

New Approaches to Building Markets in *Asia*

Working Paper Series

Qian Forrest Zhang

Zi Pan

The Transformation of Urban Vegetable Retail in China: Wet
Markets, Supermarkets and Informal Markets in Shanghai

WORKING PAPER No. 20

New Approaches to Building Markets in **Asia** is a research project run out of the Centre on Asia and Globalisation at the Lee Kuan Yew School of Public Policy, National University of Singapore.

The New Approaches to Building Markets in Asia Working Paper series presents draft papers originally delivered at each of the research project's three workshops. The series serves as an opportunity for project participants to present work in progress for the purpose of gaining feedback and refining the contributions for peer reviewed publication.

The papers have not undergone peer review. Subsequently, all of the papers should be treated as 'not for citation' unless the consent of the author is obtained. Further, the views expressed in the papers are those of the respective authors and should in no way be construed as those of the Centre on Asia and Globalisation, the Lee Kuan Yew School of Public Policy or the National University of Singapore.

For more information on New Approaches to Building Markets in Asia please visit the project's website at:

<http://www.caglkyschool.com/content/new-approach-building-markets-asia>

The Transformation of Urban Vegetable Retail in China: Wet Markets, Supermarkets, and Informal Markets in Shanghai

Qian Forrest Zhang¹

Zi Pan ²

ABSTRACT: *The state-monopolised system of vegetable retail in socialist urban China has transformed into a market-based system run by profit-driven actors. Publicly owned wet markets have not only declined in number after the state relegated their construction to market forces, but since being privatised, they have become venues of capital accumulation for the market operators now controlling these properties. Self-employed migrant families replaced salaried state employees in the labour force. Governments' increased control over urban public space reduced the room for informal markets, exacerbating the scarcity of vegetable retail space. Fragmentation in the production and wholesale systems restricted modern supermarkets' ability to establish streamlined supply chains and made them less competitive than wet markets. These changes show the advance that capital has made in re-shaping China's urban food supply and highlight the state's role in providing urban food retail space.* ³

Keywords: vegetable retail; supermarkets; wet markets; street hawkers; food prices; liberalization; urban space; China.

Introduction

For the year 2010, inflation haunted China's rapidly growing economy. Leading the increase in consumer prices, however, was a surprising candidate. Among all major consumer prices, urban food prices registered the only double-digit inflation for the year and were responsible for 65% of the annual rise in the consumer price index (CPI) (Huang, 2011). In November 2010, China's CPI rose to a 28-month high, registering an increase of 5.1% over the previous year, led by an 11.7 % surge in food prices, which constituted about one third of the CPI (Xinhua News, 2010a). This rise was mainly a result of sharply rising

¹ Dr Qian Forrest Zhang is at the School of Social Sciences, Singapore Management University, Singapore

² Dr Zi Pan, is Assistant Professor, at the School of Public Economics and Administration, Shanghai University of Finance, Shanghai, China

³ Acknowledgment: This research is supported by a research grant from the Singapore Management University's Office of Research to the first author. We thank Professor Jiang Changjian of Fudan University and Ms. Lu Zhihua of Wujiaochang Town Government for facilitating the fieldwork.

DRAFT Paper: Not for Citation

urban vegetable prices, which contributed to about 20% of the percentage of foods in the CPI. For the first half of November, the average wholesale price of 18 types of vegetables in 36 large cities rose 62.4% from the previous year (Xinhua News, 2010b). The rise in food prices tapered off after November, only to pick up speed again in 2011. By May 2011, the CPI has surpassed five percent for three months in a row and reached a 34-month high of 5.5% in May (Huang, 2011). Again, the main driving force is soaring food prices, which rose 11.7% in May from a year ago.¹ Rising food prices in Chinese cities even drove residents in the southern city of Shenzhen, which borders Hong Kong, to do their daily grocery shopping across the border (Li and Qian, 2010).

Rising vegetable prices roused widespread public concerns. China's central government, concerned with both an overheating in the economy and growing public discontent, stepped in with administrative measures to control food prices. In November 19, 2011, the State Council released Document 40, aimed at stabilising consumer prices. Among the 16 remedial measures proposed in Document 40, five were specifically about vegetable retail prices.

Causes of the rise in urban vegetable retail prices and the effectiveness of state's price control measures are still debated. Most media reports noted that the price rise was not a result of sharply changed supply or demand, but that much of the increased cost occurred during the distribution and marketing processes, and vegetable farmers benefited little (*China Economic Times*, 2010; USDA, 2010). Cyclical fluctuations aside, rising vegetables prices in cities reflect fundamental changes in the system of production, distribution, and marketing of food in China. While media reports on rising vegetable prices identified a host of potential culprits, including loss of peri-urban vegetable farms to urban expansion, rising distribution costs, and speculative hoarding, they fell short of providing a comprehensive and in-depth analysis of these systemic changes. The scholarly literature on the transformations of both the agrifood system and retail system in China also has limited purchase on this issue. Existing studies focus on either changes in vegetable production or the role of the newly emerged supermarket sector in urban food retail (Goldman, 2000; Hu et al., 2004; Wang et al., 2009; Zhang and Donaldson, 2008). On the other hand, studies that examine the transformation of China's agrifood system from a specific sector, or crop, so far have only looked at animal-based foods (Brown et al., 2002; Fuller et al., 2006) whereas the special characteristics of vegetables, however, as shown later, shape market dynamics in unique ways.

More specifically on urban vegetable marketing, existing studies only examine the rise of supermarkets and emergence of modern supply chains, since they present new forms of marketing and are considered the most significant change in the food retail industry (Goldman, 2000; Hu et al., 2004; Sternquist and Chen, 2006; Wang et al., 2009). This narrow focus, however, obscures the profound changes in traditional marketing channels, which till this day still dominate vegetable retail in Chinese cities, occupying 80-90% of market shares. These existing studies focus more on technical aspects of marketing,

such as changing market shares, spatial distribution and diffusion of markets, methods of procurement and distribution, and supplier-buyer relationship. They have overlooked the socio-political aspects of urban food marketing, namely, the role of the state, evolution and outcome of policies, entry of new players, interactions between state and market actors in transforming and shaping the mode of governance in this market, and the relationship between economic transition and public policies. These socio-political dynamics become apparent when we shift the focus to the transformation of the entire urban vegetable marketing system.

Over thirty years ago, in his study of vegetable supply and marketing under socialist China, Skinner (1978: 733) perceptively pointed out that “the logistics of feeding urban population is critical in any complex society, indicative *inter alia* of priorities and procedural preferences in the social system.” As Chinese cities experience rapid population growth, and a transition from a planned economy and socialist urban system to a market-based, capitalist urban system, feeding the growing urban population presents a unique challenge to local states. More than any other foodstuff, vegetables, because of its high perishability, large variety, varying regional preferences, and discrepancy between year-round consumption and seasonal production, presents the greatest challenge to the local state and urban food retail system. Thus, a study of vegetable retail exposes to the fullest weaknesses in the system of urban food supply, and the social processes that create and attempt to address them. It helps not only to address the immediate question about rising food prices, but more importantly, to understand how, in China’s economic transition, state and market actors interact to transform the agrifood system.

The goal of this study is not to quantitatively figure out what factor contributed how much to rising vegetable prices in Chinese cities, but rather to qualitatively document how the system of vegetable marketing has changed, analyse how state policies and market forces contributed to these changes, and assess the impact of these changes on both vegetable retail and the state’s ability in managing urban food supply. Changes in urban vegetable retail are connected to those in the production and wholesale distribution of vegetables, which deserves in-depth investigations of their own. In this study, we limit our scope to vegetable retail in cities and rely on secondary sources when discussing how changes in the production and wholesale distribution of vegetables affects the urban retail system.

In the remainder of the article, we introduce the methods used in case selection and data collection. Following that is a brief review of urban vegetable retail under China’s socialist planned economy. We then document key changes in this system in recent decades. These are analysed from three aspects, namely, the interactions between the local state and nonstate actors and the new market structure and institutions that emerged: transformation of traditional vegetable markets and emergence of new marketing venues such as supermarkets; and changes in informal markets. From this analysis, we argue that vegetable retail in urban China has been transformed from an enterprise of public service

run by the state to one of profit-seeking run by both private and bureaucratic capital. The state not only retreated from building retail space and managing the supply and marketing of vegetables in cities, but its policies also curtailed the informal market; and market forces, on the other hand, failed to pick up the slack in some areas. These developments helped to strengthen the grip that private and bureaucratic capital had over the increasingly scarce urban vegetable retail space, which led to rising prices.

