

# *Conflict over Cabbages*

*The Reform of Wholesale Marketing in China*

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### **Introduction**

Marketing systems in China have undergone a profound transformation over the last ten years. The process is, however, far from complete and a further round of institutional, social, technical and economic change is required if the new trends are to be consolidated. The present situation in fruit and vegetable wholesale marketing is thus characterised by experiment and diversity, with conflict between established practices and new requirements. Faced by rampant inflation in 1987-88, the central government placed high priority on reform of the system for supplying foodstuffs to urban residents. Its 'vegetable basket plan' called for the development of new wholesale marketing systems able to provide stable supplies of quality produce at affordable prices and for the integration of production, wholesale marketing and retail systems, by removing the institutional barriers between them.<sup>1</sup>

The aim of this paper is to use an analysis of fruit and vegetable marketing as a mechanism to explain some of the economic forces now at work in China.<sup>2</sup> The underlying theme is a simple one: that rapid economic growth (of the order of 10% a year) brings about

significant changes in opportunity costs such that a new balance has to be created between different economic sectors. This, in turn, entails a cascading sequence of change in a whole range of social, institutional and technical areas. The interplay between economic growth and further economic reform is thus crucial to the next phase of China's development. Furthermore, the evidence suggests that the economic forces at work cannot be halted or reversed. A study of the 'struggle' to deliver the humble Chinese cabbage to the dinner tables of China's urban residents can, therefore, provide a profound insight into the nature of China's reform process and into the forces driving the reform agenda.

The changes in the marketing system have been the result of developments in demand, supply, market management and pricing brought about by both economic growth and economic reform. Economic growth after 1978 led to significant changes in the demand for fruits and vegetables. Both urban and rural incomes rose and there was a shift towards consumption of better quality foods. The move to better quality diets was most marked in urban households. As these changes took place in demand, the reintroduction of household farming also generated modifications in the system of production. Peasant households became conscious of the opportunity costs of their land and labour. This made them keen to produce commodities which command the highest prices in the market. These changes also affected the location of vegetable production. Previously government policy had aimed at achieving as high a level of vegetable self-sufficiency for all major urban areas as possible.<sup>3</sup> Vegetables were produced in the rural areas adjacent to the cities and under urban administration. The most intensive, all-year production was in the inner zone, with seasonal production in the outer zone. Imports from outside provinces were used to supplement local production, especially by the northern cities during winter. After 1978, however, production in the inner zones consistently declined, and there was a shift to greater reliance on the outer zones. At the same time there was considerable growth in inter-regional trade in fruits and vegetables.<sup>4</sup> In effect, the changes in opportunity costs for rural producers affected those close to cities and those in rural areas further away in opposite ways. The rise in opportunity costs for peasants close to cities made vegetable production uneconomic,

while those further away experienced the opposite effect.

Not surprisingly, these changes in the nature of demand and supply directly influenced the marketing system. After 1984 there was considerable liberalisation of state controls over marketing, and this process went furthest in south China. While a number of key vegetables were still supplied through the state marketing network in the early 1990s, a growing proportion was supplied through free markets. These, in turn, have required the growth of a network of free wholesale markets.<sup>5</sup> As a general rule of thumb, fine vegetables, special varieties, and better quality or out-of-season produce with higher values tend to move through the free market system, while coarse vegetables, seasonal staples and lower value produce tend to be handled by the state system.

Alongside the marketing reforms, the Chinese government also progressively relaxed controls over retail prices. This led to a sharp increase in vegetable prices after 1984 which contributed to the strong inflationary pressures in 1987-88. As a result, urban governments, which have the authority to manage their own vegetable marketing, came under strong pressure to intervene to control prices of key vegetables. One means of doing this was to continue subsidising producers, commercial networks and consumers. These methods have long been used in respect of a number of key vegetables for each season. The consequence of doing so, however, is to increase the burden of subsidies in urban budgets. Urban governments face a policy dilemma and have to balance inflationary pressures against the costs of providing subsidies.

In an attempt to grapple with these issues, after 1987 the central government adopted a series of policies known as the 'vegetable basket project.' This policy, which includes targets for meat, poultry and dairy products as well as fruits and vegetables, still places considerable emphasis on local urban production as the main source of supply but accepts that regional trade should act as a supplement. It aims to improve supply at stable prices. It also accepts a role for the free market. It encourages each urban administrative system to use local policies (including subsidies to producers) to promote vegetable production and to develop supply bases outside its immediate administrative area. There is thus a move towards regional specialisation in production to take into

account climatic zones. The central government has also called for the development of wholesale marketing systems and market information networks. As part of this process, there has been a drive to make the production, transport, and marketing of fruits and vegetables an 'integrated' process rather than subdivided between different administrative systems as previously. This means that the institutional barriers to the flow of products between producer, market and consumer are to be removed so that linkages can follow the economic forces of the market. In this sense, therefore, integration does not necessarily imply more government control or vertical or horizontal integration but the removal of obstacles to the formation of a system shaped by market forces.

In sum, therefore, the reform period since 1978 has seen changes in the pattern of demand, changes in the organisation and location of production, the growth of new regional linkages, reform of the marketing system, a general trend towards higher prices, and problems caused by inflationary effects and burgeoning government subsidies. All of these changes have had important consequences not only for economic and political organisation but also for the technical aspects of production, infrastructure, and marketing. Producers need new inputs, more services and more information. Fruit and vegetable packaging, transport and storage all need to improve. New wholesale market facilities and services have had to be developed. Solutions to these problems have emerged on an ad hoc basis, and new and better ways of co-ordinating production with consumption are required.

Changes of this complexity inevitably entail major political, social and institutional transformations. Institutional systems originally geared towards local self-sufficiency now have to think in terms of regional interdependency. The institutional boundaries between production, transport, wholesale and retail which form obstacles to an integrated marketing network have to be swept aside. The technical constraints created by regional variations in standards of packaging and handling have to be overcome. New mechanisms have to be found to handle the competing interests of producers, consumers, different urban administrations and different ministerial systems. Transport and other types of infrastructure have to be developed if the demands of the consumers and the aims of the producers are to be realised. The distortions and waste

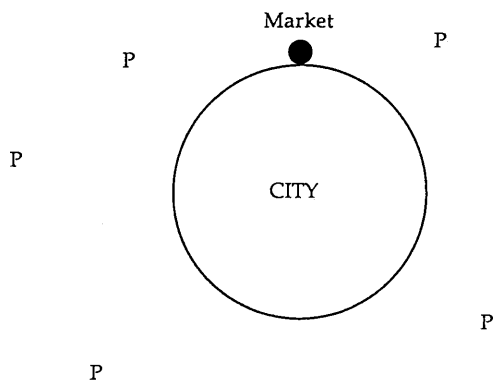
caused by subsidies have to be overcome. All of these issues also relate to such things as the nature of ownership of land and assets and the bearing that has on market organisation and infrastructure.

This paper analyses the key issues which have forced the pace of reform in fruit and vegetable marketing and the implications of the process for further economic and social change. It also looks at the consequences of what is happening for China's political economy. The underlying argument is that the forces at work are, in essence, economic. Although many of the tensions generated require political, social and institutional solutions, the reform programme is being shaped by these economic pressures. A study of fruit and vegetable wholesale marketing thus provides some profound insights into how China's economy is changing.

