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ABSTRACT

China's post-1978 reform programs have been responsible for the release of over 100 million rural labourers from farming activities. The experience of western countries suggests that this rate of development and modernization will also involve a dramatic transition from rural-to-urban society. This should also lead to a change in the features of the urban system. However, it may be argued that some distinctive features of China's Extended Metropolitan Regions (EMRs) including high population densities, the persistence of agriculture and a strong decentralization of decision-making for economic enterprises offer the possibilities of a different form of urbanization. This thesis assesses which of the recent processes of socioeconomic and spatial transformation in the Shenyang-Dalian region of Liaoning province - China's major industrial heartland - are producing such an extended urban region. The purposes are first to examine China's rural-urban relationships as a general background to description and analysis of the spatial patterns and processes of the Shenyang-Dalian EMR; and secondly to critically evaluate the practice of the PRC government in keeping rigid rural-urban divisions in administrative and allocative practices. The overall objective is to examine the validity of the EMR conception as a distinct urban form, and to assess the degree to which this model fits the contemporary Shenyang-Dalian growth corridor.

The analysis of secondary data shows dramatic demographic and labour changes in the Shenyang-Dalian corridor since 1978. The corridor's rich natural resource endowment, the special conditions of historical development, and recent administrative changes and transportation improvements have led to a spatial pattern which conforms with the EMR model - albeit with characteristics that clearly distinguish this region from other mega-urban zones in China and elsewhere. In-depth case studies of three villages along the corridor show that the impacts of the reconfiguring of settlement and economic patterns vary; yet there was sufficient commonality to indicate that a kind of 'invisible urbanization' has occurred since 1978 in the rural areas of the corridor. It is concluded that the measurement of underlying urbanization along the Shenyang-Dalian corridor is far more difficult than is officially recognized by the Chinese government.
The rapid urbanization of the countryside and increasing rural-urban interaction has broken down the stark pre-1978 rural-urban divide in the Shenyang-Dalian region. Spatial and sectoral segregation of rural and urban areas have been replaced by growing levels of integration and interaction. This increased integration has been fuelled primarily by improvements in infrastructure and favourable government policies.

For the Shenyang-Dalian corridor, new government policies, such as the creation of open zones, emphasis on industrial decentralization and rural industrialization, changes in administrative systems, and the establishment of modern transport infrastructure have been driving forces in creating new forms of rural-urban integration. Yet the state is not the sole architect of the regional transformation. Much of the change one finds on the ground is driven by local enterprises and initiative. It is this local dynamism which gives the region its vibrancy and marks the path of change as mercurial but not predefined. The pace and indeterminacy of regional socioeconomic changes pose a number of problem for the government, such as deteriorating environment, infrastructural needs and conflicting landuses. This thesis argues that the Chinese government will need to further modify its policies to cope with the emergence of the Extended Metropolitan Regions.
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<th>Abbreviation</th>
<th>Full Form</th>
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<tr>
<td>EMRs</td>
<td>Extended Metropolitan Regions</td>
</tr>
<tr>
<td>GDP</td>
<td>Gross Domestic Product</td>
</tr>
<tr>
<td>HHB</td>
<td>Hunhebu</td>
</tr>
<tr>
<td>HS</td>
<td>Houshi</td>
</tr>
<tr>
<td>LRSEST</td>
<td>Liaoning Socioeconomic Survey Team</td>
</tr>
<tr>
<td>LRSEST-HHB</td>
<td>Liaoning Socioeconomic Survey Team, HunHeBu village</td>
</tr>
<tr>
<td>LRSEST-HS</td>
<td>Liaoning Socioeconomic Survey Team, HouShi village</td>
</tr>
<tr>
<td>LRSEST-TCZ</td>
<td>Liaoning Socioeconomic Survey Team, Tuchengzi village</td>
</tr>
<tr>
<td>LSB</td>
<td>Liaoning Statistical Bureau</td>
</tr>
<tr>
<td>LSYB</td>
<td>Liaoning Statistical Year Book</td>
</tr>
<tr>
<td>LYB</td>
<td>Liaoning Year Book</td>
</tr>
<tr>
<td>PRC</td>
<td>People's Republic of China</td>
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<tr>
<td>SEZs</td>
<td>Special Economic Zones</td>
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<td>SSB</td>
<td>State Statistical Bureau</td>
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<td>TCZ</td>
<td>Tuchengzi</td>
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1.1. Introduction

Since the economic reforms of 1978, China has experienced dramatic socioeconomic changes and has moved towards becoming a kind of hybrid known as a 'socialist market economy with Chinese characteristics' (Bell, Khor and Kochhar, 1993: 4). The establishment of the 'economic open areas' along the coast has brought China wealth, industrial power, foreign exchange earnings, and economic might (Abegglen, 1994: 81-108; Byrd, 1991; Hu and Huenemann, 1984). In particular, its rural reform programs have released about a quarter of its rural labour force (about 110 million rural labour force are viewed as 'surplus labour').1 Within this matrix of changes, some focus must be directed to China's country-side.

China's rural reform programs and the rapid growth of rural industrialization are critical to the success of current changes. The changes in many rural areas may be summarized as 'China's silent revolution' due to the goal of developing the Chinese economy as rapidly as possible within the basic framework of socialism and the existing political system.2 Data presented below outline the

---

1 In 1994, among 440 million rural labour force, 110 million of 440 million rural labour force were considered surplus (People's Daily - Overseas Edition, April 4, 1995).

2 Silent features of the Chinese approach to reform are discussed by Bell, Khor and Kochhar, 1993: 4.
tremendous scope of this revolution. In particular, changes in lifestyles, economic activities and patterns of movement which one might well call urban are coming to the country-side of the Shenyang-Dalian corridor. In these changes, the region of concern has much in common with other areas of China, but also much to distinguish it.

China's post-1978 spatial development has been most pronounced along the coast. Several 'growth corridors and triangles' have emerged. These include the Shenyang-Dalian and Beijing-Tianjin corridors and the 'growth triangles' of Shanghai-Nanjing-Hangzhou and Guangzhou-Shenzhen-Hong Kong. Together with the other Coastal Open Cities and Special Economic Zones, these regions have become the focus of economic expansion in coastal China. The coastal conurbations have acted as 'catalysts' for China's modernization (Yeung and Hu 1992; Laquian, 1989; Edgington, 1986). Furthermore, these 'development corridors' have become more integrated into the world economy due to the changes in the capacity and structure of the essential transport and communication infrastructures which weld cities and mega-regions within the Pacific Economic Zone together (Rimmer, 1994; Rimmer, 1993).

The dynamism of change found in these emergent regions has led too easily to generalization; the rampant pencilling-in of zones, corridors and triangles of hyper-growth along China's coast. Such exuberance has perhaps clouded urban geographers' judgements as to what is really happening 'on the ground.' Consequently the many interpretations of coastal China's spatial future appear to have moved far ahead of what we know of the changes which have occurred over the last few years. Assuming a high economic growth scenario for China over the next two decades or so, it is, therefore, all the more important to develop a base of grounded case studies on actual changes occurring within China's settlement systems. Such studies may begin to answer a number of critical questions. Will rapid industrialization in China result in an increasing concentration of population in existing large cities as the conventional wisdom of the urban transition might have it? Or will rural industries and diversified agricultural activities continue to absorb the majority of rural surplus labour, especially as a report indicated that in 1994 about 75 per cent of China's rural surplus labour remained
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in rural areas. Answers to these questions must come from a consideration of China's unique geo-historical path and recent changes in the government's approach to managing the nation's development trajectory.

Conventionally, a socialist nation is understood as being dominated by a powerful state which not only monopolizes all economic affairs ranging from production and distribution to consumption, but also controls the mobility of population. How has this situation changed in China since the reforms? Will urban residence be tightly controlled and mobility constrained in favour of the growth of small cities and towns? Moreover, what will happen to the rural communities surrounding large cities? We need to reflect on what has occurred since 1978 at a micro-level in order to understand the critical processes involved in changes affecting the residence and livelihood of China's population as a whole. This study of the Shenyang-Dalian corridor of northeast China is intended to achieve this goal and to clarify broad processes of change through specific case studies.

In engaging in such a project, the experience of the developed countries, which have moved to high levels of urbanization over a period of one hundred years are of limited help in assessing the reality of a reforming socialist China. Thus, there is a need to formulate a more suitable urban settlement model which explains China's condition in the post-reform period. Within Asia, China has a unique role as the largest socialist nation.

Many scholars argue that the developing socialist countries have common characteristics, of

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3In 1994, of 110 million rural surplus labour force, only a quarter of them migrated to the coastal and other relatively developed areas. The majority of the rural surplus labour were employed (fully or partially) in rural areas (People's Daily - Overseas Edition, April 4, 1995).

4Northeast China is called "Manchuria" in English. In China, the term "Manchuria" is viewed as a colonial term. Some Chinese scholars suggest that this term should not be used in the English-speaking world (Zhao 1994: 183-184). Chinese people refer to Manchuria as Dongbei (meaning Northeast China). In this thesis, "Northeast China" includes the provinces of Liaoning, Jilin and Heilongjiang.
Introduction

which the most common is the slower rate of urban growth compared with many other developing countries (Lo, Salih and Douglass 1981: 41-42; Chan, 1992: 275-305; Kirkby, 1994: 128-155; Lo, 1987: 440-458; Ma and Hanten, 1981; Murphey, 1976: 311-329). Almost by definition, in countries such as China the state is the main agent determining the rates and patterns of growth and regional change (Cannon, 1990: 32; Cheng, 1990: 65-66; Forbes and Thrift 1987: 1-26; Demko and Regulska, 1987: 289-292). In non-socialist systems, the level of urbanization, the viscosity of population movements, and the economies and dis-economies of agglomeration tend to be regulated by market forces, with pricing mechanisms playing a dominant role. Contemporary capitalist space-economies have been marked by an apparent trend towards increased movements of people and other resources within thickening 'transactional webs' (e.g. the spaces of flexible accumulation). Yet in China, the planned economic system (particularly before the 1978 economic reforms) generally excluded market forces and their economic requisites from explicitly shaping the emergent space economy. Settlement and enterprise patterns were determined by the state according to its own priorities. Restructuring of circulatory or transactional environments was largely carried out via administrative measures. This is no longer fully the case. Market regulation is increasingly coming to characterize the evolution of China's space economy. This statement is true at the macro, national level and within given regions. A key outcome of this reorganization is the shifting relationship between cities and the countryside.

Alongside careful empirical analysis of spatial and economic changes in the Shenyang-Dalian corridor, is the need to add to consider a more general literature which seeks to conceptualize how the rural-urban transition is evolving in post-reform China. Central to any such project must be a consideration of the model of Extended Metropolitan Regions (EMRs).

Urbanization and the growth of metropolitan regions in Asia over the last several decades has been shown to possess different features which clearly separate them from the growth trajectories of Western cities (McGee 1989: 93-108; McGee 1991: 3-26; Ginsburg 1991: xiii-xviii; Pannell and Veeck 1991: 133). There are already several studies on the emergence of China's EMRs (Yeung 1992; Zhou 1991). For example, Zhou identified four such mega-urban regions in the coastal area
(Shenyang-Dalian in northeast China, Beijing-Tianjin in north China, Shanghai-Nanjing-Hangzhou in Yangtze delta, and Guangzhou-Shenzhen in the Pearl river delta) and argued that these mega-urban regions formed a main street of China's space-economy (Zhou, 1991: 89-122) (see Figure 1.1). However, models of these regions still remain largely at the stage of a mere description of the spatial distribution of population and economic activities, and the delineation of their broad-scale features. There are few detailed studies on the internal dynamism of China's major mega-urban regions which address, for example, the driving forces of contemporary change and what the broader policy implications might be. Moreover, the emergence of mega-urban regions in China raises a critical question. Are they a new form of settlement transition? If so, what is the validity of the EMRs described by Zhou as a distinct urban form and how well do they match the current models of the urban transition, which McGee and others have proposed for other Asian contexts?

The process of rural to urban change involves economic, social, and political shifts, as well as geographical changes in the distributions of population and workforce. These require an empirical investigation, partly because the processes and outcomes are likely to vary widely over such a large country as China. The present research focuses on the Shenyang-Dalian corridor as just one of China's major urban concentrations. The purpose of this research is to examine rural-urban relationships in China and test the validity of a new form of urban settlement - the mega-urban region or EMRs in a specific setting. The unique contribution of this thesis is to use both field research and 'internal' material5 to investigate the fascinating dynamism of socioeconomic and settlement changes occurring in the Shenyang-Dalian corridor over the last few years. In addition, I was born and raised in north China and I worked in northeast China for many years. This has been a major positive contributing factor to the successful gathering of data.

5In China, many data sources are defined as 'internal materials' or 'confidential'. Foreign scholars, even most Chinese scholars, cannot access such data and information.
Figure 1.1
China's Major Mega-Urban Regions

(Source: Adapted from Zhou, 1991)
Introduction

1.2. The Shenyang-Dalian Region

The Shenyang-Dalian corridor is located in the southern part of northeast China (Figure 1.2). Shenyang-Dalian has been an important part of China's coastal open areas since 1978. However, the Shenyang-Dalian region may be contrasted with other EMRs in China by way of its traditionally city-based industrialization (based on its rich natural resource endowments) which came to be reflected in a dominance of heavy industrial sectors and high population concentrations in the large cities of the region. This is an ideal region in China to investigate the emerging regional space economy for a number of reasons. First, the Shenyang-Dalian corridor is the best example to test how the pre-1978 city-based industrialization have affected rural-urban relations in China; this is because the cities in this region were major focuses for heavy industrial investment from the central government (Liang, Zhao and Wang, 1990: 257). The corridor has also been the focus of many of China's major state-owned enterprises. Even today, state-owned enterprises, such as machine tools, iron and steel, machinery, coal, petroleum, shipbuilding, chemical industry and building materials form the largest share of the region's economy and are proportionately more important than in other parts of China (Liaoning Foreign Affairs Office, 1992: 18).

Second, the Shenyang-Dalian region was also an important part of Japanese colonial territories in the 1930s and the early 1940s, which in part accounted for its form of development (Liang, Zhao and Wang, 1990; Lu, 1990; Teng, 1992; Li and Shi, 1988). Consequently, it is also a useful region to delineate how China's colonial experience has affected more recent socioeconomic transformations.

Third, to date very little research has been conducted on the Shenyang-Dalian region. Some other scholars have conducted research on the Pearl river delta (such as Johnson, 1992; Lin, 1994), as well as the Yangtze delta (Marton, 1994). Yet, so far, northeast China has been an under-analyzed region.
Figure 1.2
Location of Liaoning Province and the Shenyang-Dalian Corridor
1.3. Research Framework and Methodology

The thesis attempts to examine rural-urban relationships in China, document rapid socioeconomic transformations and assess the geographical impacts on the Shenyang-Dalian corridor. Accordingly, the thesis has four major foci. The first theme is to examine the distinctive features of the urbanization process in China. The second is to document the emergence of an EMR in the Shenyang-Dalian corridor. The third is to examine time-space collapse processes in the region. Finally, this thesis aims to explore recent socioeconomic changes along the Shenyang-Dalian corridor at the local level and to show how sectoral and structural shifts of economic activities in certain villages of the region (including changes in occupation, income, and enterprise ownership) affect rural-urban relations. The empirical research is used both at the levels of county (xian) and village (cun) on the Shenyang-Dalian region to evaluate China's existing urban development policy. In particular, this study will critically evaluate the practice of the PRC government in keeping rigid rural-urban divisions in administrative and allocative practices.

The discussion will unfold in four parts (see Figure 1.3). Part One examines theoretical and definitional issues. It looks at the urbanization process in reforming socialist China and suggests a more suitable 'three-stage' approach to explaining the contemporary rural-urban transition in China is proposed. This model forms the framework for research contained in the remaining parts of the thesis.

Part One also examines Chinese government policies and their effects on rural-urban relations. The political dimension is paramount because analysis in China is always confused by statistics - which in turn have been influenced by political ideology (e.g., the definition of 'urban' and 'rural').

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6In this thesis, the terms of "time-space collapse" and "time-space compression" are used interchangeably to capture the reduction in transaction and travel time made possible by improved communication technology.
# Introduction

Figure 1.3
Thesis Framework and Data Sources

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Introduction

Part Two of the thesis outlines the empirical research on the rural-urban transition in the Shenyang-Dalian corridor since 1978. The first half of Part Two describes the broader regional context and its historical development. The thesis then identifies the emergence of an Extended Metropolitan Region along the Shenyang-Dalian corridor and outlines its major social and economic characteristics.

Part Three examines in detail the processes which have shaped the rural-urban transition in the Shenyang-Dalian corridor during the 1978-1992 period. This is done by investigating the contribution of transportation facilities and their impacts on flows of commodities and population, as well as the role of government policies and programs such as changes in the administrative system, industrial decentralization, and rural industrialization in the corridor.

In Part Four, the focus of the scale of analysis shifts to the micro scale with case study examinations of the rural transformation in three villages along the Shenyang-Dalian corridor. The initial purpose of this part is to provide a close look at the lowest level of settlement hierarchy - rural villages. A phenomenon termed 'invisible urbanization' is defined through a broad analysis of village level change. Part Four ends with a summary of the common experiences and problems in each case study area.

Part Five then concludes the study by examining the validity of the EMR model at a more general level as distinct urban form, and assesses the degree to which EMRs in China represent an on-going form of McGee's theory of settlement transition in Asia. It draws the analysis together and tries to show what has been unique about the Chinese experience and what is special about the Shenyang-Dalian EMR compared with developed and other Asian countries. Implications for theory and public policy and suggestions for further research are also given.
1.4. Rationale of Data Sources

It always problematic for scholars to interpret Chinese statistical data. Some of the statistical data are incomparable between regions and over time and some are not accurate. The reliability of the data is further aggravated by confusing definitions (see for example, Chan, 1994: 19). Therefore, finding the right data source and correctly interpreting statistical definitions are very important factors influencing research concerning China's socioeconomic development.

Data for this dissertation include first-hand investigation (sight surveys, meetings, and interviews), analysis of secondary data (statistical materials, research papers, government documents and publications), and various other materials, such as government survey materials. Data for the three case study villages were collected in two ways. First, a field trip from November 1992 to May 1993 made it possible to conduct interviews directly with village heads, accountants, and family heads in the three selected villages. A second source was the survey results (unpublished and viewed as 'internal material') conducted by the Liaoning Rural Socio-Economic Survey Team (LRSEST). Interestingly, this organization was a newly-established government section, aiming at collecting first-hand information from the rural household level. Because of well-established personal contacts, many 'confidential' survey results and 'restricted materials' were also available for use. It is considered that the case study data used in Part Four are reliable and accurate. Secondary data and information for the macro level studies at the provincial and county levels, carefully used with my clarification, were mainly collected from the Statistical Bureau of Liaoning province, and its municipalities, as well as from various academic institutions.
CHAPTER 2
THE CHINESE URBANIZATION PROCESS IN A COMPARATIVE CONTEXT

2.1. Introduction

The relevance of utilizing urban transition models based on the historical experience of developed countries has been challenged by several scholars (Koppel, 1990: 47-70; Ginsburg, 1991b: 27-46; McGee, 1987a and 1987b). They query these models which assume that an increase in urbanization associated with economic growth will be repeated in all developing countries. They argue that a careful analysis of the urbanization process in developing countries will suggest different "paths" for the urban transition. The aim of the rest of this section is to examine the arguments of McGee (1987a, 1987b, 1991) and others to a framework as a broader conceptual context for the empirical research on contemporary rural and urban transition in the Shenyang-Dalian corridor. This review will appraise the applicability of previous western models to the Asian situation and examine new models, such as the Extended Metropolitan Regions (EMRs) of Asia (McGee, 1987a; Ginsburg, 1988). Then, in order to provide a more suitable framework for the remainder of the thesis, a three-stage Chinese rural-urban transitional model will be introduced which will be tested in the remainder of this thesis.

In Chapter 3, Chinese statistical definitions related to rural-urban relations will be discussed in order to avoid conceptual confusion over China's rural-urban tradition issues. Chapter 4 will review changing Chinese government policies related to rural-urban activities.
2.2. Previous Western Models of Rural-Urban Relations

In general usage, urbanization is associated with the concentration of population into towns and cities and an increase in the level of urbanization. In the developed countries, it has been associated with economic growth and structural change with the movement of the labour force from agriculture to non-agricultural occupations and structural change in the various sectors of the economy with industry and services becoming more important. This process is associated over time with a large movement of population from rural to urban areas (McGee, 1967).

As a demographic phenomenon, urbanization is interpreted as a process involving the absolute and relative growth of cities and towns. This is often represented as taking place in two stages. First, an increasing proportion of the population is resident in urban places. Second, the proportion living in the largest cities increase. Some works indicate that there is also a third phase in which intermediate cities grow in size and create a more balanced urban system (Richardson, 1978; 1990). The end of the sequence is presented as an almost completely urbanized society (Johnston, 1984; Roberts, 1978).

In developing countries, the shift of population from rural to urban areas is driven by several forces. Lee (1966), focusing on migration decision making and factors affecting these decisions, argues for two polarized sets of elements known as 'push and pull' forces. Thus, rural poverty has been viewed a universal 'push' force encouraging urban migration, and the 'bright lights' of the city is obviously an example of a 'pull' force, attracting rural migrants into cities. While all cities in developing countries cannot provide enough jobs or economic opportunities, Todaro (1978) argues that migration from rural areas to the city is often decided upon by migrants' perceptions as to the value of expected earnings. Although there is debate over timing and extent, this form of rural to urban migration, leading to eventual rural de-population (eventually the rural population dropped in absolute as well as relative terms), was a widespread phenomenon in developed countries (Brigg, 1973; Connell and others, 1976; Haque, 1984; Yap, 1975).
Linked to the demographic process is the structural change in society consequent upon the development of industrial capitalism. Geographers have broadened this emphasis on population change with an interest in the underlying economic changes underlying urbanization (e.g. Carter, 1981; Johnston, 1984; King and Golledge, 1978; Taylor, 1946). Cities are the foci of the exchange processes and the optimum location for many production functions. The search for an increase in productivity leads to the development of urban factories to use the economies of scale that they gained from the processes of concentration and centralization. Therefore, the major economic characteristics of developed countries were variously associated with occupation shifts from the agricultural sector to the non-agricultural sector. Commenting on this process in southern Ontario, Whebell (1969), for example, points out that the resulting shift in spatial patterns would eventually lead to tightly defined urban areas, where most industrial jobs were surrounded by non-industrial rural areas. Here, we can see that the urbanization process in developed countries was correlated with urban economic growth and the population decline of rural areas. Thus, as farming became more and more capital intensive, the ability of agriculture to absorb rural labour fell. Therefore, assuming sufficient growth in the industrial sector, non-agricultural sectors in urban areas became major labour employment absorbers for the surrounding rural population.

Urbanization is also said to induce changes in behaviour, and urban centres, especially large cities, have also been identified as centres of social change. Attitudes, values and behaviour patterns are modified in the particular milieu of the urban place, characterized by its size, density, and the heterogeneity of its inhabitants (Wirth, 1938) and then spread to the rest of population by processes of diffusion through the urban system and beyond it to rural areas (Johnston, 1984). The so-called 'urban-rural continuum' theories (McGee, 1971) argue that the role of cities and urbanization in inducing positive social changes is also said to reinforce industrialization as the western urbanization experience indicated. The city is also considered to be the centre of social change, introducing new social patterns and breaking down the traditional patterns; and social changes occurring in cities are also considered to spread eventually outwards to rural areas (Richardson, 1978).
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This model of the urban transition based on the experience of developed countries has been challenged on several grounds. From the perspective of this thesis, the most important challenge is directed at the assumption of the model that rural-urban differences remained clearly demarcated during the urban transition. It is now realized that the rural-urban distinction falsely represented reality and has to be replaced by a model of ongoing rural-urban interaction (Chambers, 1983, Gilbert and Gugler, 1982, Harris, 1982, Potter, 1985). Since the publication of Lipton's (1977) urban bias book, the whole rural-urban debate has been evaluated with much more emphasis on rural-urban linkages (Koppel, 1991). However, Lipton's (1977 and 1984) urban bias theory regards urban and rural societies as dichotomous entities and has portrayed the behaviour of urban elites versus the rural population as representing the most important conflict in developing countries. Recently, a group of scholars, such as Potter and Unwin (1989) and Baker (1990), emphasize the increasing importance of urban-rural relationships rather than their differences, and argue that a theoretical reappraisal is needed to analyze the rural-urban transition. Accordingly, urban-rural linkages have sprung again into the limelight of many development studies.

Urban Corridors and Mega Urban Regions:

Also relevant to the Shenyang-Dalian EMR are studies on the spatial patterns of industrialized metropolitan corridor regions, such as the models of 'megalopolis' (Gottmann, 1961), 'ecumenopolis' or 'universal city' (Doxiadis, 1963: 250), 'development corridors' (Yeung and Lo, 1992; Whebell, 1969: 4; Rimmer, 1991: 3-6), and 'galactic metropolis' (Lewis, 1983: 23-49), as well as the concepts of 'dispersed metropolis' (Ginsburg, 1961: 631-640; Hayes, 1976: 3), and recently 'extended metropolitan regions' (EMR) (McGee, 1991a; Ginsburg, 1991b) (The last two concepts are based on the Asian urbanization experience and will be discussed later in this chapter). Among them, Whebell's corridor development model, based on metropolitanism in south Ontario, and Gottmann's 'megalopolis' in the northeastern seaboard of USA are western models more relevant to this study. Whebell's (1969) study indicates that, within a metropolitan corridor, high speed arteries exist essentially for the convenience of the inhabitants and businesspeople of the largest urban places.
Although urban areas depend on surrounding rural areas for food and water, Whebell argues that rural dependency on urban places is more prevalent, reflected by the fact that the problems of economic life become more and more concentrated in the metropolitan areas, where stresses occur from the very rapidity of growth. Whebell hypothesizes five stages of the spatial development of a corridor system, from subsistence agriculture to commercial exchange, to rail transport dominance, to the early automobile period, and finally to a stage of rapid transit and metropolitanism (Whebell, 1969: 5-6). Here, transport development is regarded as diagnostic of distinct stages of development of the urban system. Apart from the importance of changes in transportation links to this study of the Shenyang-Dalian corridor, is Whebell's most advanced form of urban transition - the metropolitan stage. With relatively high levels of population mobility and no lack of labour-saving machinery, he postulated that the agricultural population would decline, and rural to urban migration would involve mainly young people. This would lead to strong contrasts between young urban and elderly rural populations, which of course holds many implications for social and political affairs. Essentially, Whebell postulated that urban areas would be the chief recipients of migrants both from outside Ontario and from its rural areas (Whebell, 1969: 12).

Other approaches to the development of urban corridors, and so relevant to this thesis, are the studies of mega-urban regions in developed countries. Mega-urban region studies in the developed countries were enhanced by Gottmann's study of 'megalopolis', a belt of cities which extends some 800 kilometres from southern New Hampshire to the Virginia suburbs of Washington and with a width between fifty and a hundred kilometres (Gottmann, 1961). Megalopolis areas, such as Boston-Washington, Toronto-Montreal, and Tokyo-Osaka as well as the metropolitan belts of Great Britain and Germany demonstrate a remarkable degree of concentration of people, skilled labour, wealth, knowledge, and economic opportunity (Gottmann and Harper, 1990). Their locational advantages (such as port facilities) have certainly contributed greatly to their respective regional development. Of importance to this study of the Shenyang-Dalian corridor is that the land use pattern within a megalopolis is characterized by 'a new mixture of urban and rural.' The symbiosis of urban and rural can be expressed by the understanding that many people living in the 'rural' areas
The Chinese Urbanization Process in a Comparative Context

(classified as rural population) are often in reality 'city folks' commuting to the cities to work, often due to a car-based pattern of living. So it may be said that the concepts of 'time-space convergence' (Janelle, 1969: 351), 'collapsing time and space' (Brunn and Leinbach, 1991, xviii), and 'a shrinking world' (Abler, 1975) comprise one of the major contemporary characteristics of the Megalopolis.

The work of Gottmann in the 1950s and Whebell in the 1960s have produced models of the spatial patterns involved in the rural-urban transition, based on the developed countries' experience. Is it therefore correct to predict, as Gottmann (1961) believed, that the expansion of concentrated urban growth would be replicated "in slightly different but not too dissimilar version in many regions of a rapidly urbanizing (developing) world" (Gottmann 1961: 257).

To summarize, it should be emphasized that the traditional models of urban transition (at least up to the 1960s), predicted the eventual decline of the rural population due to rapid migration, and the concentration of industry within the boundaries of the cities' proper. Hence, it was assumed that the distinction (both clear spatial and occupational differentiation) between rural and urban would persist as the urbanization process advances.

More recent work on developed countries' urban growth has focused upon the process of urban expansion which are summarized by Bourne (Bourne, 1991). This research places great emphases upon the processes of residential shifts from city cores to the suburbs and the movement of industry and service firms into the outer-rings of the cities often motivated by the cheapness of land and the growing labour pool. In the United States, this process has been described in "Edge City" (Garreau, 1991) and in Soja's study of Los Angeles (Soja et al, 1983). While some similar processes are occurring in China, they are not as advanced as in the United States and it will be argued that the particular features of the Chinese urbanization process are quite different.
2.3. The Changing Context of Urbanization

The changing context of urbanization in developing countries is important when comparing their experience with developed countries. As McGee argues, "there are distinctive facets of the phenomenon in the Asian context which reflect the different patterns of development and incorporation of the (Asian) countries into the international system" (McGee 1989: 93). It can also be argued that several dramatic socioeconomic changes in Asia within the last few decades have made the Asian urban transition more special. These features are considered briefly below.