Methods and data

China's largest city, Shanghai, was selected to conduct a case study. Shanghai is most studied in literature in the urban food retail sector in China (Goldman, 2000; Hu et al., 2004; Skinner, 1978; Sternquist and Chen, 2006; Wang and Zhang, 2005). On the consumption side, Shanghai not only has the largest urban population in China (23 million in the 2010 National Census), but also a local dietary tradition that stresses year-round consumption of fresh vegetables, especially the green leafy varieties. On the marketing side, Shanghai has the most developed retail system in China, with the largest number of supermarkets, chain stores, foreign retailers, and the biggest department stores (Goldman, 2000; Wang and Zhang, 2005). Although large cities in China evolved from a similar system of vegetable marketing and now face similar challenges and constraints in transforming it, the convenient access to fresh vegetables at affordable prices has particular economic importance and political sensitivity in Shanghai. Providing such access to a large population in a sprawling city presents a challenge to both the local state and market actors. Developments in Shanghai – the success or failure of state policies and the modern marketing system in addressing this challenge – are a harbinger for what is to emerge in other Chinese cities.

Our data on vegetable retail in Shanghai comes from both primary and secondary sources. We collected statistical data and government documents related to vegetable retail. Among the nine central-city districts in Shanghai, we have selected one – Yangpu, in northeast Shanghai – to conduct primary data collection. Over a three-month period in 2011, we visited all types of vegetable retail outlets and interviewed parties involved in vegetable retailing. These included different types of retailers (vendors in general food markets, owners of small shops, and itinerant street hawkers), shoppers, managers in market-operating companies, and government officials. Officials from two types of government agencies were interviewed: the specialised regulatory agency in charge of retail commerce in the district called the District Commerce Committee, and the sub-district, grassroots level government (either a ward or town). For supermarkets, which have been well studied in both academic and trade publications, we rely solely on secondary sources.

Urban vegetable marketing under socialism

Under the socialist planned economy, the supply and marketing of food for the urban population was a state responsibility, whereas for rural residents, food was self-supplied within the rural communes (Skinner, 1978). In cities, the socialist state designed and built a system of vegetable production, distribution, and marketing based on two strategies: self-sufficiency in production and centralised procurement, and monopolised retailing in distribution and marketing.

The strategy of self-sufficiency in vegetable production required municipal governments to maximise the proportion of each city's vegetable supply produced within the municipal jurisdiction. A Chinese municipality is a territorial administrative unit that has both a built-up urban area at its core as well as the surrounding rural hinterlands incorporated as subordinate units. Take Shanghai for example: by the 1980s, the municipality comprised 10 urban districts that constituted the city of Shanghai, with an urban population of around six million, plus 10 counties that were largely rural and much bigger in area, with a population of around five million each. This administrative structure and the collectivisation of agriculture, in which collective authorities according to government planning made production decisions, allowed cities to meet their urban populations' demand for vegetables with production in peri-urban areas, that is, the surrounding rural counties. In the late 1970s, most large cities in China maintained rates of vegetable self-sufficiency over 85% (Skinner, 1978).

Vegetables harvested from rural production units were then delivered to designated procurement stations managed by the Municipal Vegetable Company (MVC) to be weighed, graded, valued, and entered into the system of centralised procurement and monopolised retailing. The Municipal Vegetable Company was one of the several specialised companies under the municipality's Second Commercial Bureau that managed the supply and marketing of various types of food. The supply of vegetables into cities, and the retailing within cities, were both monopolised by the MVC. Peri-urban vegetable farmers often tried to circumvent this monopoly by bringing their surplus produce into cities and sell it on sidewalks. These informal retail activities posed a threat to both the rural collective authorities, whose ability to meet compulsory production quotas were undermined, and the MVC, whose retail outlets faced competition. These authorities actively sought to thwart such attempts, sometimes even mobilising paramilitary forces to stop the farmers (Wang, 2008).

The MVC distributed the procured vegetables through a hierarchy of wholesale and retail outlets spread throughout the city. The MVC usually had a branch office in each urban district that directly managed the vegetable retail cluster in that district. Generally speaking, within an urban district, each ward, which was the administrative sub-unit, had at least one general food market, supplemented by a number of smaller specialised shops and stalls selling vegetables. Large general food markets in densely populated city wards

had several thousand square meters of floor space and hundreds of full-time employees, serving tens of thousands of customers and selling vegetables by the tens of thousands of kilograms on a daily basis (Skinner, 1978). In these general food markets, the vegetable departments were invariably the largest in floor space among all the departments that sold the full range of food and beverages; except for grain, which was procured by the Municipal Grain Bureau and sold in specialised stores. In 1977, the Shanghai MVC had 12 branch offices, corresponding to the 10 urban districts and the two industrial towns of Minhang and Wusong in the counties. Together, these 12 branch offices managed over 200 general food markets and more than 500 vegetable shops and stalls, distributed across the 110 city wards (Skinner, 1978). On an average, in Shanghai, each general food market served a population of 27,000-28,000.

This system of centralised procurement and monopolised retailing, first established in the 1950s, had many advantages in socialist China's specific context. In its practice over 30 years, despite the country's severely underdeveloped infrastructure of transportation and storage, the system had managed to maintain a relatively stable supply of fresh vegetables, at low costs, to the large urban population in China (Skinner, 1978). It, however, was also plagued by problems. The centralised procurement system provided guaranteed purchase of all outputs at fixed prices. This gave rural production units incentives to pursue greater volumes of production with disregard to quality and increase in-season production when costs were low, while decreasing the more costly off-season production. Such practices resulted in deteriorating quality and sharp seasonal fluctuations in quantities in the urban vegetable market. The state-run retail system, while easily accessible to urban residents, was notorious for its poor services, lack of choices, and heavy wastage (Veeck and Veeck, 2000). Food markets were in poor physical conditions. Even many of the larger general food markets were not housed in permanent buildings, but simply in tents on the streets, or temporary sheds. These markets were traditional "wet markets" in the true sense as the floor was constantly wet from the spraying of vegetables and cleaning of meat and fish, and littered with waste. In managing this system, municipal governments not only had to shoulder the heavy financial burdens caused by inefficient operation and price subsidies, but also they also constantly incurred the ire of some constituents, namely the urban residents when vegetables were difficult to buy in low seasons, and rural residents when vegetables were hard to sell in high seasons.

This system contrasted sharply with that in developed countries, characterised by large-scale, regionally specialised vegetable production, long-distance transportation and large-area distribution, market integration of supply and demand, privately run retail outlets, and bulk purchase at supermarkets. As China makes the transition from a planned economy to a market economy, and Chinese cities experience rapid growth, is its system of vegetable supply and marketing converging to the Western model? What forces are transforming this system? How are the socialist legacies shaping the emerging new market system? We turn to these questions next.

Transformation of urban vegetable marketing

In the 1980s, both pillars of the socialist system of urban vegetable supply and marketing were undermined by China's market reform. On the production side, the decollectivisation in agriculture disbanded collective communes and brigades, and devolved land use rights to individual households. The state gradually removed compulsory production quotas for households and restrictions on crop choice. By early 2000s, agricultural production in China has been fully liberalised to give rural households full autonomy in crop choice and even continuing with farming or not; the state now only has economic means to influence farmers' production decisions. This led to both the decline of peri-urban vegetable farming, as the peri-urban areas not only lost vegetable land to urban expansion, but also the labour force to more rewarding non-farm jobs, and the rise of regional specialisation with large-scale vegetable production in rural areas distant from urban markets. The centre of gravity in vegetable production has shifted from peri-urban areas of municipalities to rural areas, where, by early 2000s, 80% of China's vegetable production areas are located (Liu et al., 2002).

These two changes made self-sufficiency in vegetable production untenable. Since much of the vegetables supplied to a city now came from outside the municipality – in 2010, most large cities had a self-sufficiency rate lower than 30% (Liu and Wu, 2011) – it also became impossible for the MVC to procure all of them and monopolise retailing in the city. Forced by the practical difficulties of maintaining the old system, but also motivated by the guiding ideology of the marketisation reform, in the 1980s, municipalities all across China started to reform centralised procurement and monopolised retailing. Many gradual steps were taken over the two decades and local variations abounded.² In general, municipal governments retreated first from directly retailing vegetables and then from operating the markets; they not only allowed private actors to enter vegetable retailing, but also increasingly relied on them for the construction and operation of market places.