In what follows I shall first discuss two models for fruit and vegetable marketing. I shall then review aspects of the pre-reform situation and examine how these were changed in terms of demand, supply, marketing and pricing as a consequence of the reforms. This will be followed by an exploration of current issues in marketing, looking at government policies and using the example of Beijing to illustrate urban supply systems and the relationship between the state and the free market networks. I shall conclude by highlighting some of the prospects and problems for further development.

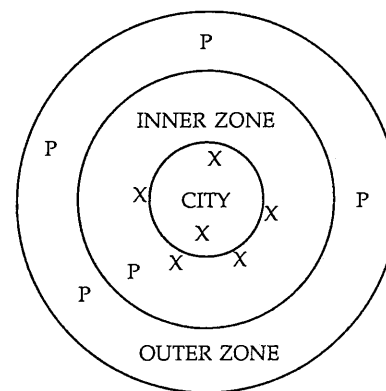
## Two Marketing Models

Before examining the process of vegetable marketing reform in China in detail, it is first necessary to look at two models of wholesale marketing, one as it exists in developed market economies (see Figure 1) and the other as it existed in China's planned economy before the reforms began (see Figure 2).<sup>6</sup> These models are necessarily simplified in order to underline the main differences between the free and planned systems. They do not take into account the possibilities for different types of specialisation, or for the combination of wholesale and retail functions. The simplification, however, allows a clearer exposition of the essential differences involved and the changes taking place.

**Figure 1** Free Market Model

Characteristics:

1. One market per large city, on cheap suburban land with good transport access.
2. Extensive geographical reach to balance seasons and variations in production.
3. Standardised packaging, handling and transport to minimise costs and reduce waste.
4. Producer ownership of produce until sale in the market to maximise producer value-added and minimise market costs.
5. Wide variety of support systems such as banking and credit, information provision, laws and co-operative organisations.

**Figure 2** China's Pre-1978 Model

X = Purchasing station      P = Producer

Characteristics:

1. Aims at urban self-sufficiency with guaranteed local supplies at low prices.
2. Reduces transport costs by minimising inter-regional transfers and concentrating production in zones close to the city under urban administration.
3. Large number of purchasing stations on inner city land to accept delivery from producers and to distribute to shops.
4. Planned control of production, sales and prices.
5. Frequent handling of produce and lack of incentives for producers to minimise waste.
6. Extensive use of subsidies to producers, commercial units and consumers.

The developed wholesale market model as currently practised in western economies is based on the assumption that one market might serve the needs of a large city with a population of around one million. Such a market handles about half a million tonnes of fruits and vegetables a year, and its design and technical specifications are shaped to minimise waste, to maximise ease and speed of handling, and to facilitate the market's economic functions.

Such markets have a number of key characteristics. First, they have a large geographical reach and the producers serving it may be hundreds or thousands of kilometres away, or even in another country. This reach is important since it allows the market to balance seasonal variations in output and fluctuations in regional production. The role of transport is thus fundamental to the way the market functions and helps define many of its economic and technical parameters. Second, the markets require highly standardised systems of packaging and handling. This is essential to ensure ease of movement and minimisation of waste. Usually the key standard is pallet size since this determines such things as lorry or container dimensions, market lay-out and equipment, and plastic crate and box size. One aspect of this issue is that direct human handling tends to be minimised since this is a major source of damage to produce. Third, most of the washing, sorting, packing and storage of produce are carried out by the producer rather than the market. This has three advantages: the producer will try to maintain product quality in order to maximise returns, the producer benefits from any value-added, and the capital costs of the market are reduced. Finally, the market depends on a range of support services in terms of middleman activities, banking and credit facilities, market information networks, standards and regulations, and contractual laws. Without these services, the market cannot function. The overall aim is to ensure a supply of clean, undamaged and high quality fruits and vegetables which are delivered with maximum speed after harvesting (to minimise moisture loss and deterioration) and which can be stored by the consumer for some days before consumption.

By contrast with this model, China's pre-1978 vegetable marketing system (which, it should be stressed, continues to operate alongside the free market network) was based on the idea

of urban self-sufficiency. As far as possible, cities aimed to rely on vegetables produced according to plan in zones around the urban core. Producers delivered their output quotas to state purchasing stations around the city in return for plan prices and, particularly in later years, subsidised inputs. The state stations then redistributed the vegetables to shops or urban units. This model had several key characteristics. First, it aimed to promote urban self-sufficiency and to guarantee urban supplies at low prices. Second, it aimed to reduce transport costs by keeping inter-regional flows to a minimum. Third, it was controlled and operated by urban governments, with the costs involved forming part of the urban budget. Fourth, it was associated with large subsidies to producers, to commercial units and to consumers. Fifth, it entailed local monotony of diet. Sixth, sorting, packaging and storing were carried out by state agencies, which meant that any benefits from value-added accrued to the state unit but that the produce itself was handled several times, with slow movement through the system and resulting deterioration and loss of quality. Finally, it lacked any in-built incentives to promote quality and reduce waste.

The contrast between these two models is very clear. They represent quite different sets of priorities and methods of economic management. As the following discussion shows, however, China is in the process of moving from the latter model to the former. This process was initiated by the economic reforms and accelerated by the rapid economic growth which ensued.

### Pre-reform Production, Marketing and Prices

Vegetable production in China is a major function of the agricultural system. Given the unlikelihood of the statistical system being able to generate reliable figures on actual output and per capita consumption, however, figures for production can only be approximate. The World Bank estimate for total annual consumption in 1985-87 was 163.9 million tons.<sup>7</sup> In 1989, urban per capita vegetable purchases were reported to be around 144 kg.<sup>8</sup> In the same year, peasant per capita consumption was estimated at 133 kg.<sup>9</sup> A very approximate calculation suggests that total consump-



tion in that year therefore had to be at least 120 million tons.<sup>10</sup> Clearly, these total figures are not very reliable. The figures for rural consumption, in particular, must be open to question since so much is self-produced and self-consumed. They do, nevertheless, indicate the large volumes involved. The discussion in this paper, however, relates entirely to urban supply and consumption. This is because this is the sector where the planned marketing system applied and it is also the sector which involves urban-rural exchange and large wholesale markets for aggregation and disaggregation. It therefore serves to illuminate important features of the process of economic growth and reform.

Urban vegetable production and marketing before the reforms were essentially based on the simple model of self-sufficiency for urban administrative regions.<sup>11</sup> Urban governments aimed to produce as much of their vegetables as possible from the rural areas lying immediately adjacent to the built-up areas and under their administration. This reliance on the peri-urban zones marked a continuation of the traditional pattern of production. Over many generations, the peasants surrounding large cities collected night soil and other urban wastes to use as manure and produced vegetables for urban consumption. The result was a concentration of fertile land for vegetable production in the areas surrounding large cities. The policy was also logical in that it reduced the transport and storage costs associated with moving vegetables long distances.

According to Skinner, the system worked reasonably successfully. The vegetable production areas around cities could be divided into an inner and outer zone. The inner zone coincided with the area of most productive vegetable land and concentrated on vegetable production throughout the year. The outer zone produced vegetables on a more seasonal basis, with the land often used for a grain crop for part of the year. Large cities were commonly 70-90% self-sufficient. Those in the north, like Beijing, had to bring in some extra supplies for slack seasons and the cold winter. Those in the south, like Shanghai, could be virtually self-sufficient. There was also some inter-urban trade in pickled or processed vegetables which could be easily transported.