Much Faster Time-Space Collapse:

When comparing the contemporary Asian urban transition with the period of initial urbanization which occurred in western countries in the early to mid-19th century, a great number of new concepts have been created to describe how transport and telecommunication innovations facilitate the spatial reorganization of human activities (Janelle, 1969: 353). We frequently speak about the 'shrinking world' (Brunn and Leinbach, 1991, xviii). For example, because of improvements in transport and communications more people are able to move often and much more rapidly than ever before. In a general sense, therefore, distance and time have diminished and location has become much less relevant than ever before. Compared with earlier periods, more activities are peripatetic on a large scale, more are shared, and nearly all are accessible on the international network (Jones, 1990: 112-113). With the development of modern technology, time-space has converged more rapidly in Asia than that in the developed countries at comparable period of early urbanization. The greater freedom of movement has loosened the urban fabric, and activities have become more scattered over the rural areas around the major large cities and modern urban-type activities such as production and commerce are no longer tied to compact urban areas. The importance of transportation technology to these differences is a key feature in this study of the Shenyang-Dalian region.
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Different Historical Experiences:

Another important factor which differentiates the Asian urban transition from the developed countries is its distinct historical experience. The prevailing paradigm of the urban transition draws its rationale from the historical experiences of urbanization which occurred in Western Europe and North America in the 19th and 20th centuries. Clearly, this is not neatly transferable to the urbanization process in Asia. Most Asian countries, as McGee (1987a) argues, have been unevenly incorporated into the world economic system from the 15th century onwards due to the different experiences of colonialization. The European and later Japanese colonial rule, directly or indirectly, generated a port-based, export-oriented urban economy existing largely for the benefit of the metropolitan countries. Furthermore, the uneven incorporation of these Asian countries into a world economic system created divergent patterns of urbanization, which reflect the different interactions between Asian countries and the world system than those of the developed countries.

Changes In The World Economic System:

Finally, forces leading to the globalization of economic activities in the post-1945 period, such as direct foreign investment and international financial flows, have greatly accelerated the transitional processes of large cities in developing countries, and this aspect was largely missing - or at least much less evident - at the time of urbanization in Western Europe and North America. Large cities in developing countries play dual roles. They are both participants of the global system as well as metropolitan centres of a nation (Armstrong and McGee, 1985). The great cities in the developing countries are no doubt part of a global system, but they are in most part also expressions of their own distinctive cultures. As Jones has indicated, the large cities of developing countries became points of contact between indigenous and intrusive cultures during the colonial period. Today these cities have considerable elements of a 'global culture' which bring them into the world orbit, but more importantly they are part of an overwhelmingly indigenous society and culture. Not all these cities share in the transitional network which is the essence of a 'world city,' but they are metropolises in their own right.
because they embody the achievements of distinctive local cultures, exercise political and social control over large areas, and are magnets which attract millions of migrants (Jones, 1990: 16-17). Again, the role and function of urban systems in developing countries have been changed due to emergence of a world economic system. Here, what is specific to Asian countries is their role in the world system (Armstrong and McGee, 1985). The way the Shenyang-Dalian region has been incorporated into the world economy is a key feature of this study (the Shenyang-Dalian corridor's incorporation into the world economy both the Japanese colonial period and the post-1978 reform period will be discussed in Chapter 5).

In summary, following the above arguments (which are set out in more detail in McGee (1987, 1989, 1991a) and Ginsburg (1991a), such different socioeconomic conditions and divergent patterns of urbanization together suggest that the conventional view of clearly defined rural-urban differences and the process of transition, which were mostly based on the western experiences, can not neatly fit the Asian reality and so needs to be reevaluated. Moreover, although an awareness of the importance of the urban-rural transition and urban-rural relationships in Asia has attracted more and more attention, the bulk of research in this field has still been devoted to the analysis of urban and rural development as separate issues. Increasingly, it is argued that rural and urban change should be seen not as processes in themselves, but rather as the products of deeper structural economic and social transformation, which together involve both rural and urban areas. This reorientation of attention, particularly in developing Asia, has enabled different kinds of research agenda to be formulated (McGee, 1989) and is a particular focus of the present study of the Shenyang-Dalian region.

2.4. The Asian Extended Metropolitan Region (EMR) Model

As a result of the interaction of the processes identified earlier in this chapter, McGee and others have recently identified new and distinctive regions of economic interaction and growth in
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Asia. Such mega-urban regions are termed as 'Desakota' or 'Extended Metropolitan Regions' (EMRs), such as Tokyo-Osaka (Ginsburg, 1991b), the four Chinese EMRs (Zhou, 1991), the Bangkok EMR (Greenburg, 1994), and regions such as Taipei-Kaohsiung and Java (McGee, 1989). With highly-mixed rural and non-rural activities, EMRs are normally located along corridors between the large cities in various Asian countries. In fact, the EMR phenomenon concerns the emergence of large urbanizing regions, sometimes stretching over one hundred kilometres, typically located between and including two existing large urban centres. These EMRs are characterized by intense concentrations and flows of both people and commodities. McGee (1987) and Ginsburg (1988) have identified and documented a general model for this process, and they conclude that the traditional urban-rural divide in many Asian countries is becoming blurred. Moreover, as the EMRs become incorporated into the global economy, McGee and Ginsburg have argued that these mega-urban regions may offer an alternative spatial form as well as a different way of understanding the urban transition process in Asia to that provided by older models such as those provided by Gottmann and Whebell.

According to McGee's (1991b) EMR model, these mega-urban regions reflect a new and distinctive pattern of settlement transition. The major features of such regions emerging in Asia are briefly summarized as follows:

First, these regions are mostly in wet rice areas where paddy cultivation correlates positively with high population density. The density of rural population in these EMRs is sometimes higher than in western urban suburbs. One of the results of this high density is the freeing of labour for non-agricultural activity due to electrification, irrigation improvement, and increased mechanization - which leads to lowering the labour absorption capacity of the land. Therefore, large numbers of rural workers in these areas are available to be employed. Considering the case in the Shenyang-Dalian

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7The concept of desakota is coined by T. G. McGee from Indonesian kota town, and desa village. For details, see T. G. McGee, 1991a: 7.
EMR, high density is one of the major characteristics of this region, but rice-growing agro-economic niches is not necessarily one of prerequisites of growth in the Shenyang-Dalian EMR. It is postulated in this study that non-rice farming activities also render the large rural labour supply.

Second, all these regions are located along major transportation routes. Historically, the EMRs in Asia have already had a well-developed infrastructure of roads, canals, and information networks. These have assisted in speeding up the circulation of commodities, people, and financial activities as well as information. The availability of relatively cheap transport facilitates the quick movement between the core city and the remainder of the region along major transport routes. One of the outcomes is that family members can engage in different economic activities in different places. Thus, some family members within the EMRs may work in the central cities, commuting by bus, moped, or even bicycle, depending on the distance from their rural residences. In fact, certain members might actually be living inside the core cities or their suburban satellites, and be remitting portions of their incomes to remaining members of the family who may be still involved in agriculture on the city fringe. Rural households therefore can increasingly earn more income from non-agricultural activities and create a multiplicity of income sources within the same household. This often leads to household income figures that are much higher than in other non-urban regions in the nation as a whole (Ginsburg, 1991a; McGee, 1991b). Interestingly, within the Asian EMRs, not all rural labour moves to the urban core, but rather often commutes between the rural and urban areas (in most part, through daily commuting, but also through working and living in the city for many weeks at a time). There is supporting evidence which shows that the urbanization process within the EMRs does not require a massive rural-urban migration. This unique rural-urban transition pattern significantly distinguishes the Asian experience from other developing regions (as also argued by Dwyer, 1972). The implications for this study are not only the frequent population mobilities between the rural and urban areas within the corridor, but also the peasants' involvement in both farming and non-farming activities.

Finally, these mega-urban regions are also characterized by an intensive mixture of settlement
and economic activity with agriculture, industrial estates, and suburban development, and other uses existing side by side. The fringes of these regions are to some extent 'grey' zones from the viewpoint of the state authorities. Urban planning and building regulations may not, for example, apply in these 'semi-rural areas' (McGee, 1989). This study proposes that an 'invisible urbanization' phenomenon has emerged in the Shenyang-Dalian region due to the non-urban areas approaching urban levels of occupations, living standards, and consumption patterns.

Overall, the Asian EMR model has demonstrated that these regions tend to dominate the national space economy of the countries concerned. They involve a juxtaposition of the agricultural and non-agricultural economy and functions between cities and the surrounding countryside. Now the question is how these Asian EMR features fit into the Chinese case. Therefore, the thesis turns to examine each of these EMR features in the Shenyang-Dalian analysis by taking into account the special 'Chinese characteristics' of the urbanization process.

2.5. China's Special Case

Within Asia, Chinese cities are both Third World cities and Socialist cities. China's rural-urban transition has been rather special due to its strong government interventions - both before and after the 1978 economic and political reform. To begin with, the strong centralized control of the economy since 1949 has impacted on the space economy, rural-urban relationships, and urbanization patterns (Chan, 1992b: 275-305; Chang, 1981: 202-219; Kirkby, 1994: 128-155; Kwok, 1981: 147-

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Savage and Warde classify five prominent urban types (Third World Cities, Global Cities or World Cities, Old Industrial Cities, New Industrial Districts, and Cities in Socialist Countries). Third World Cities tend to possess distinctive features of 'over-urbanized', 'urban biased', and 'dualistic'. Cities in Socialist Countries have experienced dynamics very different from those in capitalist world. They have tended to grow more slowly than their capitalist counterparts. Many socialist regimes have been explicitly anti-urban and the immediate post-revolutionary period tended to freeze, and in some cases reduce, urban population growth. These cities have been subject to greater levels of planning and zoning (Savage and Warde, 1993: 39-40).
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193; Lo, 1987: 440-458; Ma, 1977: 1-12; Ma and Hanten, 1981; Murphey, 1976: 311-329; Pannell, 1990: 214-236). Moreover, since the reforms of 1978, China has experienced very important socioeconomic changes (Ho and Huenemann, 1984; Johnson, 1992: 185-220; Kwok and others, 1990; Laquian, 1989; Linge and Forbes, 1990: 10-34). So, in order to understand the contemporary rural-urban transition, it is necessary to analyze the changing role of the Chinese government.

In another context, Musil's research in the socialist countries of Eastern Europe indicates that the nations' urbanization and settlement strategies had some permanent features in common that were due to a socialist style of government, namely a 'planned' or 'managed' urbanization (Musil, 1980: 6). Managed urbanization presupposes the working out of a general strategy embracing both goal-setting and the instruments to be used. The central issue common to all the socialist countries is how to integrate the social and economic goals of socialist ideology. The search for the optimal synthesis concerns both regional policy and urbanization strategy, especially in efforts to regulate the concentration processes. Research in the socialist countries is concerned, then, not only with analyzing the urbanization process itself but also with formulating normative principles for its advance. Therefore, central to urbanization process in the socialist countries is the significant role which the government plays in terms of control of production and distribution within a communist society (Forbes and Hamilton, 1987).

Literature on the Chinese-type socialism based on the pre-1978 available information supports the idea of a distinctive Chinese model of giving priority to agricultural development as attacking the problem of development at its root, and thus offering greater promise as a unique, alternative approach for other underdeveloped societies (Oksenberg 1973: 1-16; Maxwell 1979; Weisskopf 1980: 283-318). Such a 'pro-rural' position believes that the Maoist 'anti-urban' development strategy was characterized by policies that favoured the countryside over the city which aimed at ultimately eradicating the differences between the two (Meisner 1974: 207-252; Forbes and Thrift, 1987). Therefore, Ma concludes that "any serious study of China's urban evolution since 1949 must take Mao Tse-tung's explicit anti-urban and pro-rural policies into consideration" (Ma, 1976: 114).
The major features of China's urbanization policies include the transformation from consumer to producer cities; establishing industrial enterprises in rural communes, and improving services in rural areas; limiting the growth of urban population by controlling inflows to cities, especially to large cities; resettling urban intellectuals and youth in the countryside to promote rural development; and developing urban industries that support agriculture (Bernstein, 1977; Cell, 1980: 48-69; Chen 1972: 361-386; Chiu, 1980: 89-107, Lewis, 1971: 1-26, Ma, 1976: 114-118, 1977: 1-12; Murphey 1975: 165-168).

This 'anti-urban' stance in urbanization was said to contrast with Stalin's urban-industrial bias. Therefore, some scholars argue that "Soviet and Chinese patterns of urban development are intrinsically dissimilar" due to the different concepts of urbanism and sectoral priorities adopted by the two communist regimes (Frolic 1976; Meisner 1974; Bomstein, 1985; Spulber, 1963: 1-16).

However, the research works based on information first made available since 1978 have increasingly questioned and refuted many of the past assertions and presumptions about the Maoist development model (Prybyla, 1982: 38-42; Leung and Chan, 1986; Stone, 1986: 63-72). In the field of economic development, careful research by Lardy (1983) and others (e.g. Tang, 1984) argue that the Maoist strategy was indeed heavily skewed in favour of industry. Kirkby's (1985) work on urbanization has made an important advance in the field. He refutes the argument that the Chinese government embodied a philosophy of favouring development of the countryside over the city. Instead, he argues that the practice of restricting urbanization in China was a result of the pursuit of high rates of industrialization and accumulation rather than any ideological 'anti-urbanism.' This is an important dimension of China's urbanization patterns and policies. This argument was further advanced by Chan and Xu (1985: 583-613), Perkins (1990), and Zhang (1991), as well as in studies focusing on the impact of the Household Registration System⁹ on migration (Christiansen, 1990: 78-9).

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⁹The Household Registration System (hukou) divides Chinese citizens formally either into part of the agricultural population or 'urban residents.' For details see Chapter 3.
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Post-1978 urbanization policies in China have been said to involve a shift from the previous 'anti-urban' approach to one favouring rapid urbanization (Banister 1986; Kwok 1987). Yet the recent work of Chan (1994) argues while the Maoist approach was certainly not in favour of rural development, neither can one categorically label the post-Mao policy as 'pro-urban.' Chan argues that the reality is more mixed and full of apparent contradictions (Chan 1994: 13). Although post-Mao leaders have abandoned previous urban-biased practices, many Maoist legacies have continued to play an important role. For example, as far as urbanization is concerned, the Maoist policy of restricting large urban in-migration to control urbanization costs is called an 'invisible wall' and is a continuing policy theme (Chan, 1994: 136).

While China adopted this 'managed' approach to urbanization, leading to restriction on rural to urban migration between 1949-1978 and leading to only a 17.9 per cent national urbanization rate by 1978 (Chinese Academy of Social Sciences, 1991), this government orientation involving strict control is no longer so true. China's reform programmes, starting from 1978, have gradually relaxed the regulation controlling population mobility (Christiansen 1990: 78-91; Li 1992). This does not necessarily say the post-1978 period is an 'un-managed' era. The Chinese government still keeps urban growth under its control. As long as migration causes problems, such as congestion of major transportation stations, potential social insecurity in major large urban centres, the peasant migrants are often forced back to their home towns.

Nevertheless, the post-1978 period witnesses a relaxation of regulation towards population mobility control and some parts of China, e.g. the coast region, have experienced rapid socioeconomic transformations. One of the most important changes for this study, which has emerged after the reform, is the 'new' occupation category of 'peasant worker' (yigong yinong or nongmingong, meaning people who are both farmers and factory workers) (Huang, 1990: 288-301; Blecher, 1984: 109-123; Wu and Zheng, 1986: 14-15; Yao and Wu, 1982). Yao and Wu (1982)
were among the first scholars to study these 'farmers-and-workers' migrants, and suggested that their emergence was leading to a special form of urbanization, one based on the integration of rural and urban activities in rural areas (This complex issue will be discussed fully in Chapter 7).

This brief summary of existing literature has argued that state government policies have been integral to understanding the urbanization process in China and that it is not adequate to view China's post-1949 process of urbanization as uniform. Neither can one ignore the fact that since 1978 China's urban and regional development issues have been linked with trends in the larger world system (e.g. dramatic increases and expansion in the global trade and foreign investment in China). Thus, China's urbanization and development processes have been quite varied.

2.6. EMR Research in China:

The post-1978 reform programs have led to the emergence of the large urbanizing regions in China - including rural, urban, and suburban areas in close proximity along the pattern envisaged in the EMRs model discussed earlier. The EMR research by Chinese scholars is merely at a stage of macro-level description, such as the location of China's major EMRs and their major socioeconomic features. In 1989, Zhou commenced research on China's mega-urban regions. The term he used to describe the rapid socioeconomic changes in the urbanizing corridors along the coastal China was 'Metropolitan Interlocking Regions' (MIRs). The dimension of each MIR is about 50 kilometre radius around incorporated cities located on major transportation corridors (Zhou, 1991: 89-112). He identified four MIRs and two 'pre-MIRs.' Located along the east coast of China, these four MIRs are Shenyang-Dalian in central and southern Liaoning province; Beijing-Tianjin-Tangshan in northern China; Nanjing-Shanghai-Hangzhou in the Yangtze Delta; and Hong Kong-Guangzhou-Macao in the Pearl River Delta. Two pre-MIRs are the Shandong Peninsular and the seaboard of Fujian province from Fuzhou to Xiamen (Figure 2.1) (Yao, 1992).
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Figure 2.1
China's Major Urban Clusters

(Source: Adapted from Yao, 1992: 24)
Other Chinese scholars classify China's EMRs into different groups based on their size and region of influence. For example, Yao (1994: 24) and others have identified up to 13 urban clusters. According to the size of urban cluster, Yao recognized three major classifications, namely 'large and super-large scale urban clusters,' 'medium scale urban clusters,' and 'small scale urban clusters' (see Figure 2.1). The 'large and super-large scale urban clusters' include Shenyang-Dalian, Beijing-Tianjin-Tangshan, Shanghai-Nanjing-Hangzhou, and Guangzhou-Shenzhen-Hong Kong in the Pearl River delta. These comprise several very large cities (Shanghai, Beijing, Shenyang, Guangdong, Tianjin, and so on) and their surrounding areas. Within these urban clusters, the transportation networks (highway, railway, airports and sea ports) and telecommunication facilities are at an advanced level which make them possible to connect with, and deliver their services, nationwide. The daily direct service radius of leading cities reach as far as 150-200 kilometres. The 'medium scale urban clusters,' such as Harbin-Ulanhot, Shandong Peninsula, Fuzhou, are comprised of several large or medium cities and have accessible local transportation networks. The daily direct service radius of the cities within urban clusters can reach as far as 80-100 kilometres. The 'small scale urban clusters,' such as Zhengzhou, Xian, Lanzhou-Xining, Wuhan, Changsha, mainly act as local economic centres (Yao, 1992).

The existence of such urbanizing regions, which involve rapid changes in both urban and rural economies, has eroded the traditional urban-rural dichotomy which existed in China. Rapid rural-urban interaction, and the integration of the rural-urban economy within these EMRs, represent a new spatial economy and demonstrate a new form of rural-urban transition. As will be shown later in this thesis, there are many ramifications for urban-rural planning and management.

2.7. A Stages Approach To Rural-Urban Transition In China

At this time, a reinterpretation of rural-urban relations is required: one which draws on previous literature but which recognizes the contemporary trends leading to a new spatial paradigm based on the EMR construct. Moreover, so far, most studies of China's EMRs have been largely
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descriptive. There are few detailed studies on the internal dynamism of these regions which address, for example, the driving forces behind the emergence EMRs in China, whether this phenomenon represents an ongoing urban transition process, what the broader policy implications. A new framework is therefore necessary to guide further empirical research on the contemporary urban transition. Accordingly, this thesis proposes a three-stage rural-urban transformation model, one which covers the last four decades of the postwar period (It is shown that changes of political ideology and government policies towards urban-rural relations are most critical\textsuperscript{10}). These three stages are briefly described here, and will be used in Chapters 4 and 5 to organize more detailed information on the hukou system and its impacts on urbanization and rural-urban relations as well as policy changes towards rural-urban transition.

Stage I covers the period of immediate post-revolutionary reconstruction (from 1949 to the mid-1950s); Stage II lasts about 17 years from 1960-1978, including the 'cultural revolution' period (1966-76); and Stage III is the period of economic reforms (post-1978) (see Figure 2.2). Each stage has its own characteristics in term of degree of involvement in the global system, unique urban-rural linkages, role of the government, and specific patterns of the spatial economy. This model incorporates the following components, which are both sensitive to China's post-war history and important features in later parts of this thesis:

1) the development of a distinctive government policy on human settlements (including the household registration system);
2) external relations (i.e. economic connection with the world system, such as the open cities and special economic zones and rapid growth of foreign investment);
3) structural changes in ownership patterns in both the urban (i.e. heavy industry, light industry, and tertiary sectors) and rural economy (including agricultural and non-agricultural

\textsuperscript{10}The following essential components, which reflect the Asian macro-spatial framework, are important for the establishment of the model: external relations, urban formal and informal sectors, rural export sector, and rural peasant economy, and are suggested by Lo, Salih and Douglass, 1981: 7-43.
Figure 2.2
China's Rural-Urban Transformation Model

Stage I (1950s)  Stage II (1960-1978)  Stage III (post-1978)

Links to the World Market System

Government

Economic Structure

Ownership  State  Collective  State  Collective  State, Private and Collective  Private, Collective

Soviet Union

Isolationism (few overseas links)

USA, Japan, Taiwan, Hong Kong ...

Notes: LI=Light Industry; HI=Heavy Industry; TS=Tertiary Sector; A=Agriculture; NA=Non Agriculture; 1-controlled production and distribution system; 2 & 3-surplus transfer mechanism from rural agriculture to urban industry; 4-mobility of population.
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components); and

4) rural-urban migration; and rural-urban division.

These components have been chosen to illustrate that China's rural-urban transition is different not only from western patterns but, as indicated earlier, different also from general urbanization processes in other Asian regions. This is because of strict controls on rural-to-urban migration, extreme self-sufficiency promoted in rural areas prior to 1978, openness and rural reform, limited self-determination in rural areas only recently (after 1978), and recent promotion of rural industry and industrial decentralization by the government rather than the market.

The Pre-1978 Period:

The major differences between stage I and II comprise the direction of migration and the relationship between industrialization and urban growth. Thus, during the first stage, there was no clear policy in the PRC to limit rural-to-urban migration. Actually, the rapid industrialization plan of the 1950s, especially the Great Leap Forward, favoured city-based industrialization. Large numbers of the rural labour force were called upon to move to China's major coastal and inland cities to meet the need of rapid expansion of heavy industry (Chan, 1994). Thus, this stage was characterized by massive rural-to-urban migration, resulting a pattern of industrialization with rapid urban growth. The Great Leap Forward (1958-60) was launched on the premise that rapid modernization could be accomplished better through mobilization of the unskilled masses than through the introduction of new technology, in other words, better through ideology and politics than economic planning. This was a two-pronged attack, with the Chinese people told that they must learn to 'walk on two legs' by gaining self-sufficiency in both agriculture and industry (Salisbury, 1990: 85). Rural-urban linkages were ignored at this time mostly due to the introduction of the commune system from 1958 onward which was designed to stimulate self-sufficiency and independency in the cities and in rural areas. This radical campaign ended in failure by the late 1950s and the early 1960s due to unrealistic campaigns, combined with natural disasters (e.g. a famine in 1960-1962, see Dando,
The failure of Great Leap Forward caused the Chinese decision makers to select an alternative development plan focusing on de-urbanization. Thus, the features of Stage II were the direct outcome of this policy and urbanization processes were characterized by a 'zero-growth' of urbanization level (Tang and Jenkins, 1990). This was achieved due to a strict enforcement of the Household Registration System (*hukou*) (commenced in 1958) combined with the 'sendt-down' of tens of millions of urbanites to the countryside (Chan, 1994; Chen, 1972). Although, the commencement of agro-processing in rural areas served agricultural production (Sigurdson, 1977), most industrial projects were urban-oriented (Chan, 1992a: 41-63). Therefore, industrialization without the rapid expansion of urban population formed a distinct feature of Stage II.

Yang (1990) calls the development strategy during Stage I and II the 'Maoist development strategy.' Though it varied in degrees in different sub-periods, the Maoist strategy dominated China's industrialization efforts until it gradually faded out in the late 1970s. It relied on heavily redistributive measures in an attempt to equalize regional economic development, emphasized extensive rather than intensive modes of economic growth, and allowed no foreign direct investment in China.

China's pre-1978 production and distribution were strictly controlled and planned by the central government. Within such a planned economy, the function of the market in determining price, plans, allocation, and distribution of goods varied over time, but was generally minimal in the first two stages from 1949 to 1978 (Ogden, 1992: 75-117). The regional development policy was dominated by a 'self-reliant' strategy. On the one hand, the government controlled production and set up production quotas for producers, and factories, or production teams in villages, followed these orders with very limited autonomy. On the other hand, the role of government was very strong, reflected by an administrative transfer mechanism of funds for the benefit of city-based industrialization. The government controlled the distribution system, fixed prices for all commodities, and created a mechanism to transfer rural surpluses to develop urban industry by fixing lower
wholesale price for agricultural products brought to the cities while forcing peasants to pay high prices for industrial goods (Cheng, 1990: 65-77; Chen, 1982: 55-74). During Stages I and II there was a clear distinction between urban and rural areas, characterized by a dual spatial economic structure, i.e. the urban economy was dominated by manufacturing industry and the rural economy was dominated by agriculture (mainly grain production) (Schran, 1993: 135-136; Kwok, 1992: 65-85). Urban-based industrialization was possible only because of the government transfer of agricultural surplus to urban industrial investment (Cheng, 1990: 65-77; Xue, 1979). In this period, population mobility between rural and urban areas was strictly monitored and controlled by the government. Thus pre-1978 Chinese cities may be characterized as 'isolated islands' (Cheng, 1990: 69).

Both Stages I and II shared certain features in terms of their rural-urban relations. Stage I (1949-60) witnessed the paralleled growth of both urbanization and industrialization, mainly due to the influence of Russian planners and the adoption of Stalin's city-based industrialization (Chan, 1994). By contrast, Stage II created a model of industrialization without rapid urban growth. This period was characterized by an industrialization process that entailed 'zero' growth in China's urbanization levels (for details see Chapter 3). However, at a broader level, the urbanization policy during Stages I and II (Maoist period) was largely a product of China's dualistic economy (Bhalla, 1990: 1097-1110). As shown in Figure 2.2, rural-urban relations in the pre-1978 period were characterized by a dual structure of the national space economy in both sectoral and geographical terms. In summary, China's dualistic economy was characterized by a rural economy dominated by agriculture (mainly grain) contrasting with city-based heavy industry (Kwok, 1992: 65-85). Some scholars argue that China's urban areas were protected by an 'invisible wall' of administrative measures set up against any possible in-migration (Chan, 1994: 143; Cheng, 1990: 65-77; Xue, 1979). Such urban-rural dualism was much stronger in Maoist China than in many other Third World countries in similar development stages, mainly because the former was both structural and state-policy initiated

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11This issue is discussed in detail in Chapter 3.
Another common feature during stages I and II was the very limited involvement of China in the world system. In the 1950s this was mainly confined to its links with the former Soviet Union and other socialist counties. The decades of 1960 and 1970s also witnessed very limited external linkages (Phillips and Yeh, 1990: 226-229).

The Post-1978 Period:

Stage III brought in a wide variety of changes. The year 1978 was a turning point in China. Following 1978, China adopts a new development strategy which emphasizes regional comparative advantage, accepted regional disparities as inevitable, encouraged foreign investment and international interaction, and sought to foster technological innovation (Yeung and Hu, 1992: 1-24; Ho and Huenemann, 1984; Denny, 1991: 186-208). An important spatial development has been the shift in Chinese government policies to favour coastal region over the interior (Cannon and Jenkins, 1990). The government reoriented its policies to develop the coastal areas first, as they believed that coastal development would serve as a catalyst for the modernization of the whole country (Yang, 1990). The notion of regional comparative advantage is central to understanding the post-1978 regional development policy. The government advocated that each region specialize in its comparative advantage. That is to say that the regional division of labour was in the national interest, even if one region moved ahead of the others in terms of economic development.

To further this aim, the coastal region, including the five Special Economic Zones (SEZs) and Coastal Economic Development Zones, such as the Shenyang-Dalian open economic zone (Liaoning Peninsula Economic Development Zone) were granted in 1984 special administrative and economic powers (Fincher, 1990: 35-44; Phillips and Yeh, 1990; Yee, 1992). Firms located within these special zones, now enjoy tax privileges and other benefits (Naughton, 1987: 51-80). For example, from 1984 city officials such as in Tianjin could approve joint venture projects with capitalizations of up to
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US$30 million (Edgington, 1986, Laquian, 1989). The reduction of bureaucratic formalities everywhere greatly accelerated development in the coastal region (Laquian, 1989). Arguably, these reforms have invigorated China's economy. In the past decade for instance, its GNP averaged a 9.3 percent increase annually. China's GNP, National Income, and State Revenue have all more or less doubled since 1980 (SSB, 1991). As might be expected, urban-rural relations and China's patterns of spatial economy have changed tremendously.

In fact, the third stage of China's rural-urban transition is an outcome of the recent economic reform programs which caused rapid socioeconomic changes and reshaped rural-urban relations (Figure 2.2). Since 1978, China's 'open door' policy has gradually integrated its economy into the world economy and trade with Japan, Hong Kong, USA, Taiwan, and other countries has increased rapidly (Phillips and Yeh, 1990). China is no longer an isolated country but has integrated its economy with the world economic system. Of importance for this thesis is the fact that rural-urban relations have now become more integrated (Putterman, 1992: 467-493), and the strict divide between them is now becoming blurred in many places. This is particularly the case in the four Extended Metropolitan Regions along the coast (such as Shenyang-Dalian in northeast China, Beijing-Tianjin in north China, Shanghai-Nanjing-Hangzhou in Yangtze delta, and Guangzhou-Shenzhen in the Pearl river delta).

