* difference equations (Appendix Table 1b, columns 7 to 9). For example, when per capita income rises by 100 yuan, market visitors increase by nearly 9200 (see the coefficient, 92, on the income variable—Appendix Table 1a, column 1). The sign on the coefficient of the income variable (a measure of the difference in per capita income between 1988 and 1995) also is positive and has an even higher t-ratio, showing that districts where incomes have risen the fastest have

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<sup>39</sup> To define the variable *market location*, we set *market location*=1 if the market is in the village; we set *market location*=2 if the market is in the same town as the village; we set *market location*=3 if the market is outside of the town.

<sup>40</sup> The models generally performed fairly well according to both statistical and economic criteria. Adjusted R-square statistics, measures of goodness of fit, ranged between 0.09 and 0.43, with those in all but two equations above 0.20, levels that most economists consider highly acceptable in cross-section analysis (bottom row, Appendix Tables 1a and 1b). The signs on the coefficients of control variables also are mostly consistent with a priori expectations, and the size of their t-ratios demonstrate their importance in the analysis (for example, Appendix Table 1a, rows 8 and 9). Also, rural periodic market activity is greatest in the areas immediately around county seats (*distance to county seat*—given all other factors constant) and when the market is located further from the village it tends to increase in size since the primary market draws on a longer area.

**Appendix Table 1a: Regression Results Explaining Rural Periodic Market Activity in China Using Ordinary Least Square Estimator**

| Independent Variables               | Dependent Variable: Average Customer Visits per <i>Xun</i> per Market |                 |                 |                  |                 |                  |
|-------------------------------------|-----------------------------------------------------------------------|-----------------|-----------------|------------------|-----------------|------------------|
| <b>Density of Demand</b>            | (1)                                                                   | (2)             | (3)             | (4)              | (5)             | (6)              |
| Income                              | 63<br>(2.01)                                                          | 27<br>(0.85)    | 39<br>(1.26)    | 51<br>(1.24)     | 22<br>(1.05)    | 17.25<br>(0.42)  |
| Population                          | 32750<br>(2.72)                                                       | 16377<br>(1.26) | 17945<br>(1.43) | 40832<br>(3.16)  | 22974<br>(1.68) | 27342<br>(2.07)  |
| <b>Modern Transport</b>             |                                                                       |                 |                 |                  |                 |                  |
| Transport I<br>(Railways)           | 71<br>(1.25)                                                          |                 | 48<br>(0.85)    | 6.35<br>(0.10)   |                 | -6.84<br>(0.11)  |
| Transport II<br>(Buses)             |                                                                       | 571<br>(3.72)   | 515<br>(3.56)   |                  | 568<br>(3.69)   | 528<br>(3.63)    |
| <b>General Market Environment</b>   |                                                                       |                 |                 |                  |                 |                  |
| Core-Periphery<br>(CP)              | 41982<br>(3.00)                                                       | 20570<br>(1.43) | 37896<br>(2.73) | 48228<br>(2.86)  | 29941<br>(1.73) | 42099<br>(2.53)  |
| Urbanization<br>(URC)               | 37111<br>(2.50)                                                       | 16084<br>(1.06) | 33444<br>(2.28) | 38057<br>(1.89)  | 21566<br>(1.10) | 33938<br>(1.72)  |
| Interaction<br>(CP*URC)             | -10685<br>(3.13)                                                      | -5653<br>(1.61) | -9557<br>(2.83) | -11733<br>(2.78) | -7574<br>(1.78) | -10389<br>(2.50) |
| Distance to<br>County Seat          | -1234<br>(2.55)                                                       | -1559<br>(3.17) | -1244<br>(2.60) | -1603<br>(3.10)  | -1997<br>(3.72) | -1628<br>(3.16)  |
| Market<br>Location                  | 19128<br>(2.28)                                                       | 20861<br>(2.48) | 21764<br>(2.61) | 18790<br>(2.15)  | 21952<br>(2.51) | 21510<br>(2.49)  |
| <b>Province Effects<sup>a</sup></b> |                                                                       |                 |                 |                  |                 |                  |
| Zhejiang                            |                                                                       |                 |                 | -2141            | -5034           | 307              |
| Liaoning/Hebei                      |                                                                       |                 |                 | 23866            | 32729           | 27753            |
| Shandong                            |                                                                       |                 |                 | 4973             | 17432           | 15639            |
| Hubei                               |                                                                       |                 |                 | 3217             | 26779           | 1139             |
| Sichuan                             |                                                                       |                 |                 | 10046            | 10971           | 6552             |
| Yunnan                              |                                                                       |                 |                 | 82637*           | 81576*          | 80972*           |
| <b>R-Square</b>                     | 0.21                                                                  | 0.20            | 0.25            | 0.26             | 0.21            | 0.26             |