In practice there were many local variations in how the system was operated. Units of urban government such as the local agricul-

tural bureau, specialised vegetable production and marketing organisations, the commercial bureau and others managed different parts of the marketing process. Urban governments issued sown-acreage, production and sales quotas to the communes in the surrounding areas. They also channelled supplies of inputs (seeds, fertiliser, diesel oil, electricity and plastics) to producers through the supply and marketing co-operative system. Often producers were also provided supplies of grain at base prices in return for deliveries of vegetables. The prices paid to the producers for the vegetables were also set by the government, with controls focussing on the main vegetable types for each season. Peasants on the outskirts of Beijing in late 1979, however, reported that if their quality was good and they were among the first on the market with a new season vegetable, they might be able to get a higher price.<sup>12</sup>

Producers usually delivered their vegetables to vegetable stations on the outskirts of cities which were run by the urban vegetable marketing authorities. They were then transferred to state shops for sale to consumers or to urban units with their own canteens such as hospitals, schools, government organisations and factories. In some cities, producers might deliver directly to retail centres. The overall trend during the 1960s and 1970s was for a reduction in the total number of retail outlets and for concentration of vegetable and fruit marketing in state shops. The selling price was also determined by the government and kept low and stable for long periods of time. In the 1970s, the reported mark-up between procurement price and consumer price varied between 10% and 40%. Overall, the system often involved subsidies, either by the government providing incentives to producers or by the government bearing the costs of the commercial distribution. If supply was less than demand, some form of rationing by limiting the amount sold to each consumer might be used.

A typical example of the system at work is the production of Chinese cabbage for the Beijing winter, often known as 'patriotic cabbage' (*aiguo baicai*). This has long been the staple vegetable for winter consumption. Commonly, the urban authorities mobilise the peasants around the city to plant the cabbage in July-August. After harvesting in late October, large quantities are brought into the cities and sold to urban households. These are then stored

outside houses in the cold weather. As the winter progresses, the outside freezes and helps preserve the inside. The outer layers are peeled off for eating. A good stock lasts most of the winter, though the diet is monotonous.

Sometimes, urban governments also invested in modern technology for vegetable production. By November 1979, for example, the Sijiqing Commune on the outskirts of Beijing had installed a large and expensive computer-controlled hot-house, where the total environment was managed and vegetables could be grown out of season. The costs of production were well above the selling prices but the commune was subsidised by the government and was experimenting with technologies for vegetable production.

The net result of this system was the guarantee of a stable supply of basic vegetables in season. Fine vegetables and out-of-season vegetables were neglected. Products from other areas were also rarely seen. The lack of economic incentives in the system also meant that there was not much attention to quality and consumers had to buy what they were offered.

### The Impact of Reform on Demand

After 1978, the economic reforms affected all aspects of the established production system. On the demand side, steady improvements in income meant that there was an increased demand for better food. Within food budgets, there was a shift from staples towards consumption of more expensive foods, and within the structure of vegetable and fruit consumption, there was a similar shift towards consumption of better quality and out-of-season products. To some extent this change is unexpected in a poor country with low levels of income, where improvements in income might be expected to lead, in the first instance, to a rise in total consumption rather than improvements in quality. That this is less evident in China is a reflection of the fact that the rationing system for staples and the subsidies for housing and other services tends to provide most of the basic diet and allows consumers to shift new income to quality improvements.

These changes were also compounded by the increase in the numbers of temporary urban residents. This growth in demand

inevitably put pressures on production. As shown in Table 1, the change in urban consumption patterns was reflected in a shift away from direct grain consumption towards meat, poultry and fish. Food expenditure as a proportion of total family expenditure in urban areas also declined from 56.7% in 1981 to 51.4% in 1988.<sup>13</sup>

**Table 1** Annual Per Capita Purchase of Major Foods by Urban Households (kg)

Food	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Grain	145.44	144.56	144.48	142.08	134.76	137.88	133.87	137.17	133.94	130.72
Veg	152.34	159.08	165.00	149.04	144.36	148.32	142.58	147.02	144.56	138.70
Veg oils	4.80	5.78	6.54	7.08	5.76	6.24	6.44	6.69	6.16	6.40
Pork	16.92	16.85	18.00	17.10	16.68	18.96	18.85	16.94	17.53	18.46
Beef/M'tn	1.68	1.82	1.86	2.76	2.64	2.64	3.05	2.81	2.73	3.28
Poultry	1.92	2.26	2.58	2.88	3.24	3.72	3.40	4.00	3.65	3.42
Eggs	5.22	5.88	6.90	7.62	6.84	7.08	6.56	6.87	7.05	7.25
Fish	7.26	7.67	8.10	7.80	7.08	8.16	7.88	7.07	7.61	7.69
Sugar	2.88	2.80	2.76	2.94	2.52	2.64	2.54	2.58	2.38	2.14
Alcohol	4.38	4.48	5.34	6.78	7.80	9.36	9.92	9.45	9.00	9.25

Note: The figures reflect per capita purchases based on household surveys. They therefore encompass any demographic changes in household structure.

Source: *Zhongguo Tongji Nianjian 1988, 1989, 1990 and 1991* [*China Statistical Yearbook 1988, 1989, 1990 and 1991*], p.808, p.728, p.306, and p.287 respectively.

From 1981 to 1984 per capita purchase of vegetables in urban areas rose quickly. They then declined to below 1981 level. To some extent this may have reflected the shift to greater meat,

poultry and fish consumption. However, it is also possible that this pattern reflects both problems with variations in vegetable supplies and responses to the substantial increases in food prices. The rise in vegetable prices after 1984 was a large contributor to inflationary pressures and it is estimated that a 10% increase in vegetable prices adds 1% to the retail price index.<sup>14</sup> In the first half of 1988, for example, fresh vegetable prices rose by 48.1% compared to the same period in the previous year.<sup>15</sup> The vegetable price indices with 1978 as 100 were as follows:<sup>16</sup>

1984	128.6
1985	193.4
1986	195.7
1987	247.0
1988	323.3

The changing pattern of purchases by urban consumers may have been influenced by these higher prices. It is also not clear whether all the vegetables sold directly by the peasants to consumers are captured by the per capita series, which may thus understate the actual amount bought. Improvements in quality may also mean that the proportion of consumable vegetable in the amount purchased has increased since 1978, so that consumers are actually eating a larger proportion of the vegetables purchased and thus have to purchase less. In general, the aim of government policy is to ensure a supply of 0.4-0.5 kg per day for all urban residents.

One further aspect of the growth in income which has had an impact on urban diets is that it has led to a shift towards demand for better quality vegetables and fruits. Urban consumers are now demanding finer vegetables, out-of-season vegetables and vegetables and fruits from more distant areas. Even though the prices of these products are higher, the decline of the proportion of urban budgets spent on food has meant that urban households are likely to be more willing to pay extra for quality. This shift also has further implications for production and marketing. As noted above, the state system has tended to concentrate on the main vegetables for each season. The demand for special products, therefore, is mainly satisfied through the free market system.

There has thus been a trend for a separation of functions between the state and free market systems.