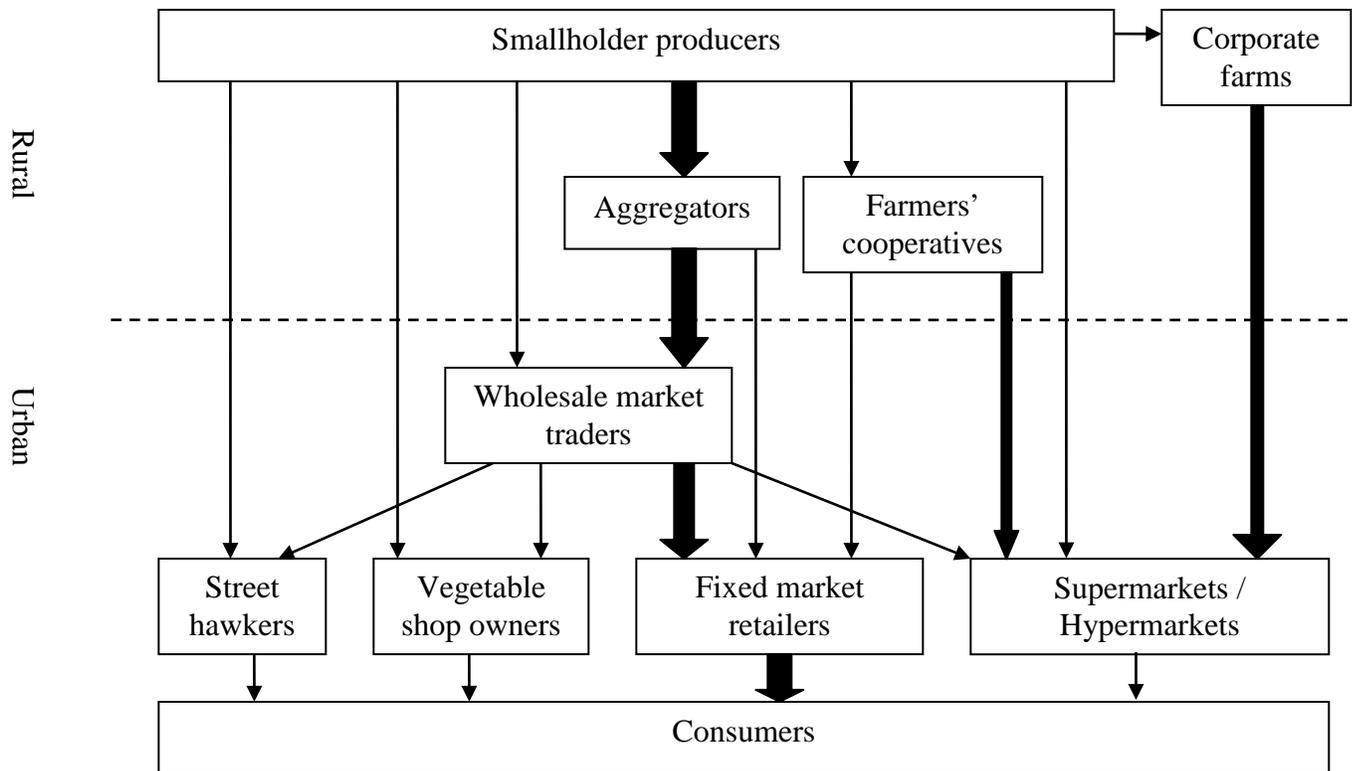


Fig. 1. Vegetable supply chains to consumers in Chinese cities. (Block arrows indicate the dominant flows of products going out from sources.)

Figure 1 presents the actors in the fresh vegetable trade in urban China today. In the following, we use the example of Shanghai to illustrate the transformation of the urban vegetable marketing system by examining changes in the three types of retail channels—first, the traditional fixed markets – wet markets and small vegetable shops, which used to monopolise urban vegetable retail; second, the newly emerged supermarkets and private vegetable shops; and third, street vegetable hawkers in the informal market.

Wet markets: From public service to profit making

During Shanghai’s rapid urban development in the past three decades, some of the general food markets (*caishichang* in Chinese; hereafter, simply “wet markets”) – the backbone of the socialist state-run vegetable retail system – have simply vanished, and at the same time, both the urban population and the demand for vegetable retail facilities have increased. Taking the example of Yangpu district, the most populous (1.31 million) among the nine central-city districts, three processes have reshaped its demography in recent decades. First, municipal and commercial projects in the more centrally located districts caused the relocation of residents to the less densely populated Yangpu. Throughout the late 1980s and 1990s, for example, the municipal government relocated about 200,000 residents from

central -city areas to publicly built apartment buildings in the far northeast corner of Yangpu – today's Yinxing ward-, which used to be farmland. Second, Yangpu received a massive influx of migrants from outside the municipality. From 2000 to 2010, the migrant population in Yangpu rose from 152,502 to 275,303, marking an 80.5% increase (Yangpu Bureau of Statistics, 2011). Third, urban development took over all agricultural land in the district and turned former vegetable farmers living on the outskirts of the district into urban residents.

While the resident population in Yangpu increased from 1.24 million to 1.31 million during 2000 and 2010, the number of wet markets decreased from 73 in 2002 to 52 in 2010.³ As a result, the average number of residents that each wet market serves has increased nearly 50% from 17,000 to 25,000. Three processes contributed to the decline of these wet markets. First, once the state had opened up the urban real estate market and retreated from building public housing, it also stopped building new wet markets as matching facilities, but instead left it to markets to supply the retail space (Office of Shanghai Chronicles, 1996). Second, some wet markets had been housed either in idled factory buildings, or under tents erected in vacant lots, and when urban development took up the idled land, the wet markets were kicked out, and most of which had nowhere else to go. Third, wet markets located in old residential neighbourhoods were shut down when the entire neighbourhoods were relocated due to building of municipal or commercial projects, a process that has happened often during China's rapid urban development. The government requires developers of new real estate projects that housed the relocated residents to compensate the lost wet markets with new ones; however, as shown later, this decree has fallen on deaf ears.

The lack of coordination between these two sets of urban development processes – demographic changes that redistribute the urban population and physical changes that relocate wet markets – has exacerbated the spatial mismatch between residential congregations and wet markets and intensified the difficulties that some residents had in accessing vegetable retail outlets. In Yangpu for example, the Changbai ward, a newly developed area on the eastern rim of the district where many new apartment buildings were built in recent years, has a population of 95,000, served by three wet markets with an average of over 30,000 residents per market. In comparison, the Siping ward, a mature urban area near the city centre, has roughly the same population (100,000), but seven wet markets, each serving an average of only 14,000 residents.

The wet markets that remain in operation have also become very different from their predecessors under the state-run monopolised retail system. The liberalisation of China's state-controlled agrifood commerce system started in the mid-1980s in the urban fresh food retail sector. Municipal governments opened state-run wet markets to private retailers, tolerated hawking of fresh produce by farmers on city streets, and even encouraged nonstate actors, including collective organisations and private firms, to set up wholesale markets and retail wet markets on government-granted land (Hu et al., 2004;

Rozelle et al., 2000; Wang, 2008). Competition from these non-state wet markets (*jimaoshichang* or *nongmaoshichang* in Chinese) posed a serious challenge to the viability of their state-run counterparts. In non-state wet markets, since prices were not restricted by government mandates, sellers could demand higher prices for fresher and higher-quality vegetables. Higher-quality vegetables concentrated in these non-state markets, and together with it, so did the more affluent consumers who were willing to pay extra for quality. The MVC, on the other hand, which did the planned procurement and operated all state-run wet markets, faced dire situations. It had greater difficulties in procuring high-quality vegetables, but became a dumping ground of low-quality products by producers, especially in peak seasons. The liberalisation soon turned the already loss-making MVC and the vegetable retail system it operated into an even heavier financial burden for municipal governments.

Competition from nonstate wet markets not only made it imperative for municipal governments to reform the state-run retail system, but it also suggested a solution that since market allocation and private actors had proven more efficient in running urban vegetable retail, the state-run retail system should also be marketised and privatised. After a few failed attempts at incremental reform, such as giving the MVC more autonomy in procuring from outside the plan, and more flexibility in setting prices in wet markets, governments in large Chinese cities started wholesale privatisation in the urban commercial system, which became a part of the larger reform of ownership restructuring in the state-owned sector that started in 1993. All kinds of retail establishments run by the commercial bureaus of municipal governments, including wet markets, restaurants, barber shops, and department stores, were privatised, and mostly sold to managers and employees of the enterprises at heavily discounted prices. Eager to relieve themselves of these financial burdens and push forward the centrally mandated ownership restructuring reform, municipal governments did not bargain hard. Although the new private owners were supposed to retain state employees in the privatised firms, most fired the state workers and hired cheaper migrant workers. Supervision over the privatised wet markets changed from the MVC to the Administration for Industry and Commerce in each district.

