Three Stages of Economic development
In the Chinese Economy

Contents
1. Introduction
2. Role of transportation and storage
3. Stage 1: Marketing insights in the eighteenth – century China
4. Stage 2: Central government
5. Stage 3: From plan to market and economic reform
6. Conclusion
Three Stages of Economic Development in the Chinese Economy

1. Introduction

After summarizing the importance of transportation and storage in the marketing system, this report will describe various aspects of the Chinese marketing system during three stages of economic development in order to deduce the special characteristics of each period. The importance of the Chinese economy results from its particular growth and its rapid growing economical potential given the abundant natural resources and the low-cost production inputs (especially labor). In spite of the inadequate quality, Chinese production plays a crucial role in enhancing international competition and therefore in preventing international and national price-fixing practices. In this context, a brief description of transitional economies will be conducted.

2. Role of transportation and storage

Transportation and storage play a crucial role in enhancing regional and international market integration and they are considered as a springboard for two different kinds of growth (West, China). Their effectiveness promotes trade and arbitrage among regions and countries. Figure 1 illustrates the inclusion of transfer costs (mostly transportation and storage costs) in international pricing. The price in nation a (Pa) is mn units lower than the price in nation b (Pb). Thus, the arbitrage relationship between the two countries is Pa + mn = Pb. If transfer costs (shipping costs) should increase, the price difference will widen and trade volume will fall. If transfer costs should increase up to or beyond the value gh, trade will shrink to zero.
because transfer costs then will equal or exceed the difference between the two isolation prices.

![Figure 1: Including transfer costs in international pricing](image)

**Transportation**

Like all other marketing functions, transportation influences both the numerator and denominator of the marketing efficiency ratio. The movement of farm products from where they are produced to consumption centers creates place utility. The fact that consumers are willing to pay for this utility suggests that it often exceeds the costs of the transportation. Transportation also plays an important role in market development, expansion, and competition. Improved transportation has expanded the market area for farm products from a local to both a national and a worldwide level. In this sense, improved distribution, or lower transport costs, can be a rightward demand shifter for farmers and marketing firms. At the same time, the ability to ship great distances increases competition between firms and areas. Moreover, transportation influences other marketing functions and decisions. The speed and flexibility of the transportation system can affect inventory and other storage costs throughout the food system. Transportation costs affect the location of food processing plants...
and warehouses. Finally, transportation expenses contribute to the size of the food marketing margin and thus influence farm and consumer food prices. Consequently, there are three main types of transportation:

**Rail and truck transportation**

A major trend in transportation has been the diversion of freight from railroads to trucks. This trucking trend is related to a number of developments, the most important of which have been the greater speed and flexibility of trucks. Railroads, nevertheless, continue to be important shippers of farm and food products.

**Water transportation**

Where speed is not important and the commodity has great bulk and weight, water transportation is often the cheapest method. Domestic farm products exports move primarily by ocean vessels.

**Air transportation**

The quantities of agricultural commodities moved by air fright are very small. It is the most expensive and the fastest mean of transportation.

**Storage**

Storage operations occur at every level of the food industry. Because sales and purchases rarely happen at the same time, every food marketing firm performs some storage and warehousing. Farmers are assuming increased responsibility for commodity storage.
Consumers also store considerable quantities of food in refrigerators, freezers, and pantries. The storage marketing function is associated with the creation of time utility. This is an important source of value in the food industry, where supply and demand are seldom in immediate balance. Storage operations are necessary to bridge the time gap between periodic harvests and marketing and relatively stable usage of food on a year-round basis. Storage is interrelated with other marketing functions, such as transportation, processing, financing, and risk bearing. In a sense, farm products are being stored at the time they are in transit or in the processing operation. The relationship of storage and transportation is particularly critical at harvest time. A shortage of transportation facilities during a harvest glut backs up grain at the farm and at the local elevator, resulting in falling cash prices. Processing fresh products by canning or freezing them is another form of storage. And because storage operations delay sales and subject the firm to inventory risks, financing and risk bearing are considered part of the storage function. Thus, there are several kinds of food storage:

**Working inventory**

It is a certain level of supply necessary for an efficient marketing process. These stocks maintain full-capacity operations and prevent supply disruptions. Both consumers and food marketing firms keep these working inventories for convenience and efficiency.