## The Impact of Reform on Supply

The reintroduction of household farming after 1978 meant that land was divided among households which became free to plan their production as they liked, subject to meeting state sales quotas. In the richer communes near cities, however, elements of co-ordinated production were often retained, with the collective managing inputs and marketing, or providing subsidies to producers from its non-agricultural income. The simultaneous introduction of free markets and the growth of price differentials between state and free market prices, however, meant that peasant producers rapidly became aware of the opportunity costs of their land and labour. Overall, therefore, there was a shift towards producing crops which produced the highest return. The various price reforms since 1978 and the fluctuations in market supply and demand have thus had a major bearing on agricultural production.

As a relatively profitable crop with a rapid turnover, vegetable production as a whole has tended to improve. At times, however, there have been shortages, often related to weather problems, and there has been a marked increase in prices. Furthermore, since 1984, production costs have been rising. There is thus a conflict between producers wanting higher prices, consumers wanting more and better products and stable prices, and local governments wanting to reduce their subsidies to both producers and consumers.

Another factor which has influenced production has been the growth of non-agricultural employment. This is especially significant near cities, where the peasants have been able to engage in manufacturing, commerce, transport and other activities. The returns to these undertakings are much higher than the returns to agriculture and there has been a marked shift of labour out of farming. This trend has been reinforced by the expansion of urban building and production. Much land in the inner zones has been taken over for other uses in recent years and this has tended to engulf former vegetable-producing lands. As a result, opportunity

costs close to cities moved against vegetable production and less acreage is now being sown in the highly-productive inner zones, the peasants having become entrepreneurs or rentiers deriving income from land. In Beijing, for example, the vegetable acreage of the inner zone dropped from 15,300 hectares in 1984 to 11,300 in 1988.<sup>17</sup> A further effect of this change is that remaining vegetable producers in the inner zones have tended to shift towards the production of finer quality vegetables which they sell at higher prices through the free markets to urban consumers. This trend is reflected in the figures for vegetables handled by the Beijing Vegetable Company (see Table 2).

**Table 2** Beijing Vegetable Company Supplies, 1981-1989

Year	Sown Area (mu)	Output (mT)	Purchase (mT)	Inner	Outer	Transfers
			Total			
1981	449,264	0.98	1.16	0.97	0.07	0.12
1982	472,365	1.10	1.43	1.09	0.13	0.13
1983	478,708	1.02	1.30	1.05	0.12	0.13
1984	474,488	1.10	1.36	1.09	0.09	0.18
1985	322,668	0.47	0.92	0.52	0.11	0.26
1986	345,391	0.66	0.94	0.58	0.13	0.23
1987	312,799	0.43	0.97	0.44	0.15	0.32
1988	282,423	0.44	1.15	0.42	0.26	0.39
1989	288,508	0.50	1.15	0.51	0.35	0.24

Source: Beijing Vegetable Company, Interview, November 1990.

Overall, therefore, vegetable production has been forced further out from cities. The acreage in the outer areas where the value of land and its opportunity costs are lower has expanded to help take up the slack. Nevertheless, the development of new intensive vegetable production areas has taken time, since the initial phase is characterised by lower yields from poorer quality land. It is

estimated that it takes 5-8 years or more to develop new vegetable plots to the level of productivity of the old plots, and this inevitably has had an impact on productivity per unit area.

The lower productivity of the outer zone fields has meant that some large urban areas have been forced to seek more sources of supply outside their administrative area. These sources have also been seen as providing supplies during low seasons in the urban area itself. This shift also reflects the fact that opportunity costs for peasants in more distant areas have moved in favour of producing vegetables for urban consumption, since the returns can be much higher than simply producing grain. Beijing, for example, is planning to develop five base areas in other parts of China as sources of supply to balance seasonal and climatic factors. These bases are: (1) The winter base in six south coast provinces using grain land not producing during the winter to increase the variety of vegetables in the north; (2) The spring slack season base in counties in Jiangsu and Anhui which harvest crops earlier than further north and can take up the slack when the southern areas move into grain production; (3) and (4) The autumn slack season bases in areas along the Great Wall (one in counties around Zhangjiakou and one in Gansu) where vegetables mature later and can reach the market when local supplies are declining; and (5) The winter cabbage base area in Hebei and Shandong. At the end of 1990, the long-term aim was for production to be one third in the inner zone, one third in the outer zone and one third from outside provinces.<sup>18</sup>

These developments will lead to further increases in the inter-regional trade in vegetables. In 1990, officials in the Ministry of Commerce (MOC) reported that in 1978 some 90% of urban vegetables were locally produced. This had now dropped to around 80%. Total urban demand was estimated to be around 30 million tonnes and some 5 million tonnes were supplied through inter-regional trade (of this 3.5 million tonnes are moved by rail).<sup>19</sup> It was anticipated that by the year 2000, inter-regional trade would account for 7.5 million tonnes.

Transport is thus a major constraint on the rate of growth of this trade. Nevertheless, one of the major features of the reform period has been the development of the transport system. Extensive road improvements have occurred both in cities and on long-distance routes. Several major inter-regional highways have been or are

being built, including, for example, a high-speed road between Beijing and south China. The railways have also expanded, despite their continued lack of capacity. In effect, the possibilities for moving large quantities of perishables long distances are improving. Furthermore, the relative costs of road, rail and water transport are already moving in favour of road transport.<sup>20</sup>

This trend, however, presents urban governments with a dilemma. To maintain stable supplies, they have commonly provided producers with both input and grain subsidies. Officials in MOC reported that total subsidies in the vegetable system were around RMB2 billion per year (RMB900 million in production, RMB900 million in commercial costs, and the rest in direct consumer payments).<sup>21</sup> Urban governments cannot use similar policies to encourage the growth of supply bases in areas outside their control, since they would have to provide these budget subsidies to outsiders. The alternative is to pay the outsiders higher prices for vegetables delivered to the urban state markets. Given the higher relative prices for vegetables to other crops and the lower opportunity costs of land and labour in areas distant from cities, this can be expected to stimulate production. Even though the prices paid to outside consumers may reduce the cost of subsidies for local production, the net balance of these forces may ultimately lead to higher consumer prices.

The growth of vegetable supplies through the free market has also added to the volume flowing into urban areas from outside. Peasants in rural counties have been keen to develop vegetable production for cities. Areas distant from cities have lower opportunity costs for their land and labour, and vegetable production is thus an attractive alternative. These producers are now also free to invest in local cold stores and transport to enable them to maximise value-added and to compete more effectively with urban producers. Fruit and vegetable supplies in the Beijing free markets now come from almost all provinces. Furthermore, as noted above, there is often a difference in the type and quality of products supplied in this way, with the free markets predominating in the higher value and fine quality crops.

It is reasonable to assume, however, that the growth of the free market system is constrained by the fact that vegetable producers within the urban administrative areas are often receiving subsidies

from their local administration to produce crops they might otherwise prefer not to. Outsiders have to bear all risks of their crops and are less likely to attempt to compete in crops where urban peasants are subsidised.

Overall, these changes in the pattern of production have led to considerable improvements in vegetable supplies and in quality.<sup>22</sup> Nationally, there has been an increase in total acreage sown to vegetables over a period when farm acreage as a whole has been declining. In 1988, total sown acreage was reported to be just over 6 million hectares and in 1989 this rose to 6.3 million hectares.<sup>23</sup>

On the technical side, the changes in production have raised many new issues. The quality of new vegetable lands has to be improved, and peasants just beginning vegetable production have to develop new skills. The spread of production areas away from cities has also placed new requirements on transport, storage and marketing services. The demand for quality has meant that producers have to pay more attention to handling and packaging. Efforts to raise yields have required more investment in inputs, seeds and plastic sheeting. All of these, in turn, have placed pressures on a vegetable production and a marketing system that was geared to the geographical boundaries of urban administrations.