Privatisation of the vegetable retail cluster in each district was carried out by the district government, leading to variations in methods and pace even within the same city. In Shanghai, Yangpu was the slowest in privatising its vegetable retail facilities. Today, among the 52 wet markets in Yangpu, more than half remain owned and operated by state-owned companies. In contrast, state-owned wet markets in Zhabei and Pudong districts were fully privatised. In these districts, the former Vegetable Companies still exist in name, but have ceased all business functions and now simply manage whatever assets and debts that remain and handle the affairs of pensioners.⁴ Of the 930 wet markets in today's Shanghai, about 80% are privately operated, a sea change from just two decades ago (Qian, 2011).⁵

The opening up of the urban vegetable retail market, together with liberalisation in vegetable production, increased the variety and quality of vegetables sold in cities, reduced seasonal fluctuations, and improved service quality. These improvements aside, the privatisation of vegetable retail facilities, however, also led to rising vegetable prices in Chinese cities. Part of the price increase went to cover the rising costs of longer transportation, better quality, and improved services. But consumers also paid a premium for the transformation of a state-managed public service into a profit-seeking enterprise run by private and bureaucratic capital.

In the privatised wet markets, the physical setting stayed the same – the floor space was divided into small stalls lined along narrow corridors. Small vendors, who leased stalls from these operators, brought fresh vegetables from various sources, including wholesale markets, rural merchants, and farmers' cooperatives, sorted, cleaned, and packaged the vegetables, and sold them to consumers. Vendors had to pay market operators both a rent for the floor space, fees for utility usage and for services such as garbage collection, waste disposal, security, and facility maintenance. While the MVC used state-granted properties and hired a large staff to do vegetable procurement and retailing, these new market operators, who either owned the property that housed the market or leased it on long terms, were instead in the business of 'operating commercial real estate'. As the housing boom in Chinese cities in recent years drove real estate prices to ever-higher grounds, market operators also kept their rental charges abreast with the rising market, seeking a return comparable to other investments in urban real estate. One investigation conducted by the China Central Television (CCTV, 2010) in several large cities found sharp increases in rental charges across the board. In one Beijing market, monthly rent for a small vegetable stall rose from 280 yuan in 2002 to 850 yuan in 2010. In another market in Shanghai's Pudong district, the monthly rent for a vegetable stall increased from 200 yuan in 2003, when the market was still operated by the ward government, to 800 yuan in 2009 when it was privatised. Vegetable vendors interviewed in Yangpu also complained about the doubling of rents over the past few years. Although no nationwide or citywide survey data is available, similar rises in rental charges in many cities has been widely reported in Chinese media.

To small vegetable vendors, the rental fee now constitutes a major part of their operating cost. For example, in Mingyan Market, a privately run small wet market on North Guoquan Road, the operator now charges a monthly rent of 300 yuan/m² for vegetable stalls, which usually comprises of two to three square meters. Besides that, a vendor also pays the operator 300 yuan annually for the use of a certified electronic scale, 300 yuan for registration renewal, 200 yuan for security, 1200 yuan for parking, and the actual usage of water and electricity. All these add at least another 250 yuan each month and raise their monthly costs to around 1200 yuan. For a vegetable stall that has a total revenue of approximately 700 yuan per day, this 40 yuan per day operating cost cuts deeply into their

profit margin, which is already made small and precarious by the heavy wastage in fresh vegetable retailing. They have to recoup it from higher prices charged to consumers.

Even the wet markets operated by state-owned companies have adopted a similar mode of operation and profit motive. The only difference between private- and state-operated wet markets is that, while the former are run by private capital, the latter by bureaucratic capital – but profit-seeking capital nonetheless. The state-owned companies that own and operate wet markets in Chinese cities today are a different species than the MVCs of socialist China – they are the products of local state entrepreneurialism. In the 1990s, parallel to the ownership restructuring in state-owned enterprises (OEs) that pulled local states out of managing enterprises, the central government instituted two other reforms – fiscal re-centralisation and bureaucratic restructuring – both of which also aimed at downsizing local state bureaucracies and creating more room for market growth. These reforms, however, unintentionally triggered a counter process of state entrepreneurialism that pushed local states into setting up and running a new kind of market-oriented and profit-seeking businesses to both make up for lost revenues and divert redundant employees (Duckett, 1998). Unlike the traditional SOEs, which produced under central planning and had few profit motives, these new enterprises used the state-owned assets they controlled to seek profit in competitive markets. More importantly, the entrepreneurial local state that created them did so not to provide public welfare but to generate profits.

The reform of the district branch of MVC in Yangpu is a typical example of local state entrepreneurialism. When privatisation of the commerce system started in Shanghai in early 1990s, because there was less private capital available in the less developed Yangpu that could take over the large assets of wet markets, the district government took a different approach. It re-structured its MVC branch into two new entities. One is a shareholding company called Yangpu Food Markets Operation and Management Ltd. Co. (hereafter, simply Yangpu Food) and the other is a holding company called Shanghai Yangpu (Group) Company, which owns majority shares in the former. Some of the state-owned wet markets run by the MVC in Yangpu were privatised and the rest were taken over by Yangpu Food. Today, Yangpu Food operates 24 wet markets in the district, and has 46% market share. Among these, 18 are housed in properties owned previously by the MVC, and now by Yangpu Food, and six in properties leased from other state entities. Through this restructuring, the former MVC branch, a mass retailer of vegetables, was transformed into Yangpu Food, a commercial real estate operator that charges vendors who lease retail space from it exactly the same fees as their private counterparts. The Yangpu (Group) Company, on the other hand, manages the affairs of pensioners and laid-off workers from the disbanded MVC branch and relies on profit remittance from Yangpu Food to pay for its functions. Just as the district government has Yangpu Food, grassroots level governments also have their own entrepreneurial ventures. The Wujiaochang town under Yangpu district, an equivalent of a city ward, for example, owns the Xiangying Industry and

Trade Company, whose core business is operating five wet markets in the town. In our interviews, both company managers and vendors confirmed that these state-owned markets charge rents and other service fees at “market rates.”

Governments can also add fuel to the rising rents in wet markets. In Shanghai, the municipal government launched a three-year campaign in 2005 to upgrade and standardise existing wet markets. Markets that underwent the upgrade would have standardised layouts, improved ventilation and waste treatment facilities, upgraded storage and display facilities, clearer labelling of price and product origins, and stricter trainings for personnel. By the time the campaign ended in 2007, a total of 600 wet markets citywide had been upgraded to certified standardised food markets. The upgrading certainly improved the facilities and hygiene at wet markets, making the name a misnomer, as some markets no longer have wet floor. While both the municipal and district governments provided funds for the upgrading (in Yangpu, 150,000 yuan from each for a wet market), much of the expenses still had to be shouldered by market operators, who, in turn, had to recoup those through further raising rents and fees. For example, one market in Pudong District’s Zhoupu Town raised the annual rent for a vegetable stall from the pre-upgrading 2,000 yuan to 10,000 yuan after the upgrading was completed (Lu, 2010).

The privatisation of wet markets also changed the labour force of urban vegetable retailing. Under the state-run system, the MVC had thousands of salaried employees, most of who were native, urban residents.⁶ Like workers in other state-owned work units under socialism, they had meagre salaries but, these employees enjoyed a whole range of benefits that included housing, health care, and pension (Office of Shanghai Chronicles, 1996). Today, successors to both the municipal and district Vegetable Companies only manage wholesale or retail markets. On the other hand, the urban-origin, salaried state employees that worked at the counters have all been replaced by a self-employed labour force that consists primarily of migrant families, mostly hailing from provinces in eastern China. Again, no citywide statistics are available, but in our interviews at nine wet markets in Yangpu, we did not meet a single vegetable vendor who is a native of Shanghai.⁷ Reports in Chinese media find the same pattern (CCTV, 2010; Qian, 2011). One survey in Nanjing finds that only 30% of all wet markets food vendors in the city are natives (Huang, 2005).

Now there are no companies like the MVC that had specialised employees dealing with the purchasing from wholesale markets, the sorting, cleaning and packaging of vegetables, and then the retailing to consumers separately; private vendors in today’s wet markets have to do all related activities by themselves. This means getting to the wholesale market on outskirts of the city around four o’clock every morning (or, two o’clock for those without an automobile), setting up the stall by six a.m., haggling with customers for 12 hours, and constantly cleaning and spraying the vegetables to extend shelf life. This kind of intensive labour, which requires at least two adults, is best provided through using family labour and through self-exploitation. Migrant families are more capable of doing such intensive labouring than urban natives, whose family members are more likely to engage in

different jobs. These migrant families, unlike state employees of the MVC who enjoyed subsidised housing and other benefits provided by the state, are fully dependent on these markets and have to cover all their living expenses from vegetable sales. This change in the labour force structure has, therefore, created a channel that made the steadily rising living expenses in cities, especially rent for housing, a component in rising vegetable prices.