**Seasonal food stocks**

Over the marketing year, these are held to balance out supplies with demand. Seasonal stocks are necessary for products that are harvested in a short time but are consumed throughout the year. Both farmers and food marketing firms hold seasonal food
stocks. Consumers may also build these stocks by increasing purchases of in-season commodities for later consumption.

**Carryover stocks**

They refer to the amount of commodity left over from one marketing year to the next. Annual production and consumption seldom balance precisely, and there may be carryovers (old crops) or shortfalls, going into the next harvest period. These carryovers then become an addition to the supply available for consumption in the following year.

**Reserve or buffer food stocks**

This form of commodity storage is intended to balance food supplies with demand over the long run and between food surplus and deficit- producing countries. Such food reserves are seen as a way to support and stabilize farm prices and protect against severe food shortages worldwide.

**Speculative stocks**

Farmers, food marketing firms, and consumers may at times hold larger than normal food stocks when they expect prices to rise. These speculative stocks would then increase in value and result in an inventory profit.
3. Stage 1: Marketing insights in the eighteenth – century China

Trade has been considered a condition for growth and development, a view that might have merits in explaining the rise of the Western world. A new data set from archival sources of eighteenth – century China will be used to revisit this question. This analysis suggests previous studies of market integration, which attribute much growth to a reduction in transport costs, have overestimated these effects. It was found that the overall level of market integration in China was higher than previously thought and, inter-temporal effects are important substitutes for trade. Both factors reduce the importance of trade as a unique explanation for subsequent growth.

It is generally agreed that the progressive reduction in transport costs was a major factor in the growth of the United States and Europe. “Revolutionary developments in transport have been an essential feature of the rapid growth of the Western world of the past two centuries. Reduction in the cost of carriage has enabled specialization and division of labor on a national and international basis to replace the relatively self-sufficient economies that predominated in the Western world two centuries ago”.

“Lower shipping costs promoted greater production in the newly integrated markets with ex-ante lower prices, leading to more trade and overall economic growth. In the United States, railroads, steamboats, and canals each helped transform inland backwoods into agricultural centers, and improvements in transport also contributed to the formation of a national labor market. In Europe, the beginning of modern economic growth concurred with the ability of trade to spread shocks over a wide area, thereby reducing detrimental effect on any one region.
This analysis considers whether access to commodity markets is a precondition for market development and economic growth in a newly created data set that covers more than half of the eighteenth – century Chinese economy. With high cost of transport within many provinces, China provides an opportunity to test the relationship between commodity trade and market development. By examining the extent of market integration in a pre-industrial economy that did not grow substantially in the eighteenth and nineteenth centuries, rather than focusing on economies that succeeded to grow relatively fast, one may obtain a clearer view of the role of commodity trade.

The implications are important not only from the viewpoint of economic history, but also for understanding structural changes and economic growth. A finding of, for instance, generally unintegrated markets in China and prices that are largely determined by local shocks would be consistent with the western experience up to the transportation revolution and indicate that China did not grow because there was little interregional trade. This analysis, however, challenges that view. The results suggest that even though China did not grow as much as economies in the West, a substantial part of China was apparently integrated through trade.

Year – to – year harvest shocks will result in trade flows, grain stocks, and local price shocks, or some combination of these effects. Thus, besides examining trade, which determines only the extent of interregional market integration, ideally one should also examine storage, which sheds light on the extent of inter-temporal market integration, as well as the responsiveness of prices to local supply shocks.
Price correlations give a view of market integration that has a simple interpretation: the correlation between two markets may be systematically related to the costs of trade between the markets, or systematically related to common supply shocks.

**Commodity trade and transportation**

Domestic stability prevailed during the eighteenth century (1644-1911). There were no protracted wars or natural catastrophes, neither were there any notable technological innovations which, individually or collectively, served to radically alter existing production activities or marketing patterns. Foreign trade was largely restricted and rice exports were prohibited. Domestic interregional trade over long distances relied primarily on natural waterways. These major waterways connected numerous cities and provided the lowest cost means of transport available over long distances.