The Major Factors Influencing the Post-1978 Rural-Urban Linkages:

The change in rural-urban relations during this period of time is mainly due to the changes brought about by the reform policies (both rural and urban reforms), and other administrative changes related to rural-urban relations. In sum, these include the broad-scale rural reforms initiated in 1978, rural industrialization policies, the relaxation of population mobility regulations (e.g. changes in the household registration system), and policies for the establishment of 'open areas' (such as open coastal cities and open zones along the coast), as well as encouraging development of rural free markets (Byrd, 1991) (Figure 2.3).
Figure 2.3
Post-1978 Rural-Urban Linkages and Major Influencing Factors

EMR villages and market towns

Metropolitan centres, secondary industrial cities and towns

Open Coastal Cities

SEZs and Economic Development Zones

rural industrial policy

rural reforms

*responsibility system
*diversified agriculture

rural subcontracting

central city administering counties

changes in household registration system

EMRs

industrial decentralization

Open Coastal Cities

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The most fundamental reforms that swept China during the 1980s were those in the rural areas. These included the implementation of the 'household responsibility system,' the lease of land to households, and the push for economic diversification, including in particular the encouragement of rural enterprise, which involved the rapid growth of the small enterprises and other non-agricultural activities in rural areas (Fincher, 1990: 35-58; Leeming, 1993). The responsibility system was a clear break from past practice when the income of members of work-terms and brigades was based on the average income generated by the entire brigade or commune. In this period, the more productive teams and team members had their hard-earned gains diluted by the less productive ones (Wu and Xu, 1990: 131), but the responsibility system made households free to band together and farm their combined field. Thus those who preferred to engage in non-agricultural activities were allowed to sublease their plots to be worked by others. Such arrangements often included a guarantee to supply the original lessee with rice or wheat at government-set prices, thus enabling the original lease holder to pursue non-agricultural activities with the certainty that low-price staples would be available (Wu and Xu, 1990: 133). The most important outcome of these new arrangements was that while the responsibility system greatly enhanced agricultural productivity, it was also necessary to diversify the rural economy to promote growth and to provide employment opportunities for the vast under-utilized rural labour force (Byrd and Lin, 1990; Johnson, 1992: 185-220; Johnson, 1986, Leeming, 1993: 94-107).

The drive towards rural economic diversification not only shifted peasants to other branches of agriculture\textsuperscript{12} - fisheries, forestry, and husbandry - but also the formation of large numbers of new rural enterprises provided employment opportunities for those displaced from growing monoculture crops. These new enterprises - including manufacturing, commercial, and service activities - flourished in prosperous rural areas or near large urban centres (Fei, 1993: 12; Lee, 1991: 147-148; Byrd and Lin, 1990; Du, 1993). From the government's perspective, the promotion of such

\textsuperscript{12}In China, "Agriculture" includes both farming (grain and cash crops) production in a narrow sense and farming, forestry, animal husbandry, fishery, and sideline productions in a broad sense.
enterprises assisted in supporting the policy of 'containing' the rural population, especially the surplus rural labour force, within existing rural areas and small towns. This containment policy refers the so-called liu bu lixiang (leaving the land without leaving the villages) program, which sought to combine a spatial policy of population containment with the diversification of the rural economy. It commenced nationwide in the early 1980s and involved expanding the capacity of rural industry to either facilitate local production or to expedite the decentralization of urban industries. Since 1980, urban industries have been encouraged to establish branches and workshops to produce complete lines or components through direct investment or joint ventures with village or township workshops (Li and Li, 1985).

An important outcome of this new diversification of economic activities in rural areas has been a dramatic change in China's spatial economy. Thus, the previous dual spatial economic structure (i.e. a manufacturing-dominated city economy versus a farming-dominated rural economy based on grain production) has gradually moved to a more diversified spatial economy, involving the development of rural industries and other non-agricultural activities. Such a structural shift can be traced most clearly in both absolute and percentage declines in the agricultural labour force of rural areas, and concomitant increase in service sectors within urban areas (SSB, 1992). Such a diversification of rural economic activities and the rapid increase of rural industries has also reduced the pre-1978 urban-rural gap in income and other measures of the quality of life. Thus, nationwide, the urban-rural household income ratio narrowed from 2.4:1 in 1978 to 1.7:1 in 1985, yet rose to 2.2 : 1 in 1991 (SSB, 1992). Moreover, there is certain fragmentary evidence to show that in the surrounding areas of certain large cities in coastal areas, some rural districts have equivalent or even higher income and living standards than urban areas (Bao, 1991).

With spectacular production increases in agriculture post-1978, together with the rapid diversification of the rural economy and the meteoric growth of rural enterprises during the 1980s, the government began in 1988 to relax its strict controls over population mobility (Wu and Xu, 1990: 134). Thus those peasants who could provide their own staples (food and housing) and who could
prove that they had the resources to establish a new enterprise or were employed, were permitted to move to the towns and cities either temporarily or permanently. This substantially freer mobility of population began to promote greater rural-urban interaction. For example, in the Shenyang-Dalian corridor, people began to increasingly commute between the rural and urban areas, and starting from the late 1980s, many peasants moved from the rural areas from outside the corridor to work either in the cities or rural areas of the corridor (for details, see Chapter 8). Other important policy changes, which impacted on rural-urban interaction, included the establishment of a system of counties under the jurisdiction of a central core city, and the establishment of open cities and open economic zones in China's major EMRs (Solinger, 1993: 75-81).

All these policy changes have largely broken down the old spatial rigidities of the communist economy, and have transformed urban-rural relations in many parts of China. Although the post-1978 reforms themselves can be subdivided into several different stages (see Appendix 2), rural-urban economic linkages in China have been gradually integrated due to the generally smooth and incremental features of the reform program (Bell, Khor, and Kohhar, 1993: 75-81). The important characteristics of this gradual reform program are the transformation of both the rural and urban economies without dramatic social and political instability (except of course the 1989 Tiananmen incident and its aftermath). That is to say that the role of the government has been crucial in providing a stable framework to the on-going rural-urban transition.

The above review reveals that the major features of stage III constitute an increasing integration of China into the world economy; the central government gradually decentralizing its economic decision making power to local authorities and individual operators; a rural economy characterized by a mixture of both agricultural and non-agricultural activities; and intense rural-urban interaction reflected by massive migration from rural areas to urban regions and the emergence of urban capital and know-how diffusing into rural areas. Each feature has assisted in breaking down the former severe rural-urban division in the Chinese space economy.
2.8. Summary

This chapter has examined previous western models of rural-urban relations, the changing context of urbanization and the Asian Extended Metropolitan Region (EMR) model as well as the processes of urbanization in China. The review suggested that there were distinctive elements in the Chinese experience which are leading to a growth of Extended Metropolitan Regions at an earlier stage than that characterized in many developed countries.

The rapid socioeconomic transformations during the post-1978 reform period in China have greatly reshaped the nation's space economy and rural-urban relations. A three-stage rural-urban transition model was proposed to guide further empirical research work on the contemporary urban transition in China and form a research framework for the rest of the thesis and a detailed investigation of changes in the Shenyang-Dalian region. However, before the empirical research can take place, it is first necessary to explain aspects of China's rural-urban transition in a broader context in order to adequately interpret the research results. Consequently, the following two chapters provide a background for some of China's on-going rural-urban transition issues. Chapter 3 aims to clarify some Chinese definitions, and Chapter 4 aims at understanding the nation's changing policies related to the rural-urban transition since 1978.
CHAPTER 3
THE RURAL URBAN DIVIDE - CHINESE DEFINITIONS

3.1. Introduction

The aim of this chapter is to examine the first major theme of the study, which is that China's rural to urban transition has followed a rather singular trajectory. China's three stages of urban transition (Figure 2.2) have each witnessed distinct urbanization processes (Chan and Xu, 1985: 583-613; Kirkby, 1985, Ma and Cui, 1987: 373-395). Liaoning province (where the Shenyang-Dalian corridor is located) has experienced similar processes. Table 3.1 shows that both China and Liaoning province have shared a common experience of urban growth since 1949, although the urbanization level in Liaoning has been much higher than China as a whole. During Stage I, both Liaoning province and China almost doubled their urbanization levels primarily because the rapid industrialization. Stage II exhibited a special feature which was characterized by industrialization without rapid urban growth. In fact, urbanization levels declined from 19 and 39 per cent in 1960 to 17 and 30 per cent in 1978 in China and Liaoning, respectively. This second stage is an example of 'development without urbanization' (Koshizawa, 1978: 3-33). During Stage III, the urbanization process once again accelerated both in Liaoning and China. Further analysis of the components of urban growth shows that during these three stages of the urbanization processes, the average annual natural increase kept the same population size at approximately 2.1 to 2.5 million for China, but the net in-migration was very different. Stage III recorded the highest at 7.6 million net in-migrants into cities per year, compared with 4.8 million for China during Stage I and about 1 million decrease during Stage II (Table 3.1).

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13The reason for higher urbanization levels occurring in Liaoning than China as a whole will be discussed in Chapter 5.
Table 3.1
Urban growth and industrial development in different eras in Liaoning and China

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<td>China</td>
<td>Liaoning</td>
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<td>urban pop. growth</td>
<td>7.5</td>
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<tr>
<td>by natural increase</td>
<td>30</td>
<td>n.a.</td>
<td>2.4#</td>
</tr>
<tr>
<td>(%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>by net immigration</td>
<td>70</td>
<td>n.a.</td>
<td>-1.0#</td>
</tr>
<tr>
<td>(%)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>industrial growth</td>
<td>12.2</td>
<td>26.5</td>
<td>3.0</td>
</tr>
<tr>
<td>rate (%)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: Data for urban growth from 1950-1960, and for industrial growth rate from 1952-1960. Stage III covers 1978-1990; #: cannot be computed due to negative net migration, which was mainly due to the 'sent-down' urban intellectuals and youths to the countryside; n.a.-not available.

Source: Data for China from Chan, 1994: 146 and 36; Data for Liaoning from LSB, 1992.
Official definitions are important in order to understand China's urbanization process because they are a primary source of information that establishes concepts of what is 'urban' and what is 'rural,' and also show how Chinese approaches to urbanization have evolved. It should be noted at the outset that the wide range of different definitions of urban population in China creates misunderstanding over China's urbanization levels. This is because analysis and research about China by many foreigners is confused by Chinese statistical definitions (Pannell, 1990: 218; Orleans and Burnham, 1984: 788-804). Therefore, before any attempt can be made to examine urban-rural relations at the local level, a short digression on Chinese spatial statistics is required.

The chapter examines how the Chinese central and provincial governments have defined urban and rural areas and measured change. Central to these questions is the need to define the concept of Household Registration System (hukou). This chapter will explain the hukou system and its rationale, function, and, and contrast it with western ID systems (e.g. social insurance number and drivers licence). This will help us understand the nature of population mobility and the urbanization processes in China, particularly during Stages II and III. Associated with the hukou system is the issue of exactly how the Chinese government has defined urban and rural populations.

3.2. The Household Registration System (Hukou)

The Household Registration System (hukou) divides Chinese citizens formally either into part of the 'agricultural population' (nongye renkou) or 'urban residents' (chengshi jumin renkou). All citizens are registered as a member of a hukou, a household with local policy offices, and every family has a 'Household Registration Book(let)' (hukou bu). The booklet lists the members of each registered family, and on the first page of the book it states that a citizen is either part of an 'agricultural household' or an 'urban resident household.' This distinction is of great importance for everybody as the hukou registration determines whether or not a person can receive subsidized food and public services. For instance, if one happens to be registered as an 'urban resident,' then such a citizen is entitled to a number of rationed goods at subsidized prices, as well as work allocation.
The Rural-Urban Divide - Chinese Definitions

determined by the government's Labour Bureaus (normally this involves work in a state-owned or collective-owned enterprises). Urban residents are also entitled to free or low-fee schooling for children together with Medicare, housing and fuel. The hukou registration also has a significant impact, therefore, on public resource allocation. Thus in 1981, national urban subsidies for these services totalled 48 billion yuan, about 33 per cent of expected current revenue, of which approximately 56 per cent was allocated for maintaining the standard of living of urban residents (Cheng, 1990). Table 3.2 shows that in that year the subsidy for urban residents totalled 26.8 billion yuan, covering the subsidies paid for domestic food grain and cooking oil, non-staple foodstuffs, cotton, coal and housing.\textsuperscript{14}

By contrast, people with an 'agricultural' hukou do not share these privileges. The 'agricultural' hukou is linked to rural families who are part of a specific administrative village (cun, formerly a production brigade or a de facto production team). Each person with an 'agricultural' hukou is attached to an agricultural production team and shares his or her collective assets with other team members, including all land and collective enterprises (Goldstein and Goldstein, 1985, 1991).

Besides impacting upon public resource allocation, the hukou system has also been a main social division line between rural peasants and urban residents, and so is fundamental in understanding changes in the Chinese urban-rural divide. Essentially, the transfer of hukou status in China is very difficult, both across the agricultural and urban resident classification and also between localities within any class. Local police offices maintain a register of all known inhabitants within their jurisdiction as well as their personal data, and try to monitor unauthorized migration strictly.

The effect of the hukou system is to limit the mobility of the population, as well as being a decisive tool for the distribution of public goods and services. The following analysis will mainly

\textsuperscript{14}Actually, the urban labour force's employers or working units (danwei) also provide an additional list of subsidies, such as subsidies for bathing, haircuts, transportation, and so on.
Table 3.2
China's subsidies in 1981 (billion yuan)

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Subsidies directly to urban residents</td>
<td>26.8</td>
<td>55.8</td>
</tr>
<tr>
<td>-- food grain</td>
<td>12.2</td>
<td>25.4</td>
</tr>
<tr>
<td>-- cooking oil</td>
<td>2.8</td>
<td>5.8</td>
</tr>
<tr>
<td>-- housing</td>
<td>5.0</td>
<td>10.4</td>
</tr>
<tr>
<td>-- others</td>
<td>6.8</td>
<td>14.2</td>
</tr>
<tr>
<td>2. Subsidies for enterprise</td>
<td>10.2</td>
<td>21.3</td>
</tr>
<tr>
<td>3. Industrial goods for agricultural production</td>
<td>2.2</td>
<td>4.6</td>
</tr>
<tr>
<td>4. Imported agricultural products</td>
<td>8.8</td>
<td>18.3</td>
</tr>
<tr>
<td>Total (1-4)</td>
<td>48.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

focus on its impacts on the nature of population mobility, and this is followed by a discussion of its changes during the post-war period, broken down by the three stages of Chinese socialist urbanization discussed in Chapter 2.

Stage I (1949-60):
During the first decade of the People's Republic, the *hukou* system was not a major element for the urbanization process because people were free to migrate until 1958, when the *hukou* system was introduced (Zhang, 1989). In fact, the government actually encouraged rural-to-urban migration in the early period. As discussed in previous chapter, urban-based industrialization called for large numbers of rural labourers to work in urban factories. Due to rural to urban migration, the annual urban growth rate averaged 7.2 per cent during the period of 1952-57, which was more than twice the natural urban increase (about 3 per cent) (Chan, 1994: 36). This was accelerated in the radical industrialization campaign of the 'Great Leap Forward' (1958-60), averaging 9.1 per cent over and above the previous annual urban growth rate. The result was a rapid increase of China's urbanization level from 16.2 per cent in 1958 to 19.7 per cent in 1960, the all-time high in the pre-1980 era (SSB, 1991: 79).

Such rapid growth of the urban population forced the central government to realize that there was an insufficient supply of food, urban housing and other infrastructural facilities. Thus the *hukou* system was introduced in 1958 to control rural-to-urban migration (Chan and Xu, 1985: 583-613). Since then, the *hukou* system has applied to all natives of China (Cheng, 1990: 72).

Stage II (1960-1978):
In sharp contrast to the previous period, the second stage (1960-78) was characterized by a strict control of rural-to-urban migration, mainly due to the implementation of the *hukou* system. Once the *hukou* controls were set in place, a set of specific principles was developed to meet national
migration goals. First, rural to urban population movements were strictly controlled, especially rural movements to China's three major municipalities - Beijing, Tianjin, and Shanghai. Secondly, movements from towns to cities, from small cities to big cities, and from rural places to urban suburbs were limited. Thirdly, movements between places of similar size did not need such severe controls, and finally movements from large to medium or from medium to small urban places, or from urban to rural places, were encouraged. Such strict household registration regulations officially required that any migrant to a city had to register with the Local Police Station (Paichushiao) in order to stay for more than three days (Laquian, 1989: 5). This system of migration controls operated through the household registration system and was enforced through differential access to grain rations, jobs, and housing (Goldstein and Goldstein, 1985: 17-44). As noted earlier, migration without a proper Household Registration status was viewed as illegal. Therefore, it was virtually impossible for peasants to move to cities.

This period also witnessed net urban outflows, particularly of urban youth. It was reported that the migratory flows generated by 'rustication' of urban youth during 1960-77 (especially the 'cultural revolution' period of 1966-1976) totalled 17 million and net flows to the countryside (excluding returned youth) was 8.6 million (Chan 1994). Therefore, China's urbanization level dropped from 19.7 per cent in 1960 to 17.9 per cent in 1978. A similar process took place in Liaoning where the urban intellectual and youth in Shenyang, Dalian, Anshan, and other large cities were sent down to the countryside, and their hukou status was changed from urban to agricultural residents. Eventually the urbanization level in Liaoning declined from 39.6 per cent in 1960 to 30.7 per cent in 1978 (see Table 3.1). It was easy to understand how the hukou system restricted those rusticated youth and intellectuals in returning from rural areas to their home cities.

The effect of China's hukou system in restricting rural to urban population mobility accounted

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15Rustication refers to the campaign of sending urban residents to the countryside. For more details see Chen, 1972: 361-386; Bernstein, 1977.
The Rural-Urban Divide - Chinese Definitions

for a sharp rural-urban division during the pre-1978 period, as already noted (See Stages I and II, Figure 2.2). As a characteristic of China's urban transition, the hukou system is one of the keys to understanding the very unique rural-urban transition processes involved in Stage II - the successful fulfilment of city-based industrialization (as high as 3 per cent of average industrial growth rate) without parallel urban growth.

Stage III (post-1978): New Structural Changes In The Hukou System:

Since 1978, due to the implementation of both the rural responsibility system, the liberalization of free markets, and various urban economic reforms, the large population of the rural surplus labour force has made the household registration system economically inefficient (Gong, 1989: 32-36; Zhang, 1991). Higher agricultural productivity brought on by the reforms led to a greater urge for migration among China's rural peasants, who desired to search for new economic opportunities outside their villages (Blecher, 1984:110-112; Shan and others, 1984: 36-37; Wang and Cai, 1986: 58). In response to the increasing mobility of farmers away from agriculture, the central government decided to allow, or to turn a blind eye to rural-to-urban migration after 1978. A new type of registration was introduced. The first policy change was carried out in 1983, when the state council allowed rural households, without changing their residence, to take up cooperative ventures in market towns. In 1984, the policy was further relaxed and peasants were officially permitted to work or do business in cities and towns provided they could raise their own funds, arrange their own food rations and find a place to live. This policy was called the 'self-supplier household' status (zili hukou) (Wong, 1994: 337). Although, their 'urban resident' hukou status would be different from the normal 'urban resident' hukou, in that the state grain authorities would not supply them with subsidized grain, rural peasants with this status would be allowed to work legally in urban areas while obtaining grain at the negotiated price through free markets.

On September 6, 1985, the Twelfth Meeting of the Standing Committee of the Sixth National People's Congress promulgated the People's Republic of China Residents' Identity Card Regulations.
These required all citizens over sixteen to apply for a personal identity card and empowered all police to make identity checks. No doubt useful as a tool of law enforcement, the ID card system also encouraged mobility and business transactions. In place of a letter from one's work unit or village official, Chinese rural peasants could, from 1985, buy a rail ticket to a city, check into a city hotel, and apply for a city job or a business licence upon presenting this document (Wong, 1994: 343). The introduction of the ID system therefore triggered spontaneous migration to medium-sized and large cities; a phenomenon referred to as the 'floating population' (liudong renkou). Consequently, in the last ten years or so, rural migrants have entered China's big cities in growing numbers. This has been especially the case for the coastal regions, such as the Pearl river delta, the Yangtze river delta, and the corridors of the Beijing-Tianjin and Shenyang-Dalian regions. Here, large scale employment opportunities have arisen, including construction projects in Special Economic Zones, Open Coastal Cities, and Open Areas along the coast (Yee, 1992). These prosperous areas attracted significant numbers of rural workers both legally and illegally (Wang, 1994). Ample supplies of grain in urban areas facilitated this movement, as the state monopoly on grain distribution, and the rationing of other basic consumer goods, have mostly disappeared (see Appendix 2). A new free market trade makes it possible to obtain the most important food commodities to stay in large cities, rendering life there easier for non-residents. Therefore, peasants can stay, practically, as long as they want, and some of them may never register at the local authority offices (as field work in the Shenyang-Dalian corridor indicated, see Chapter 10).

The reasons for this new surge of rural to urban immigration are varied. Some people either leave their village to earn extra money in order to meet increasing expenses for agricultural production materials and living costs, while others travel around China purely to visit big cities and other prosperous regions for pleasure. Still others leave their homes in those districts struck by natural disaster, and during times of food grain shortage, in order to ease the burdens on the family economy (Christiansen, 1990: 31). This new migration phenomenon in China therefore should be considered natural, given income differences between rural areas and large cities (or prosperous rural areas), and the seasonal character of rural production. Christiansen argues that rural-to-urban
migration can, by way of remittances, contribute to the transfer of capital to the less prosperous countryside and so be conducive to rural development (ibid: 23-42).

The breakdown of the hukou system since 1978 represents then one of significant forces in contemporary rural-urban relations in China. The impact of the reformed hukou system is that rural peasants may now change their occupation from farming to non-farming, even though the government still recognizes them officially as part of the 'agricultural population.' Thus more and more peasants turned into non-agricultural workers in rural collectives, private, and individual enterprises during the reforms. For the purposes of this thesis, it is important to note that the term 'agricultural' hukou is not adequate as a description of a peasant's role in the rural economy any more (see Chapter 13).

In summary, the hukou system was an important way of socially dividing the Chinese population into strictly defined rural and urban areas and occupations, as well as monitoring and controlling rural-to-urban migration. The hukou system also contributed to the formation of two distinct occupational divisions - workers and peasants. As far as lifestyles and governance are concerned, the separation of the rural and urban masses made China a country of two nations. Therefore, the hukou system is an important concept to understand why China's rural-urban transition process in Stage II (of Figure 2.2) could achieve city-based industrialization without parallel urban growth. Moreover, the change in the hukou system after 1978 was an important factor leading to increasing rural-urban interaction during Stage III of China's rural-urban transition.

3.3. Changes In Statistical Definitions Of Urban And Rural Areas

Apart from the hukou system, this thesis also has to consider the Chinese definition of "urban places," as this is an important concept in shaping rural-urban transition processes in the last four decades. In general, the Chinese definition of urban places has not been solely related to population size in any given locality, or the percentage of individuals engaged in non-agricultural activity, has been affected by a unique Chinese perspective on the notion of 'urban.' This is based largely on the
The Rural-Urban Divide - Chinese Definitions

political decision whether the state has accepted responsibility for providing the population's grain needs under the hukou system. As we have seen, only these people with official urban residence status could enjoy urban-type subsidies and job allocations.

So, the first order of business before any serious effort at rural-urban transition analysis can begin is to establish, from a Chinese census perspective, what constitutes an 'urban place' and what constitutes a 'city.' Establishing such definitions has been no easy matter in socialist China. Inconsistent definitions, and especially inconsistent numbers published in urban population statistics, have bedeviled western scholars, some of whom have complained bitterly about this situation (see Orleans, 1982: 268-302, Orleans and Burnham, 1984: 788-804).

Scholars studying China have been puzzled about the actual size of China's total urban population, the actual level of China's urbanization, and the conflicting figures for the sizes of individual Chinese cities (Orleans and Burnham 1984; Ma 1983: 206-207). These problems are confusing even to Chinese scholars. For example, according to the 1982 Statistical Yearbook of China published by the China State Statistical Bureau (SSB), the percentage of total population categorized as 'urban' was 13.9 per cent for 1981. Later in the same book, the percentage was changed to 20.2% for the same year (SSB, 1982: 89). In another example from the SSB data, the percentage of the total population deemed to be 'urban' was 20.8 per cent for 1982, 23.5 per cent for 1983, 39.5 per cent for 1984, and 49.9 per cent for 1989 (SSB, 1990). Yet the data for 1990 was shown as 26.2 per cent in the China Population Year Book (SSB, 1991). Why do such discrepancies exist?

The major issue is how the government treats what is urban and what is rural. The term 'urban' (chenzhen) in Chinese is a combined term - city (chen) and town (zhen). Officially, urban settlements in China consist of two administrative levels - city (shi) and designated town (zhen). Yet the term 'town' actually includes two broad groups: a designated town (jianzhizhen), whose official town status has been approved by the appropriate provincial authority; and a market town (jizhen),
which refers to these not having official town status (Ministry of Internal Affairs, 1986). The accepted definition of an urban area in China includes only designated cities and towns. Thus a small market town does not belong to any of these urban categories and so is excluded. Consequently, the 'real' urban population is underestimated in official reports. For example, Dalian metropolitan region refers to the total areas under the jurisdiction of the central city - Dalian - and includes Dalian city (2,415 square kilometres), 4 county-level cities (9,664 square kilometres), and 1 county (152 square kilometres). The area of this metropolitan region amounts in total therefore to 12,574 square kilometres (see Figure 3.1). Dalian city itself includes a built-up area (137 square kilometres) with 3 urban districts, which are officially defined as urban areas, and 3 suburbs (non-urban) (2,238 square kilometres). It is important to bear in mind that the Chinese definition of the city proper extends to an area which is much larger than the actual urban built-up area. Consequently, the administrative area of Dalian city consists of two parts: the three urban districts and three suburban or non-urban districts. Large areas (about 87 per cent of Dalian city) which are classified as the suburban regions of Dalian city are really market towns or villages in terms of the official definition, even though they are counted as parts of Dalian city's administrative units. This is the classic problem of 'over bounding' in defining urban areas.

All the officially designated towns, consisting of suburbs, county-level cities and counties are treated as urban areas (see Figure 3.1). They usually comprise seats of governments; that is government either of county-level cities, counties, suburb administrations, or township governments. However, the market towns (un-designated) are not listed as urban areas. Such an artificial spatial divide between rural and urban places leads to the question of how to define the urban population for analytical purposes. Moreover, not all residents living in areas defined as urban by the government are classified as being part of China's urban population. Some are classified as part of the urban 'agricultural population.' In other words, the agricultural population (mainly farmers) also live in urban suburbs and even urban built-up areas. This mix of farmers and town folk co-existing in the fringe of built-up areas makes it difficult therefore to define the 'true' urban population of China.
Figure 3.1
Urban/Rural Areas in Dalian Metropolitan Region, Liaoning, 1992

Dalian Metropolitan Region
(with total area of 12,574 km²)

Dalian city
(2,415 km²)

Four county-level cities
(9,664 km²)

One county
(152 km²)

Others*
(343 km²)

Others*
(40 km²)

Three
Suburb
Districts
(2,238
km²)

Three
urban
districts
(137
km²)

Desig-
nated
towns
(280
km²)

Market
towns &
villages
(9,384
km²)

Desig-
nated
towns
(14
km²)

Market
towns &
villages
(138
km²)

Market
towns &
villages
(130
km²)

Notes: Only the shaded units within the metropolitan region are officially recognized as urban areas (*: mainly includes land use for military-oriented projects and facilities)

3.4. Changes In Statistical Definitions Of Urban And Rural Population

Yet another important issue when attempting to examine urbanization levels in China concerns changes in the definition of the urban population over time. Since the establishment of the People's Republic, considerable confusion has characterized reports on the size of China's urban population, in part because varying definitions of urban place and urban population have been used at any given time, and in part because the definitions have changed over time (Goldstein, 1990: 673-702). A further complication is the result of definitions based on the hukou status, rather than by using spatial units per se. According to Ding's research, there are at least four major definitions currently used in Chinese statistics (Ding, 1993: 16-23).

1). The Non-agricultural - Agricultural Division Based on the Hukou

One of the definitions for urban population includes all non-agricultural population in both urban areas and rural areas. This definition of urban population is not based on any spatial units, but rather is wholly grounded on the official hukou registration status of the Chinese population without considering residential location. Based on this particular definition, the nation's urbanization level was 19.43 per cent in China in 1990. This definition produced an urbanization level of 44.6 per cent in the Dalian metropolitan region in 1992 (see Figure 3.2). However, a serious problem exists, which is that the urban population based on the definition of the hukou system cannot actually indicate a person's occupation status. Rather, it refers only to an eligibility or qualification for access to urban-type subsidies and other welfare benefits available from the government. Consequently, it is not suitable to show changes over time between agricultural and non-agricultural occupations.
Figure 3.2
Different Population Statistics in Dalian Metropolitan Region, Liaoning Province, China, 1992

Types of Urban Population in Dalian:
1. Total non-agricultural population of the metropolitan region (G+I+E), which was 44.6% of Dalian Metropolitan population
2. Total non-agricultural population of 3 urban districts (G), which was 22.7% of Dalian Metropolitan population
3. Total population of 3 urban districts and 3 suburbs and rural non-agricultural population (C+D+E), which was 57.1% of Dalian Metropolitan population
4. Total population of 3 urban districts (G+H), which was 22.8% of Dalian Metropolitan population

Sources: Liaoning Year Book, 1993: 431-468
2). The Urban Non-agricultural - Rural Division

Another definition often used by the government to measure the urban population is based on a classification which only includes the non-agricultural population in urban districts. That is to say, this definition of the urban population includes neither all residents in a city proper (as it misses out the agricultural population in urban districts), nor the non-agricultural population in rural areas. Based on this definition, the urbanization level of China was only 16.5 per cent in 1990 (SSB, 1993: 374), and that of Dalian metropolitan region was 22.8 per cent in 1992 (Figure 3.2). Ding, naturally enough, believes that such a definition of urban and rural is too narrow (Ding, 1993: 16-23).

3). The Non-Rural-Agricultural Division

Yet another way of delineating China's urban population is to include all the population of a metropolitan region except the rural agricultural population. Here, the urban population includes agricultural and non-agricultural population in the cities proper, as well as designated towns, and the non-agricultural population in rural villages and market towns. Based on this definition, the urbanization level of China was 70.9 per cent in 1990, and the urbanization level in Dalian metropolitan region was 57.1 per cent in 1992 (Figure 3.2). Ding argues that this classification may be too broad, but he also argues that the non-agricultural population in rural areas, particularly in market towns, are 'semi-qualified' urban population (Ding, 1993: 16-23). This definition then may be helpful for the government to predict potential urbanized population.

4). The Urban-Rural Division

The final classification is based on where a person actually resides when the census takes place (i.e. the de facto urban population). Thus both those whose stay in urban areas with the official urban hukou registration and those stay in urban areas without the official urban hukou registration are all calculated as part of the urban population. It should be noted that persons are not counted as urban
population if they are absent on the night of the Census even their hukou registration lies in urban area. Under this definition, the city population includes the total population of either urban districts or the population of a city street community (jiedao renkou) if a city has no urban districts. The town population includes the total population of the residential areas of a designated towns, including towns of urban suburbs, towns which serve as seats for county government, and towns directly controlled by county governments. Based on this definition, China's urbanization level was 26.2 per cent in 1990 and the Dalian metropolitan region was 43.2 per cent (LSB, 1992: 463). This classification is now well-accepted both by the Chinese government and academics as showing the most valid level of urbanization (Qiao and Li, 1990: 22-28).