To summarise, the vegetable retail system established under socialism, which had provided urban residents fresh vegetables at low prices and convenient locations, albeit an unsatisfactory quality, collapsed together with other parts of the socialist “urban public goods regime” in China’s market transition (Solinger, 1995). The market-based, largely privatised system that replaced it brought many benefits; but it also reduced the availability of vegetable retail facilities, and increased prices. Part of the price rise simply resulted from the removal of state subsidies that kept vegetable prices artificially low for urban residents under the planned economy, but part of it came from a change in the economic actors who run the system and their motives. Profit-driven actors, including private capital owners, local entrepreneurial states, and self-employed migrants, replaced the non-profit, paternalistic socialist state and turned neighbourhood wet markets from a public asset into a venue for capital accumulation. The private and bureaucratic capitals that now control the declining number of wet markets have become particularly powerful in the market, as the state not only provided them the assets through privatisation, but also inadvertently increased the scarcity of these assets through other reform policies, a point that has been elaborated later.

New markets: Unbalanced growth

The liberalisation of urban vegetable retail allowed new venues to emerge. Compared to developed countries where supermarkets dominate urban food retail, in urban China, where consumer incomes have been rapidly rising, presents a huge potential for supermarkets and other modern retail formats to grow, and to make up for any retail space lost during the transformation of the state-run retail system. Many studies on the changes in China’s agrifood commerce system therefore focused on the growth of supermarkets and considered this the main force driving China’s retail modernisation (Goldman, 2000; Hu et al., 2004; Wang et al., 2009; Wang and Zhang, 2005).

Modern retail formats that include hypermarkets, supermarkets, and convenience stores⁸, and modern supply chains have grown rapidly in China since the mid-1990s; and especially after China started opening the domestic retail market to foreign direct investment in 2004, as agreed in China’s entry into the World Trade Organisation (Hu et al., 2004). Even in its second decade of presence in China, the supermarket sector still grew at about 30% annually in the early 2000s, a rate much faster than the growth of overall national retail sales (which was around 10% annually) indicating that supermarkets are displacing traditional retail formats (Hu et al., 2004). Shanghai leads the nation in retail

modernisation and the three largest domestic retail chains are all based in Shanghai (Wang and Zhang, 2005).⁹ Shanghai also has the highest rate of penetration by foreign retail chains, especially in the hypermarket format. In 2008, 82 foreign hypermarkets accounted for 78.6% of total hypermarket sales volume in Shanghai (USDA, 2011).

Although the rise of supermarkets changed urban China's retail landscape and created a new lifestyle for affluent consumers, it has, so far, had limited impact on the retail of fresh foods and has not been able to shake the dominance of wet markets in this sector. Among all consumer products categories, their entry into fresh foods was the last and had the lowest penetration rate, especially in fresh vegetables (Hu et al., 2004). Without reliable sources of statistics on either supermarkets or fresh food retail, the exact share of supermarkets in fresh food retail in urban China is hard to come by. One industry source reports that, in 2009, the supermarket sector accounts for 16.7% of total food retail in the country (Datamonitor, 2010). Hu et al. (2004), drawing data from a variety of sources, estimated a 30% share of supermarkets in total urban food retail. Studies of supermarkets in other developing countries found that fresh produce accounts only for 10-15% of supermarkets' food sales (Reardon and Gulati, 2008). In China, supermarkets lead other formats in the sale of packaged and processed foods by large margins (Hu et al., 2004). Consumer studies also confirmed that most Chinese urban consumers do cross-platform shopping, i.e., buying manufactured goods in supermarkets, but fresh foods, especially vegetables, in wet markets (Bai et al., 2006; Goldman, 2000). All these suggest that the share of supermarkets in fresh vegetable retail in Chinese cities must be much smaller than that of total food retail. Using a more sound method, a recent study of supermarkets' vegetable procurement in Beijing found that "at most 15% of total vegetables in Beijing are sold through supermarkets (Wang et al., 2009, p.1799)" – an estimate that should apply to other large cities too.¹⁰

Several factors limit supermarkets' competitiveness in fresh foods retailing in urban China. Many Chinese consumers still have a cultural preference for purchasing small quantities of fresh vegetable daily and consuming them without using refrigeration. Wet markets, especially when they are within walking distance, are still the ideal venue for this type of shopping. Surveys repeatedly found that 60-70% of urban consumers still do most of their vegetable and fruit shopping in wet markets and only 10-15% do so in supermarkets (Bai et al., 2006; Goldman, 2000; Wang and Hu, 2007). Vegetables sold at supermarkets usually arrive by eight o'clock the night before and have been shelved for at least half a day before reaching consumers. At wet markets, vendors buy their vegetables around four o'clock in the morning and constantly trim, spray, clean, and sort the vegetables to keep them fresh. Also, wet-market vendors do not have, or use, refrigerators for storage and thus have to replenish their inventory with fresh supplies everyday. Supermarkets simply cannot win the freshness contest.

More importantly, supermarkets in China do not have a price advantage as they have so far failed to establish a streamlined supply chain and modern distribution system,

which would give them a competitive edge. As mentioned earlier, a study in Beijing found that supermarkets procured 85% of their vegetables from wholesale markets, just like wet-market vendors (Wang et al., 2009). After the procurement, supermarkets need to sort, clean, and package the vegetables (or pay the specialised suppliers at wholesale markets to do so), resulting in more wastage, longer turnover time, and higher labour costs. They also incur higher operation costs, which are all passed to consumers through increased vegetable prices (Goldman, 2000).

Supermarkets' inability to streamline their supply chains and procure directly from producers is rooted in how vegetables are produced and wholesaled in China, both of which are still dominated by a large number of smallholders. The rise of supermarkets in China has brought little change to upstream segments of the vegetable commodity chain as : there has been almost no penetration of modern wholesalers or retailers into rural areas, and production is still predominantly done by independent household producers without coordination by supermarkets (Wang et al., 2009). The equitable distribution of collectively owned farmland among village members in rural China has made small-scale, household-based farming the dominant mode of agricultural production and limited the possibility of larger-scale, corporate farming. For supermarkets, the only economical way of procuring large volumes of vegetables from these small producers is buying at urban wholesale markets where a large number of traders have already aggregated the volume.

Recently, new forms of production have emerged (Zhang and Donaldson, 2008). Agribusiness companies can either acquire land through leasing or reclamation and set up corporate farms, or organise a large number of household farmers into contract farming. Vertically integrating wholesaling with vegetable production, these companies present supermarkets the possibility of procuring large quantities of vegetables directly from the source. Leading retail chains in China have begun contractual procurement arrangements with these grower-suppliers, followed by distribution of the large volumes purchased through centralised regional distribution centres (Hu et al., 2004). Supermarkets can also enter contract farming arrangements with small farmers directly or buy large volumes directly from farmers' cooperatives, which have grown rapidly since 2007 (Wang et al., 2009).

These incipient changes, however, have so far only affected a marginal share of the total vegetable production and retail in China.¹¹ They will certainly grow, and help supermarkets lower procurement costs. However, several factors will still limit the impact of this growth on supermarket vegetable prices. First, there is limited potential for the growth of vertical integration in vegetable production and wholesaling. As all farmland in rural China is allocated to household farmers, agribusiness companies face severe difficulties in getting land to set up corporate farms. Despite the growth in recent years, farmers' participation in cooperatives remains dismally low, at 1% among the vegetable farmers, as surveyed by Wang et al. (2009). The development of authentic farmers' cooperatives has been suppressed by agribusiness companies' manipulative use of the

form to capture government subsidies for cooperatives (Tong and Wen, 2009). Second, large-scale grower-suppliers can only supply a limited variety of vegetables to supermarkets. To meet the large volumes, they have to specialise in few varieties of vegetable and buy the rest from wholesale markets to meet the variety demanded by these supermarkets. One large grower-supplier, as per Hu et al. (2004), for example, buys 30% of its vegetables from wholesale markets. Third, corporate farms usually incur higher costs of production than household farmers. One of the reasons being that while farmers get their land as an entitlement, not only free of charge, but also with direct subsidies from central and local governments, agribusiness companies have to bear high costs for obtaining land. When leasing land from villages, besides paying rents, companies cannot simply get rid of the villagers who have been allocated the land, but need to retain them as wage workers (Zhang and Donaldson, 2008). Finally, the cost saving arising out of vertical integration contributes to supermarkets' increased profit margin rather than to reduced prices for consumers. In fact, the typical relationship between supermarkets and grower-suppliers in China is not one between retailers and wholesalers, but rather that between commercial landlords and tenants (CCTV, 2010; Hu et al., 2004; Sternquist and Chen, 2006). Supermarkets are more engaged in renting shelf space to grower-suppliers than buying vegetables from them. Adding to higher operation costs and wastage, grower-suppliers also pay a variety of entrance fees, slotting fees, and promotion fees to supermarkets to put their vegetables on shelves, which in the cases studied by Hu et al. (2004) account for 12% of overall sales revenue.