There were significant trade activities along water routes (mostly grain). Private merchants would have transported most of these commodities. Attempts by the government to influence grain supplies through purchases and sales of buffer stocks were on the decline by the mid-eighteenth century. Indeed, the dominance of private traders and their success avoided the government intervention in rice trade.

Considerably less is known about the inland economy, but the conventional wisdom on the extent of inland trade seems to be that regions with little or no access to water transport must have been economically constrained in proportion to their disadvantage in trade.
**Empirical results**

The analysis covers 121 prefectures classified into four regional groups according to their respective distance to a major waterway (major river, coast):

- Group 1- River region: prefectures where the capital is no more than 250 km from a major river (34 prefectures).
- Group 2- Coastal region: prefectures along the coast (28 prefectures).
- Group 3- Semi-inland regions: prefectures next to group 1 and 2 (34 prefectures).
- Group 4- Inland regions: prefectures for which the prefectural capital lies approximately 150 kilometers or more from the nearest boundary of group 1 and 2 (34 prefectures).

Table 1 includes the summary statistics for the four groups.

**A. Price variation, weather, and storage**

Price data can help sharpen existing estimates and inferences about market activity and its capacity to smooth interregional supply shocks, and price and weather data in conjunction can be used to examine the effects of inter-temporal shocks. Moreover, the coefficient of variation is often used to summarize price variability from harvest to harvest.

The weather data is an index that summarizes the degree of aridity versus wetness for each year. The mean is centered on normal or good weather conditions, and deviations from the mean in either direction represent worse conditions.
<table>
<thead>
<tr>
<th>Group</th>
<th>Variable</th>
<th>Mean</th>
<th>Standard deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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<tbody>
<tr>
<td><strong>River</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>561 observations</td>
<td>Price correlation</td>
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<td>0.13</td>
<td>0.24</td>
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<td></td>
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<td>0.24</td>
<td>-0.36</td>
<td>1</td>
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<td><strong>Coast</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>378 observations</td>
<td>Price correlation</td>
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<td>0.90</td>
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<tr>
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<td>13</td>
<td>2486</td>
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<td></td>
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<td>0.27</td>
<td>-0.13</td>
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<td><strong>Semi-inland</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>561 observations</td>
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<td>0.28</td>
<td>-0.43</td>
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<tr>
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<td>Price correlation</td>
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<td>-0.38</td>
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</table>

Although the most important sources of data on quantities of storage that have emerged are based on various government-mandated granaries, merchants and households would have possessed grain stocks as well. For all types of stores, the unit cost of grain
unkeep (aeration, removal of debris, sunning and turning the grain) would have been affected by differences in climate across regions. Stored grain should be kept dry and cool, and storage costs may have varied considerably across regions if overall climates differed very much. In particular, if a region’s humidity is coincident with its proximity to waterways, this would be especially problematic for the identification of trade versus storage effects.

B. Interregional market integration and common weather shocks

Since waterway access was the chief means by which goods could be shipped at lower costs, ceteris paribus, we would expect higher price co-movements among prefectures as we move from those that are further away from waterways to prefectures that are closer to waterways. Furthermore, we would expect that the distance between markets determines the extent of trade not only across groups of prefectures, but within each group as well.

Inland regions would not have had direct access to any of the major water routes, while a majority of semi-land areas would have been able to access various waterways feeding into the southern coast. Few of the inland prefectures would have been able to access the secondary rivers easily. Thus, the choice of the threshold distances is an objective indicator of transport costs.

C. Inter-temporal market integration

This subsection examines whether there is a significant difference in the response of price to local weather shocks as we move across groups of prefectures. Specifically, it will be asked whether regions that did not have immediate waterway access (semi-inland and inland prefectures), and which apparently had more limited means of using trade to spread
production shocks, were therefore more susceptible to price variations as a result of fluctuations in the local harvest.