The complexity of treating urban areas and the urban population outlined above has led to an individual city having several sets of data concerning urban population in any Chinese statistical yearbook. For example, in the Dalian metropolitan region, at least 4 official urban population data can be found, which creates a confusion over changes in Dalian's urbanization level (see Figure 3.2). Thus, in 1992 the urbanization level in Dalian might be as high as 57.1 per cent if the total population of three urban districts and three suburbs and total rural non-agricultural population were calculated as its urban population. By contrast, the urbanization level would be only 46.5 per cent if just the urban population of Dalian metropolitan region, including the total population of its urban districts and suburbs were considered. Moreover, it would be just 44.6 per cent if the urban population included only the total non-agricultural population of the metropolitan region. At a more extreme level, it would be as low as 22.7 per cent if the urban population included merely the total population of urban districts. Therefore, it can been seen that it is very important to define exactly which urban population is referred to and whether or not surrounding counties of any city are included.

All of the above indices of Dalian's urbanization have certain conceptual problems in attempting to determine the true urban population. Thus the first three classifications all suffer a common problem in that they are based on a rigid rural-urban division - the hukou system. As shown
earlier, the *hukou* system cannot any more actually indicate any person's occupation. During the post-1978 reform periods, the central government allowed rural peasants to work in urban industrial or service sectors, even though their household registration status was agricultural and their official residence was in a rural area (Teng, 1988: 23). Moreover, as shown earlier, there has been an increasing number of rural labour force engaged in non-agricultural sectors in rural areas. Yet these two categories are still excluded from the first three official definitions of the non-agricultural population.

The last classification emphasizes where one stays rather than a person's official registration. This is to say, all residents in defined urban areas are classified as the official urban population, eliminating whether or not a person's *hukou* registration is an urban or agricultural residence. However, such classification has its weakness too. It may be argued that the existing criteria for urban places excludes some outlying market towns and villages, such as those located within the definition of EMRs, where their socioeconomic features (such as non-farming economy, lifestyle, non-agricultural occupation, and so on) are increasingly of an urban nature. Yet officially, the population of these settlements is still not recognized as urban. This is the classic 'under bounding' problem. While these definitional issues are complex, they have ramifications for the empirical analysis of the Shenyang-Dalian corridor contained in Part Four of this thesis.

3.5. Summary

This chapter has discussed the urbanization processes and Chinese definitions of urban places and urban population, in order to clarify some confusion about official data found in Chinese reports. More importantly, the discussion of the *hukou* system helps to understand why Chinese people can not easily move from rural to urban areas. A further peculiarity of the Chinese urban transition relates to how the Chinese government can successfully monitor and control population mobility. Accordingly, the relationship between the *hukou* system and the implementation of urban development policies, and how such policies have impacted on rural-urban relations, form the topic
of the next chapter.
4.1. Introduction

The question of whether or not urbanization is an inevitable trend in development has generated lively debates within China (Yeung and Zhou, 1987: 9). Associated with this concern has been the issue as to what should appropriate Chinese government policies be towards urban development in China. As shown in Chapter 2, over the years the Chinese government favours the development of 'small cities and towns' as a national urban development strategy and in the late 1950s and 1960s, even an 'anti-urban' bias was evident (Ma, 1976; Forbes and Thrift, 1987; Meisner, 1974). However, following the policy reforms of 1978, this restrictive stance has been challenged by many Chinese scholars due to changes in both urban and rural economies. As part of the necessary context for discussing changes in the Shenyang-Dalian urban corridor, this chapter will review Chinese government policies towards rural-urban relations in the post-war period.

4.2. Changes In Government Policies Towards Urban Development

In industrialized countries of the west, as well as many developing countries employing Western models for economic development, it has been generally recognized that urbanization is either a pre-requisite or an essential by-product of modernization. For example, "the relationship between urbanization and economic development is often as virtually invariant, both historically and cross-culturally" (cited in Goldstein and Goldstein, 1990: 21-23). However, as shown in Chapter 3, as a centrally-planned economy China has not entirely followed this model. Rather, post-war Chinese urbanization policy has reflected divergent views about the role of urbanization in the development
process and the extent to which urban growth should be controlled (Zhou, 1990). Thus the policies of transferring 'consumer cities' into 'producer cities' during the pre-1978 period, and the policy of "to strictly limit the size of large cities, rationally develop medium-sized cities and encourage the development of small cities and towns," during the post-1978 period form the two major attitudes towards national urban development policy since 1949.

4.2.1. Pre-1978 Policy (Stages I and II)

It is important to notice that Chinese cities are socialist cities and, as discussed in Chapter 2, the Marxist-Leninist-Maoist ideological backdrop is crucial in understanding how these cities have developed since 1949, particularly in the period up to 1978. A thoughtful analysis of the linkage between socialism and city development may be found in Demko and Regulska (1987: 289-292) and French and Hamilton (1979: 1-21). For example, Demko and Regulska provide a discussion of the anti-urban bias that characterized the Marxist approach to cities and urban development between 1949-1978. This stance is best reflected in 'sent-down' movement, including the transfer of urban youth to the countryside between 1966-1976 (Ma and Hanten, 1981).

In assessing the role and impact of Marxism-Leninism-Maoism on China's urban development prior to 1978, two salient points stand out. First, there exists an ideological/theoretical commitment to equity and egalitarianism that is inherent in a Marxist/socialist system. Secondly, there is a strong commitment to central planning and policy making that undergirds the system and which provides the operational thrust for implementing policies to create a more egalitarian society (Griffin and Zhao, 1993). Political ideology, therefore, has influenced rural-urban relations and city functions. Accordingly, pre-1978 urban development policies would be difficult to interpret without an explanation of the following three critical concepts: first the concept of 'productive labour' versus 'unproductive labour;' second the concept of 'consumer cities' versus 'producer cities;' and third the notion of 'rural industrialization.' As will be shown in Parts II and III of this thesis, each is fundamental to this study of the post-1978 changes in the Shenyang-Dalian corridor.
(a). Productive Labour And Non-Productive Labour

The classification of labour into primary, secondary, and tertiary industrial sectors has been a common practice in western social sciences. Yet, before 1978 the Chinese government only recognized its labour force as either 'productive labour' or 'non-productive labour.' The former referred to that part of the labour force engaged in primary and secondary industries, such as manufacturing and mining, and the latter to tertiary industry or service sectors (Chang, 1983: 195; Chan, 1994).

First, such a conceptual division has had a profound influence on Chinese workers' occupational divisions, which were characterized by two major masses - workers and peasants. Secondly, such a division has also contributed to a spatial segregation - separation of the rural and urban areas, as discussed above. Finally, of equal importance has been its affect on development of the urban service sector. In the first three decades of the People's Republic, the service sector was viewed as unproductive and so its development was strictly restricted, leading to critical shortages of service personal and facilities in both cities and rural areas (Chang, 1983: 196).

The pre-1978 shift from 'non-productive' to 'productive' labours might be explained by the Chinese leaders' notion of 'city-based' industrialization (manufacturing) (or the Soviet Union model, see Bornstein, 1985: 188-219). Most of this transition took place in the urban centres.

(b). Consumption Cities and Productive Cities

Closely associated with the ideological need to transform China's labour force from non-productive to productive sectors, the function of Chinese cities has been viewed differently by the Chinese governments than those in western society. Thus all traditional Chinese cities, such as Beijing, Shanghai, and Dalian, with a large number of people engaged in administrative work and in service industries during the pre-war period, often in colonial enclaves, were labelled 'consumer
cities. They were seen as being parasitic on society and non-productive (Murphey, 1975, 1980; Ma, 1976, 1977, Kojima, 1987; Lewis, 1971; Chen, 1972; Chiu, 1980; and Cell, 1980). As such they gave serious ideological and political problems to the communist government in 1949 due to their former commercial and service sector status associated with the presence of foreigners. "Producer cities,' on the other hand, were those associated with the newly established inland industrial cities, such as Daqing city in Heilongjiang province, and Panzhihau city in Sichuan province with a dominant economic activity of industry (manufacturing, normally heavy or mining) (Chang, 1983: 194-195). Their function may be contrasted in socialist parlance with the more traditional post-colonial 'consumer cities' which had largely service-based economic activities and were thus seen to be 'bourgeois' in nature (Murphey, 1976; Chang, 1983: 194-195).

Due to this particular attitude, one of the important implication was the perceived need to transform large existing cities, such as Shanghai, Tianjin, Beijing, Shenyang, Dalian, and so on, into 'productive cities,' which were to be dominated by the basic sector (ie. heavy industry) of the economy. Lo's study shows that powerful efforts were made in the 1950s and 1960s to create 'productive' cities in this way (Lo, 1980: 130-155; Lo, 1987: 440-458). Yet in order to use the infrastructure and the labour force of the old 'consumption cities' to the full, these larger traditional cities tended to gain industrial functions without careful consideration as to whether or not they were suitable sites for large-scale modern industrial locations (Chang, 1983: 194). For the purpose of the present research it is important to note that the cities in the Shenyang-Dalian region, such as the administrative city of Shenyang and the port city of Dalian, were transformed into heavy industrial centres in the 1950s as result of this policy (for details see Chapter 6).

Although this ideological need to transform cities to an industrial base was implemented throughout Stages I and II, some differences in application can be seen in the two periods. Especially due to a dramatic shift in government policies, China's urbanization and rural to urban migration patterns were very different between the 1950s and 1960-1978. The period of the 1950s was characterized, as indicated in Figure 2.2 in Chapter 2, by a massive rural-to-urban migration due to
large-scale city-based industrial construction in both the first five-year plan as well as the development plans of the Great Leap Forward. Consequently, the urbanization level rose from 10.6 per cent in 1949 to 19.7 per cent in 1960 (Li 1988: 21-25). However, this pattern dramatically changed during the 1960s and the early part of 1970s. Following Mao's orders, large number of urbanites were sent to the countryside due to the economic failure of the Great Leap Forward as well as increasing population pressure in urban areas and for other ideological reasons. Kirkby calls such strong control over urbanization and industrialization, as well as directing the urban population out of the industrial cities as unique attributes of the Chinese road to urbanization (Kirkby, 1986). The result was that China's overall urbanization level dropped from 19.7 per cent in 1960 to 17.9 per cent in 1978 (Li 1988: 21-25). This was accomplished by sending down millions of urbanites to the countryside during this period (Bernstein, 1977).

(c). Policies Towards Rural Industry

As the empirical part of this thesis (in Part II and III) will discuss changes along the 400 kilometre Shenyang-Dalian corridor, we must also consider some of the important policy shifts in the field of rural-based industries. During the 1950s, particularly during the Great Leap Forward period (1958-1960), government policies towards rural industrial development were characterized by an encouragement given to massive rural industrialization. At the time of the formation of rural communes in 1958, most of the labour force in rural industries was engaged in building and operating small-scale industries, including the famous 'Backyard Furnaces.' The number of female labour force

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16 The reasons for the 'sent down were (1) to reduce the rural-urban differences - the 'three great differences' (the difference between urban and country; between workers and peasants; between mental and manual labours); (2) to provide urban youth a re-education opportunity among the poor and lower-middle peasants (Ma, 1977); (3) to avoid the urban problems emerging in the cities of other developing countries, such as serious social, economic and political problems related to congestion and crowding (Calcutta and Djakarta are two of the frequently cited examples). For details, see Ma, 1977; Murphey, 1980: 44; Naughton, 1988: 351-386; and Bernstein, 1977.
participants increased greatly, as did the number of days worked by all in commune production (Schran, 1969: 75).

After the failure of the Great Leap Forward and three years of famine between 1960-1962 (Ashton, 1984: 613-645), the Chinese government tried to revive the rural economy and to correct the negative effects of the previous policies and the commune movements (such as ignorance of the agricultural sector and the unrealistic plan of the Great Leap Forward). Thus during the early part of the 1960s, Chinese leaders turned towards supporting agricultural development. In Liaoning province, the provincial government stipulated in 1962 that "communes and villages are not encouraged to run industries" (Liaoning Economic Affairs, 1993: 160). After 1965, certain rural non-farm activities, such as small-scale repair shops for farming tools and flour milling, were encouraged. For example, in September 1965, the central government issued a document entitled "Resolutions on Developing Rural Non-farm Production," which made recommendations for the promotion of non-farm activities under the management of production brigades.

One of the reasons to encourage the development of small-scale and community-based non-farm activities in rural areas was aimed at raising agricultural productivity. In the late 1960s, fluctuations in grain production was one of the major problems that affected rural areas. Therefore, in August 1970, a special conference was held by the State Council which pointed out that one of the reasons for this problem was low agricultural productivity resulting from a low level of farm mechanization. It was therefore decided by the central government to improve the mode of cultivation, irrigation and drainage through mechanization within ten years (Editorial Group of the Chinese People's University, 1979: 46). The central government announced that the target of agricultural mechanization could be reached by 'walking with two legs,' i.e. by combining indigenous technical knowledge with urban technology. Therefore, the central government suggested that all rural areas of the country should develop the 'five small industries.' These were small-scale mining, iron and steel making, agricultural machinery, cement, and fertilizer operating which were developed mainly to serve local agricultural production (Editorial Group of the Chinese People's University,
1979: 46). These small-scale industries and extension services in rural areas were set up under the banner of 'self-reliance'. The goods and services provided by the small enterprises somehow supplemented or supplanted more traditional local inputs, which had been less effective than anticipated, and they also substituted for the more modern products of large scale urban industries, which could not yet be made available in rural areas. But rural industry was still oriented to serving local farming oriented and the government had no specific plans to organize rural industry. It was not until 1976 that a new government organization - the Department of Enterprise Management - was established at the central level under the Ministry of Agricultural and Forestry to manage new rural enterprises. Later, similar offices were opened at the provincial and county levels. The establishment of this government organization indicated that the government had finally relaxed its ideological differentiation between 'workers' and 'peasants' and recognized the importance of village and township enterprises in rural China (Wickramanayake and Hu, 1993: 21).

In summary, before 1978 the Chinese government emphasized an urban development pattern based on the transformation of urban functions from previous 'consumption-oriented' into 'production-oriented' ones during Stages I and II. The commercial and financial functions of a city were reduced and reorganized so that its role as a centre to transfer new technology and innovations to the hinterland was diminished. Although rural industries were developed, most of them were small-scale, self-reliant, and served agricultural activities. These were only intended to improve productivity in agriculture by making farmers' tools and other supplies (Howard, 1990), and were oriented primarily towards the adoption of indigenous technology for agri-feed and agro-processing such as the 'five small industries' as indicated above (Lo, Salih and Douglass, 1981: 42). Consequently, a dualist economic development strategy (city-based industrialization and farming-dominant rural economy) formed the main feature of China's space economy in this period (Chan, 1994).
4.2.2. Post-1978 Policy (Stage III)

Since the economic reforms of 1978, the growth of rural industry (which requires urban service for markets and technological assistance), increases in agricultural productivity (and extra agricultural products need urban markets), and released rural surplus labour force (which needs urban employment markets) challenged the closed urban door. Chinese scholars have argued that the urbanization is "a necessary consequence of the economic development of society, whatever the country, whatever the societal system, admitting absolutely no exception" (cited in Kirkby, 1985: 221). Also, the Chinese government has gradually changed certain policies of its own related to rural-urban interaction. The 1980 National Conference on Urban Planning Work continued to reiterate the earlier urban settlement policy of controlling the growth of large cities and developing smaller urban places. Yet by this time, the focus had already shifted to finding out how to go about developing the urban sector, rather than whether or not China should have more urban development (Zhao, 1988).

Practically, many real changes took place after 1978, giving cities, especially those in the more developed coastal regions, a greater role in China's spatial economy (Yeung and Hu, 1992). Among them, the following four factors are very important. First, urban centres are now viewed not merely as centres of manufacturing and administration, but more as multi-functional centres containing commercial activities, technological innovation, financial services, and centres of education. As one official commentary has put it, large cities possessed "high technology ... a strong material base, and modern management expertise," all of which were essential but scarce resources for China's modernization (Renmin ribao, 1981, March 3). Second, as discussed in Chapter 3, restrictions were relaxed in the early 1980s to allow higher levels of population mobility (e.g. the relaxation of the household registration system). The third factor was that the government changed its policy to encourage more outward-oriented economies in rural China. Fourth, permission was given to develop so-called 'free markets' (i.e. most of prices were determined by market demands), both in rural and urban areas (Leeming, 1993). Since these reforms, the formal distinction between the agricultural population and the urban resident population became, in practice, less important.
Rural Industrial Development Policy:

In contrast to the pre-1978's rural industrialization, the post-1978 goals of rural industrial development were designated to absorb surplus rural labour, raise farmers' incomes, and so prevent migration to the cities. Consequently, rural industrial policies have become more oriented toward assisting the production of consumer goods for the towns, and supplying components to urban industry (Howard, 1990). Its growth has therefore been a feature mainly of urban peripheries.

Since the economic reforms of 1978, the environment for the further development of the non-agricultural economy in rural areas has been strengthened, and rural industries have received a new impetus because they absorbed large number workers who left farming in the 1980s. The previous policy for developing rural industries, which encouraged localities to become self-sufficient by producing goods for all their needs instead of specializing in what they did best, has been replaced since 1978 by a policy of rural industrialization that took into account local resources, transportation, costs, and markets for the finished products (Ogden, 1992). The new village and township enterprises have not limited themselves to the 'five-small' industries, and many individual and private enterprises have been developed by village collectives and individuals in areas such as manufacturing, transportation, catering, food services, and so on, where the market is aimed at urban areas and even the export market.

During the 1979-1983 period, central government policies towards rural industries were illustrated by Document No 1 issued by the central government on January 1, 1984 (Research Department of Secretariat, Central Committee of Communist Party of China, 1987). This document recognized that the existing township- and village-run enterprises were pillars of the rural economy, often closely linked to large factories in cities through subcontracting (see Part Four). As the commune system disintegrated and eventually dissolved in 1984, towns and townships as well as
villages and households - individually or in new 'economic associations' - also became freer to undertake all kinds of non-agricultural activities of their own choosing. In particular, outward-directed industrial production for a larger market with deregulated inputs emerged as a profitable alternative to farming, and one which attracted a growing share of the rural labour force and contributed a growing share of the rural product.

In March 1984, the central government agreed to the suggestion from the Ministry of Agriculture, Animal Husbandry, and Forestry to change the name of 'Commune and Brigade Enterprises' to 'Township Enterprises' to reflect a departure of these enterprises from the direct control of local government (previously the commune or village) to a more autonomous form in terms of decision making (Research Department of Secretariat, Central Committee of Communist Party of China, 1987: 195). The new term also indicated the new legal status of enterprise ownerships, such as township, village, multi-families (several family owned), and individuals (private). Moreover, other government departments, such as transportation, taxation, and banking, which were closely related to the development of rural industries, refurbished their policies and programs to support rural industries. Following these changes, Chinese rural industries since 1984 have experienced among the most rapid growth in the world (Leeming, 1993; Byrd and Lin, 1990).

One of the major impacts of these changes has been a tremendous transformation of the occupation structure of rural areas, particularly in the open coastal zones. They have shifted from being predominantly agricultural to being more non-agricultural. Meanwhile, peasants are allowed to settle in towns or cities full-time to engage in industry, business, and service trade (Lee, 1992: 89-118).

In summary, during the post-1978 period, urban areas are not viewed merely as locations for

\[\text{Economic Association refers to a business operated in a cooperative manner by several families.}\]
manufacturing, but rather as multi-function centres, providing services, markets, and technology for the surrounding rural areas. Meanwhile, policies have also encouraged the development of non-agricultural activities in rural areas. Increasingly, a contradiction has grown between the existing urban development policy (favouring smaller towns and cities) and other reform policies - such as the re-emphasis of development on the coastal cities of Open Cities, Special Economic Zones, and Economic Open Zones, as well as all capital cities of the provinces enjoying the same privileges as the Open Coastal Cities. Clearly, the focus on economic growth challenges the 'small cities and towns' urban development policy and its feasibility.

4.3. The Search For Optimum Urban Development Policies - Debates Over City Growth

Perhaps not surprisingly, small city and town urban development policy (Buck, 1981: 114-146) has been increasingly questioned and challenged by academics and planners. The policy is premised on the belief that the close linkage of industry and agriculture in smaller cities and towns will allow fuller use of local natural resources, raw materials, and manpower. For instance, China's basic urbanization policy calls for vigorous efforts to build up small cities and towns in rural areas (Tan, 1986: 138-148). Thus, small towns are expected to absorb the surplus rural labour force resulting from the combined effects of population growth and the introduction of the responsibility system in agriculture (Goldstein and Goldstein, 1990).

Such an urban development policy led to formal abandonment of the previous rural commune system (Ash, 1988: 529-555; Johnson, 1986: 12-13; 1982: 430-451) and between 1978 and 1992 the re-designation of existing settlements as small towns. The highest ranked level of towns are now the county-capital towns, which are the administrative, economic, and service centres for their counties. At the second level are other towns classified as urban, which have administrative jurisdiction not only for themselves but serve also as centres for their surrounding districts. At the

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lowest level are the rural towns - including various market centres, and villages. Each of these types of places is seen as serving as an important link to the next level and, finally, to China's larger cities, thereby creating a network of integrated urban and rural areas (Goldstein and Goldstein, 1990).

However, the Chinese government's urban policies aimed at limiting the growth of large cities have not been successfully implemented, especially since the mid-1980s, due to the large number of rural migrants finding their way into large cities (Wang, 1994). While the government wishes to restrict the growth of large cities, its basic urban policy stance also calls for various measures to improve the infrastructure of these cities for commodity circulation, including better provision of storage facilities, warehouses, transportation, and communication in large urban areas. Further, the government has recognized that large and medium-sized cities play a key role in rural development by providing convenient locations of free markets for peasants, by offering sites for wholesale markets for farmer produce and sideline products, and by offering sites where trade centres might be created. This reorientation of the government's large city policy, together with changes of the *hukou* system, resulted in the 'freeing up' of travel restrictions between rural and urban areas. This combined with the relatively higher growth rates in China's urban economies during the 1980s, led to a large number of rural migrants travelling to and working in urban areas, either permanently or temporarily. For example, in 1989, the 'floating population'\(^\text{19}\) in Shanghai reached 2 million (17 per cent of the city's total population), in Beijing 1.4 million (20 per cent), and Guangzhou 1 million (33 per cent) (Wang, 1994). This indicates a failure of the Household Registration System to control migration. Meanwhile, a large numbers of the rural labour force engaged in rural non-agricultural activities while their official registration status formally remained agricultural. This also indicates the inadequacy of the Household Registration System to truly reflect changes in the labour force's employment status after 1978.

\(^{19}\)The floating population refer to those peasants who stay in a city without official urban registration status.
The debate over the 'correct path' to urban development overwhelmed the 1980s' urban geography scholarly circles in China. The focus was which category of city size (small, medium or large) should be the optimum size, and which category should be given priority for further development. The Chinese policy makers and urban scholars challenged existing approaches to national urban development policy in recent years (Ma, 1988: 67-82). There now exists in China different viewpoints over the best or correct policy for city growth under conditions of structural shifts in the economy, and a large and growing redundant rural labour force.

4.3.1. The 'Small City And Town' Approach

The 'small city and town' (cities and designated towns with population less than 200,000; for details, see State Council, 1984) school has so far been the dominant voice in China's academic field, and one which has also been favoured by the government. The leading scholars of this school, such as Fei (1986), have long promoted the development of small cities, towns, and townships and villages. Fei believes that from a practical perspective, small towns can be developed much less expensively and can serve as ideal points of local urban development in an economy undergoing fundamental structural shift from a rural farming to an industrial system (Fei, 1986: 169-170).

The proponents of the 'small city and town' argue that China's rural labour surplus could be absorbed neither by medium nor by large cities. The reason behind this viewpoint are two fold. First, it is estimated that in the decade between 1985 and 1995, the countryside could shed between 200 and 250 million rural surplus workers (Leeming, 1993: 153; Lei, 1990: 30-32; Taylor and Banister, 1991). This immense number represents about half of the rural workforce. Therefore, large cities - such as Shanghai, Beijing, Shenyang, Guangzhou, and Dalian - are in danger of being overwhelmed by unemployed and underemployed residents, and due to existing infrastructure inadequacies there would be no room for further expansion.

Second, the cost of expanding existing large cities is too much. According to an estimate by
Hou and Zhang, each additional urban employed labour requires about 10,000 yuan (about US$1,200) fixed asset investment and approximately 5,000 yuan (about $600) for social welfare. If the circulating capital is included, each urban labourer requires about 20,000 yuan (about US$2,400) government investment (Hou and Zhang, 1989: 17). Other estimates show a similar result (Xu and others estimated that each urban labourer requires approximately 12,000 yuan (US$1,440) (Xu, 1987: 35)). Considering about 20 million new labourers were released from the rural sector each year during the decade of 1985-95 (Leeming, 1993: 153; Lei, 1990: 30-32), China would require about 240 billion yuan (US$28 billion) to 400 billion yuan (US$48 billion) each year to relocate all its rural surplus labour in existing urban centres. This is far beyond the government's financial capacity. Fortunately, the rural township and village enterprises have already been absorbing rural surplus labour for about 15 years. Township enterprises employed roughly 10 million of China's rural surplus labour each year (Hou and Zhang, 1989: 18). This has in some degree released the pressure on existing large urban areas.

A third argument is that the small city and town policy would reduce the pressure of development on large cities, avoiding the growth of large cities and their associated urban problems. As experienced in many other developing countries (Girardet, 1991; Drakakis-Smith, 1981).

4.3.2. The 'Large City' Approach

In contrast to these views, some Chinese scholars challenge the existing government policy and argue that "to develop large cities (with population over 500,000, for details see State Council, 1984) is the major trend of world urban development policy .... large cities are acting as the super treasury .... [and] large cities are the 'locomotive' that brings about rapid development" (Zong, 1988: 13-21). These arguments are based on the evidence that the economic agglomeration of scale economies and economic efficiencies can best be captured in very large cities, which in general perform at much higher levels of productivity than the medium and small ones. Those who favour the further growth of large cities argue that China's large cities are not over-developed and, in fact
they have been largely neglected since 1949. Therefore, they urge the government that additional infrastructure and investments in existing large cities would improve their efficiency and yield better results. They further point out that China's transport and communication networks are still inefficient and fragmented except in the very large cities. Consequently, so it is argued, economic investments in large cities would take advantage of these efficiencies and increase overall national productivity. A further criticism of the small city and town approach is that it wastes both farmland and energy resources. Thus it has been found that the township and village enterprises consume more energy and produce more pollution than state industries in large cities, as well as perform at a lower economic input/output ratio (Zong, 1988).

Several Chinese scholars have contributed to this debate. Thus Zong (1988) used 12 economic indices and calculated their values according to conditions in 324 cities. He divided the cities into five categories as follows: extra-large cities with a population of 2 million and above; large cities with a population from 1 to 2 million; large-medium-sized cities with a population of 500,000 to 1 million; medium-sized cities with a population of 200,000 to 500,000; and small cities with a population of less than 200,000. The results showed that for the ten indices measuring outputs and profits, the larger cities consistently performed better than medium and small cities. Zong therefore concluded that "the larger the cities, the more the industrial output value or the total volume of profits and tax payments were transferred to the state" (Zong, 1988, 17). To support his argument, he listed his evidence from the research as following: First, in terms of economic benefits, those derived from extra large cities were more than double those from small cities; second, in terms of profits and tax payments, for every 100 yuan input the yield from extra large cities was twice as high as from small cities; third, in terms of profits and tax payments to the state derived from every square kilometre of land, the value for extra large cities was seven times higher than that for small cities. Finally, in terms of per worker public investment, the results of the analysis showed that it cost 1,827 yuan per worker in small cities yet only 1,721 yuan in extra large cities.

An interesting implication of Zong's analysis is the relative appeal to the government of
encouraging the growth of medium and large-medium-sized cities (ie. those with population between 200,000 and one million). According to Zong, these "large-medium-sized cities have important economic functions ... [and that] they would be developed further with the help of their known facilities." The rational development of these cities requires their closer linkage with small cities and towns on their peripheries, regional planning schemes that define their relationship with large and extra large cities, and linkages with their rural hinterlands. The appeal of developing medium-sized cities lies in their relatively small requirements of per capita investment and per worker investment, when compared to extra large cities and the almost equal requirement by small cities.

Another scholar, Fan, proposed several criteria for trying to determine the optimum city size for China's urban development policy (Fan, 1988: 24-32). Among them were optimum economic returns to investment; optimum social returns; and the degree of comfort enjoyed by the people in the city. He conceived of the relationship between investments and economic returns on the one hand and urban scale on the other as a 'U-shaped' curve, arguing that when the urban scale was too small, it would not create many economies of scale; with the expansion of the city, the economies of scale would grow. However, Fan concluded that when a city expands to a certain scale, then 'spill-over effects' would occur consisting of economic, environmental and social problems such as traffic congestion, shortages of housing, a drop in the quality of service, the rise of production costs and environmental pollution. Fan analyzed data from 324 cities in 1985 and calculated such values as the average net output value per worker at current prices, the profit tax of original value for every 100 yuan in fixed assets, profit tax from every 100 yuan of government investment, and all-personnel labour productivity measured in yuan per person. The results of Fan's calculations showed a direct and positive relationship between city size and the output values (Fan, 1988).

In another study, Laquian suggested that the problem with Fan's analysis was that he did not provide figures on the cost of providing urban services. Using only 'output' figures, the direct relationship between the city size and amounts of output naturally tended to be positive all the time. Yet the costs of pollution, over-crowding housing, congested traffic and other negative aspects of
large city size were omitted and should have been included in such an analysis (Laquian, 1989: 11).

Zhou of Beijing University has been one of the most outspoken supporters of the large-city/metropolitan growth strategy. According to his approach, an emphasis should be placed on large coastal cities which would be allowed to grow rapidly. His argument is based on the relationship between increased investment in large cities and the resulting greater efficiency and productivity which are believed to result. Implicit in this strategy is the increased mobility of population from rural hinterland areas and from other parts of China to these coastal cities in response to greater perceived opportunity for higher paying jobs in coastal cities (Yeung and Hu 1992).