### The Impact of Reform on Marketing

At the same time as the reforms transferred control over land and labour back to the households, peasants also gained the right to trade surplus and sideline production on the free markets. This right was subsequently extended to cover all categories of goods once contractual obligations to the state were fulfilled. Given that free market prices were substantially higher than state prices, there were powerful economic incentives for peasants to maximise the quantity sold at the highest prices and to produce those products with the highest relative profitability. These factors began to affect fruit and vegetable marketing as early as 1981. The rapid growth of free marketing was almost inevitable. Markets were hastily established in villages and urban streets and both individual peasants and collective units began to trade on them.

By the end 1982, pressures were growing for further relaxation

of official policy to permit long-distance trade, to encourage market traders and to allow individuals to purchase lorries and tractors in order to expand their commercial activities. Eventually, large-scale liberalisation of the marketing system was sanctioned in early 1983. The freedom for anyone to participate was confirmed, as was the freedom for peasants to act as traders and engage in long-distance trading. All fruits and vegetables produced outside of state contracts could now be sold on the markets and prices could be set by negotiation. The net effect of these changes has been a proliferation of vegetable and fruit marketing systems. The state vegetable companies and shops remain in operation. Alongside these there are large numbers of private shops and pedlars which by 1987 accounted for nearly 83% of retail traders.<sup>24</sup> There are also direct sales from peasants to urban residents through street markets. The latter grew at around 35% per year from 1978 to 1987 and by the end of that period accounted for 46% of vegetable retail sales.<sup>25</sup> Nevertheless, the state system continued to play a very significant role in the wholesale end and in the supply of key basic vegetables each season. These were produced through contracts made with growers and supplied at subsidised rates. According to one survey of Beijing, for example, some 70% of wholesale vegetables were still supplied through the state system in 1988.<sup>26</sup> The co-existence of the free and state marketing systems, however, has important implications. Better quality products tend to go through the free market system where they can attract higher prices. Subsidised products in the state system tend to affect the behaviour of producers and merchants in the private system. In what follows, I shall review the growth of the free market retail and wholesale systems.

Table 3 illustrates the growth of the free retail markets between 1978 and 1990. Over that time, the total number of markets more than doubled, while the number in urban areas grew from zero to around 17% of the total. At the same time there was a large increase in the value of market trade. The sales of fruits and vegetables each grew by many hundred per cent. The free markets have thus become a major channel for the sale of agricultural products and are particularly significant for many fruits and vegetables.

The expansion of the free retail market system inevitably generated strong pressures for changes in wholesale marketing.

**Table 3** The Growth of the Free Market System, 1978-90

Item	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
1) Number of Markets	33302	38993	40809	43013	44775	48003	56500	61337	67610	69683	71359	72130	72579
(1) Urban	0	2226	2919	3298	3591	4488	6144	8013	9701	10908	12181	13111	13106
(2) Rural	33302	36767	37890	39715	41184	43515	50356	53324	57909	58775	59178	59019	59473
2) Value of Trade													
(¥100 million)	125	183	235	287	333.1	385.8	456.9	632.3	906.5	1157.9	1621.3	1973.6	2168.2
(1) Urban	0	12	24	34	45.2	55.9	75.2	120.7	244.4	347.1	545.3	723.6	837.8
(2) Rural	125	171	211	253	287.9	329.9	381.7	511.6	662.1	810.8	1076.0	1250.0	1330.4
Of which:													
Grain and edible oils	20.1	28.6	34.4	36.4	39.4	43.4	45.6	49.6	71.2	84.7	108.1	142.7	146.8
Meat, poultry and eggs	21.2	33.3	42.1	50.9	57.6	72.9	91.8	140.1	246.8	320.3	460	570.6	618.8
Aquatic products	5.2	6.6	9.3	12.1	14.8	18.8	24.1	33.2	64.4	85.4	123	158	182.4
Vegetables	14.3	17.1	21.5	25.5	27.2	33.1	38.3	48.8	96.9	131.1	193	238.2	264.2
Dried and fresh fruits	4	6	7.5	8.8	10.3	13.3	18.6	25.5	59.3	83.1	122.9	161	183.5
Fodder and farm tools	10.4	11.5	7.1	8.4	10.5	11.7	13.1	13.9	15.2	15.8	18.3	22.2	23.0
Large animals	20.9	29.8	26.5	38.9	45.4	41.6	35.6	32.6	31.1	32.6	38.2	38.9	38.3

Source: Watson (1988) and *Zhongguo Tongji Nianjian* 1990 and 1991, p.633 and p.605 respectively.

Specialised production by households and regions for the market meant goods had to be aggregated in producing areas, moved to cities, and disaggregated for selling to consumers. At the same time, changes in the location of production bases also meant new channels for transport and marketing had to be developed. This required the development of wholesale merchants, transporters, wholesale markets with proper facilities, and the normal range of information, communications, financial and support services required to operate a wholesale system. The first new wholesale markets were established as early as 1980/81. After 1983, they entered a period of rapid growth which accelerated with the reforms to marketing in 1984.

The process of development was often haphazard. Some markets evolved from direct selling by producers to consumers into trade between specialised producers, wholesale merchants and retail merchants. Others grew up at convenient transport nodes or represented the resurrection of previously long-established wholesale centres. Furthermore, the Chinese administrative and statistical system was initially not structured to manage or record their operations.

By the late 1980s, these markets had evolved into a complex system with extensive geographical reach and a significant role in fruit and vegetable marketing. They are administered in various ways, including direct management by state agencies who also participate in the trade, management by the railway authorities with other state organisations supervising, and independent management by peasant organisations on the outskirts of cities. The main participants are long-distance traders, wholesalers and retailers, the latter including private merchants, pedlars, government commercial units, factories, schools and hospitals. There are no restrictions on the types of people who may buy and sell, and prices are set through the market. In some cases, these markets maintain offices in other provinces and cities in order to collect and distribute information on markets conditions and to stimulate the flow of goods.

A significant result has been that many vegetables and fruits formerly only available during the short local growing season now appear on the market much earlier and are sold over a longer period because of trade from other parts of the country. Overall,

therefore, these markets are characterised by emphasis on handling quality fruits and vegetables from areas outside local administrative control and, often, goods out of season. For these special products, the wholesale markets might handle 50-100% of the local urban consumption. By contrast, basic vegetables produced through state contracts are handled through the state system. Until a further wave of marketing liberalisation began in early 1992, in many large cities these still accounted for the bulk of vegetable supplies by weight. A major example of the latter was the supply of Chinese cabbage as the staple vegetable for Beijing during winter.

Prices in the wholesale markets generally reflect supply and demand and product quality, though there are administrative attempts to set upper limits and to control speculation. In this respect, state commercial units can play an important role as market stabilisers through maintaining basic supplies at lower prices. This has also led to some consideration of the importance of state stocks as market buffers.