4. Stage 2: Central government

After the communist came to power in 1949, the semi-capitalistic (or more correctly, semi-feudalistic) system of economic management was ended. A process of nationalization was applied. Gradually, the private industrial enterprises were taken over by the state. In the rural area, land which was mostly owned by large land owners was distributed to individual peasants. This individually owned land was collectivized. Then a highly centralized planned economy was gradually established. During this phase (Great Leap Forward, 1958-1960), unrealistic goals were set for grain, steel and other commodities. 1961, the lack of success of the “Great Leap Forward” resulted in a period of readjustment where goals were made more realistic and ambitious projects were curtailed. The 3rd and 4th Five-Year Plans (1966-1976) were in the time period of “Cultural Revolution”. Though it has a more fundamentally political rather than economic policy focus, the political disorder did cause damage to the economy. At least, it shifted the national focus away from economic development.

Consequently, the overall (total factor) productivity declined from 1955 to 1978 despite, or perhaps because of, very high investment in heavy industry. The famines of the “Great Leap Forward” and the ten disastrous years of Cultural Revolution left Chinese society exhausted by politics and the communist Party ready for change.
5. Stage 3: From plan to market and economic reform

Most of the world’s economies, at one time or another, have lifted price controls, opened trade, or privatized state enterprises with varying degrees of success. However, the process was the strongest in Central and Eastern Europe, the newly independent states of the former Soviet Union, Vietnam, Mongolia, Russia, and China. Most of these economies have rejected all or much of central planning and have embarked on a passage – a transition-toward decentralized market mechanisms underspinned by widespread private ownership. Many regions in China had already begun to experiment with local reforms. Peasants in particular felt that collectivist agricultural policies were harming productivity and living standards.

The economic reform in China affected the critical areas such as:

- **International trade**: Since China opened its door to the outside world in 1979, the average annual pace of trade expansion between 1978 and 1990 was in excess of 15 percent, over three times the rate of growth of the world trade.

- **Agricultural Structure**: The agricultural structure of China has experienced a dramatic change since 1978. The well-established operating system characterized by “three – tiers” ownership (the commune, the brigade, and the production team) as basis dominated China’s agriculture for more than 20 years prior to 1978. Then, in 1983 occurred a switch to household contracting responsibility after approval, which changed peasant’s behavior, the production pattern, and the rural economic structure.

- **Marketing reforms**: The major changes since 1978 were:

  1. **The development of free market**: The introduction of production contract responsibility was the direct stimulus for the development of free markets in
both rural and urban areas and gradual removal of the restriction on farmers’
market exchange and long-distance trading by private traders. Moreover, the
supply and marketing cooperatives has been encouraged to be more active in
marketing agricultural products since the rural reform in 1978.

2. **Price adjustment**: The average price increased for grain (previously low) by
150% during 1978 to 1990. Besides price increases for major agricultural and
sideline products, grain quotas were reduced by 2.5 million tons in the
summer of 1979, leaving more grain at the farmers’ disposal to be marketed at
the free markets.

3. **Contract purchasing**: The marketing problems resulted in the so-called
second stage rural reform in 1985, which aimed to abolish the state monopoly
on the purchase and marketing of major farm products. Thus, a system of
purchasing under contracts and on the markets was introduced. Also, the fixed
quota system was removed to a great extent and selling prices were
decontrolled and farmers sell their products on free markets at prices
negotiated between buyers and sellers.

**6. Conclusion**

Adequate transportation and storage represent necessary condition for growth and
economic development. Accordingly, the analysis points to a substantial level of
interregional and intertemporal market integration in the eighteenth – century China, a
finding that suggests markets in pre-industrial societies may have been more developed than
previously acknowledged. The main findings demonstrate that geographic differences could
create large differences in the prevailing type of market institutions, but the emergence of markets does not seem to depend on whether or not low transport costs are available. Integrated markets existed even in the absence of low transport costs and much regional trade.

Moreover, the transition from centralized decision making to a decentralized one means that a high level of economic growth will be achieved because of the better utilization of national resources, the higher productivity, and the higher efficiency in production, exchanges, and distribution.