In yet another study, Guo and Wang challenged the existing government policy and provided detailed quantitative analysis comparing the economic performance of large cities with medium and small-sized ones. Their analysis showed generally that the larger the city size, the relatively higher levels of economic performance (Guo and Wang, 1988: 10-17).

Besides the difference between the coastal and inland cities, Lou and Pannell found that generally the relationship between higher industrial efficiency and larger city size was significant and positive (Luo and Pannell, 1991: 48).

4.3.3. The Medium-Sized City Approach

If extra large cities are beset with pollution, over-crowding and other problems, and if small cities and towns do not give fair returns to investments, then, some Chinese scholars have proposed that medium-sized cities (with population of 200,000-500,000, details, see State Council, 1984) would probably be an 'optimum' city size for urban development policy.

Thus, Liu proposed that medium-sized cities should be the government's focus of urban development. He argued that a large city has better performance of agglomeration but with limited
capacities for further development. According to Liu, small cities had the least economic efficiency and had only a limited performance in terms of agglomeration economies. By contrast, medium-sized cities have satisfied agglomeration efficiency but needed support for further development of their capacity (Liu, 1992: 142-145).

Other scholars within this school have also argued that a medium-size urban policy has better comprehensive efficiencies. If large cities allow better economic efficiencies and small cities and towns are close to the rural areas acting as efficient rural market centres, medium-sized cities would epitomize both these advantages. That is to say that medium-sized cities have, on the one hand, better social, environmental, and traffic congestion conditions than large cities, and, on the other hand, their agglomeration effects are better than that of small cities and towns. Therefore, medium-sized cities have certain comprehensive advantages over both large cities and small cities and towns.

What we can see from this summary is that all these debates over an optimum urban development policy have been city size-oriented. Moreover, it can be argued that all these approaches, either small city, medium city or large city policies, are based on an underlying assumption that further economic development will take place in cities, i.e. according to some western notions of the urban transition. As matter as fact, some scholars, such as Zhou (1989), question - not surprisingly - whether or not an optimum-size urban development model exists for the whole China. Considering the poor level of available basic urban social infrastructure, a city-centred urban development approach is, by itself, rather questionable. In fact, a survey conducted by the Chinese government in 1985 shows that the rural surplus labour force reached as much as 30 to 50 per cent of total rural labour force (Liu, 1990: 21). Other research indicates that between 1978-1990, China doubled its rural surplus labour force from 85 million in 1978 to 164 million in 1990 (Liu, 1992: 53). Consequently, if all the rural surplus population should move to the existing urban centres (whether large, medium, or small), this would involve an estimated 270 million extra urban population. Such a large potential urban population would form a huge burden for existing urban centres. For example, this is far beyond China's current or foreseeable financial ability. If per capita
Rural-to-Urban Transition in China - Changing Policies

Living space in China's urban area is assumed to be at the same level as it is now (about 7 square metres per capita (SSB, 1992), the additional 270 million new urban residents would require almost 1.89 billion square metres of housing space, which would cost 1,894 billion yuan, assuming 1,000 yuan construction cost per square metre (Liu, 1992: 54). This would be equivalent to the total annual capital construction investment of 1992. The minimum requirement of basic infrastructure, such as schools, hospitals, and so on, for this potential urban population would be equivalent to China's total existing fixed assets in all existing cities. That is to say, if China accepted the policy of a city-based urban transition to transfer all its rural surplus population into urban centres, China would need to double every city size and capacity (Liu, 1992: 54). It should also be noted that China's existing urban infrastructure (either in large, medium, or small cities) has been overloaded for a long time as evidenced by the numerous studies of China's inadequate urban infrastructure (Chang, 1983: 196-201). Therefore, the traditional city-based urban transition model would worsen an already over-loaded urban infrastructure.

The situation in the near future is therefore not particularly optimistic, especially as one report estimated there are likely to be around 440 million people - the total population of America and Russia combined - moving into Chinese cities by 2040 (Economist, 1994: 34-35). Therefore, both in the present situation and in the future it may be impossible for urban-centred urbanization to become the major urban transition model. The reasons for this lies in the sheer size of China's rural surplus labour and the insufficient capacity of urban infrastructure and government finance in the short term. Therefore a city-centred urban transition policy by itself would be virtually impossible to solve China's potential urban population, and so eventually China has to search for alternative solutions. The EMR paradigm proposed by McGee and others may provide a reasonable option. The next part of the thesis will show the applicability of the EMR model to the Shenyang-Dalian region. Considering the Shenyang-Dalian corridor's development (full details are set out in the following chapters), the extended metropolitan region concept (including the two city cores of Shenyang and Dalian, and the surrounding rural areas along the major transportation lines) may be an ideal size of area to manage a new form of urban transition.
Rural-to-Urban Transition in China - Changing Policies

4.4. Summary

The previous material has proposed and explained a 'three-stage' approach to rural-urban transition in China (Figure 2.2). Focussing on this approach, this part of thesis has also discussed Chinese government policy changes towards rural-urban relations, and clarified Chinese concepts of 'urban' and 'rural' embodied in the hukou system, as well as urban population and urban places, in order to understand the Chinese experience since 1949 in terms of the urbanization process. This chapter has shown that the period from 1978 represented a dramatic shift in urban development policies. The Chinese government has changed its policies towards rural-urban relation during the post-reform period. During the Maoist period (1949-1978), a 'self-reliance' policy (or the doctrine of 'walking on two legs') in production positively encouraged the establishment of rural non-agricultural (as well as urban agricultural) activities. But it also advocated the mobilization and use of resources to this end, which tended to limit opportunities for wide-scale economic development in rural areas (Schran, 1993: 137). In addition, the policy's emphasis on heavy industry production in cities ('material production'), as well as on austerity in consumption and the need to establish 'productive cities,' had extremely negative effects on the provision of many services in urban areas and their surrounding regions.

In open societies with market economies, people change locations as well as their jobs and skills freely to maximize their own personal advantage. The growth of the secondary (manufacturing) sector relative to the primary (agriculture), and the concomitant modernization of the tertiary (services) sector are therefore associated with a comprehensive process of urbanization, which has proceeded at a similar pace. In China, strict migration policy and city-based industrialization created a model of industrialization without an accompanying growth of an urban population and any segregated city-countryside relations, particularly in the period of 1960-1978 (Stage II).

The reform program introduced in 1978 relaxed previous regulations over population mobility and so encouraged the development of a rural non-agricultural economy and an urban service sector.
Rural-to-Urban Transition in China - Changing Policies

These changes led to a conflict between existing urban development policy (maintaining 'small cities and towns) and increasing rural-urban interaction. Most recently, in the post-1978 period (Stage III), a new form of settlement - Extended Metropolitan Regions (EMRs) have emerged in China. Existing research on this issue indicates a rapid change of rural-urban relations. However, Chinese policies are still focused on the description of the magnitude of the rural urbanization phenomenon, rather than examining changes in the rural population and the processes of how rural peasants are transferring to an urban lifestyle. Moreover, very little has been said about the theoretical implications of the emergence of such a phenomenon and what the policy issues might be. The emergence of mega-urban regions in China also raises a critical question. Are they a new form of settlement transition, and if so, what are the validity of EMRs as distinct urban form and how do they represent the on-going urban transition in Asia, as McGee and others proposed? The thesis now turns to the empirical research conducted on the Shenyang-Dalian development corridor in Liaoning province. The following parts of this thesis provide detail and insight through an empirical study of the Shenyang-Dalian area, its history and contemporary development process and its spatial form.
PART TWO
CHARACTERISTICS OF THE SHENYANG-DALIAN REGION

The second theme of this thesis concerns the emergence of an Extended Metropolitan Region in the Shenyang-Dalian corridor. This part of thesis gives a broad analysis of the region's spatial patterns and post-1978 changes at a macro level (i.e. using county level data). Chapter 5 deals with the developmental history of the Shenyang-Dalian corridor in order to understand why the EMR process has emerged in this particular region during the 1980s and the particular characteristics of rural-urban integration. Chapter 6 deals with the spatial patterns of the Shenyang-Dalian EMR during the post-1978 period.

CHAPTER 5
THE REGIONAL CONTEXT

5.1. Introduction

Liaoning province stands in the southern part of Northeast China. Its surrounding provinces are Jilin in the north, the Inner Mongolia Autonomous Region in the west, and Hebei province in the southwest. The province has geopolitical significance in China, as to the north lies the Russian Far East, and to the east it borders the Korean peninsula. Across the sea to the southeast is Japan (see Figure 1.2 and Figure 5.1). Northeast China is largely landlocked except for a passageway through Liaoning and its major port on the Yellow Sea, Dalian. Liaoning's territory is about 145,700 square kilometres, accounting for 1.5 per cent of China's land mass. The total population of the province was 38.68 million in 1992. The Shenyang-Dalian corridor is located at the southern part of the
Figure 5.1
Location of the Shenyang-Dalian Corridor

Urban Population
- Over 2 Million
- 1 - 2 Million
- 0.5 - 1 Million
- < 0.5 Million

Jilin Province
Inner Mongolia Autonomous Region
Shenyang
Fuxin
Beipiao
Chaoyang
Lingyuan
Jinzhou
Panjin
Liaoyang
Huliao
Haihe
Tieling
Dandong
Dalian
Yellow Sea
Bohai Sea
Jurisdictional Area of Central City
Shenyang-Dalian Corridor

0 50 100km
province, with the Bohai sea to the west and the Yellow sea to the east. The corridor is roughly 375 kilometres long and 100 kilometres wide (Figure 5.1) (the Shenyang-Dalian EMR will be defined and discussed in Chapter 6, see Figure 6.7) and contains the main activities of the province's economy, foreign investment, population, large urban centres, and industry.

The purpose of this chapter is to provide a background of the research region through discussing its natural resource endowments as well as a review of its development history. This is necessary to provide a temporal and regional context for the study of the Shenyang-Dalian EMR.

5.2. Liaoning As China's Industrial Heartland

The Liaoning province has been considered one of China's most important industrial bases since the 1930s. Its economic profile and natural resource endowments sharply differ from other mega urban regions in China. For example, with limited natural resources, mega-urban regions such as Shanghai-Nanjing-Hangzhou, Guangzhou-Shenzhen, and Beijing-Tianjin, act as reprocessing centres where most of their industries crucially depend on the other provinces to supply raw materials. By contrast, Liaoning is only the industrialized region in coastal China with rich natural resources (Wang, 1994: 45-61).

5.2.1. The Natural Resource Endowment

Liaoning province is located in a rich geological area - the Pacific-Rim mineralization belt, which offers both a numerous assortment and abundant reserves of minerals (Li, 1988: 21-23; Zhao, 1994: 44-45). By 1992, more than 110 different kinds of minerals had been found in this region (Lu and Zhou, 1992). Table 5.1 shows that the reserves of many of resources found in this province, such as iron ore, magnesite, talc, borax, diamond, jade, solvent limestone, andalusite, and molybdenum, ranked first in China. Magnesite, talc, and boron accounted for about a quarter or more of total world deposits (Lu and Zhou, 1992: 178; LSB, 1993: 37; Zhao, 1992: 46).
Table 5.1
Major mineral deposits in Liaoning province, 1992

<table>
<thead>
<tr>
<th>types of resources</th>
<th>deposit</th>
<th>% of China</th>
<th>rank in China</th>
<th>types of resources</th>
<th>deposit</th>
<th>% of China</th>
<th>rank in China</th>
</tr>
</thead>
<tbody>
<tr>
<td>coal (million ton)</td>
<td>7,030</td>
<td>n.a.</td>
<td>n.a.</td>
<td>manganese (1,000 ton)</td>
<td>41,506</td>
<td>10.0</td>
<td>3</td>
</tr>
<tr>
<td>natural gas (billion m³)</td>
<td>38</td>
<td>25.7</td>
<td>n.a.</td>
<td>refractory clay (1,000 ton)</td>
<td>94,176</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>petroleum (million ton)</td>
<td>770</td>
<td>30.5</td>
<td>n.a.</td>
<td>solvent limestone (million ton)</td>
<td>1,680</td>
<td>16.6</td>
<td>1</td>
</tr>
<tr>
<td>iron ore (million ton)</td>
<td>112,900</td>
<td>22.8</td>
<td>1</td>
<td>bentonite (1,000 ton)</td>
<td>84,663*</td>
<td>19.0</td>
<td>5</td>
</tr>
<tr>
<td>magnesite (million ton)</td>
<td>2,350</td>
<td>84.8</td>
<td>1</td>
<td>oil shale (1,000 ton)</td>
<td>369</td>
<td>11.6</td>
<td>3</td>
</tr>
<tr>
<td>talc (1,000 ton)</td>
<td>43,386</td>
<td>47.0</td>
<td>1</td>
<td>silica (1,000 ton)</td>
<td>98,542</td>
<td>10.6</td>
<td>2</td>
</tr>
<tr>
<td>borax (1,000 ton)</td>
<td>24,935</td>
<td>58.0</td>
<td>1</td>
<td>copper (1,000 ton)</td>
<td>255</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>diamond (1,000 carat)</td>
<td>11,935</td>
<td>54.5</td>
<td>1</td>
<td>lead (1,000 ton)</td>
<td>348</td>
<td>17.4</td>
<td>n.a.</td>
</tr>
<tr>
<td>jade (1,000 ton)</td>
<td>300</td>
<td>62.8</td>
<td>1</td>
<td>zinc (1,000 ton)</td>
<td>718</td>
<td>14.4</td>
<td>n.a.</td>
</tr>
<tr>
<td>andalusite (1,000 ton)</td>
<td>6,314</td>
<td>54.0</td>
<td>1</td>
<td>molybdenum (1,000 ton)</td>
<td>438</td>
<td>96.3</td>
<td>1</td>
</tr>
</tbody>
</table>

Note: * Data in 1984; n.a. = not available.

The Regional Context

Moreover, energy resources such as oil and coal, are also plentiful in this region (Table 5.1). For example, the Liaohe Oilfield in the southern part of the province is China's third largest, consisting of 15 per cent of national oil reserves and 10 per cent of natural gas reverses (Li, 1988). These abundant energy resources have been critical in supporting the province's other major characteristic, heavy industrial development (e.g. iron, steel, petroleum chemicals and machine tools).

In addition, aquatic resources are also quite plentiful in this region. The nearby Yellow sea and Bohai sea provide Liaoning with abundant supplies of various kinds of aquatic products, e.g. prawns, abalone, sea slugs, sea urchins and shellfish. Also, many agricultural products in Liaoning province are of national significance such as maize, rice, beans and wheat in north Liaoning; and agribusiness in southern Liaoning, such as tussah (75 per cent of China's total), and apples (65 per cent of China's total) (Chen, 1985: 14-16; Liaoning Foreign Affairs Office, 1992: 14) (see Figure 5.2).

5.2.2. Concentration Of Heavy Industry

Together, these abundant natural resources have offered Liaoning a material base for the development of heavy industry (manufacturing and resource-based mining industry) and high-value agriculture based on local specialty products. But of greatest significance is that today the Shenyang-Dalian corridor contains China's largest heavy industrial centre (Hao, Yu and Li, 1985). This manufacturing belt is located in the central part of the province, lying within a 60 kilometre diameter of Shenyang city. It includes a variety of heavy industrial cities with over 3 million population, such as Shenyang (the capital city of the province) and a number of heavy industrial cities over 2 million population (such as the coal mining city of Fushun, and the coal and iron mining city of Benxi). The region also contains the iron-steel and petro-chemical industrial city of Liaoyang which has over a half million people (Figure 5.1). Chinese scholars refer to the Shenyang-Dalian region as China's

---

20Here, urban population includes non-agricultural population in urban districts (see the type 2 definition of China's urban population discussed in Chapter 3).
Figure 5.2
Major Agricultural Production Districts
in the Shenyang-Dalian Region

'Ruhr industrial zone' because heavy industry in this region has long been the backbone of Liaoning, and Liaoning comprises about 10 per cent of the nation's share of this sector (Zhao, 1992: 200; 187-188).

As will be shown shortly, Liaoning's 'smoke stack' image was formed in the pre-WWII period. But since the establishment of the PRC in 1949, the Chinese government has concentrated its investment in this region on the heavy industrial sectors, which comprised 88.2 per cent of total provincial industrial investment during the 1949-1991 period (LSB, 1992: 185). This has led to the share of heavy industrial output value in total industrial output to account for more than 72 per cent in this region by 1991, compared with 55 per cent in Beijing-Tianjin, 53 per cent in Jiangsu, 50 per cent in Shanghai, and just 36 per cent in Guangdong province (LSB, 1992: 453).

Accordingly, many heavy industrial sectors in this province are extremely significant to China's total heavy industrial output (Table 5.2). For example, the products of Liaoning's iron and steel, petroleum, ferrous metal, and sodium carbonate industries accounted for over 15 per cent of the national total, compared with its 1.5 per cent of the national territory and 3.5 per cent of the national population. Despite the rather low overall percentage share, all these heavy industrial products, as well as non-ferrous metal products produced in this province, ranked first in all China's provinces and municipalities in 1991. Other major heavy industrial production, such as generated electricity, crude salt, and plate glass, ranked second in China. Yet other indicators reveal the industrial nature of this province. Thus large enterprises' output, as well as capital construction investment ranked second in 1991, slightly after the province of Jiangsu, Shanghai, and Guangdong, respectively (Table 5.2).
Table 5.2
Selected industrial production in Liaoning, 1991 (billion yuan)

<table>
<thead>
<tr>
<th>indicator</th>
<th>total</th>
<th>% of China</th>
<th>rank in China</th>
<th>indicator</th>
<th>total</th>
<th>% of China</th>
<th>rank in China</th>
</tr>
</thead>
<tbody>
<tr>
<td>heavy industrial output</td>
<td>112</td>
<td>9.2</td>
<td>2</td>
<td>generated electricity</td>
<td>45</td>
<td>6.6</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(billion kwh)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ferrous metal products</td>
<td>25</td>
<td>16.0</td>
<td>1</td>
<td>natural gas</td>
<td>2</td>
<td>12.8</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(billion m³)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>non-ferrous metal products</td>
<td>6</td>
<td>9.7</td>
<td>1</td>
<td>sodium carbonate</td>
<td>71</td>
<td>18.0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10,000 ton)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>petroleum products</td>
<td>12</td>
<td>17.2</td>
<td>1</td>
<td>crude salt</td>
<td>240</td>
<td>10.0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>(10,000 ton)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>steel (million ton)</td>
<td>10</td>
<td>17.4</td>
<td>1</td>
<td>capital construction</td>
<td>13</td>
<td>6.2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>investment</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>iron (million ton)</td>
<td>12</td>
<td>18.2</td>
<td>1</td>
<td>plate glass (million</td>
<td>10</td>
<td>11.7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>standard box)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>crude oil (million ton)</td>
<td>14</td>
<td>9.7</td>
<td>3</td>
<td>large enterprises'</td>
<td>79</td>
<td>10.0</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>output</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

5.3. Characteristics Of The Urban System

The Shenyang-Dalian region's cities were all major industrial locations in the pre-WWII period. Rapid industrial development in the post-1949 period further expanded the range of cities and the scale of the urban system in Liaoning province. Although, like the rest of China, rapid increase in urbanization levels during Stages I and III (Figure 2.2) and stagnation of urban growth during Stage II were major features of urban growth, the urban system in Liaoning province is rather distinctive in China as it is dominated by very large cities. Thus, as noted above, Shenyang has an urban population of over 3 million, and is the fourth largest city in China (after Shanghai, Beijing, and Tianjin). Three other large cities (Dalian, Anshan, and Fushun) are all over one million in population, and are also located in the Shenyang-Dalian corridor (see Figure 5.1). Together they account for one-ninth of the nation's population in cities over one-million population. Shenyang, Anshan, and Fushun all grew to their present size due to their proximity to valuable mineral resources, whereas Dalian was developed due to its strategic seaport location. Besides these four, there are also several large cities of 500,000-1,000,000, lying either near or in the reserves of nearby mineral resources (e.g. Benxi, Liaoyang, Yingkou).

Table 5.3 provides further statistical data on the urban system (SSB, 1992: 18-31). The urban population of cities over one million accounted for more than 56 per cent of the total urban population in Liaoning, compared with 41 per cent in China, 37 per cent in Beijing-Tianjin, and 49 per cent in Shanghai-Nanjing-Hangzhou. The urban population of large cities (i.e. those cities over 50,000) accounted for more than 78 per cent of the total urban population in Liaoning, compared with 54 percent in China, 45 per cent in Guangdong, and 65 per cent in Shanghai-Nanjing-Hangzhou (Table 5.3). The number of large cities in this province accounted for about 41 per cent of total urban centres, compared with less than 13 per cent in China as a whole, and only 9 per cent in Guangdong, and 14 per cent in Shanghai-Nanjing-Hangzhou. Describing these patterns, Laquian has called the large city-dominated urban system in Liaoning as China's 'poly-nucleated urban region' (Laquian, 1989: 20). As will be shown shortly, development of these large cities, especially their urban
Table 5.3
The urban system in the Shenyang-Dalian region, other major EMRs and China, 1991

<table>
<thead>
<tr>
<th>City-size (1,000)</th>
<th>Liaoning</th>
<th></th>
<th></th>
<th>Shanghai-Nanjing-Hangzhou</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number of cities</td>
<td>urban population</td>
<td>total</td>
<td>%</td>
<td>total</td>
<td>urban population</td>
</tr>
<tr>
<td>&gt; 2000</td>
<td>1</td>
<td>4.6</td>
<td>365.5</td>
<td>26.6</td>
<td>2</td>
<td>3.6</td>
</tr>
<tr>
<td>1000-1999</td>
<td>3</td>
<td>13.6</td>
<td>416.8</td>
<td>30.3</td>
<td>1</td>
<td>1.8</td>
</tr>
<tr>
<td>500-999</td>
<td>5</td>
<td>22.7</td>
<td>302.2</td>
<td>22.0</td>
<td>5</td>
<td>9.1</td>
</tr>
<tr>
<td>200-499</td>
<td>7</td>
<td>31.8</td>
<td>212.1</td>
<td>15.4</td>
<td>12</td>
<td>21.8</td>
</tr>
<tr>
<td>&lt; 200</td>
<td>6</td>
<td>27.3</td>
<td>79.7</td>
<td>5.8</td>
<td>35</td>
<td>63.6</td>
</tr>
<tr>
<td>Total</td>
<td>22</td>
<td>100.0</td>
<td>1,376.3</td>
<td>100.0</td>
<td>55</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>City-size (1,000)</th>
<th>Guangdong</th>
<th></th>
<th></th>
<th>China</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number of cities</td>
<td>urban population</td>
<td>total</td>
<td>%</td>
<td>total</td>
<td>urban population</td>
</tr>
<tr>
<td>&gt; 2000</td>
<td>1</td>
<td>4.76</td>
<td>295.32</td>
<td>37.55</td>
<td>9</td>
<td>1.9</td>
</tr>
<tr>
<td>1000-1999</td>
<td>0</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td>22</td>
<td>4.6</td>
</tr>
<tr>
<td>500-999</td>
<td>1</td>
<td>4.8</td>
<td>59.6</td>
<td>7.6</td>
<td>30</td>
<td>6.3</td>
</tr>
<tr>
<td>200-499</td>
<td>10</td>
<td>47.6</td>
<td>284.5</td>
<td>36.2</td>
<td>121</td>
<td>25.3</td>
</tr>
<tr>
<td>&lt; 200</td>
<td>9</td>
<td>42.9</td>
<td>146.9</td>
<td>18.7</td>
<td>297</td>
<td>62.0</td>
</tr>
<tr>
<td>Total</td>
<td>21</td>
<td>100.0</td>
<td>786.4</td>
<td>100.0</td>
<td>479</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Note: Urban Population here include non-agricultural population in urban districts.

Source: Adapted from SSB (China Urban Statistical Year Book), 1992: 18-31.
infrastructure was shaped by their colonial experience (mainly from Japan) in the 1930s and the early 1940s, as well as the communist government industrial policies of the 1950s (Li and Shi, 1988: 147-155).

5.4. The Historical Development Of The Shenyang-Dalian Corridor

Having briefly sketched those geographical features of Liaoning, the chapter continues with a review of the historical development of the Shenyang-Dalian corridor. Figure 5.3 shows the chronology of Liaoning's economic development (LSB, 1992). It indicates that over a time span of about 300 years - between 1660 and the present - there were five different stages of development, each based on particular sources of economic growth. These five stages include self-sufficient agricultural economy (pre-1840), colonial investments, especially the construction of transportation facilities and seaports (1840-1930), large scale development of both modern industries and transportation facilities by colonial powers (mainly Japan) (1930-1940s), further enhancement of city-based mining and heavy industry by PRC (1949-1978), and increasing rural-urban interaction during the post-1978 economic reforms.

5.4.1. The Early Stage Of Development (The Period Before 1840)

The first and longest period of development extended roughly from 1660 to the Opium War in 1840. During this period, this region was virtually an 'empty land' on the northern periphery of China with low population levels and small-scale agricultural development (Jiang and Gao, 1990). However, as early as the Liao Dynasty (11th century), some skilled farmers from the north Chinese provinces of Hebei, Shanxi, and Shandong migrated and settled along the banks of Liaohe river in Liaoning province, which marked the beginning of significant agricultural development in this region (Liang, 1990: 254). The settlement policy for Liaoning during the regime of the Qing (Ch'ing) emperor (1616-1911), as with the rest part of Northeast China, was aimed at the preservation of the northern frontier's political and cultural status quo. In fact, Chinese immigration to this region was
Figure 5.3
Selected Historical Events Impact Space Economy
in Liaoning Province, 1660-1992

<table>
<thead>
<tr>
<th>PERIOD</th>
<th>MAJOR EVENTS</th>
<th>MAJOR INFRASTRUCTURE</th>
<th>DOMINANT PATTERN OF ECONOMIC DEVELOPMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Early Stage</td>
<td>Emergence of the cities of Liaoyang &amp; Shenyang</td>
<td></td>
<td>Self-sufficient agricultural economy</td>
</tr>
<tr>
<td>1660</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Some agricultural products exported</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(soybean, tung oil)</td>
</tr>
<tr>
<td>1840</td>
<td>The Opium War with Britain</td>
<td></td>
<td>Rapid expansion of urban population;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>export of industrial raw materials &amp;</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>agricultural products; the emergence of</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>heavy industrial cities of Anshan,</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Benxi, Fushun, and Shenyang; Liaoning</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>becomes China's largest industrial</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>centre</td>
</tr>
<tr>
<td>1900</td>
<td>Japanese constructed major railways and foundation of South Manchurian Railway</td>
<td></td>
<td>City-based industrialization</td>
</tr>
<tr>
<td>1931</td>
<td>Japanese controlled Manchuria, foundation of Manchukkuo</td>
<td></td>
<td>Further enhancement of city-based mining</td>
</tr>
<tr>
<td>1945</td>
<td>Civil war</td>
<td></td>
<td>and heavy industry</td>
</tr>
<tr>
<td>1948</td>
<td>Communists in power</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1953</td>
<td>First and Second Five-Year-Plan</td>
<td></td>
<td>Rapid rural development; diversification</td>
</tr>
<tr>
<td>1966</td>
<td>Third and Fourth Five-Year-Plan</td>
<td></td>
<td>of rural and urban economy; rural</td>
</tr>
<tr>
<td>1978</td>
<td>Rural reform</td>
<td>Coastal Open City program designates Dalian &amp; Lyadong Peninsula as Coastal Economic Open Areas</td>
<td>integrated rural-urban economy</td>
</tr>
<tr>
<td>1984</td>
<td>Relaxation of regulations on population mobility</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Establishment of three special open zones</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Opening of Shenyang-Dalian expressway; Dalian and Shenyang International Airports</td>
<td></td>
</tr>
<tr>
<td>1988</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sources: Based on Liang, 1985 and Liaoning Year Book, 1992
prohibited in pursuit of this objective until 1840 (Sun, 1969: 5), although some Chinese settled in this frontier region through the period of Qing (Ch'ing) rule up to 1860 (Fairbank, Reischauer, and Craig, 1965: 4). Therefore, the pre-1840 period of development mainly involved the opening of the northern frontier, and the settlement of a new region. During this period, economic development was small scale and self-sufficient and there was no regional economic centre - only two small urban centres, Liaoyang and Shenyang, emerged (Liang and others, 1990: 253-254).

5.4.2. The Period of 1840-1930

Following 1840, the entire Northeast China region (comprising Liaoning, Jilin, and Heilongjiang provinces) became a region of very intense geopolitical contest between Japan, Russia, and China as each of the three powers involved tried to strengthen its position in the region. Militarily, China was most important, and Beijing reversed its previous policy by actively encouraging migrants to settle in Northeast China in order to fill the 'vacant land' before it could be occupied by foreigners (Sun, 1969: 19). Yet after the Opium Wars in 1840 between China and Britain, this region was forced to open its borders to foreign investors. The year of 1860 represents a logical starting date for the study of Liaoning's modern economic growth as this was when the Sino-Russian Treaty of Peking (Beijing) was signed, which included the opening of Newzhuang (now the city of Yingkou), the first treaty port in Northeast China (Fairbank, Reischauer, and Craig, 1965: 173), which was this region's foreign trade centre in the 19th century. Later, the opening of three ports - Luda (now Dalian), Antung (now Dandong), and Dadonggou - clearly marks the beginning of a continuous and sustained rise in the volume of regional exports, such as agricultural products (soybean and tussah silk) (Liang and others, 1990: 20-21).

Meanwhile, railway construction was commenced and lines were built by both Russia and the Japanese. In the late 19th century, the Liaodong peninsula was ceded to Japan as a result of the Sino-Japanese war of 1894, but in 1895 European powers led by Russia forced Japan to return this area to China (Pauley, 1946). Further conflict of interests between Russia and Japan in the Far East led
to the Russo-Japanese War in 1904. The treaty of Portsmouth in 1905, ending this war, gave the Russians certain rights in the Liaodong peninsula (mainly over the Shenyang-Dalian corridor), especially that part of the railway running from Changchun south to Port Arthur (i.e. Lusong near Dalian) (ibid: 16). The development of the Shenyang-Dalian region accelerated in the early 20th century after the completion of two major railways in 1903 and 1907, respectively. The Chinese Eastern Railway, built by Russia, cut across Northeast China from west to east and linked the Trans-Siberian Railway with Vladivostok, a total length of 1,780 km. The South Manchuria Railway then linked Chinese Eastern Railway to the seaport of Dalian, a length of about 1,145 km. At the same time the Beijing-Shenyang (Mukden) Railway, which was built by China with English funds, was completed. As Sun's research indicates, these construction activities could not have failed to stimulate the local economy (Sun, 1969: 19-20).