There are three main ways in which these markets are administered. Some were established under the wing of the local Industrial and Commercial Bureaus (ICBs). Others were set up by independent organisations such as the railways and local peasant bodies and are supervised by ICBs to ensure that regulations and standards are met. In the former, the ICB acts as both an administrative and licensing body and as a provider of marketing services. In the latter, its role is purely administrative. The third type of wholesale markets are those established by state commercial agencies using the warehouses and other facilities available to them. In these markets, the state agency both runs the market and participates in the trade. Chinese surveys of all these markets indicate that they are not adequately staffed and managed. There are many problems associated with the provision of facilities and services. There is also confusion between the role of state agencies as supervisors of market regulations and providers of market services. Many Chinese observers argue that these functions should be separated in order to ensure that all the functions of the market become more efficient. They argue that the role of the ICB and other commercial agencies should be purely administrative in terms of licensing and ensuring the rules are not broken.

Another range of problems facing the markets are the purely technical ones of building adequate facilities and transport connections, and improving communications and banking services. There are many adjustments to be made in moving from state control of marketing to an open market network. There are also concerns about the emergence of speculative dealing and large middlemen profits.

### The Impact of Reform on Pricing

The pricing of vegetables in China since 1949 has passed through three main phases.<sup>27</sup> From 1949-56, they were largely determined through free market sales. After 1957, vegetables were brought within the plan system and subject to unified purchase and sales, with the state setting the prices. The emphasis was on quantity not quality, on bulk 'heavy' vegetables rather than delicate perishables, and on the key vegetable for each season. Under this system prices remained basically stable from the early 1960s to the late 1970s. Price variations by product, quality and season were also kept within limits. Since 1981, these controls have been progressively relaxed. From 1981 to 1984, peasants produced by contract, with the freedom to sell surpluses on the market. After 1984, the state system restricted its controls to a few key vegetables per season and left the remainder to the market. In 1985, a programme of further relaxing the remaining controls was introduced which aimed to spread the relaxation from the south, where production conditions are good, to the north and from fine vegetables to the main types. Local cities were given the power to fix prices according to local supply and demand, within state guidelines. By 1986, only the large cities retained considerable price controls. After that time, however, fluctuations in supplies and prices forced many urban governments to reintroduce aspects of price or marketing control for some vegetables.

The changes after 1984 resulted in a sharp increase in vegetable prices to consumers and the difference between state selling prices and free market prices declined. Purchase prices and selling prices both increased as did the ratio between them.<sup>28</sup> Furthermore, the rising costs of production, which were the result of both increasing

input costs and the higher opportunity costs of labour, also put pressure on prices.

Overall, this process has left the Chinese government with a dilemma. On the one hand, reform of the marketing system, relaxation of controls and increasing reliance on the free market have led to inflationary pressures. On the other hand, intervention in the marketing system has involved large subsidies to producers, the state commercial system and consumers. These subsidies are a burden on government budgets and lead to distortions in production, consumption and marketing. At various times since 1984, therefore, policy has shifted between phases of relaxation with accompanying jumps in inflation and phases of greater government intervention with accompanying problems of subsidies. There has thus been a cycle in the pattern of vegetable marketing and pricing. The nature of this cycle has also varied considerably between regions, with some large cities (such as Guangzhou) and many smaller cities moving to a greater reliance on markets, and other cities (especially the major ones like Beijing, Tianjin and Shanghai) experiencing greater government intervention.

Efforts after 1988 to increase production in major cities and to control prices of key vegetables are reported to have had some success. In the 49 cities with a population of over 500,000, the vegetable sown areas increased by 6.5%, output by 11.7%, sales by 15.7% and state supplies by 6.7%. Though this all involved an increase in state subsidies, prices in 1989 were reported to be much more stable, rising only marginally compared with previous years.<sup>29</sup> Nevertheless, the subsidy problem remained severe.<sup>30</sup>

The changes in pricing in recent years have also had an effect on relative prices for producers.<sup>31</sup> In 1989, for example, the ranking of returns per unit area in descending order were vegetables, fruits, grains and cotton. Although this relationship can be expected to further stimulate vegetable production, the central government is also concerned about the production of other crops and has, at various times, attempted to adjust relative prices in order to encourage production of other crops and to prevent the transfer of land out of grains and cotton.



## Issues in Fruit Production and Marketing: The Effect of Complete Reform

Since 1984, the marketing and pricing of fruit has been fully liberalised. This means that no government department has a monopoly in handling fruit and the prices are essentially determined by supply and demand. In general, however, the marketing of fruit in China is separated from the marketing of vegetables. Most wholesale markets are predominantly one or the other and only handle a small proportion of the secondary product.

This reform of the fruit production and marketing system has been reasonably successful. Fruit output in 1989 was 18.31 million tonnes, an increase of 160-170% over 1978.<sup>32</sup> Of this, the four major staple fruits which account for 70% of supply were apples (4.49m tonnes), oranges (4.56m), pears (2.5m) and bananas (1.4m). Sown acreage is around 5.7m hectares. This growth in output has led to an increase in market supply, variety and quality. The growth of inter-regional trade has also lengthened the supply time.

Average per capita fruit consumption for China is estimated to be 16.5 kg but the figure is much higher in urban areas. Beijing per capita consumption, for example, has risen from 31 kg in 1978 to 74 kg in 1989. Furthermore, these figures do not include melons, of which some 15m tonnes are also produced and marketed.

Like vegetables, a large proportion of this fruit now passes through the free market system. Merchants in Beijing buy supplies from other provinces and transport them to the capital for distribution through wholesale markets. Much of the picking, packing, transport and handling are fairly primitive. Market forces, however, tend to encourage producers and dealers to improve quality. Nevertheless, equipment, services and market information are all in need of urgent upgrading.

## The Solution to New Problems:

### The 'Vegetable Basket Plan' and Government Policy

After 1986, the underlying strategy for vegetable production in China was summed up by the phrase 'near suburbs as the base,

outer suburbs as the supplement and other sources to help out.'<sup>33</sup> To some extent, this represented an attempt to sustain key elements of the previous strategy in a situation where changes in production and marketing had created a more complex overall structure. The main vehicle to achieve this target has been the 'vegetable basket project' which evolved over 1987-88.<sup>34</sup> This plan is intended to increase supplies and stabilise prices, with rates of growth in production based on estimates of growth in demand. The plan involves meat, eggs, vegetables, fish and dairy products. It is based on greater investments of resources and organisation by urban governments. At the central level, Liu Jiang, Vice-Minister of Agriculture, has overall direction of the policy and local implementation is through urban mayors who are given direct responsibility to develop production and marketing systems.

In respect of vegetables, the main elements were presented in a speech by Li Peng in May 1988 at a 10-city conference on vegetable production.<sup>35</sup> Li summarised the changes in the location and structure of vegetable production in recent years and stressed that further reform of marketing and liberalisation was the ultimate goal. He also emphasised that cities should be free to develop their production and marketing systems in the light of local conditions. In particular he raised the issue of trying to integrate the process of supplying vegetables. He noted that in many places production, wholesale and retail were subject to different administrative systems which created problems and he called for the development of single lines of management which integrate all aspects.<sup>36</sup>

Overall Li saw a conflict between small-scale household production and large urban demand. He therefore called for economies of scale and specialised production by peasant households and teams in order to lower production costs, improve technology and help even out problems. He set an acreage target of 2,700 hectares of vegetable land per million urban consumers, with variations in this area from north to south China, depending on local seasonal production. He saw inner zones as specialising in quality vegetables, outer zones as specialising in basic vegetables and external areas as supplements for slack seasons. He called on urban administrations to play a greater role in managing production and supplies. Efforts in these areas were reflected in increased supplies during 1989.<sup>37</sup>

By-and-large, the main elements of this approach have since remained in place. A State Council Circular on improving non-staple food supply to cities issued in September 1990<sup>38</sup> again stressed the established relationship between inner and outer zones and external supplies. It called for stabilising sown areas and raising yields and for integration of production and marketing systems. Nevertheless, it also acknowledged a major role for the free market system. It called for greater urban investment in wholesale systems and in free market facilities. The long-term goal of the reforms are thus clearly focussed on a declining role for the state planned system.