<sup>a</sup> T-ratios for provincial dummies not shown.

\* Denotes provincial dummy significant at the 1 per cent level.



**Appendix Table 1b: Regression Results Explaining Rural Periodic Market Activity in China Using Ordinary Least Squares Estimator**

| Independent Variables <sup>a</sup>      | Dependent Variable: Differences in Average Customer Visits per <i>Xun</i> per Market between 1988 and 1995 |                 |                 |                  |                  |                  |
|-----------------------------------------|------------------------------------------------------------------------------------------------------------|-----------------|-----------------|------------------|------------------|------------------|
| <b>Density of Demand</b>                | (7)                                                                                                        | (8)             | (9)             | (10)             | (11)             | (12)             |
| Income                                  | 35<br>(1.99)                                                                                               | 67<br>(3.37)    | 66<br>(3.44)    | 4.07<br>(0.16)   | 29<br>(1.38)     | 29<br>(1.06)     |
| Income Square                           |                                                                                                            |                 |                 | 0.05<br>(1.11)   | 0.10<br>(1.57)   | 0.10<br>(1.36)   |
| Population                              | 0.95<br>(2.27)                                                                                             | 2.53<br>(3.54)  | 2.74<br>(3.44)  | 0.44<br>(0.94)   | 0.67<br>(0.74)   | 0.73<br>(0.73)   |
| Population Square                       |                                                                                                            |                 |                 | 0.0003<br>(1.78) | 0.0003<br>(2.67) | 0.0008<br>(2.40) |
| <b>Modern Transport</b>                 |                                                                                                            |                 |                 |                  |                  |                  |
| Transport I (Railways)                  | -7.47<br>(0.41)                                                                                            |                 | -10<br>(0.48)   | 8.3<br>(0.13)    |                  | -15<br>(0.24)    |
| Transport I Square                      |                                                                                                            |                 |                 | -0.01<br>(.12)   |                  | 0.03<br>(0.33)   |
| Transport II (Buses)                    |                                                                                                            | -117<br>(1.32)  | -140<br>(1.48)  |                  | 497<br>(3.37)    | 509<br>(3.16)    |
| Transport II Square                     |                                                                                                            |                 |                 |                  | -2.89<br>(5.56)  | -2.94<br>(5.27)  |
| <b>General Market Environment</b>       |                                                                                                            |                 |                 |                  |                  |                  |
| Core-Periphery (CP)                     | 12833<br>(1.80)                                                                                            | 7038<br>(0.95)  | 7291<br>(0.89)  | 7913<br>(1.11)   | -2523<br>(0.38)  | -2230<br>(0.30)  |
| Urbanization (URC)                      | 16791<br>(2.31)                                                                                            | 10897<br>(1.43) | 11061<br>(1.30) | 10695<br>(1.44)  | 518<br>(0.07)    | 1335<br>(0.17)   |
| Interaction (CP*URC)                    | -3852<br>(2.26)                                                                                            | -2502<br>(1.41) | -2580<br>(1.31) | -2612<br>(1.50)  | 35<br>(0.02)     | -24<br>(0.01)    |
| Distance to County Seat Market Location |                                                                                                            |                 |                 | -480<br>(1.99)   | -410<br>(1.87)   | -419<br>(1.62)   |
|                                         |                                                                                                            |                 |                 | 10824<br>(2.46)  | 15463<br>(3.88)  | 16840<br>(3.59)  |
| <b>R-Square</b>                         | 0.09                                                                                                       | 0.20            | 0.20            | 0.15             | 0.43             | 0.42             |

experienced the largest increases in customer visits per *xun*. Interestingly, if this same relationship between income and periodic market activity held in the pre-1949 era, the rising per capita incomes found by Rawski and Brandt for that period contributed to market development far more than Skinner and others working on China's traditional marketing systems have recognized.<sup>41</sup>