However, during this time, modern industry was still limited and consisted of very small-scale iron ore mining in the Anshan and Liaoyang areas, which was the beginning of exploitation of the region's natural resources. At the turn of the century, the economy in Northeast China comprised of three main traditional industries. The first of these extracted oil from local soybeans. Originally the residue was used in Northeast China as cattle feed, but later it was also exported to be used as agricultural fertilizer. The second traditional industry ground wheat into flour, while the third distilled a famous and very potent liquor from kaoliang (red sorghum) (Sun, 1969: 61). Other industries meeting local needs also developed on a small scale. To quote a foreign traveller who visited Northeast China near the close of the nineteenth century:

"Manufacturing in Manchuria is not advanced... There is but little weaving, and the cotton cloths which are in universal wear are imported from China, but dyeing establishments were numerous. Capital furniture, boxes, and coffins are made, elegantly painted and lacquered, as well as a kind of parquetry, and the carpenters are unrivalled in the manufacture of carts and cartwheels. Tanning and the preparation of the fur reached a very high pitch of excellence, and the leather for shoes is good. There is a little carving of marbles" (James, 1888: 14-15).
This quotation reveals the economic features of Liaoning during second half of the 19th century. At that time, development in this region was triggered on one hand by the simultaneous opening of the seaports to foreign trade and on the other hand by the construction of the two railways. These twin developments took place in parallel with higher levels of population, through in-migration, and the development of agricultural development. The expansion of population and the extension of agriculture under cultivation were reinforced by market growth for agricultural exports in foreign trade. In the absence of output data for this period, it is uncertain whether or not this was a clear case of export-led growth. However, as Fairbank's study shows, export expansion outpaced the rate of increase in the principal inputs (i.e. land under cultivation and labour) (Fairbank, Reischauer, and Craig, 1965: 4).

5.4.3. The Japanese Colonial Period (1930-1945)

The Japanese colonial period (1930-1945) witnessed large scale modern industrial development. During the early part of the 20th century, Japan invested heavily in Northeast China, and the construction of railway infrastructure during the pre-1930 period provided the basic foundation for large-scale modern industrial development, particularly mining and manufacturing industries. The opening of treaty ports combined with the start of railway operations lowered the cost of inland transport on the one hand and facilitated access to foreign markets on the other. These changes dramatically accelerated the pace of development in Liaoning and the rate of export growth (Yue, 1992).

The development of the railway network in particular was crucial to this region's growth in the inter-war period and the development of the Shenyang-Dalian corridor. In 1935, the Soviet government sold their rights in the Chinese Eastern Railway to the Japanese Government. By restrictive legislation and other activities Japan managed to exclude most other foreign interests in Northeast China, leaving it in complete control (Zhang, 1992: 107-119; Pauley, 1946: 17-18). Japan had fought two wars in this area - one against China and the other against Russia - before it could
obtain a foothold in Northeast China and so did not intend to waste the opportunity. Modern industry in the northern part of Northeast China (nowadays Heilongjiang province) was very limited, but industrial development in the southern part of Northeast China (Liaoning province) showed rapid progress. This difference in growth between the north and south of the wider region was partly due to the southern part of Northeast China's proximity to seaports. Insofar as possible, the Japanese administration wanted Northeast China to be kept as an area of rich resources for Japanese manufacturers. During this period, Northeast China's raw materials exports were handled largely by Japanese merchants and shippers, and Northeast China's natural resources were developed for Japan's benefit (Sun, 1969: 63). The South Manchuria Railway (SMR) was chosen as one of the major instruments by which the administrations' policies were to be carried out. The company was formed by a Japanese imperial ordinance of June 7, 1906, "for the purpose of engaging in railway traffic in Manchuria," but subsequently broad powers were conferred on the SMR to engage in subsidiary enterprises, including mining, water transportation, electrical enterprises, sale on commission of the principal goods carried by the railway, warehousing, real estate transactions within the railway zone and, in addition, any business for which government permission had been given (Sun, 1969: 63-64).

Annual coal production in Liaoning rose from about 10 million tons in 1929 to over 25 million tons by 1944. Additional mines, supported by fresh capital, new methods and machinery, were all responsible for this increase. Iron and steel production also made remarkable strides. For instance, the production of pig iron reached a peak of 1.7 million tons in 1943, of which half was used in Northeast China and the balance exported to Japan for processing (Pauley, 1946: 17). During the 1937-45 period, the Japanese considered Northeast China as an integral part of their empire, and to a much larger degree than in other conquered areas, Japan developed Northeast China as one of the most important economic centres in China (Zhang, 1992: 107-119; Pauley, 1946: 18). The basic industries, particularly, mining, transportation, and electric power generation, received prime attention.
The Regional Context

Table 5.4 shows that during the Japanese colonial period of 1931-1945, the value of industrial output in Liaoning grew at an average annual rate of 11.9 per cent, and the industrial output value in 1945 was 4.3 times that in 1931 (Yue, 1992: 9). Major industrial products such as iron, coal, electricity, cement, and sulphuric acid grew at an annual rate of 10-18 per cent (Table 5.4).

The development of mining industries expanded population in the existing urban areas, such as Shenyang, Fushun, and Benxi, and also new urban centres, such as Anshan, emerged. These cities were close to, or on, the sites of mining resources. All large urban centres were dominated by one or two primary heavy industrial sectors. By way of illustration, the city of Benxi grew around the coal mining industry, the city of Anshan, Liaoyang, and Benxi expanded due to iron ore mining, Shenyang developed machinery and non-ferrous metal industries and Dalian developed chemical industries (Wu, 1985: 7). With the development of mining industries and the expansion of the transportation system, more and more people migrated from surrounding rural areas and nearby provinces of Shandong and Hebei to these urban centres. As a result, the cities' population in the Shenyang-Dalian corridor increased dramatically. Table 5.5 shows the rapid growth of selected cities in Liaoning province during the period of 1930-1945. For example, the urban population of Anshan grew at an annual rate of 20.8 per cent, as it expanded from only a small town with a population of several thousand in 1930 to a city with around 250,000 persons in 1945. The city of Benxi grew at an annual growth rate of 17.1 per cent. Along with population, the size of industry also increased. Thus, Anshan's annual steel-making production capacity reached 133 million tons, which at that time was one of Asian largest iron and steel works (Wu, 1985: 165; Song, 1987: 50).
### Table 5.4
Major heavy industrial production in Liaoning, 1932-1944

<table>
<thead>
<tr>
<th></th>
<th>1932</th>
<th>1935</th>
<th>1938</th>
<th>1940</th>
<th>1942</th>
<th>1944</th>
<th>Growth#</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IRON</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total (million ton)</td>
<td>0.4</td>
<td>0.6</td>
<td>0.9</td>
<td>1.1</td>
<td>1.6</td>
<td>1.2</td>
<td>9.5%</td>
</tr>
<tr>
<td>Exported to Japan (1)</td>
<td>0.3</td>
<td>0.4</td>
<td>0.2</td>
<td>0.4</td>
<td>0.7</td>
<td>0.3</td>
<td>8.3%*</td>
</tr>
<tr>
<td>- as % of Japan's total import</td>
<td>49.6</td>
<td>35.1</td>
<td>19.6</td>
<td>50.5</td>
<td>81.4</td>
<td>52.0</td>
<td>--</td>
</tr>
<tr>
<td>(1) as % of Japan's total production</td>
<td>31.9</td>
<td>20.1</td>
<td>8.2</td>
<td>12.3</td>
<td>16.7</td>
<td>10.3</td>
<td>--</td>
</tr>
<tr>
<td>Crude Coal (million ton)</td>
<td>6.6</td>
<td>10.4</td>
<td>12.6</td>
<td>13.9</td>
<td>13.6</td>
<td>13.1</td>
<td>5.9%</td>
</tr>
<tr>
<td>Electricity (10 million kwh)</td>
<td>46.5</td>
<td>92.5</td>
<td>176.1</td>
<td>192.1</td>
<td>274.8</td>
<td>322.4</td>
<td>17.5%</td>
</tr>
<tr>
<td>Cement (10,000 ton)</td>
<td>10.9</td>
<td>36.4</td>
<td>79.9</td>
<td>73.7</td>
<td>116.2</td>
<td>85.5</td>
<td>18.7%</td>
</tr>
<tr>
<td>Sulphuric Acid (1,000 ton)</td>
<td>26.0</td>
<td>115.6</td>
<td>142.5</td>
<td>103.1</td>
<td>125.3</td>
<td>80.6</td>
<td>17.0%*</td>
</tr>
</tbody>
</table>

Notes: #-Average annual growth rate between 1932-1944; *-Average growth rate between 1932-1942.

### Table 5.5
Selected city population in Shenyang-Dalian region, 1930-45 ('000)

<table>
<thead>
<tr>
<th>City Name</th>
<th>1930</th>
<th>1935*</th>
<th>1941</th>
<th>1945</th>
<th>Growth Rate (%) (1930-45)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenyang</td>
<td>612</td>
<td>527</td>
<td>1,130</td>
<td>1,881²</td>
<td>8.3</td>
</tr>
<tr>
<td>Dalian</td>
<td>292</td>
<td>362</td>
<td>720¹</td>
<td>796²</td>
<td>7.4</td>
</tr>
<tr>
<td>Fushun</td>
<td>109</td>
<td>n.a.</td>
<td>210</td>
<td>205²</td>
<td>4.6</td>
</tr>
<tr>
<td>Anshan</td>
<td>17</td>
<td>33</td>
<td>224</td>
<td>287</td>
<td>20.8</td>
</tr>
<tr>
<td>Benxi</td>
<td>20</td>
<td>n.a.</td>
<td>120</td>
<td>186²</td>
<td>17.1</td>
</tr>
<tr>
<td>Liaoyang</td>
<td>74</td>
<td>n.a.</td>
<td>103</td>
<td>119</td>
<td>3.2</td>
</tr>
<tr>
<td>Yingkou</td>
<td>96</td>
<td>n.a.</td>
<td>135</td>
<td>213</td>
<td>5.0</td>
</tr>
</tbody>
</table>

Notes: * Data from Manchuria. Average annual growth rate; 1: data in 1942; 2: data in 1944.

Source: Song, 1987, p. 50.
In addition, agriculture continued to be one of the most important means of livelihood in Northeast China. The Japanese established agricultural experimental stations, to increase crop yields and to introduce new crops, at a time when the Chinese population were exploited and used as a source of cheap farm labour (Teng, 1992: 171-191).

The above data indicates that Japanese colonial power played a most important role in the formation of the present industrial pattern and urban system in Liaoning. It also is true that the colonial experience assisted the establishment of strong infrastructure facilities, particularly railways and urban infrastructure such as a water supply system, roads, and streetcars. This process was accompanied by city-based industrialization, and at this time the cities of Liaoning attracted people from the surrounding countryside, as depicted in the traditional urban transition model.

5.4.4. The Enhancement Of Heavy Industrialization During 1949-1978

After the China-Japan war (1938-1945) and the Chinese civil war (1945-1949), the economy and urban growth in Liaoning province registered sharp gains, especially the case in heavy industry, following the founding of the People's Republic in 1949. Not surprisingly, this was due to the region's history and relatively well-developed urban and industrial facilities established during the colonial period. The government's plans for economic growth and urban development for Liaoning in the 1950s were designed with the assistance of the Soviet Union. Those key cities in mineral-rich locations with convenient transportation facilities (such as Anshan, Benxi, Fushun, Shenyang) were given priority for heavy industrial development by the Liaoning province and the central governments (Lu and others, 1990: 215-218). Table 5.6 shows that during 1952-1980, more than 60 per cent of the province's total capital construction investment was concentrated in the heavy industrial sectors. The only exception was the post-war recovery period of 1949-1951 when about 30 per cent of total capital investment in Liaoning went to heavy industrial sectors while 64 per cent of the total investment were used for the reconstruction of urban facilities and other buildings damaged by the war (see Table 5.6).
Table 5.6
Capital investment in Liaoning, 1949-1980 (billion yuan)

<table>
<thead>
<tr>
<th>Period</th>
<th>Total Investment</th>
<th>Heavy Industry</th>
<th>Light Industry</th>
<th>Agriculture</th>
<th>Others</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
<td>Total</td>
<td>%</td>
<td>Total</td>
</tr>
<tr>
<td>1949-</td>
<td>1.44</td>
<td>100.0</td>
<td>0.44</td>
<td>30.6</td>
<td>0.06</td>
</tr>
<tr>
<td>1951</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1952-</td>
<td>6.50</td>
<td>100.0</td>
<td>4.36</td>
<td>67.1</td>
<td>0.28</td>
</tr>
<tr>
<td>1957</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1958-</td>
<td>8.27</td>
<td>100.0</td>
<td>5.69</td>
<td>68.8</td>
<td>0.54</td>
</tr>
<tr>
<td>1962</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1963-</td>
<td>2.26</td>
<td>100.0</td>
<td>1.40</td>
<td>61.9</td>
<td>0.09</td>
</tr>
<tr>
<td>1965</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1966-</td>
<td>3.35</td>
<td>100.0</td>
<td>2.03</td>
<td>60.6</td>
<td>0.13</td>
</tr>
<tr>
<td>1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1971-</td>
<td>11.04</td>
<td>100.0</td>
<td>6.94</td>
<td>62.9</td>
<td>0.57</td>
</tr>
<tr>
<td>1975</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1976-</td>
<td>14.08</td>
<td>100.0</td>
<td>8.84</td>
<td>62.8</td>
<td>1.30</td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1949-</td>
<td>46.94</td>
<td>100.0</td>
<td>29.71</td>
<td>63.3</td>
<td>2.96</td>
</tr>
<tr>
<td>1980</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

As the central government emphasized new construction projects during Stage I as well as new equipment in this province, both industrial output and the size of major urban areas increased. During Stage II, the government promoted 'industrialization without urbanization,' and a large number of urban people in the major cities in Liaoning were sent down to the countryside. Although there is little data which records the numbers 'sent-down' for each individual city, the urbanization level in Liaoning declined from 39 per cent in 1960 to 30 per cent in 1978 (see Chapter 3). Meanwhile, city-based industrialization in the Shenyang-Dalian region continued and China's 'Ruhr industrial base' was extended during this period. Table 5.7 shows that the average growth rate of heavy industrial output value in Liaoning was as high as 42.2 per cent during the 1950s. Other analysis indicates that total output in 1960 was 48 times that in 1949 (LSB, 1992: 34 and 64-65). Consequently, up to 1978, the cities in Shenyang-Dalian region performed as major heavy industrial centres for the nation (Table 5.8).

However, of significance for this study, rural-urban relations were artificially kept distinct and separated. City-based industrialization was segregated from surrounding rural areas where self-sufficient agricultural development policies were implemented.
Table 5.7
Economic growth rates in Liaoning province (%), 1949-91

<table>
<thead>
<tr>
<th>Period</th>
<th>GDP</th>
<th>Agriculture</th>
<th>Industry (a)+(b)</th>
<th>(a) Heavy Industry</th>
<th>(b) Light Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>1949-1960</td>
<td>18.2*</td>
<td>27.0</td>
<td>8.8</td>
<td>34.0</td>
<td>42.2</td>
</tr>
<tr>
<td>1961-1978</td>
<td>6.7</td>
<td>8.4</td>
<td>5.0</td>
<td>8.8</td>
<td>8.9</td>
</tr>
<tr>
<td>1979-1991</td>
<td>13.1</td>
<td>9.0</td>
<td>5.6</td>
<td>9.4</td>
<td>8.2</td>
</tr>
</tbody>
</table>

Note: * Growth rate between 1952 and 1960.

Sources: LSB, 1992: 34 and 64-65.
### Table 5.8
Major industrial sectors in selected cities of Shenyang-Dalian region

<table>
<thead>
<tr>
<th>City</th>
<th>1991 City size (million)</th>
<th>Major Economic Sectors Formed before 1978</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenyang</td>
<td>4.5</td>
<td>an industrial city with complete array of industries, particularly machine building and processing; an economic centre in Manchuria</td>
</tr>
<tr>
<td>Dalian</td>
<td>2.4</td>
<td>ship industry and chemical industry; seaport</td>
</tr>
<tr>
<td>Anshan</td>
<td>1.4</td>
<td>Anshan Iron and Steel Corporation, the largest iron and steel complex of China</td>
</tr>
<tr>
<td>Fushun</td>
<td>1.3</td>
<td>coal mining</td>
</tr>
<tr>
<td>Benxi</td>
<td>0.9</td>
<td>a city majoring in iron and steel, coal and building materials</td>
</tr>
<tr>
<td>Yingkou</td>
<td>0.6</td>
<td>a good foundation of light and textile industries; seaport</td>
</tr>
<tr>
<td>Liaoyang</td>
<td>0.6</td>
<td>new petro-chemical industry</td>
</tr>
</tbody>
</table>

5.4.5. The Region in Reform (Post-1978)

Since the reform period, the Shenyang-Dalian region became one of the coastal open economic zones in China, which were given priority by the Chinese government in terms of development and economic growth as well as trade and foreign investment (Yeung and Hu, 1992; Ho and Huenemann, 1984; Johnson, 1992: 185-220; LSB, 1992). After 1978, the Shenyang-Dalian corridor received several privileges. First was the establishment of the Liaodong Peninsula Economic Development Zone\textsuperscript{21} in 1984. This economic development zone includes 9 cities and 16 counties and districts and it covers an area of 53 thousand square kilometres (about 36.1 per cent of province's area). In 1991, the population of the zone was about 22.1 million, accounting for some 56.4 per cent of the province's total. In line with the open door policy, the objectives of this economic development zone have been to promote an export-oriented economy and establish a window to the outside world for the whole of Northeast China (Japan-China Northeast Development Association, 1991).

The second privilege that the Shenyang-Dalian corridor received from the government was that metropolitan governments were permitted to upgrade several rural-based settlements into county-level cities along the corridor in order to promote rural-urban linkages and to further develop the middle (mainly rural) part of the corridor between Shenyang and Dalian (Figure 5.4). The impact of establishing new county-level cities along the Shenyang-Dalian corridor was to reinforce the growth corridor's economic status, as the corridor between the two urban poles could receive higher levels of urban services (eg. technological consultancy, financial services) and closer accesses to urban markets.

A major consequence has been that these new county-level cities have been transformed into sites for the relocation of urban-based industries (Dashiqiao and Gaizhou, for example, become the

\textsuperscript{21}Liaodong Peninsula Economic Development Zone covers the Shenyang-Dalian corridor as well as the coastal parts of Jinzhou, Jinxī and Dandong metropolitan regions (for details, see Japan-China Northeast Development Association, 1991 and Figure 8.1 in Chapter 8).
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Figure 5.4
Cities of the Shenyang-Dalian Corridor, 1980-1992

sites for the relocations of urban industries from the cities of Shenyang, Anshan, and Benxi) (discussed in detail in Chapter 9).

As Figure 5.4 shows, there was no county-level city in this corridor at all in 1980. Yet by 1985, two county-level cities, each with a non-agricultural population over 200,000 in 1992, see LSB, 1992: 353) had been established along the corridor. One of them, Wafangdian, is located between the cities of Dalian and Yingkou. Another one, Haicheng, is a county-level city half way from Shenyang to Yingkou (Figure 5.4). By 1992, another five county-level cities were established (Dashiqiao, Gaizhou, Pulandian, Zhuanghe, and Jinzhou - an outer suburb of Dalian city). All these newly-established county-level cities are located in the corridor between two urban poles - Shenyang in north and Dalian in south. Such upgrading of the status of counties was aimed initially at providing more urban-type functions and services to the surrounding rural areas in the middle part of the corridor. Interestingly, the establishment of county-level cities has changed the spatial pattern of the urban system along the corridor. The dominance of the two urban poles (the urban clusters centred on Shenyang in north and Dalian in south) in 1980 was reduced by an increasing number of small and medium-sized cities between them (Figure 5.4).

The third economic initiative granted was the establishment of several foreign investment zones. As already noted, the city of Dalian was designated in 1984 as one of China's 14 coastal open cities and three national level special economic and technological development zones (the Dalian Economic and Technological Development Zone, Shenyang Tiexi Economic and Technological Development Zone (sometimes called Tiexi Industrial Transformation Zone), and Bayuquan Special Economic Zone (sometimes called Yingkou Economic Development Zone)) were developed in the Shenyang-Dalian corridor in an attempt to attract foreign investment and technology (Figure 5.4).

There is no doubt that the post-1978 open door policy has benefited Liaoning's economic development. From 1991, Liaoning became China's second largest foreign investment region after
The Regional Context

Guangdong province in the south. Table 5.9 shows the total utilized foreign investment and the growth rates in the major coastal province during the period of 1984-1991. The average annual growth rate of foreign investment during the period of 1984-1991 was over 80 per cent, which was more than three times China’s average (Table 5.9).

Among foreign investors, Japanese firms have been the largest (LSB, 1992), mainly because of Liaoning’s historical connection with Japan, and the Shenyang-Dalian corridor is familiar to many Japanese businessmen alive today who lived in Liaoning before WWII. As noted earlier, this region, and the wider area of Northeast China, was originally the beachhead for Japan’s invasion of China in the 1930s and early 1940s, and was the home to hundreds of thousands of Japanese before the war (Abegglen, 1994). Dalian is a comfortable location for many Japanese, and has a Japanese school, a mayor fluent in Japanese, and a joint Japan-China Industrial Park which in 1992 was being expanded by a Japanese-led consortium (ibid).

The Japanese in Dalian and elsewhere in Liaoning have focused on high value-added or capital-intensive investments rather than low value-added products, such as luggage or toys. They include Onoda Cement, Toshiba, Canon, Nisshin Oil, along with many Japanese banks and trading companies. That Liaoning is a familiar territory to many senior Japanese is evidenced by the remarks of President Tasuku Takagaki of the Bank of Tokyo about his grammar school days in Dalian. Other current Japanese leaders shared his experience, including the late Foreign Minister Saburo Ohkita, who was another prominent Japanese leader born and raised in Liaoning (Thomton, 1994: 56-58; Abegglen, 1994).

Yet another group of foreign investors have come from South Korea. Increasingly, South Korean businesses are becoming linked with local ethnic Koreans living in Liaoning (Liaoning has the second largest group of ethnic Koreans in China, after Jilin province) (SSB, 1992b).
Table 5.9
Utilized foreign investment in the selected coastal provinces, China 1984-1991 (US$ million)

<table>
<thead>
<tr>
<th>Region</th>
<th>1984</th>
<th>1991</th>
<th>Annual Growth Rate 1984-91 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>% of China</td>
<td>Total</td>
</tr>
<tr>
<td>Liaoning</td>
<td>15.2</td>
<td>0.6</td>
<td>971.6</td>
</tr>
<tr>
<td>Guangdong</td>
<td>643.8</td>
<td>23.8</td>
<td>2,583.7</td>
</tr>
<tr>
<td>Shanghai</td>
<td>41.9</td>
<td>1.5</td>
<td>330.2</td>
</tr>
<tr>
<td>Shandong</td>
<td>16.4</td>
<td>0.6</td>
<td>373.1</td>
</tr>
<tr>
<td>Fujian</td>
<td>61.7</td>
<td>2.3</td>
<td>570.5</td>
</tr>
<tr>
<td>Jiangsu</td>
<td>93.3*</td>
<td>--</td>
<td>314.7</td>
</tr>
<tr>
<td>Tianjin</td>
<td>0.6*</td>
<td>--</td>
<td>260.9</td>
</tr>
<tr>
<td>China Total</td>
<td>2,705.0</td>
<td>100.0</td>
<td>11,554.0</td>
</tr>
</tbody>
</table>

Liaoning appears to have become one of the most attractive places in China for foreign investors. Thus the Japan External Trade Organization (JETRO), evaluating the economic potential of China's provinces, rated Liaoning above all other provinces in attractiveness, including the major investment centres of Guangdong, Shandong, and Shanghai. Liaoning was rated especially highly in terms of its industrial base, and matched Shanghai in terms of infrastructure, which, like those of Taiwan and Korea, was originally put in place by the Japanese (Abegglen, 1994).

5.5. Summary

From the analysis of this chapter, it is clear that Liaoning's rich mineral resources and its favourable location attracted the attention of both the formal colonial powers and the Chinese communist government. Liaoning has been a major focus of development and economic growth in China for many years. In the period between 1900-1945, many migrants moved into this region, particularly from the rural areas to the major industrial cities. After the establishment of the People's Republic, Liaoning's urbanization process was accelerated by the city-based industrialization of Stage I (1949-1960) (accompanying with large number of rural-to-urban migrants). After, then, city-based industrialization was carried out without rapid urban growth during Stage II. Stage III witnessed many economic and administrative reforms and special privileges, as well as open door policies. These reforms, together with the special connection to Japan due to its colonial experience, have incorporated this region into the contemporary global economy. The administrative reforms have also led to changes in rural villages which will be addressed in Chapter 7. These changes have reshaped the Shenyang-Dalian corridor's rural-urban relations and facilitated the emergence of an EMR structure in this particular location. The study now turns to the investigation of the spatial form of the Shenyang-Dalian EMR.
CHAPTER 6

6.1. Introduction

Asian EMRs, as McGee (1987a, 1987b, 1990) and Zhou (1991) described, are typically large urbanizing regions, sometimes stretching over hundred or more kilometres, often located between and including two existing major urban centres. EMRs are characterized by intense concentrations and flows of both people and commodities, highly-mixed agricultural and non-agricultural activities, and an intense interaction between rural and urban areas. The purpose of this chapter is to reveal that the Shenyang-Dalian corridor has taken on the form of an EMR (albeit one with Chinese characteristics), and to describe, by analyzing county-level data, the major features of its space economy as it has evolved from 1978-1992. The region today constitutes a complex accumulation of people and wealth with highly-mixed agricultural and non-agricultural activities, high levels of rural industrialization, and an increasing growth of non-rural occupations.

6.2. The Emergence of The Shenyang-Dalian EMR

In order to investigate the detailed patterns of the recent spatial economic transition in this region, the following six indices were collected which define the Shenyang-Dalian EMR. The first two indices are the proportion of the non-agricultural labour force in the total labour force and per capita rural industrial output value. These indices reflect the levels of the intensification and productivity of rural non-agricultural activities along the Shenyang-Dalian corridor. The third index is per capita gross agricultural output value, which indicates the agricultural production level. Index 4 is population density. Using per capita net income and per capita GDP, indices 5 and 6 indicate the
living standards and economic development levels in the Shenyang-Dalian corridor.

All data for indices 1 to 6 were collected at the levels of counties (xian) and the suburbs of the largest cities. For Liaoning province, these data involve 33 counties, 11 county-level cities, and 30 suburbs of major cities. The spatial patterns of the economic activities are illustrated by Figures 6.1-6.6 (each is discussed in detail in the following sections). According to the classification standards\(^{22}\) in Figure 6.7, counties, suburban districts and city cores were grouped into four main types, which are a result that the six indices together were used to classify the spatial patterns of the economic transition in the Shenyang-Dalian corridor. The four main types are as follows:

Type I comprises those areas with the most intensive mixture of agricultural and non-agricultural activities. It included the 10 city suburban districts (Dongling, Xinchengzi, Yuhong, and Sujiatun in Shenyang, Shuncheng in Fushun, Jiubu in Anshan, Laobian in Yingkou, Ganjingzi, Lushunkou, and Jinzhou in Dalian) and the two county-level cities of Haicheng and Wafangdian. The type I counties and suburban districts recorded the highest levels of all the indices mentioned above, which means a higher degree of economic and labour transformation in these areas. For example, non-agricultural labour accounted for about one third to two thirds of the total labour force and the population density was over 400 persons per square kilometres. In particular, the Dalian suburban

\(^{22}\)Each index is classified into four levels (Types). The lowest level for each index was equivalent to Liaoning province's average in 1990. The ranges of other indices' values were determined by the distribution of the data itself. For example, the dividing line between Types III and IV for Index 1 (share of non-agricultural labour in total labour force) is 20 per cent (see Type IV in Figure 6.7), considering Liaoning's average level was 22 per cent in 1990. The dividing line between Types II and III was 25 per cent because the non-agricultural population in China's total population was 26 per cent in 1990. Similar considerations were applied to other indices. Types III and IV were basically considered as non-EMR counties and their indices were generally equivalent to Liaoning's average level. For example, in 1990, the average level of per capital rural industrial output value (Index II) in Liaoning province was 1470 yuan/person; per capita gross agricultural output value was 1290 yuan/person; population density in rural Liaoning was 160 person/per sq. km; per capita net income was 875; and per capita GDP was 3010 yuan/person (Sources: LSB, 1992; LSB and Liaoning Rural Investigation Team, 1992).
Figure 6.1
Index 1: Share of Non-Agricultural Labour
in Total Labour Force (by County), Liaoning, 1991

Note: Population data for Benxi's suburban districts (Pingshan, Xihu, Mingshan, and Nanfen) include city core population
Figure 6.2
Index 2: Per Capita Rural Non-Agricultural Output Value (by County), Liaoning, 1991

Note: Population data for Benxi's suburban districts (Pingshan, Xihu, Mingshan, and Nanfen) include city core population
Source: Liaoning Agricultural Economic Statistical Year Book, 1992
Figure 6.3
Index 3: Per Capita Agricultural Output Value
(by County), Liaoning, 1991

Note: Population data for Benxi's suburban districts (Pingshan, Xihu, Mingshan, and Nanfen) include city core population
Sources: Liaoning Statistical Year Book, 1992; Liaoning Year Book, 1992
Figure 6.4
Index 4: Population Density (by County), Liaoning, 1992

Note: Population data for Benxi's suburban districts (Pingshan, Xihu, Mingshan, and Nanfen) include city core population
Source: Liaoning Statistical Year Book, 1993
Figure 6.5
Index 5: Per Capita Net Income (by County), Liaoning, 1991

Note: Population data for Benxi's suburban districts (Pingshan, Xihu, Mingshan, and Nanfen) include city core population
Sources: Liaoning Statistical Year Book, 1992; Liaoning Year Book, 1992
Figure 6.6
Index 6: Per Capita GDP (by County), Liaoning, 1992

Notes: Data for suburbs of Benxi, Liaoyang, and Jinzhou near Dalian are per capita agricultural and industrial output value; Population data for Benxi's suburban districts include city core population. Source: Liaoning Statistical Yearbook, 1993
Figure 6.7
The Shenyang-Dalian Extended Metropolitan Region in Liaoning, 1991

Notes: Classification is based on county-level data derived from Figures 6.1 to 6.6. Index 1: share of non-agricultural labour in total labour force (%); Index 2: per capita rural industrial output value (yuan/person); Index 3: per capita gross agricultural output value (yuan/person); Index 4: population density (person/square km); Index 5: per capita net income (yuan/person); Index 6: per capita GDP (yuan/person).
The Emergence of the Shenyang-Dalian EMR

district of Ganjingzi and the Anshan suburban district of Jiubu reached over 1000 persons per square kilometre.