### Wholesale Marketing in Beijing

In 1987, the Beijing vegetable marketing system had to supply around 6.5 million people, with an annual requirement of 1.2 million tonnes based on 500 gms per day per person. According to a 1988 survey of wholesale marketing in Beijing,<sup>39</sup> fruits and vegetables now enter the Beijing market by two routes: the urban state-run Vegetable Company which accounts for over 70% of supplies by volume and the free market system which accounts for nearly 30% by volume and 40% by value. The former system is largely supplied by contracts between the Vegetable Company and producers. These contracts commonly involve subsidised supplies of such things as grains, edible oil, fertilisers and diesel to producers. In 1987, the latter system was served by 37 wholesale markets which sell fruits and vegetables to merchants and pedlars and by peasants selling directly to the consumer.

The new wholesale markets originated in 1979, when the Beijing ICB built two markets (Shui Duizi and Beitapingzhuang) to facilitate wholesale trade by outside producers. The ICB both administered and serviced these markets. It collected a levy of 2% on transactions. The tax authorities also collected a turnover tax of around 3% on sellers who did not have a certificate to show that they were producers selling their own product. The emergence of these markets led to a rapid expansion in the varieties offered (going up from 60 to 250) and in the sources of supply (going up to 20 provinces and some 132 counties).

A second type of market is the Yuegezhuang Wholesale Market set up in the southwest of the city at a point where road traffic from the southwest enters the city. This market was established by a peasant collective and the ICB, and tax authorities acted as supervisors. Fees for services went to the peasant company and the transaction fees were shared by the ICB and the company.

A third type was the Shazikou market which was set up by the railway authorities near Yongdingmen Station to facilitate arrival and disaggregation of vegetables and fruits entering Beijing by rail. This market was again operated with supervision by the ICB and tax authorities and a sharing of some fees.

Finally some markets were run by the urban authorities at city and district levels, using their existing facilities. These markets also catered for private merchants.

These different origins mean that the markets can be divided into two types, those which purely provide a service to sellers and buyers and charge a fee, and those which involve the operator of the market participating in the trade. The first type also falls into two subsets: those where the ICB acts as both a supervisor of trade and as a provider of services, and those where the ICB supervises and others provide the services.

Some wholesale markets have begun to develop specific characteristics. One opening all night, others operating at special times. They also tend to specialise in different types of products, depending on their location and the sources of the products they handle. The bulk of their fruits and vegetables (70-80%) comes from outside the Beijing administrative area and they handle a lot of quality and special products. They are also developing complex linkages with merchants and pedlars (of which there are estimated to be around 60,000 in the capital), which are tending to rely on particular wholesale markets as their source of supply. In some instances they have been associated with the emergence of 'futures' contracts where suppliers negotiate quantities and delivery times with purchasers.

The growth of these markets has tended to place pressure on the quality of services offered, including storage, financial services, market information, accommodation for outside transporters and merchants and market facilities. The haphazard way in which they have originated has meant that little preparation has

been made for future growth and in some cases, facilities are already stretched. The fact that the functions of market operators, market supervisors and market participants sometimes overlap has also created problems for the efficient operation of markets. One report, for example, indicated that some markets are run by urban districts which strive to protect their own market and prevent vegetables grown using their subsidies from flowing to other better-placed markets.<sup>40</sup> Also some markets are part of urban construction and development plans and others are not. Some of those within the plan have also been poorly located in respect of transport and other facilities.

In terms of pricing, there is also conflict between the vegetable supplies coming through the free wholesale markets without subsidies and those coming through the state system with subsidies. The former sometimes find it difficult to compete and it means that market prices can be influenced downwards. Nevertheless, the cost to the urban government is high with operational subsidies to its commercial system going up by 25% between 1986 and 1987. It is recognised that supplies coming through the free market system enable substantial savings to urban budgets.

Overall, the problems now facing the Beijing system include: (1) The need to improve facilities and the siting of wholesale markets; (2) The need to improve management and to separate out market operation from state supervision and controls so that it becomes more efficient; (3) The need to set up appropriate information and financial services to facilitate the role of merchants. Li Ji suggested that Beijing should establish wholesale marketing laws to set standards and provide the parameters for merchant operation, a vegetable and fruit marketing information centre to forecast demand and supply and guide traders, and a proper site for futures trading. In sum, therefore, the fruit and vegetable marketing system is in the process of transition from a state dominated network to a free market network. The transition has been marked by ad hoc adjustments and developments, and it is necessary to develop a better set of marketing facilities and management procedures to correspond with the growing pressures from the free market traders. Furthermore, in late 1991 the costs of sustaining the subsidies in the state system had grown so great that, in Beijing at least, it was announced that the planned

system of production and distribution would be brought to an end.<sup>41</sup>

## The Political Economy of Market Reform

The foregoing discussion has focussed on the economic and technical aspects of changes in the fruit and vegetable marketing system. It should be emphasised, however, that these changes have important social and institutional consequences which are being shaped by the economic processes at work. Four examples will provide an indication of the significance of such developments.

First, the economic power of urban governments to intervene in the vegetable production and marketing system is declining. They are also becoming more dependent on outside areas for supplies of food for urban inhabitants. The net effect is that they are less able to assert authority over producers or to provide subsidies to their residents. They have to become more dependent on supplies coming through commercial systems, and they therefore have to dismantle obstacles to the transfer of products across urban administrative boundaries and to facilitate market growth and services. Failure to do so would threaten urban supplies and, thereby, urban stability. Urban authorities thus find themselves compelled to support further market reforms.

Second, the evolution of free market networks will require continuous improvements in transport, with greater flexibility in the flow of people, traffic and goods. This, in turn, demands further decline in bureaucratic controls over movement. It is not efficient to stop goods at administrative boundaries and require changes in ownership, packaging and transport. Pallets and plastic crates, for example, have to move between producers and markets, not between different administrative owners in the state system. In other words, the need to sustain quality and fast movement of products requires a decline in the significance of administrative boundaries for economic activities.<sup>42</sup>

Third, the growth of the free market system has led to an increase in prices and a change in the distribution of economic benefits between town and countryside. Rural areas are seeking

higher value-added and higher returns. They are building their own cold stores so that they can reach urban markets when prices are highest. Urban consumers thus face rising prices and, in the context of wage and employment reforms, also face greater economic uncertainty. This issue was one of the factors behind the events of June 1989. The growth of the free marketing system will inevitably continue this process of redefining sets of economic interests and the division of economic returns between them.

A final example is that such changes also affect the nature and role of administrative units. MOC formerly controlled all commerce and its cold stores located in urban areas monopolised the value-added of such things as long-term storage of fruits. As producers move to obtain these returns, MOC will find its original role increasingly redundant in this activity. Furthermore, there is also potential for a new alignment of functions between the Ministry of Agriculture, primarily concerned with production and producers, and MOC, primarily concerned with supplies for consumers.