Around 2002, a movement for converting wet markets into supermarkets (*nonggaichao* in Chinese), promoted by municipal governments, swept many Chinese cities. Hu et al. (2004) proclaimed it – prematurely, now it appears – as a new impetus that would propel supermarkets to eclipse wet markets as the dominant vegetable retailers in urban China. Ironically, the failure of this program serves to put supermarkets' disadvantage in vegetable retailing in sharper relief. Only in two cities, Fuzhou and Shenzhen, operators who acquired the privatised wet markets and converted them to supermarkets sustained profitable operations, mainly by successfully integrating backward into vegetable wholesaling or even production. In all other cities, the experiment had folded by 2004 (Huang, 2005). These newly converted, small-scale supermarkets, operated by small firms, offered vegetables that were less fresh and more expensive than wet markets, and fewer varieties with lower quality than chain supermarkets.

Liberalisation of vegetable retail has also failed to spur the growth of privately built wet markets. While municipal governments had retreated from building wet markets and hoped that private actors would take it over, private developers, who got their land from the governments dearly, showed no interest in doing so.

A wet market, because of its needs for ventilation, waste disposal, parking and loading, and laying out a large number of stalls, requires a stand-alone structure, but can only generate limited rental revenues from the low-end retailing activities it houses. No

developer would willingly waste its precious land on a wet market. Municipal governments had anticipated this and put in place zoning plans that required developers, as a condition of getting the long-term lease on state-owned land, to build various public facilities and retail outlets, including wet markets, in designated areas. Shanghai's municipal government updates its zoning plan regularly; and the most recent plan of 2010 specifies the target number of vegetable retail outlets to be built by 2020, based on the principle of one wet market plus one small vegetable shop per square kilometre. Officially, the developer of a real estate project needs to submit a plan which specifies that a certain space will be built and designated for either public amenities such as post office, neighbourhood committees, and police offices, or retail uses, especially kindergartens and wet markets. Construction can only start after the municipal Bureau of Planning has approved this plan; and after completion, the space reserved for public utilities will be transferred to the government, while the developer will sell or rent the retail space, but only for the specified uses.

Developers, however, are unwilling to include a wet market in their projects as it is costly to build, and its presence also lowers the market value of the entire project, since home buyers want to avoid living too close to a dirty and noisy marketplace. In real practice, therefore, these zoning regulations are constantly ignored, circumscribed, or violated. Sometimes, for example, developers would petition to reserve space for a supermarket, which devotes much less space to vegetables, as a substitute for a wet market. In other cases, the government wanted the investment from developers to re-vitalise an area and was therefore willing to relax this requirement. Details of these practices are beyond the scope of this paper. It suffices to say that from 2000 to 2010, in all newly built residential estates in Shanghai, vegetable retail space falls far behind the target specified in the government's own zoning plan.¹²

The commercialisation of state land and the opening of the real estate market have unseated municipal governments and put profit-seeking enterprises at the driving seat of urban development in China, especially in building commercial and residential space. A comparison of two wards in Yangpu illustrates the impact of this change on the availability of vegetable retail space. The Yinxing ward, which used to be farmland located at the far outskirts of the city, with the lowest population density in Yangpu, has now become the most populous ward in entire Shanghai. Its population has tripled from 60,000 in 1990 to 193,000 in 2010 (Yangpu Bureau of Statistics, 2011). Most of the population moved here in the 1990s, when the municipal government started a massive project of building new apartments to house residents relocated from central city areas. Various municipal agencies that built these housing projects carried out the municipal government's zoning plan and built the matching wet markets. Today, there are 12 wet markets in Yinxing, each serving an average of about 16,000 residents, and eight of these were built as matching facilities to new housing projects. Similarly in Jiangpu ward, nearer to the city centre, the population nearly doubled from 54,000 in 1990 to 95,000 in 2010. But much of this influx was brought in by real estate development led by commercial developers, who were more

reluctant to build wet markets. As a result, Jiangpu now has only four wet markets, with each serving an average of 23,750 residents.

Even though it has failed to provide large-scale, one-stop-shopping wet markets, the liberalisation of the real estate market has increased the supply of commercial retail space in Chinese cities, and theoretically could provide for the growth of small vegetable shops that would help make up for the loss in wet markets. Currently, most streets in Shanghai's residential areas have numerous small retail shops that sell everything from fruits to massage services, but a vegetable shop is a rarity. We, for example, canvassed an entire ward in Yangpu (Wujiachang town), but found only four small vegetable shops. These small shops all have something in common- they only sell a small number of the most often consumed vegetables and stock limited volumes that are usually sold out before noon. They all have direct-supply arrangements with peri-urban producers and procure vegetables at lower costs than wholesale markets. One shop owner, Ms. Feng, who operates a shop approximately 30m² in size along Heishan Road, was the largest we saw. Her claims are that she stays afloat because of two conditions- first, her relatives (all migrants from central China's Henan Province), who rent land and grow vegetables in Chongming County, supply her store at cost; and second, her brother rented the shop at a discount from the owner, an army hospital, by using his social ties. As her shop cannot provide a large variety, residents usually buy some vegetables that are fresher and cheaper at her store, due to the direct supply, on their way back from the larger wet market, which is about a ten minutes' walk.

These examples show how the unique features of vegetable retail in China limit the growth of small vegetable shops. Vegetable retail in China requires a large enough scale to provide the variety demanded by consumers. At wet markets, scale and variety comes from the congregation of scores of small vendors. Their existence, as sparsely as it may be in some urban areas, which satisfy consumers' need for one-stop shopping, raises the bar of competition for other players. Without the scale, small shops can hardly compete with wet markets, especially if they pay rents at market rates and source vegetables from the same wholesale markets as wet-market vendors do. For those like Ms. Feng, who has a price advantage because of direct supply and discounted rent, if they try to scale up to offer more varieties, they need to get government approval, which is based on meeting standards on waste disposal, hygiene maintenance, and traffic control, and more difficultly, the physical space that fits such functions. For small shop owners with limited capital, these are beyond their reach.

In liberalising both vegetable retail and real estate markets, municipal governments in China relinquished their responsibilities in providing vegetable retail space through building wet markets. Market forces, however, contrary to the state's hope, failed to address this need as well. The rapidly growing supermarkets are constrained by fragmented production and wholesale systems and only played a minor role in vegetable retailing. Real estate developers balked at building wet markets on commercial land they

had paid dearly to acquire. While retail space for small shops is widely available, small vegetable shops cannot compete with wet markets on scale and variety and can only play a small, supplementary role.

Informal markets: struggling on the margin

One form of retail that poses a more serious challenge to wet markets and offers a potential option for Chinese urban consumers looking for fresh and affordable vegetables is the informal market where hawkers congregate on streets or pavements to sell vegetables. When the vegetable retail market was first liberalised in the 1990s, municipal governments tolerated and sometimes encouraged the spontaneous emergence of “street markets” (*malushichang* in Chinese) in residential areas, where small vendors, mostly consisting of peri-urban farmers, sold their fresh produce, often laid out on the baskets in which it was carried from the field (Wang, 2008). At that time, many nonstate wet markets were nothing more than a designated area with power hook-ups, running water, and small booths, where farmers could come and sell their produce in a few hours, and go back to the field (Veeck and Veeck, 2000). The street markets, therefore, did not pose a challenge to wet markets with lower prices. Instead, they supplemented wet markets by operating in different areas.

In recent years, however, a confluence of forces has restricted the room for such informal street markets to operate in Chinese cities. These street markets, while providing convenient access, fresh produce, and low prices to consumers, caused headaches for city managers as they blocked up traffic, produced waste, and created noise. Now, more interested in raising the profile of the city and attracting investments, many municipal governments, especially in large cities like Shanghai, have become increasingly hostile toward informal retail activities in public space. In the early 2000s, a number of large and medium cities started to ban street vegetable markets that usually convened in the morning, in the name of reducing traffic congestion (Hu et al., 2004). Cities like Shanghai and Beijing also instituted traffic regulations that prohibit farm-use vehicles, such as tractors and animal-drawn carts, from entering ring roads that circle the central city. Within the main city, waves of beautification campaigns targeted street markets, which were an eyesore to urban planners.