The areas of type II were also characterized by high agricultural productivity and intensive non-agricultural activities. Non-agricultural labour accounted for about a quarter to one third of the total labour force in the rural counties. Type II covered those rural counties around the city of Shenyang and the counties between the cities of Anshan and Yingkou, as well as suburban districts of Benxi, including the counties of Xinmin, Liaozhong, Dengta, and Dawa, and county-level cities of Dashiqiao and Ganzhou.

The rural counties of type III were located around the areas of both type I and type II and comprised those counties at a transitional stage between type II and type IV. Thus their indices were lower than those for type I and II, but higher than type IV, where the share of the non-agricultural labour force in the total labour force, agricultural productivity, and income levels, as well as population density, were lower (Figure 6.7). Type IV predominantly agrarian counties are in the western, northern and eastern parts of the province.

In summary, Types I and II together comprised the main body of the Shenyang-Dalian EMR and form the area which will be used for further investigation. It constitutes the city cores and suburban districts of Shenyang, Dalian, Anshan, Fushun, Benxi, Yingkou, Liaoyang, the county-level cities of Haicheng, Wafangdian, Dashiqiao, Gaizhou, and Pulandian, and the rapidly urbanizing rural areas between city of Shenyang and Dalian (see Figure 6.7). In the past 15 years, this region has experienced rapid socioeconomic change. In particular, those areas within the transport corridor between the large metropolitan centres - which were defined traditionally as rural areas up to the 1970s - are now increasingly characterized by urban features, such as diverse consumption patterns, a predominantly non-rural employment structure, and non-agricultural sources of income, and generally higher income levels. However, for the purposes of official government policy, these areas are still considered as rural by the Chinese government. As covered in Chapter 3, they are not truly
The Emergence of the Shenyang-Dalian EMR

urban according to any official government definitions. For instance, neither the number of the officially-defined non-agricultural population nor the size of settlement in the rural areas of the Shenyang-Dalian corridor fit into any of the standards set up by the Chinese government. Yet as will be shown later in this thesis they are not purely rural areas. The socioeconomic features of these areas lying between Shenyang and Dalian have long departed from their traditional rural characteristics. In fact they are a rural-urban mixture, and so their major characteristic may be called 'invisible urbanization' (defined in detail later in Chapter 13). This blurring of the rural-urban interface along the Shenyang-Dalian corridor is therefore a complex social, spatial, and economic process. Moreover, the Shenyang-Dalian mega-urban region as a whole is an incubator of economic and social change and cannot be simply characterized as the urban expansion of existing cities into the intervening rural districts. Rather, this region represents a new type of settlement pattern in China's space economy.

6.3. The Concentration of Population and Wealth

The economic role of the Shenyang-Dalian EMR is that of a 'main street' of China in terms of organizing socioeconomic activity. As outlined in Figure 6.4 and the following sub-sections, it is an area with an enormous and powerful concentration of people, wealth, and economic activities.

6.3.1. Concentration of Population

One of the major features of the Shenyang-Dalian mega-urban region is the high concentration of population. The very highest population density, outside the cities, is found in areas surrounding the major urban centres, such as the outer-urban-districts of Shenyang, Anshan, Benxi, Yingkou and Dalian cities (see Figure 6.4). The adjoining counties of Liaozhong, Denta, Haicheng, and Dashiqiao (the location and counties' names of the EMR and non-EMR are shown in Appendix 3) are also among those with the highest population density. The counties of Wafangdian, Pulandian, Gaizhou, and Liaoyang generally have higher population density than other counties outside the corridor. Such
The Emergence of the Shenyang-Dalian EMR

Spatial juxtaposition has created much higher population densities which are frequently much higher than the suburban areas of large Western cities. For instance, compared with the population density of 580 persons per square kilometre in Great Vancouver Regional District (GVRD, Strategic Planning Department, 1994), the population density in Ganjinzi - a suburb of Dalian city, was 976 persons per square kilometre in 1992 (LSB, 1993). In other suburbs (Sujiantun and Dongling of Shenyang’s suburbs, Lushunkou, Jinzhou of Dalian’s suburbs), the density was above 400 persons per square kilometre. The county of Yingkou had population density as high as 433 persons per square kilometre and most counties in the corridor had population densities over 250 persons per square kilometre (ibid) (Figure 6.4). In fact, with 34,987 square kilometres of land area, which accounts for 24 percent of the provincial land, the Shenyang-Dalian corridor contained about half of the province’s population, and about 66 per cent of the province’s non-agricultural population (Table 6.1).

6.3.2. Concentration Of Wealth

The corridor is not only a centre of population concentration but also a centre of dense economic activities. Data in Table 6.1 show that in 1991 the mega-urban region covered only 24 per cent of the provincial area, but produced two thirds of the provincial GDP and agricultural and industrial output; contained 66.5 per cent of the non-agricultural population; and generated more than 70 percent of rural industrial output value (village-run enterprises), foreign investment and commodity flows. Compared with China’s total, this region, which covers only 0.4 percent of the land area, contained 1.8 per cent of China’s population and 3.8 per cent of the non-agricultural population. The share of GDP, industrial output as well as foreign investment ranged from 3.6 to 6.6 per cent of China’s total. The degree of concentration for various economic indices of the Shenyang-Dalian corridor in both Liaoning province and China was very high, based on a comparison

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23Here, the degree of concentration is measured by the Shenyang-Dalian EMR’s share of a certain index in Liaoning province/China divided by the Shenyang-Dalian EMR’s land share in Liaoning province/China.
### Table 6.1
Selected socioeconomic indices in the Shenyang-Dalian EMR$^1$, 1991

<table>
<thead>
<tr>
<th>Index</th>
<th>S-D EMR$^1$</th>
<th>% of Liaoning</th>
<th>DC in Liaoning$^2$</th>
<th>% of China</th>
<th>DC in China$^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land area (thousand square km)</td>
<td>350.0</td>
<td>24.0</td>
<td>1.0</td>
<td>0.4</td>
<td>1.0</td>
</tr>
<tr>
<td>Population (million persons)</td>
<td>19.6</td>
<td>49.8</td>
<td>2.1</td>
<td>1.8</td>
<td>5.0</td>
</tr>
<tr>
<td>Non-agricultural population (million)</td>
<td>11.1</td>
<td>66.5</td>
<td>2.8</td>
<td>3.8</td>
<td>10.6</td>
</tr>
<tr>
<td>GDP (billion yuan)</td>
<td>71.6$^3$</td>
<td>66.7</td>
<td>2.8</td>
<td>3.6</td>
<td>10.0</td>
</tr>
<tr>
<td>Agricultural and industrial output (billion yuan)</td>
<td>148.4</td>
<td>68.6</td>
<td>2.9</td>
<td>4.7</td>
<td>13.1</td>
</tr>
<tr>
<td>Industrial output value (billion yuan)</td>
<td>135.3</td>
<td>72.7</td>
<td>3.0</td>
<td>5.9</td>
<td>16.4</td>
</tr>
<tr>
<td>Village industrial output (billion yuan)</td>
<td>11.8</td>
<td>73.8</td>
<td>3.1</td>
<td>4.5</td>
<td>12.5</td>
</tr>
<tr>
<td>Utilized foreign investment (million US$)</td>
<td>763.3</td>
<td>78.6</td>
<td>3.3</td>
<td>6.6</td>
<td>18.3</td>
</tr>
<tr>
<td>Long-distance passengers (million)</td>
<td>300.0</td>
<td>64.3</td>
<td>2.7</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
<tr>
<td>Commodities transported (million ton)</td>
<td>568.1</td>
<td>71.9</td>
<td>3.0</td>
<td>n.a.</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Notes: Output value in 1991 current price; 1. S-D EMR: Shenyang-Dalian EMR as defined above; 2. Degree of Concentration (DC) = (the Shenyang-Dalian EMR's percentage of certain index in Liaoning province (China)) / (the Shenyang-Dalian EMR's percentage of land in Liaoning province (China)); 3. excludes Baoyuqian district of Yingkou and the three suburban districts of Dalian.

Sources: LSB, 1992a and LSB, 1992b.
The Emergence of the Shenyang-Dalian EMR

with the share of the corridor's land area in both the province and China. Table 6.1 also indicates a relatively high degree of concentration of both economic activities and flow of commodities and population. For example, the concentration index of agricultural and industrial output, industrial output value, village industrial output, and utilized foreign investment in this corridor was over 3 and 10, compared with Liaoning province and China as a whole, respectively (Table 6.1).

6.4. Spatial Patterns Within The Corridor

It may be argued that the significant concentration of economic activities in the Shenyang-Dalian EMR has been mainly due to the contribution of the large urban centres, such as Shenyang, Dalian, and Anshan. It is true, as discussed in Chapter 5, that these large cities concentrated important economic activities. In Liaoning province, the spatial patterns of the rural economic transition in the EMR differed from those in the non-EMR regions. In other words, the EMR rural areas and the surrounding suburban regions of the large city centres are sharply distinguished from the non-EMR rural areas. For example, Table 6.2 compares the economic growth levels between EMR and non-EMR counties. It shows higher average levels of socioeconomic indices in EMR location than in the non-EMR regions of Liaoning province. The population density in the EMR averaged 355 persons per square kilometre, compared with only 151 persons per square kilometre in non-EMR parts of Liaoning province (see Table 6.2). Many of the indices of labour productivity and land productivity were double those (and sometimes even seven times) in the non-EMR region, such as non-agricultural output value per capita per land area. The average output values of both the non-agriculture industry per county in the EMR comprised more than three times of that in the non-EMR areas (Table 6.2).

This higher degree of population and wealth concentration can be further portrayed by the spatial patterns of per capita GDP and per capita net income by rural county level and suburbs, illustrated in Figures 6.5 and 6.6. In general, the spatial distribution patterns were characterized by
The Emergence of the Shenyang-Dalian EMR

Table 6.2
Rural county's economic growth levels between EMR and Non-EMR in Liaoning*, 1992

<table>
<thead>
<tr>
<th>INDEX</th>
<th>S-D EMR (1)</th>
<th>Non-EMR (2)</th>
<th>(1)/(2)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Land (square km)</td>
<td>31,633</td>
<td>128,101</td>
<td>25%</td>
</tr>
<tr>
<td>Total population (million) (1992)</td>
<td>11</td>
<td>19</td>
<td>58%</td>
</tr>
<tr>
<td>Non-agr. population as % of total population #</td>
<td>33</td>
<td>23</td>
<td>145%</td>
</tr>
<tr>
<td>Population density (person/per square km)</td>
<td>355</td>
<td>151</td>
<td>235%</td>
</tr>
<tr>
<td>Per capita rural GDP (yuan/person)</td>
<td>2,336</td>
<td>1,704</td>
<td>137%</td>
</tr>
<tr>
<td>GDP per land area (yuan/sq. km)</td>
<td>830</td>
<td>258</td>
<td>322%</td>
</tr>
<tr>
<td>Per capita non-agr. output (yuan/person)**</td>
<td>2,825</td>
<td>965</td>
<td>293%</td>
</tr>
<tr>
<td>Non-agr. output per land area (yuan/sq. km)**</td>
<td>1,004</td>
<td>146</td>
<td>688%</td>
</tr>
<tr>
<td>Indus. output per non-agr. popul. (yuan/person)**</td>
<td>7,189</td>
<td>3,175</td>
<td>226%</td>
</tr>
<tr>
<td>Industrial output value per land area (yuan/sq. km)**</td>
<td>852</td>
<td>111</td>
<td>769%</td>
</tr>
<tr>
<td>Merchandised agric. value per capita (yuan/person)**</td>
<td>1,091</td>
<td>737</td>
<td>148%</td>
</tr>
<tr>
<td>Land area/per county (square km/county)</td>
<td>1,216</td>
<td>2,668</td>
<td>46%</td>
</tr>
<tr>
<td>GDP/average per county (million yuan)</td>
<td>101</td>
<td>68</td>
<td>149%</td>
</tr>
<tr>
<td>Non-agric. output/average per county (million yuan)**</td>
<td>122</td>
<td>39</td>
<td>313%</td>
</tr>
<tr>
<td>Industrial output/average per county (million yuan)**</td>
<td>103</td>
<td>29</td>
<td>355%</td>
</tr>
</tbody>
</table>

Notes: *Rural counties refer to counties, county-level cities, and suburbs of the large cities (including villages, market towns, and designated towns). **Data in 1991. #Non-agricultural labour force excluded those peasants engaged in both farming and non-farming activities. Non-EMR refers to all rural counties and suburbs outside the Shenyang-Dalian EMR.

higher values along the Shenyang-Dalian corridor compared with other parts of the province. Thus those areas with higher rural industrial productivity were those which lay within the corridor. The output value of the village-owned and private industries per land area, as indicated by Figure 6.8, demonstrated higher values in the areas both around the large cities of Dalian in the south, and Shenyang, Anshan in the north and adjoining regions.

Exports and Foreign Investment:

As a centre of economic activities, the corridor has very strong external linkages with the rest of the world. As indicators of this process it was found that foreign investment and exported goods were extremely concentrated in the corridor areas. As noted earlier in Chapter 5, in terms of foreign investment, Liaoning emerged as the second largest centre of foreign investment in China. Japan is the largest foreign investor in Liaoning (followed by Taiwan, US, South Korea, and Hong Kong). In 1991, Japanese direct investment reached US$246 million, accounting for 45.6 per cent of total foreign direct investment (LSB, 1992: 204). The major sectors of foreign investment in 1992 were manufacturing (82.9 per cent), real estate (8.2 per cent), and construction (5.9 per cent), while the remaining sectors accounted for only 3 per cent (LSB, 1992: 582).

Within the province, cities and their suburban districts of the Shenyang-Dalian corridor received the largest share of foreign investment. As Figure 6.9 shows, the two largest host locations to foreign investment in 1992 were the city cores and the suburban areas of Shenyang and Dalian. Fushun, Anshan and Yingkou also accounted for quite a significant share of the total.

The commodities exported overseas from this province ranked second in China (behind Guangdong), reaching US$ 5,770 million in 1991 (LSB, 1992: 638). Considering either exported goods by original places or imported goods by receiving places, the corridor was the major trading region of Liaoning province. Figure 6.10 shows the exported and imported goods by metropolitan regions of Liaoning province. It indicates that the metropolitan regions of Shenyang, Anshan,
Figure 6.8
Industrial Output Value of Village-Run and Private Rural Industries Per Land Area (by County), Liaoning Province, 1992

Note: in 100,000 yuan/square kilometre (in current price)
Source: Liaoning Statistical Year Book, 1993
The Emergence of the Shenyang-Dalian EMR

Figure 6.9
Foreign Investment (by County), Liaoning, 1992

The Emergence of the Shenyang-Dalian EMR

Figure 6.10
Exported and Imported Goods (by Metropolitan Region), Liaoning, 1991

Source: Liaoning Statistical Year Book, 1992
The Emergence of the Shenyang-Dalian EMR

Yingkou, and Dalian dominated provincial trade patterns.

The above analysis indicates that the Shenyang-Dalian corridor has evolved as a region of intense socioeconomic activities in northern China. Of importance to this thesis, the analysis also indicates that since 1978 not only the urban centres but also the rural areas along the corridor have acted as core economic regions.

6.5. Characteristics Of The Shenyang-Dalian Corridor

-The Coexistence of Agricultural And Non-Agricultural Activities, 1978-1992

The discussion now turns to the analysis of other features of the spatial and socioeconomic changes, that have characterized the Shenyang-Dalian corridor during the post-1978 period, in particular an intensive mixture of agricultural and non-agricultural activities. The coexistence and intermix of agricultural and rural non-agricultural activities within the same economic region comprise one of more important spatial and economic factors that separates the pattern of rural and urban settlement transition in the Shenyang-Dalian region from that found in urban areas of most Western industrialized nations. The rich mix of both agricultural and non-agicultural activities, which has evolved since 1978, may be exemplified by examining indicators of the changing spatial economy, such as occupational structure and income sources and so on. This section reveals the intensiveness of both agricultural and non-agricultural activities in the corridor.

6.5.1. Non-Agricultural Activities

The transition of the rural labour force from farming to non-farming activities, and the transition of the workforce from full-time farming to engagement in both agricultural and non-agricultural activities, are very recent phenomena, which started in China only from the mid-1980s (Leeming and Powell, 1990: 148-149). While this is a national phenomenon, such a transition has taken place in the Shenyang-Dalian mega-urban region at a tremendous pace following the rural
The Emergence of the Shenyang-Dalian EMR

reforms of 1978. As Figure 6.1 indicates, the Shenyang-Dalian corridor was characterized by a high proportion of the labour force engaged in non-agricultural activities. By 1991, for the Shenyang-Dalian region as a whole, about 71 percent of rural GDP came from non-agricultural activities, and 33 percent of the rural labour force was engaged in non-farming activities, such as rural industry, transportation, construction, and other rural services (Table 6.3). It should be noted that the actual number of the rural non-agricultural labour force in the Shenyang-Dalian EMR is likely to be much more than the number recorded by the official city Statistics Bureau (City Statistical Bureau collects rural migrants mainly from city Public Security Bureau). This is because some of them engaged in non-agricultural activities can not be recorded by the public security bureau. In addition, some peasants engaged in both farming and non-farming were still recorded in the census as belonging to the agricultural labour force.

The Evolution of Rural Enterprises in the Shenyang-Dalian Corridor:

Although national policies confer a legal status for rural non-agricultural enterprises to operate throughout China, the highly supportive local conditions in this corridor, especially in the areas of types I and II, have contributed to more a rapid proliferation of non-agricultural enterprises than the rest of the province. The initial development of rural-based industries in the Shenyang-Dalian corridor can be traced to the early 1970s. At that time, most rural industry was agriculturally oriented, together with the small-scale rural industries discussed in Chapter 5. After 1978, rural industries which provided services to the large cities were promoted by the central government, such as free markets, repair industries, construction, transportation, restaurants, retailing and other services.

24 Some of the migrants stay in their relative houses or shared accommodation with their friends. Some of them were provided food and housing by the employees (such as construction team heads, restaurant owners) and the public security bureau might record only these employees or restaurant owners.
Table 6.3
Rural labour force and gross domestic product structure by major industries in the Shenyang-Dalian Region, 1991 (%)

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Note: Data in this table only includes labour force and GDP in rural areas.

Rural enterprises in the Shenyang-Dalian corridor has particular characteristics due to the fundamental resource endowments of the region, as dealt with in Chapter 5. First, the mining industry is developed in the areas along the Shenyang-Dalian corridor based on its rich natural resource endowment as discussed in Chapter 5. Large scale mineral reserves are operated by the government sector, while small scale mineral production is sometimes operated by local townships or village administrations. The author visited several rural mining sites in 1992 and 1993 and found that while some of them were operated with legal permission from the government, others were even operated illegally by village enterprises or individuals, without permission. In order to understand why this occurred, the author interviewed one of the officials in the Rural Township and Village Enterprise Office of Liaoning provincial government in Shenyang. His explanation was that mineral resources are officially owned by the state, yet certain rural peasants mined some small-scale mineral reserves, without permission for their own private gain. As these ventures provided employment opportunities the official felt that the local government turned a blind eye to this issue25 (interview with Demian Wang, Officer of Rural Township and Village Enterprise Office of Liaoning province, Shenyang, December 1992).

Second, rural enterprises have often been established, since 1978, with the direct assistance of urban-based factories located in large cities such as Shenyang, Dalian, and Anshan. Thus, many rural enterprises were established in the 15 years or so to engage in subcontracting relationships with urban-based industries (Gu and Ren, 1985: 35). Rural subcontracting flourished in the Shenyang-Dalian corridor because of the large number of nearby industrial cities. The motivations of urban-based industries in initiating or strengthening their ties with rural enterprises is fundamental to understanding the continued growth of the rural industrial enterprises along the corridor (This issue will be discussed in next part of the thesis).

These two types of rural non-agricultural activities have together brought about large

25His viewpoint was expressed in private and was not an official comment.
increases in rural personal incomes and significant shifts in the structure of the rural labour force.

6.5.2. A Well-Developed Agricultural Economy

Traditional urban transition theory assumes that rapid industrial development in urban areas is accompanied by the eventual decline of surrounding rural populations. Yet this has not happened in the Shenyang-Dalian corridor. As a matter as fact, a major feature of the Shenyang-Dalian region is that rapid development of non-agricultural economies in the rural areas has been accompanied by the continuing increase of the productivity of the agricultural economy and population. On the one hand, the corridor's rural counties had higher per capita agricultural output value (over 1,500 yuan per capita, compared with less than 1,000 yuan per capita in rural counties located in the western and eastern parts of the province) (see Figure 6.3). On the other hand, the rapid development of non-agricultural economies in rural areas neither is at the cost of the agricultural economy nor is paralleled with a decline of the rural population. Although the share of the purely agricultural economy in total rural GDP did not increase during 1978-1992, it has risen in absolute terms.

Table 6.4 shows the growth rates of industry and agriculture in the counties and surrounding suburban districts of the major metropolitan regions of the Shenyang-Dalian corridor. From 1978 to 1992, the industrial annual growth rate in the Shenyang-Dalian corridor as a whole was 22.7 per cent, while agricultural registered a 5.5 annual growth rate. At a micro-level, all counties and suburbs in the corridor had much higher industrial growth rates than agricultural growth, ranging from 11.2 per cent to 33.5 per cent, while agricultural growth rate ranged from 2 per cent to 7.3 per cent. The first half of this 14 year period (1978-1984) witnessed exceptionally rapid growth of both agriculture and industry, and the annual growth rate was 7.2 per cent and 11.3 per cent respectively. From 1984

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26 Since 1984, the output value from processing of agricultural products was included in rural industry.
Table 6.4
Agricultural and industrial output value by suburbs and counties in the Shenyang-Dalian region (million yuan in 1980 fixed price)

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Notes: Agricultural Output Value between 1978-1984 included part of village industrial output value. #: Haicheng county-level city only. *: Average annual growth rate; 1-Growth rate between 1984-92.

The Emergence of the Shenyang-Dalian EMR

to 1992, however, industrial growth rate reached 32 per cent while agricultural growth remained a mere 4.2 per cent (Table 6.4). Still, it is important to note that the rapid growth of industry in the corridor during this period was not maintained at the cost of the agricultural economy, which also continued to grow. In fact, the agricultural economy increased its productivity (LSB, 1992). This was all the more remarkable in the light of more and more peasants changing their occupation from agricultural to non-agricultural activities over this period. Such a situation, where both agriculture and industry increased output in the same period, is a significant departure from Western experience where industrialization has often been accompanied by a decline in the agricultural economy (Schran, 1993).

6.6. Summary

This chapter has defined the spatial features of the Shenyang-Dalian EMR and revealed that it includes the city cores and their surrounding suburbs, as well as the rapidly urbanizing rural area along the Shenyang-Dalian transportation corridor. The Shenyang-Dalian EMR was characterized by a high concentration of people, wealth and activities. Within the corridor, the analysis pointed to the high mix of agricultural and non-agricultural activities indicating a blurring of rural and urban activities and suggesting increased interaction between rural and urban areas. This discussion reveals that the Shenyang-Dalian corridor comprises an EMR as described by McGee and others, but one with particular Chinese characteristics. In particular, in contrast with the market-based economies of EMRs in Thailand, Taiwan, and Indonesia, the Shenyang-Dalian EMR was taken place in a mixed farming system (plantation of both rice and other crops) and, more specifically, its evolution was due to a strong role of governments (both central and local governments).

In summary, this part of the thesis discussed natural resource endowments and development processes of the Shenyang-Dalian corridor, as well as major features of industry and urban systems in the region. These features assist in the understanding of the emergence of a new space economy in the Shenyang-Dalian corridor following 1978. It is argued that this evolution has been the result
of the interaction between national socioeconomic transformation in China and local conditions. The specific driving forces for the spatial integration between the rural and urban areas in the Shenyang-Dalian corridor form the major topic for the next part of the thesis.
As noted earlier in this thesis, particular characteristics of the EMR style of settlement change involves the notion of 'time-space collapse' (Harvey, 1989) and increasing interaction between rural and urban areas (McGee, 1991) (see Figure 2.2). This issue of spatial integration in the Shenyang-Dalian corridor comprises the third theme addressed in this thesis and is vital to understanding how the corridor has evolved since 1978. This issue is covered in this part of the thesis, which focuses on some of the processes shaping the emergence of the EMR along the Shenyang-Dalian corridor. Increasingly spatial integration in the corridor draws its vitality from rising levels of dynamic economic interaction between rural and urban areas, together with higher levels of population mobility and flows of capital and commodities.

This part of thesis extends the analysis of Shenyang-Dalian thus far by focusing on important causal processes leading towards greater spatial interaction as well as the macro-level spatial patterns identified. As shown in Table 7.1, Chapter 7 of this thesis will discuss changes in the role of the government, particularly how the rural reforms of 1978, and changes in administrative systems have led to the emergence of 'peasant workers' in the rural areas. Chapter 8 will look at industrial decentralization from the cities and rural industrialization as well as spatial changes in economic growth patterns along the corridor. Finally, Chapter 9 will address the role of improvements in transportation and the impacts upon increased levels of population and commodities flows within the corridor.
### Table 7.1
Critical processes and spatial outcomes in the Shenyang-Dalian corridor, 1978-92

<table>
<thead>
<tr>
<th>Chp. 7: Administrative and political reforms</th>
<th>IMPORTANT CAUSAL PROCESSES</th>
<th>SPATIAL PATTERNS AND OUTCOMES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Shenyang and Dalian designated as cities listed separately in the plan; all central cities commence administration of surrounding counties</td>
<td>greater integration of rural-urban activities</td>
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<tr>
<td>changes in peasants' occupations and rise of peasant workers</td>
<td>coexistence of agricultural and non-agricultural activities</td>
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</table>

<table>
<thead>
<tr>
<th>Chp. 8: Industrial decentralization and rural industrialization</th>
<th>IMPORTANT CAUSAL PROCESSES</th>
<th>SPATIAL PATTERNS AND OUTCOMES</th>
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<tbody>
<tr>
<td>urban industries decentralized to rural parts of the corridor; growth poles established within the corridor</td>
<td>the overall growth rate of industrial output value was much higher in the surrounding suburban, rural areas of the large cities; and higher in the rural counties along the corridor than those in non-corridor region</td>
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<tr>
<td>increasing rural industrialization</td>
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<tr>
<th>Chp. 9: Transportation infrastructure</th>
<th>IMPORTANT CAUSAL PROCESSES</th>
<th>SPATIAL PATTERNS AND OUTCOMES</th>
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</thead>
<tbody>
<tr>
<td>improvement of transportation infrastructure</td>
<td>more frequent mobility of the population and commodity flows within the corridor</td>
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</tr>
<tr>
<td>emergence of an &quot;informal&quot; transportation sector</td>
<td>more flexibility in the flows of people and commodities within the corridor</td>
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CHAPTER 7
CHANGES IN ADMINISTRATIVE SYSTEMS
AND THE EMERGENCE OF PEASANT WORKERS

7.1. Introduction

There has been much discussion about China's rapid socioeconomic transformation since 1978 and its impact on rural-urban relations (Blecher, 1985: 219-245; Leeming, 1993; Leeming and Powell, 1990: 133-159; Saith, 1987; Zweig, 1987: 43-58). However, changes in the formal administrative system have not drawn much research interest. This is perhaps surprising, particularly considering how administrative reforms have impacted on the integration of rural and urban economies. This chapter will show that changes in the administrative system of Liaoning province, in particular changes in administrative boundaries, have indeed had a direct impact on rural-urban relations in the Shenyang-Dalian corridor. This chapter will also discuss the emergence of 'peasant workers,' a new occupation enabled by the post-1978 rural reforms.

7.2. Changes In Administrative Systems And Their Implications

The administrative geography of Liaoning province, as in other provinces of China, is organized along hierarchical lines (Figure 7.1). Three major levels of administrative organization account for China's major organizational units for political and economic activities. These are: (1) the provincial government which reports to the central government ministries in Beijing; (2) fourteen central cities (including urban areas and their adjacent counties); (3) 100 county-level governments (26 counties, 10 autonomous counties of minority nationalities, 8 county-level cities, and 56 urban districts). All cities and counties report to the provincial government (Figure 7.1). As discussed by many scholars, such an administrative system is essentially hierarchical in the sense that the central
Figure 7.1
Comparison of Traditional and Contemporary Administrative Structures in Liaoning

Source: Liaoning Year Book, 1993
planned economy required local administrative units to follow orders from upper level administrative units. The state set targets for the local units, distributed their products, assigned their personnel, allocated their equipment, took over their profit, and covered all their deficits (Ogden, 1992: 77-79; and 102-103). However, recent changes in the affiliation of administrative units have had very important impacts on rural-urban relations. In particular, since the mid 1980s, there have been some changes in administrative systems which aim at encouraging more horizontal linkages between rural and urban areas, rather than the traditional vertically-based hierarchical links.