As these four examples illustrate, the changes to the marketing system thus have important consequences for a large number of fundamental political, social and institutional issues. The economic forces working within demand, supply and marketing will continue to force further change towards the free market system, and, as a consequence, changes in these other areas will also be necessary.

## Conclusion

The above discussion has covered a range of aspects in the production, marketing and pricing of fruits and vegetables for Chinese cities. It has also identified a number of major issues currently facing Chinese policy-makers. These are:

- The conflict between the aim of liberalising production and marketing and of maintaining low or stable prices.
- The conflict between the inflationary effects of price rises and the budget costs of subsidising producers, state com-

mercial systems and consumers.

- The change in the structure of demand for fruits and vegetables, with a need to satisfy demand for higher quality and greater variety.
- The changes in the structure of production which have resulted in a shift in the sources of supply for urban areas, especially in the north.
- The new demands on transport, storage and marketing facilities created by the changes in the sources of supply.
- The proliferation of market types, with a growth of free market structures alongside the state system. To some extent, these two types of markets handle different types of products, with fine vegetables and products from distant areas largely flowing through the free market system, and the state system concentrating on the bulk supply of key vegetables by season.
- The regional variations in the pattern of the reforms. By-and-large southern cities have been more successful in their changes and have gone further than northern cities.
- The emergence of a sophisticated pattern of inter-regional fruit and vegetable trade which needs much better information, transport, and service facilities and is quite distinct from former administrative controls.
- The consequent need for a series of social, political and institutional changes to reflect the economic transformation that has occurred.

In essence these problems are associated with a fundamental change in the nature of marketing in China. The system is moving away from a planned model based on local self-sufficiency towards a model based on inter-regional dependency and free market interaction. The process of institutional and managerial change occurring in this transition can be conceptualised in terms of the two models discussed at the beginning of this paper. Since this transformation entails a change in the distribution of economic benefits between producers, commercial institutions and consumers, it also entails social conflicts and requires institu-

tional adjustment. The extent to which the Chinese fruit and vegetable marketing system can shift from one model to the other will, therefore, be constrained by the rate of institutional reform and by the economic and technical constraints on the realisation of an regionally interlinked production, supply and marketing system.

Overall, the process of change in the past ten years has tended to improve fruit and vegetable production and to introduce much greater variety into urban diets. Nevertheless, the threat of inflation and of instabilities in supply has meant that many urban governments have been unable or unwilling to withdraw from the vegetable production and marketing systems. Such uncertainties have contributed to the cycle of reform and the reassertion of government intervention. Urban governments will continue to adjust their administrative methods to build more integrated production and marketing systems. They will also, however, be anxious to ensure basic supplies, especially to low income households. Until the social and institutional problems are resolved, the potential for intervention remains high. Nevertheless, the economic forces in terms of demand, supply and marketing will continue to force the reforms further towards the free market model. The economic costs of attempting to restore the former system are now much too high.

### Notes

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1. Ministry of Agriculture, *Cai Lanzi Gongcheng* [The Vegetable Basket Plan], (Beijing: Nongye Chubanshe, 1989).
2. The main focus will be on vegetable marketing.
3. Vegetable production under the plan system is analysed in detail by G. William Skinner, "Vegetable Supply and Marketing in Chinese Cities," *The China Quarterly*, December 1978, pp. 733-793.

4. The early phase of these changes is analysed in Dave Coady, Gang Qiao, Athar Hussain, "The Production, Marketing and Pricing of Vegetables in China's Cities," STICERD China Programme Reports, No. 6, May 1990, LSE, London University.
5. For a discussion of the early evolution of these wholesale markets, see Andrew Watson, "The Reform of Agricultural Marketing in China Since 1978," *The China Quarterly*, March 1988, pp. 1-28.
6. I am grateful to Dr. D. Schoorl of the Queensland Department of Primary Industries for the insights he has given me into marketing systems.
7. World Bank Report No. 8652-CHA, *China: Managing an Agricultural Transformation*, April 1991, p. 154.
8. State Statistical Bureau, *Zhongguo Tongji Nianjian 1990*, (Beijing, 1990), p. 306.
9. State Statistical Bureau, *Zhongguo Nongcun Tongji Nianjian 1990*, (Beijing: Zhongguo Tongji Chubanshe, 1990), p. 209.
10. Using the official population figure of 1.1119 billion and the traditional 20/80 proportions for urban and peasant population.
11. The following discussion relies heavily on Skinner, *op. cit.*
12. Interview at Sijiqing Commune, November 1979.
13. *Zhongguo Tongji Nianjian 1989*, p. 727.
14. Cheng Zhiping, "Strive to Maintain Basic Stability in Vegetable Retail Prices This Year," *Jiage Lilun Yu Shijian*, No. 6, 1989, pp. 2-5.
15. *Zhongguo Jiage Nianjian 1989*, p. 19.
16. *Ibid*, p. 143.
17. *Jingji Cankao*, 27 April 1988, p. 1.
18. Interview, December 1990.
19. Interview, December 1990.
20. Interview, Shanghai, December 1990.

21. Interview, December 1990.
22. See Coady, *et al.*, 1990.
23. *Zhongguo Nongcun Tongji Nianjian* 1989 and 1990, p. 95 and p. 90.
24. Coady, *et al.*, 1990, p. 14.
25. *Ibid*, p. 13.
26. Li Ji, "A Study of Vegetable Wholesale Marketing in Beijing," *Beijing Shang-Xueyuan Xuebao*, No. 2, 1989, pp. 56.
27. Zhu Shan and Zhou Jiarang, "Vegetable Pricing," *Jiage Lilun Yu Shijian*, No. 4, 1987, pp. 61-63.
28. Coady, *et al.*, 1990, pp. 19-20.
29. Cheng Zhiping, *op. cit.*
30. *Jingji Cankao*, 3 May 1988, p. 4.
31. Kong Xianqian, *et al.*, "The Issue of the Relative Price between Cotton, Grain, Fruits and Vegetables Urgently Needs Resolving," *Nongye Jingji Wenti*, No. 8, 1989, pp. 55-57.
32. Interview, December 1990.
33. Zhu Shan and Zhou Jiarang, *op. cit.*, p. 61.
34. Liu Jiang, "Thoughts on the Aims and Methods of Achieving the 'vegetable basket project'," *Keji Ribao*, 7 August 1988, p. 2.
35. Li Peng, "The Basic Way to Improve Urban Vegetable Supplies Lies in Reform," Speech on 1 May 1988, *Zhongguo Jingji Tizhi Gaige*, No. 6, 1988, pp. 6-11.
36. See also Li Zhensun, *et al.*, "The Target Model for Reform of the Vegetable Production and Sales System: A Study of 'Two Systems in One Line'," *Shangye Jingji Wenhui*, No. 4, 1988, pp. 15-19.
37. Cheng Zhiping, *op. cit.*, pp. 2-5.
38. Summary of World Broadcasts, Part 3, The Far East: FE/0866/B2/1-2, 11 September 1990.
39. The following discussion is based on Li Ji, *op. cit.*, pp. 56-61.
40. Yan Zhenguo, "Where Is the Way Out for Reform of Vegetable Management in Beijing," *Renmin Ribao*, 27 October 1988, p. 2.

41. Interview, Guo Shutian, November 1991.
42. In this context it might also be noted that these changes also provide new opportunities for criminal activities and thus require new methods of social control and law enforcement.