Starting in the late 1990s, municipal governments all over China established a formal agency, City Management and Administrative Enforcement Agency, to enforce city regulations in a wide range of areas, including the use of public space, license compliance, and building codes. The staff of this agency, called *chengguan* (city enforcers), has gained infamy all over the country for their coercive manners in enforcement. Illegal street hawkers are their main targets. Confrontations between hawkers and *chengguan* that resulted in injury, death, or even riots, became regular events in Chinese cities. In the most recent tragic incident, on 26 July, 2011, three *chengguans*' beating of a fruit hawker, a

disabled veteran, when confiscating his pushcart, triggered a mass riot by thousands of peoples in Anshun city (Lianhe Zaobao, 2011).

Rising rents in wet markets in recent years have given vendors more incentives to exit the market and become street hawkers. Even for those who stay, many now split the family unit into two- the wife manages the stall in the market, while the husband carries baskets of produce for sale on streets. The presence of these street hawkers threatens the profitability of market operators, who have both sought help from *chengguan* and used their own security guards to dispel hawkers gathering around the market.

Ironically, urban residents, who supposedly are the main beneficiaries of street hawkers, can become their foes as well. While these residents patronise street hawkers and benefit from their low-priced vegetables, the conduct of this messy business around their homes also annoys them. Just like their attitude towards wet markets, residents welcome street hawkers as long as the latter are not in the former's backyards. Officials we interviewed said that in Yangpu at least, the government took a more tolerant approach toward street hawkers; but the *chengguan's* enforcement happened due to the necessity to respond to citizens' complaints. They routinely received phone calls from residents who spotted hawkers in their neighbourhoods – usually because they patronised them – and asked the government to chase them away.

Conclusion

The sharp rise in food retail prices in Chinese cities in recent years reflects fundamental changes in China's agrifood system and is an outcome of a series of policy choices made by municipal governments. The marketisation reform dismantled the state-run vegetable retail system that provided vegetable retail as public goods, and replaced it with a market-based, profit-driven system, run by a host of profit-seeking actors, ranging from real estate developers, private market operators, entrepreneurial state companies, to self-employed immigrant vendors, all trying to extract some surplus from consumers' vegetable purchase and driving up the retail price of vegetables. In liberalising the vegetable retail and urban real estate markets, the state entrusted market forces to not only more efficiently run retailing, but also provide sufficient space for vegetable retail. Despite expanding the supermarket sector rapidly, market forces, creating an unprecedented housing boom, and increasing the overall supply of retail space, however, have not provided adequate space for vegetable retail that meets consumers' needs in variety, freshness, scale, convenience, and affordability. Instead, the market diverted urban land from vegetable retail to other more profitable uses. Governments' requirement that developers provide space for vegetable retail was resisted by all and trampled by those who had the wherewithal to do so. Municipal governments themselves also helped to further reduce vegetable retail space with their more stringent control on public space and policing against informal hawking on the streets. All these changes helped strengthen the market position of wet-market

operators that controlled the increasingly scarce vegetable retail space, allowing them to have a captured market and charge ever-increasing rents and fees, which were in turn passed by vendors to consumers through raised vegetable prices.

The transformation of the urban vegetable retail system documented in this study shows both the advance that capital has made in re-shaping China's agrifood system and the constraints that China's socialist institutions impose on it. Previous studies of the penetration of capitalism in China's agrifood system have shown how capitalist forms of production emerged in commercialised agriculture and gave rise to peasant differentiation (Zhang and Donaldson, 2010); how commercialisation turned the public agricultural extension agencies into profit-seeking bureaucratic capital (Tong and Wen, 2009); and how supermarkets replaced traditional retailers in urban food retail (Hu et al., 2004). This study further demonstrates that capital has not only led the expansion of new retail formats, but more importantly, has also gained control over traditional retail facilities, which still constitute the backbone of urban China's food retail system, and infused its profit motive into all actors operating in the system. At the same time, institutions established under socialism shape both the success and failure of capital in penetrating urban vegetable retail. Supermarkets failed to make more headway into vegetable retail because of the fragmentation in agricultural production and wholesale, and the dominance of smallholders, a product of rural China's entitlement-based, equitable distribution of farmland. Similarly, the difficulties that both small shops and supermarkets had in competing with wet markets, and the powerful positions that the control over wet markets gave market operators, result from the central position that wet markets occupied in the vegetable retail network established under socialism as a part of the urban public goods regime. Had the socialist state not built all the publicly owned wet markets, a commercialised real estate market would not have provided nearly as many markets, as evidenced in its inability to do so today, and would have given more room for supermarkets and small shops to grow.

This study also helps demonstrate the competitiveness of traditional wet markets in vegetable retail, especially in Asian cities that share similar dietary practices. In developed Asian cities like Hong Kong and Singapore, these traditional wet markets also maintained their stronghold in vegetable retail, despite the expansion of modern supermarkets (Goldman et al., 1999). Even in these cities, however, the persistence of wet markets – a more efficient format of retailing but a less efficient use of real estate than supermarkets – depends on government's intervention in securing space for them in highly competitive real estate markets. Government agencies such as the Urban and Regional Councils and the Housing Authority in Hong Kong, and the Housing and Development Board in Singapore, built the majority of wet markets in these cities and still directly manage some. In China, however, for a period of time, many municipal governments threw their entire support behind modern supermarkets and took a hostile stand toward wet markets, considering the latter as unhygienic, unsightly, and backward. Governments used a series of measures

to undermine traditional retail formats, including banning the construction of new wet markets, closing down street markets, and converting wet markets to supermarkets (Hu et al., 2004).

The recent sharp rise in food prices, however, showed that any policy responses to rising vegetable prices will have to address both the strong profit motives that now govern the vegetable retail system and the shortage of vegetable retail space in cities. In the aftermath of the price rise, some municipalities began to consider turning wet markets from profit generators back to public service vehicles by re-publicising privately owned markets. In Shanghai, for example, Changning District started a pilot project in late 2010 that bought back several wet markets from private operators. These markets were reformed into non-profit ventures, managed by the state-owned market-operating company, an equivalent to Yangpu Food, with substantially reduced rents for vendors (Qian, 2011). The municipal government, however, is under severe financial constraint to even buy back a small portion of the hundreds of markets in a city.¹³ Furthermore, if state-owned market operators, a product of local state entrepreneurialism, remain mainly driven by profits, putting wet markets in their hands may not provide too much relief. The feasibility and the effectiveness of this government buy-back program remains to be seen.

REFERENCES

- Bai, Junfei, T.I. Wahl and J.J. McCluskey (2006) "Consumer choice of retail food store formats in Qingdao, China." *American Agricultural Economics Association Annual Meeting*, 23-26 July 2006, Long Beach, CA.
- Brown, C.G., J.W. Longworth and S. Waldron (2002) "Food safety and development of the beef industry in China," *Food Policy*, 27, 2, pp. 269-284.
- CCTV (China Central Television) (2010) "Cailanzi weihe chendiandian?" [Why are vegetable baskets so weighty?] *30 Minutes on the Economy*, CCTV, 3 December 2010, Beijing.
- China Economic Times* (2010) "Shangwubu: Liuda yinsu tuigao shucai jiage" [Ministry of Commerce: Six forces pushing up vegetable prices], *China Economic Times*, 20 September 2010, Beijing.
- Datamonitor (2010) "Food Retail in China," Datamonitor, USA, New York, NY.
- Duckett, J. (1998) *The Entrepreneurial State in China*, London: Routledge.
- Fuller, F., Huang Jikun, Ma Hengyun and S. Rozelle (2006) "Got milk? The rapid rise of China's dairy sector and its future prospects," *Food Policy* 31, 2, pp. 201-215.
- Goldman, A. (2000) "Supermarkets in China: The case of Shanghai. International Review of Retail," *Distribution and Consumer Research*, 10, 1, pp. 1-21.
- Goldman, A., R. Krider and S. Ramaswami (1999) "The persistent competitive advantage of traditional food retailers in Asia: Wet markets' continued dominance in Hong Kong," *Journal of Macromarketing*, 19, 2, pp. 126-139.