The coefficients on the population density variables are even more statistically significant than income and show that population densities also affect market activity (Appendix Tables 1a and 1b, columns 1 to 12). While this confirms the intuition of the early observers about the importance of population pressures, the figures have to be interpreted with caution. Interestingly, in our sample one-third of the villages experienced population losses, indicating that migration has affected the density of demand in some regions. Impoverished areas typically export labour, while prosperous regions attract many of these same migrants. Thus, the strong positive relationship between changes in population and market activity is partly the result of already prosperous areas attracting migrants, while poorer ones send migrants workers out.

But, whereas the effects of demand density variables appear to be strongly supported by the data, Skinner's observations on the importance of modern transport in explaining the decline of periodic markets do not have strong support in the 1990s data. The measure of rail and accompanying transport (*transport I*) is not significant in any of the level or difference equations, its t-ratio exceeding 1.00 in only one equation. The coefficient on the variables representing bus transport (*transport II*) is significant in the level equations (Appendix Table 1a, columns 2, 3, 5, and 6), but the sign is unexpectedly positive (perhaps partly explained by its high correlation with income). The coefficients on the *transport II* variable, while negative, are insignificant in the linear difference equations (equations 8 and 9). The only evidence of any significant negative impact of transport appears in the difference equations, which include the *transport II* variable in both linear and squared form, a statistical method designed to measure the relationship between two variables when they are non-linear (Appendix Table 1b, columns 11 and 12). Expansion of market activity finally begins to abate when a village's bus system develops to a level where more than 100 buses per day pass the village. Far above the mean (approximately 50 buses per day), this result may mean that Skinner's 1985 insights were right, but that he miscalculated the extent to which the transport system had to develop before it impacted upon periodic markets.

The signs on the coefficients of the macroregion variables, CPZ and URC, demonstrate a complex, non-linear relationship between the factors that these indices represent and periodic market activity. As one moves out from the core metropolises and from highly urban into more rural regions, holding income,

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<sup>41</sup> Thomas Rawski, *Economic Growth in Prewar China* (Berkeley: University of California Press, 1989); and Loren Brandt, *Commercialization and Agricultural Development: Central and Eastern China* (New York: Cambridge University Press, 1989).

population and transport constant, market activity rises, much as Skinner showed in his examples of Ningbo and the Sichuan riverine system.<sup>42</sup> To the extent that the two spatial indices capture differences in marketing infrastructure (the lower the number, the better the infrastructure, transportation held constant), the impact of improvement in the infrastructure (for example, better communications) would lead to a reduction in the friction of distance and a fall in local periodic market activity. However, starting approximately halfway between the inner core and far periphery (when CPZ equals 3 or 4) and approximately halfway between the most urban and most rural areas (when URC equals 3 or 4), periodic market activity begins to fall (the negative sign on the interaction term). Just as in the case of the *transport II* variable in the difference equation, the effects of marketing infrastructure on periodic marketing activity does not appear to turn negative until it reaches a fairly high threshold.

The only significant coefficient of any of the provincial indicator variables relates to Yunnan province, one of the poorest in the sample. When taking into account that Yunnan's transportation, communications and general marketing infrastructure are inferior to those in other provinces, the province has, *ceteris paribus*, more market activity than elsewhere. The fact that all of the other provinces are statistically indistinguishable from Shaanxi Province (the poorest province that was the base province in the analysis) may mean either that transportation infrastructure at the provincial level does not matter or that it is already adequately controlled for in the analysis.

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<sup>42</sup> Skinner, "Marketing and Social Structure", Part II, pp. 209–16 and 223–4.