- Hu, D., R. Reardon, S. Rozelle, P. Timmer and Wang Honglin (2004) "The emergence of supermarkets with Chinese characteristics: Challenges and opportunities for China's agricultural development," *Development Policy Review*, 22, 5, pp. 557-586.
- Huang, C. (2011) "Inflation persists as food prices soar," *South China Morning Post*, 15 June 2011, Hong Kong.
- Huang, Shenghua (2005) "Nanjingshi nonggaichao yunzuo moshi yanjiu" [A study on the models of wet-market-to-supermarket conversion in Nanjing], Master's Thesis, Department of Forestry Economics, Nanjing Forestry University, Nanjing.
- Li, Tao and Qian Yanfeng (2010) "Mainlanders visit HK for cheap groceries," *China Daily*, 10 November 2010, p. 21, Beijing.
- Lianhe Zaobao* (2011) "Disabled hawkler killed by chengguan, causing riot in Anshun, Guizhou," *Lianhe Zaobao*, 28 July 2011, Singapore. <<http://www.zaobao.com.sg/special/china/cnpol/pages4/cnpol110728c.shtml>>.
- Liu, Tongshan and Wu Le (2011) "Woguo shucai jiage xingcheng ji duice yanjiu: Jiyu jingjixue de shijiao fenxi" [Vegetable price formation and its policy responses: An economic analysis], *Jiage Lilun yu Shijian [Price: Theory & Practice]*, 2011, 2, pp. 40-41.
- Liu, Xue, Fu Zetian and Chang Shan (2002) "Woguo shucai chandi zhengti geju de bianhua fenxi" [An analysis of changes in the spatial distribution of vegetable production areas in China], *Nongye Xiandaihua Yanjiu [Research of Agricultural Modernisation]*, 23, 1, pp. 9-12.
- Lu, Ning (2010) "Zhengfu huigou siying caichang xi dashi suoqu" [Government-buy-back of private food markets should be the trend], *Dongfang Daily*, 1 December 2010, Shanghai.
- Office of Shanghai Chronicles (1996) *Shanghai Shucai Shangye Zhi [The Chronicle of Vegetable Commerce in Shanghai]*, Shanghai: Shanghai Academy of Social Sciences Press.
- Qian, Bei (2011) "Caichang gongyi huigui" [Food markets' return to public service], *Wen Hui Bao*, 17 January 2011, Shanghai.
- Reardon, T. and A. Gulati (2008) "The supermarket revolution in developing countries," *IFPRI Policy Brief 2*, Washington, DC: International Food Policy Research Institute.
- Rozelle, S., A. Park, Huang Jikun and Jin Hehui (2000) "Bureaucrats to entrepreneurs: The changing role of the state in China's transitional commodity economy," *Economic Development and Cultural Change*, 48, 2, pp. 227-252.
- Skinner, G.W. (1978) "Vegetable supply and marketing in Chinese cities," *The China Quarterly*, 76, pp. 733-793.
- Solinger, D.J. (1995) "China's urban transients in the transition from socialism and the collapse of the communist 'urban public goods regime'," *Comparative Politics*, 27, 2, pp. 127-146.

- Sternquist, B. and Chen Zhengyi (2006) "Food retail buyer behaviour in the People's Republic of China: a grounded theory model," *Qualitative Market Research: An International Journal*, 9, 3, pp. 243-265.
- Tong, Zhigang and Wen Tiejun (2009) "Ziben he bumen xiexiang yu xiaononghu jingji de zuzhijia daolu" [The entry of capital and government agencies into agriculture and models of organising small household farmers], *Kaifang Shidai [Open Times]*, 2009, 4, pp. 5-26.
- USDA (US Department of Agriculture) (2010) "China food price inflation in 2010," *Global Agricultural Information Network (GAIN) Report*, # 10060, Beijing: USDA Foreign Agricultural Service.
- USDA (2011) "China Retail Annual Report," *Global Agricultural Information Network (GAIN) Report*, CH0816, Shanghai: USDA Agricultural Trade Office.
- Veeck, A. and G.Veeck (2000) "Consumer segmentation and changing food purchase patterns in Nanjing, PRC," *World Development*, 28, 3, pp. 457-471.
- Wang, Honglin, Dong Xiaoxiao, S. Rozelle, Huang Jikun and T. Reardon (2009) "Producing and Procuring Horticultural Crops with Chinese Characteristics: The Case of Northern China," *World Development*, 37, 11, pp. 1791-1801.
- Wang, Mingquan (2008) "Wuhan shucai shichang shi zenme fangkai de" [How was the vegetable market in Wuhan liberalised], *Wuhan Wenshi Ziliao [Archives of Culture and History of Wuhan]*, 2008, 11, pp. 44-50.
- Wang, Suxia and Hu Dinghuan (2007) "Yi chaoshi wei zhongxin de nongchanping gongyinglian liutong chengben yanjiu" [A study on circulation costs in supermarket-centred farm product supply chains], *Jingji Yanjiu Cankao [Economic Research References]*, 2007, 26, pp. 2-11.
- Wang, Shuguang and Zhang Yongchang (2005) "The new retail economy of Shanghai," *Growth and Change*, 36, 1, pp. 41-73.
- Xinhua News* (2010a) "China November CPI hits 28-month high of 5.1% on year," *Xinhua News Agency*, 11 December 2010, Beijing. <http://news.xinhuanet.com/english2010/china/2010-12/11/c_13644743.htm>.
- Xinhua News* (2010b) "Ministry of Commerce: Wholesale prices of 18 vegetables in 36 cities rose 62.4%," *Xinhua News Agency*, 15 November 2010, Beijing. <http://www.hq.xinhuanet.com/news/2010-11/16/content_21403167.htm>.
- Xinhua News* (2011) "Droughts cause rise in vegetable prices, triggers worries of higher CPI for May," *Xinhua News Agency*, 28 May 2011, Beijing. <http://news.xinhuanet.com/english2010/indepth/2011-05/28/c_13898764.htm>.
- Yangpu Bureau of Statistics (2011) "Release of key data from the 6th National Census in Yangpu District, Shanghai," 9 May 2011, Shanghai.

Zhang, Q. F. and J.A. Donaldson (2008) "The rise of agrarian capitalism with Chinese characteristics: Agricultural modernisation, agribusiness and collective land rights," *The China Journal*, 60, pp. 25-47.

Zhang, Q. F. and J.A. Donaldson (2010) "From peasants to farmers: Peasant differentiation, labor regimes, and land-rights institutions in China's agrarian transition," *Politics & Society*, 38, 4, pp. 458-489.

Notes:

¹ Vegetable prices dropped temporarily in April 2011, largely due to increased production spurred by the price rise of 2010. This drop, however, was short-lived, as drought in southern China soon pushed up prices again. In the last week of May alone, vegetable prices rose 18.8% from a week ago (Xinhua News, 2011).

² In Chinese-language publications, one can find documentations of the reforms implemented in many cities. See, for example, Wang (2008) on Wuhan and Office of Shanghai Chronicles (1996) on Shanghai.

³ Data on the number of wet markets come from an interview with an official at the District Commerce Bureau and an internal government document, entitled "The five-year plan for food-market-construction in Yangpu district", obtained from the interviewee.

⁴ Shanghai's MVC was restructured in 1999 into Shanghai Vegetable (Group) Limited Corporation and now only operates large wholesale food markets that supply most of the vegetable retailers in the city.

⁵ Administrative restructuring over the years has left today's Shanghai with only one county (Chongming) and 17 districts, nine of which are central-city districts and the other eight re-designated from former rural counties. The tally of 930 here includes wet markets in all 18 units, whereas the 200 general food markets and 500 vegetable shops and stalls – many of which were later upgraded into small wet markets – quoted earlier from Skinner (1978) did not include those in the ten rural counties at the time.

⁶ When the MVC was first formed in 1956, it had over 3000 employees. In 1990, it had 5832 regular, full-time employees (Office of Shanghai Chronicles, 1996).

⁷ In contrast, salespersons at the meat and tofu counters, who are salaried employees of agribusiness companies, are mostly Shanghai natives.

⁸ In the Chinese context, these formats include all self-service, multi-products stores and are differentiated by floor space: a hypermarket has over 6000m² of floor space, a supermarket's floor space can range from 800m² to 6000m², a discount or convenience store has only less than 400m² (Hu et al., 2004). Convenience stores in Chinese cities almost never sell fresh produce. Unless specified, we use "supermarkets" to refer to both supermarkets and hypermarkets.

⁹ The three chains are Lianhua, Hualian, and Nonggongshang. The first two merged in 2009 to form the Bailian Group, but continued to operate as distinct and competitive chains.

¹⁰ They found that supermarkets procured 85% of their vegetables from various types of agents in wholesale markets and their purchases accounted for a 9-14% share of the total sales at various markets. While supermarkets got the other 15% of their supply directly from producers, almost all other retailers sourced entirely from wholesale markets. These figures indicate that the supermarkets' share Beijing's vegetable retail should fall between 10-15%.

¹¹ Wang et al. (2009), for example, found that supermarkets in Beijing only procured 3% of their vegetable supplies directly from contract farmers or their own production bases.

¹² Interviews with various government officials in Shanghai.

¹³ To buy 75% of the wet markets in Shanghai's nine central-city districts would cost the public coffer to the tune of 20 to 30 billion yuan (Qian, 2011).