7.2.1. Establishment Of A City 'Listed Separately In The Plan'

The hierarchical administrative system in Liaoning has developed in a somewhat different manner from that of China's other provinces and this has had a distinct outcome for the Shenyang-Dalian corridor. First, Liaoning's two central cities, Shenyang and Dalian, including the counties under jurisdiction of these cities, have been classified since February 1984 as 'ji hua dan lie shi,' meaning, literally, 'listed separately in the plan' (Solinger, 1993: 211). This reform was meant to free the cities from the restrictions of the province and allow them to escape from the province's patronage and power. Thus, these city governments were granted economic powers equal to those of a province, and so are listed separately within the state plan, rather than, as it had been the case for decades, treated as a component in a hierarchical system under the province's jurisdiction. In other words, the city government authorities of Shenyang and Dalian since 1984 have had a similar economic decision-making power to that of Liaoning province. Significantly, the city authorities of Shenyang and Dalian can now directly cooperate and trade with the rest of the province and the outside world. For example, starting from 1985, the central government has given Dalian city an annual foreign exchange allocation of about US$100 million as well as provincial status for foreign trade enterprises (Lai and others, 1992: 25-85). That is to say, Dalian can directly export its own products to foreign market without permission from the Liaoning province.

Originally, the province's patronage and power control over the cities extended as far as
supplying funds and electricity to the city, managing its financial income, and allocating industrial production and the distribution of major raw materials. Along with these activities, the province also had the privilege of collecting the major portion of the wealth accumulated from the city's production and redistributing it to other cities throughout the province. The large cities were therefore, often in practice, neglected in terms of new urban infrastructure, and forced to maintain dilapidated urban utilities for whose upkeep they had quite minimal or even no funds of their own. Neither could the cities work out any comprehensive urban plan, since their management powers were far too restricted by the myriad of vertical bureaucracies among which the arrangement of its activities was divided (Solinger, 1993: 211).

The special designation of Shenyang and Dalian in 1984 overturned these old arrangements and allowed these cities to set up their own development plans and organize their production by themselves. The central government became the only level the government to whom they were responsible for following orders. The provincial government's power was limited to controlling economic development, in these two cities as well as their administrative areas (ibid.).

7.2.2. The Central City Administering Surrounding Counties

A second set of reforms established in the early 1980s was the shi dai xian system (central city administering counties or city leading counties), which erased the jurisdictional lines that had kept central cities isolated from their rural hinterlands. Within the previous administration system, counties (xian) were subdivided into townships and/or towns, while city districts were subdivided into residents' committees or townships and/or towns. The province was divided in cities and prefectures (diqu), with the prefectures being further subdivided into counties. The administration of cities and their surrounding counties, accordingly, converged at the provincial level without many horizontal linkages between major cities and their surrounding rural areas. The reform of the administrative system was aimed at placing both rural (county) and urban (city) planning and administration under a unified jurisdiction in the so called 'central cities' (zhongxin chengshi) (Figure 7.1). For example,
all the central cities of the Shenyang-Dalian corridor, e.g. Shenyang, Dalian, Anshan, Fushun, Benxi, Liaoyang, and Yingkou, became empowered after 1984 to incorporate about a half dozen counties and suburban districts in their environs. So, within the new borders these cities can now deploy the resources of the entire area under their jurisdiction, and thereby create new economic linkages. For instance, as Figure 7.1 shows, the Shenyang metropolitan region stretches across a 100 km radius and today includes the Shenyang city core (i.e. the built-up area), four suburban districts (which are rural in nature), and two rural counties. The initial objective of such new urban-rural ties has been to "promote an overall urban network [while] urbanizing the village" (Solinger, 1993: 211). This would overcome the flaws of the original administrative system which, as already noted, caused a split after 1949, so that cities only managed industrial development, and rural areas alone were responsible for agricultural development. This separation had negative impacts for the development of an integrated rural-urban economy. Rural areas could not receive technological and financial assistance from urban areas and neither could urban enterprises establish subcontracting connections with rural areas where cheap labour and natural resources were available. By contrast, the new system has facilitated the combination of urban and rural planning, the rational deployment of resources, and a generalized readjustment of regional-based industrial structures. It should be noticed that Liaoning is one of China's few provinces to fully adopt such a new system, apart from Beijing, Tianjin, Shanghai, Jiangsu, Guangdong and Hainan (Institute for the Study of Chinese Communist Problems, 1992: 135; Ma and Cui, 1987: 380-381).

The concept of rural counties falling under city jurisdiction requires further comment. The basics of such administrative reform are that certain counties should be tied economically to particular cities, as these cities were suitable to provide much of the motive force for development in the counties, particularly development outside the agricultural sector (see Kojima, 1987). Each rural county area which falls under the jurisdiction of a large city is around 3,300 square kilometres in area. The distance from the town or village to the far reaches of its jurisdiction, therefore, will typically
be more than 56 kilometres. A large portion of the population in these counties under urban jurisdiction probably lives within 20 to 30 kilometres of their major urban centre. This is close enough to have regular contact with the urban area by bus or motorized vehicle along the Shenyang-Dalian corridor.

7.2.3. Implications

There are many implications of these administrative reforms for rural-urban interactions. First, in practical terms, the erasure of administrative boundaries has encouraged subcontracting from urban factories to rural locations, product and technology diffusion, as well as joint urban-rural investment schemes, all of which have helped induce rural development while enabling urban firms to use cheaper and less sophisticated factories in the countryside to turn out less sophisticated parts and components. This reform also offered cramped or capital- and material-short city plants a chance to expand their operations into rural areas. Moreover, it has enabled the hiring of cheaper, less-skilled labour from the countryside, thus giving jobs to surplus workers from the fields, and sending important equipment and technical personnel into the rural areas. The reform therefore generates new rural-based jobs because of the rise of indigenous rural industries creating employment opportunities but also due to the decentralization of urban factories searching for cheaper cost of living and less strict population registration regulations in rural areas. The case study villages in Part Four of this thesis demonstrate this emerging relationship between rural villages and their central cities with detailed examples.

Second, the administrative integration in Liaoning province has undoubtedly assisted further comprehensive planning and a convergence of the rural and urban economy. To begin with, it makes

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27 The area of Liaoning province is 145,900 square kilometre. Each of 44 counties and county-level cities has average land area of 3,315 square kilometres. Each of 14 central cities administers 3 counties, which means that the farthest distance between villages or towns to their central city is less than 56 kilometres.
Administrative Systems and Peasant Workers

it possible for central city governments to incorporate rural and urban developments and relax the rigid regulations designed to prevent peasants' mobility (Department of Personnel, 1991) and so facilitate economic links between rural and urban areas. The negative side of this new system for China's rural areas is that some central city governments overemphasize development priority in the central cities and use their authority to force the rural-based county governments to financially support construction in the central city. The county governments complain of such central city-biased attitude. They ridicule the system as not "city leading counties" (shi dai xian) but "city eating counties" (shi chi xian) (Comtois, 1995) or "city extorting/exploiting counties" (shi gua xian) (Bao, 1991: 455). Based on the author's field work, such problems were not considered serious in the Shenyang-Dalian region.

As shown later in Chapter 8, in the Shenyang-Dalian corridor the core cities have also been able to organize and relocate economic activities, such as the decentralization of urban industry, to surrounding rural areas, i.e. from the central urban places to all surrounding counties. This has led to a greater integration between the urban core and its administered rural areas. Finally, many rural products, such as cash crops, vegetables, fresh meat and fish, are more easily sold in city markets than before the administrative reforms. These changes have, in turn, resulted in the emergence of more prosperous rural areas, strong rural-urban linkages and an integrated rural-urban economy.

7.3. The Rise Of Peasant Workers

The term 'peasant worker' (nongmin gong) refers to those peasants who are currently engaged in non-agricultural activities either in urban, town or local villages, but whose registration status is still agricultural. Even though they reside in officially designed urban areas for an extended period of time they are still classified as agricultural persons for official purposes. As discussed more fully in Chapter 4, this is because peasant workers are still administratively tied to a rural district and not entitled to receive commodity grains and other subsidized urban rations from the state (Blecher, 1985: 109-123).
The rise of peasant workers is a relatively new phenomenon in the Shenyang-Dalian corridor. They are quantitatively as well as qualitatively important in the development of rural-based non-farming and the development of small towns. They contribute significantly to the growth of the rural non-farming sector, which is a major source of economic viability for small towns and rural areas in general. Moreover, precisely because they are 'both farmers and workers,' their choice and level of activities simultaneously affect both the farm and the non-farming sectors. They hold the key to understanding the dynamics that link the growth processes of agricultural and non-agricultural activities as well as understanding the mix of agricultural and non-agricultural activities that coexist side by side in the same localities, as revealed in the earlier analysis in Chapter 6.

In China, there are two major policy objectives for the promotion of rural industry.\(^{28}\) The first has been the subsidization of agriculture by industry' (yigongbunong). In other words, village and township industries are expected to help modernize the agricultural sectors through the modernization of village and small township infrastructure, the provision of agricultural machinery, and the provision of services related to agricultural production. The second objective has been to help prevent excessive rural-to-urban migration guided by the principle of 'leave the land but not the rural area' (li tu bu li xiang) (Liu et al., 1990: 23-25). In this way, policy makers have expected rural enterprises to help retain the surplus and displaced rural labour force, and so limit urban congestion through the provision of non-agricultural jobs in rural market towns and villages.

Under such circumstances, the peasant workers have emerged as a special occupational group in rural China. According to their place of residence, peasant workers can be classified in three major sub-groups. The first (group (1) in Figure 7.2) includes those peasants who reside in their villages but who have found work (often part-time or seasonal) in non-agricultural activities. The second subgroup of peasant workers are those who have found jobs in non-agricultural activities in nearby small

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\(^{28}\)Rural industry here includes township enterprises and village enterprises as well as individually-owned (or private) enterprises.
Figure 7.2
Three Categories of Peasant Workers in the Shenyang-Dalian Region

- (1) Rural Area
- (2) Rural Area - Daily Commuting to Towns
- (3) Urban Area

Second Occupation | Place of Main Residence | First Occupation
towns and commute daily to and from their rural villages to engage in some farm work (group (2) in Figure 7.2). Peasant workers of these two types - (1) and (2) - have transferred their occupation (either full-time or part-time) from agricultural to non-agricultural jobs, but without changing their official residential place to any substantial urban area. They are called *li tu bu li xiang* (leave the land but not the rural areas). The *li tu bu li xiang* peasant workers have a very special identity because they retain a dual status in terms of occupation. In other words, while most of their time is occupied by non-agricultural activities, such as working at state enterprises or self-employed in urban service sectors, they still work as part-time farmers.

The third sub-group can be called *li tu you li xiang* (leave the land and also leave the rural areas), and thus refers to peasant workers who both work and reside in urban centres (group (3) in Figure 7.2). Their occupational transformation is completed and has occurred along with change of their residential places (Blecher, 1988: 109-123). Their links to their previous rural work is weak. Yet, this does not means, however, that this group of peasant workers are totally separated from their previous rural work.

Interestingly, peasant workers have not just been employed by urban employers; some have started their own businesses in urban areas (mainly in service sector). The output value of peasant-run urban businesses was about 1,169.7 million yuan in the Shenyang-Dalian mega-urban region during 1991. About 56 per cent of this output was from construction and 32 per cent from other industries. The significance of this output value was that while peasant workers in urban areas accounted for 3.2 percent of the total rural labour, their business output value amounted to 17.4 per cent of total rural farming output (Liaoning Rural Economic Statistics, 1992). Much of this income would be remitted back to rural villages along the Shenyang-Dalian corridor.

Another link with their previous rural work is that they still retain their rural land and work as part-time farmers. It is important to realize that few rural households leave their villages entirely to work full time in urban-based industrial and service occupations. Even in these cases, peasant
Administrative Systems and Peasant Workers

workers often retain title to part or all of their contracted farmland and usually ask their non-li tu (not leave the land and the rural areas) family members and relatives to help cultivate their land in their absence. During the busy harvesting and planting seasons, e.g. summer sowing and autumn harvesting, they may temporarily leave their non-farming positions to return to work alongside their families in the fields (Liu and others, 1990).

According to the survey conducted by the provincial government's Project Team of Research on Floating Population Management in 1990, about 60 per cent of migrants in Liaoning made at least one trip to their home villages per year. Among these, about 18 per cent were to help farming in the village during the busy season (54 per cent went back home to celebrate Chinese New Year; 10 per cent to visit home regularly; 8 per cent went back home due to no job in Shenyang; and 10 per cent for other reasons) (Project Team of Research on Floating Population Management 1992: 25).

It may be asked why would a peasant worker who has a non-farming occupation still wish to maintain a share of the farmland. Some analysts believe that this is due to the Chinese peasants' traditional conservative attitude which has prevented them from giving up their contracted 'responsibility farmland,' which many consider as their private property (Mu, 1985: 62).

Apart from this factor there are several important economic concerns which heavily influence a rural worker's decision to retain a piece of farmland while opting for a non-farming job. Liu (1990: 23-25) suggests the following reasons. First, a peasant labourer who works in the rural non-agricultural sector is required by law, in almost all cases, to maintain his/her agricultural household status. As noted earlier, such a worker is not entitled to receive subsidized commodity grain and other food supplies from urban areas and townships, so any peasant worker naturally wishes to keep a share of the land for subsistence farming. In other words, she/he prefers usually to grow grain for home consumption rather than to buy food on the open market. Second, keeping part or all of the contracted farmland allows Chinese peasants some security against unexpected economic down turns in non-farming activities. Peasant workers are fully aware that the rural non-farming sector in urban
or rural industries, unlike the state sector, does not guarantee stable income or year-long employment. Therefore, they are naturally conservative and reluctant to cut all of their ties to the land. Third, the family members of a peasant may stay on the farm, while the household head moves to town for work, and they are generally capable of cultivating the extra land kept by the peasant worker. Fourth, peasant workers obtain certain government subsidies if they continue to retain their rural land. This is because tax revenues derived from the profits of rural industries are diverted by local government back to the agricultural sector to help in its future development. Since the establishment of the household responsibility system, these subsidies are distributed to the peasants according to the size of their contracted responsibility land. Yet another factor is the seasonal nature of farm work (busy in summer sowing and autumn harvesting, as opposed to the rest of year) which allows some peasant workers in the Shenyang-Dalian region to conduct non-agricultural activities during the non-busy farming seasons and then help their family during the busy farming seasons. All these factors have effectively persuaded the 'ili tiu' peasants to keep their farms rather than sell them for development.

The above description applies to a greater or lesser degree to rural areas virtually everywhere in China. The rise of peasant workers in the Shenyang-Dalian corridor resulted from both administrative changes, as discussed above, and more general rural reforms instituted in 1978 and thereafter. It is important to note that the rural reforms facilitate a new role for peasant workers in the corridor, and so allow them to engage in new forms of economic activities, as well as allowing a limited amount of mobility to the cities (Mallee, 1988: 12-22; Department of Personnel, 1991), both of which were denied to rural areas prior to 1978. Therefore, the government policy has had a strong impact on the rapid rural occupation transition in the Shenyang-Dalian corridor through increases in agriculture and the emergence of a rural surplus labour outside the major city cores. The government has promoted rural industrial development in order to provide jobs for the large rural surplus labour force released from traditional agricultural production.

In the rural areas of the Shenyang-Dalian corridor there are many households concurrently involved in both agriculture and industry or other trades. Although there is no data at the county
level to show how many peasant workers belong to this group, the case studies presented in Part 5
of this thesis will give detailed categories for peasant workers at the village level. It seems reasonable
to argue that the 'to leave the land but not the rural areas' policy is an important force behind the
emergence of spatial and economic change along the Shenyang-Dalian corridor. Many of the farmers
living in this region are rural folks but since the early 1980s they have had dual occupations. Their
working schedule is flexible, and whenever the peasants have spare hours they can work on their
small non-agricultural enterprises. The vitality of such dual occupations lies in the seasonality of
farming activities and the ability of peasants to combine both agricultural and non-agricultural
activities in the same region. Specific case studies from three villages will be given in Part Four of
this thesis to show how non-agricultural activities complement traditional farming and so offer better
opportunities to earn higher incomes.

7.4. Summary

Post-1978 changes in administrative boundaries of the Shenyang-Dalian region have included
the establishment of cities of Shenyang and Dalian 'listed separately in the plan,' and all central cities
in the Shenyang-Dalian corridor administering surrounding counties. These changes have created
powerful mechanisms for rural-urban integration. Moreover, one of the important elements behind
rural-urban integration in the region has been the emergence of 'peasant workers' who are both
farmers and workers. This group have contributed significantly to the growth of the rural non-
farming sector in the Shenyang-Dalian region, which is a major source of economic vitality for small
towns and rural areas along the corridor. These important political and administrative changes and
the rise of peasant workers, have combined with industrial growth and transport changes which, as
will be shown in the next two chapters, have also contributed to the emergence of the Shenyang-
Dalian EMR.
CHAPTER 8
INDUSTRIAL DECENTRALIZATION AND RURAL INDUSTRIALIZATION

8.1. Introduction

Apart from administrative changes, the growth of industry outside the major urban areas has contributed to the 'blending' of urban and rural activities along the Shenyang-Dalian corridor. This development has been motivated by two factors. One is the decentralization of urban-based industry, and another is the rise of a distinct type of rural industrialization. Decentralization has been one of the immediate outcomes of administrative reforms and cities, such as Shenyang and Dalian, are able to shift part of their urban industrial production to surrounding rural areas. A consequence has been that rural development has benefitted through the transfer of urban capital and technology to these rural areas as well as providing employment opportunities. However, the development of rural industry in the Shenyang-Dalian corridor has not only been dependent on urban diffusion and the decentralization of urban industry. Local resource-based and indigenous technology-oriented rural industrialization has also played a significant role. In order to help understand the economic transformation process and rural-urban transition in this corridor, this chapter will first discuss urban decentralization policy and government initiatives to set up three new development poles along the corridor. This will be followed by an examination of the role of rural industrialization.

8.2. Establishment Of Growth Poles Along The Corridor

In addition to the establishment of the coastal open city of Dalian and Liaodong Peninsula Economic Development Zone in 1984 (see Chapter 5), another three development poles were subsequently established along the corridor in order to promote development of an export-oriented economy (Figure 8.1). These three new 'open zones' were expected to act as the windows for the
Figure 8.1
Direction of Industrial Development and Special Open Zones in Liaoning Province

Source: Adapted from Lu, 1990: 14.
Industrial Decentralization and Rural Industrialization

hinterland of the whole northeast China (Japan-China Northeast Development Association, 1991). At the southern part of the corridor, the Dalian Economic and Technological Development Zone (DETDZ) was established in 1984, aiming at fostering technology-intensive enterprises and attracting foreign capital and investment. In 1992, it occupied about 11 square kilometres and included a 1.6 square kilometre tax-free zone, a 2.17 square kilometre Japanese-enterprise zone, and a 8.14 square kilometre high-technology enterprise zone (see Figure 8.1) (LSB, 1992: 58).

Foreign investors establishing solely foreign-owned enterprises, joint ventures, or other forms of cooperative projects in the DETDZ are eligible to enjoy preferential treatment, such as the reduction of income tax. Profits, after income tax reductive, are exempted from tax when being remitted out of China and products manufactured in the zone are exempted from export tax, as well as offering industrial and commercial taxes (Lai and others, 1992: 38). In 1991, total joint ventures with foreign investors reached 272 and total investment in these three zones amounted to US$1.24 billion, with US$850 million comprising foreign investment (LSB, 1992: 57). The major sources of overseas investment were from Japan, followed by South Korea, Taiwan, and Hong Kong. Other Chinese provinces also invested their capital in these zones, such as the provinces of Jilin, Heilongjiang, Henan, Hebei, and Shanxi, as well as the rest Liaoning province (LSB, 1992: 58). The population in the DETDZ increased from 13,000 in 1986 to around 40,000 in 1990 (Lai and others, 1992: 36). This zone lies only 33 kilometres away from Dalian city, and 6 kilometres away from Jinzhou, a 100,000 population urban centre. It borders on the multi-purpose deep-water modern Dayaowan Bay port, whose annual handling capacity reaches 60 - 80 million tons and lies only about 2 kilometres from a 800,000 kw Thermal Power Plant, 12 kilometres from Dalian Seaport, 30 kilometres from Zhoushuizi International Airport, and 8 km from the Shenyang-Dalian Expressway (Liaoning Foreign Affairs Office, 1992: 39). Since 1994, the DETDZ has been upgraded to a city - New Dalian - which is expected to reach one million population over the next 30 years.29

29The city of New Dalian is being designed by a Vancouver firm (for details, see "Vancouver firm gets its shot at designing entire city" The Vancouver Sun, November 16, 1994).
At the northern part of the corridor, the provincial government set up the Tiexi Economic and Technological Development Zone (TETDZ) in 1988 and this is located within one of Shenyang's urban districts. The TETDZ occupies a land area of 65.9 square kilometres. The machine-building industry forms the mainstay of this zone which also includes metallurgy, the chemical industry, electronics, multi-purpose machine building, pharmaceutics, and machine building, as well as the textile and food industry (Liaoning Foreign Affairs Office, 1992: 40-41). The major purpose for establishing the TETDZ was to relocate state-owned large heavy industrial enterprises from the central of Shenyang and then to improve performance with foreign capital, technology, and management. This area now comprises China's largest industrial cluster and in 1992 contained 855 enterprises, 112 of which were large-scale factories (ibid).

In the middle part of the corridor, yet another important development pole - the Yingkou Exporting and Processing Zone (YEPZ) was established in 1984 at Bayuquuan district, Yingkou city, bordering on the Liaodongwan bay of the Bohai sea. This zone occupies about 140 square kilometres and lies about 45 kilometres from Yingkou city. The YEPZ was designed to promote export-oriented industry. Here, industrial enterprises are mainly engaged in knowledge-intensive production through import-substitution and labour-intensive production (Liaoning Foreign Affairs Office, 1992: 42).

Of importance to the corridor's development is that these new zones provide windows or channels for the corridor as well as other parts of the province. These open zones are expected to facilitate both urban export-oriented production and rural industrial production in the middle parts of the corridor between Shenyang and Dalian which are, as discussed in following section, the major destination of decentralized urban industries.

8.3. Urban Industrial Decentralization and Rural Industrialization

The decentralization of urban industry from the major cities has also been a major factor promoting urban-rural interaction in this region. Starting from the early part of 1980s, the provincial
Industrial Decentralization and Rural Industrialization

government decided on two important steps to develop rural industry. The first was to relocate whole or parts of urban-based heavy industrial enterprises to the corridor between Shenyang and Dalian, and the second to encourage urban enterprises to subcontract to rural enterprises within the corridor (Figure 8.1). Along with the development of the three special growth centres described above, the middle part of the corridor has been targeted since the early 1980s to receive decentralized urban industry from Shenyang, Anshan and Dalian. The rationale behind this policy is partly to limit congestion in the traditional urban-based industrial areas. The heavy industrial-oriented urban clusters lying in the central part of the province (including the cities of Shenyang, Fushun, Anshan, Benxi, and Liaoyang) and the large port city of Dalian in the southern part of the province have had government limitations (placed in the early 1980s) on the further development of heavy industry, such as manufacturing and machine tool making. Consequently, new sites have been chosen for the expansion of these industries, including the small towns and villages around Yingkou and Panjin, which lie about 100 kilometres away from Shenyang, and the rural areas around Wafangdian and Zhuanghe, which lie 50 to 100 kilometres away from Dalian (see Figure 8.1).

These government policies have conferred a legal status for new rural industrial enterprises to operate which had been limited prior to 1978. This has contributed to the rapid proliferation of rural growth, as many town- and village-enterprises, established with the direct assistance of urban-based state factories. Rural-urban links have been sustained by subcontracting relationships with urban industries in the Shenyang-Dalian region (Shenyang Economic Technological Cooperation Office, 1991: 227-234). For example, in 1990 Shenyang city had 484 urban enterprises which had subcontracting relationships with rural enterprises in its surrounding areas. The output of these subcontracted rural industries constituted 630 million yuan and about 10 percent of total rural industrial output (Yue, 1992: 35).

The general motivation of urban industries in initiating or strengthening their ties with township and village industrial enterprises has been explained for China as a whole by Lee (1991: 143). He summarized three major reasons for urban industry moving to surrounding rural areas. The
first, which is part of the 'push' factors forcing urban industries to subcontract, concerns the overall shortage of labour and the limited number of full-time workers that can be hired in urban-based enterprises. The government has imposed stringent hiring rules on urban industries to control the size of the urban population and to ease the financial burden of its urban subsidies for housing, food, and transportation expenses. By setting up economic linkages with township and village industrial enterprises, many urban factories can circumvent the state's limit on the size of their work force and yet fulfil their production quotas (Lee, 1991). The second reason for cooperating with rural enterprises is that some urban industries are short of the necessary financial capital to expand production. In such cases, urban industries may agree to locate some of their manufacturing activities in rural communities if the latter can provide free land and can promise to share the burden of investment costs (Li and Li, 1985: 35). A third, but less discussed, consideration covers urban industries which have moved all or parts of their operation to rural areas because they wished to evade pollution-control expenses (Lee, 1991: 137-156). It is true that in these circumstances urban pollution is often being exported cheaply to the countryside and the rural economy proletarianized, but neither the officials or the rural people apparently see much harm in this (Leeming, 1993: 104). Some urban factories cannot often officially expand in urban areas due to the polluting nature of their industry (e.g. metal foundry shops). Rural locations, by comparison, are much less restrictive with respect to pollution controls, as well as having the advantages of much lower land rents and labour costs (interview with Mr. Demin Wang, Officer of Rural Township and Village Enterprise Section of Liaoning province, Shenyang, December 1992).

In addition, industrial work continues to enjoy more prestige in rural areas than farming, partly because it is thought to be cleaner; and factory work often requires a shorter working day than farming. Shortages of land, labour, and capital are, therefore, the most obvious and commonly mentioned reasons for many urban industries to establish subcontracting and other cooperative arrangements with the township and village industrial enterprises (interview with Mr. Boru Qian, Chief Editor of China-Liaoning Peninsula International Exchange, Shenyang, February 1993).
Rural Industrialization:

Besides policies favouring the decentralization of industry away from large cities, indigenous rural industrialization has also been encouraged by the provincial government. In particular, since 1978, a series of strategic measures have been implemented in the countryside involving the encouragement of a more diversified rural economy through the establishment of assistance to township and village enterprises, the opening of rural trade fairs, and agricultural-industrial-commercial combinations (Leeming, 1993). These measures have generally been welcomed by the peasantry and have contributed to the economic growth of both small towns and the village. The success of these measures has relied on the considerable number of rural peasants who continue to be tied to the land. As noted in the previous chapter, in the last 15 years or so they have substantially altered their mode of labour and gradually changed their lifestyle away from merely farming. New small-scale industries in towns and villages have transformed the structure of the rural economy and accelerated the process of urbanization in the countryside.

In the Shenyang-Dalian corridor, compared with the large-scale plants decentralized from the large cities, local resource-based and agro-processing-oriented rural industries have developed based mainly on indigenous technology and resources. By way of illustration, in the southern part of the corridor around Dalian, such industries often involve the processing of fish products and fruit. In the northern part of the corridor around Shenyang and Anshan, rural industries are oriented towards labour-intensive processing of clothing and other daily articles (Yue, 1992).

In summary, the industrial development in the Shenyang-Dalian corridor in the post-1978 period has experienced two major processes. On the one hand, industrial decentralization has motivated industrial development in the middle part of the corridor. On the other hand, not in opposition but in parallel, indigenous rural industrialization has also significantly contributed to rural development. These two parallel processes have led to the emergence of new spatial patterns in the local economy in the corridor.
8.4. Changing Patterns in the Local Space Economy

These new developments in the industrial sector have reordered the space economy of the Shenyang-Dalian mega-urban region since 1978. The major beneficiaries have been the villages and townships in the region surrounding the cities along the Shenyang-Dalian transportation corridor. As shown in Chapter 6, the economic growth of the corridor has been much faster than any other region of the province since 1978. This section examines patterns of industrial development in the Shenyang-Dalian mega-urban region between 1978-1992 and the implications for spatial change.

Industrial Growth Patterns:

Industrial growth patterns in the Shenyang-Dalian corridor are characterized by faster growth rates in non-urban areas than major urban centres. Table 8.1 shows that during the period of 1978 to 1992, overall the growth rate of industrial output value was much higher in the suburban and rural areas of the corridor (33.5 per cent and 26.1 per cent respectively) than in the city core areas (9.8 per cent). The second half of this period (1984-1992) saw more urban industry move to suburbs and rural areas than the first half (1978-1984). This is reflected in the 10 per cent gain of industrial output share in rural and suburbs between 1984-1992, compared with a gain of just 2 per cent during the period of 1978-1984. One of the reasons for this was due to the implementation of decentralization policies by the Liaoning province government which commenced in the early 1980s. Since then, rural areas in the middle part of the corridor (i.e. around Liaoyang, Anshan, and Yingkou) and the northern part of the Dalian metropolitan region (the rural areas and suburbs of Dalian) became the major host localities for relocating urban industry (see Figure 8.1). As Table 8.1 shows, these rural areas gained a larger share of industrial output from 1978 to 1992. For example, the percentage growth over this time period in industrial output value in the rural areas of Liaoyang and Anshan (34 per cent and 28 per cent respectively), as well as rural areas and the suburban region of Dalian (28 per cent and 33 per cent, respectively) was much higher than that recorded for city core areas, and other rural areas.
Industrial Decentralization and Rural Industrialization

Table 8.1
Industrial output by city core/suburb/rural area
in the Shenyang-Dalian regions, 1978-92 (billion yuan)

<table>
<thead>
<tr>
<th>Region</th>
<th>1978##</th>
<th>1984</th>
<th>1992</th>
<th>Change</th>
<th>Grth (%)</th>
</tr>
</thead>
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<tr>
<td></td>
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<td>% (i)</td>
<td>output</td>
<td>% (ii)</td>
<td>output</td>
</tr>
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<td>126.5</td>
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</tr>
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<td>1.2</td>
<td>2.2</td>
<td>1.6</td>
<td>22.6</td>
</tr>
<tr>
<td>Dalian</td>
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<td>91.8</td>
<td>100.1</td>
<td>341.1</td>
</tr>
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<td>91.6</td>
<td>78.6</td>
<td>85.6</td>
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</tr>
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<td>61.6</td>
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<td>8.6</td>
</tr>
<tr>
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<td>4.4</td>
<td>5.9</td>
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<td>49.2</td>
</tr>
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<td>Yingkou</td>
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<td>25.0</td>
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<td>77.4</td>
</tr>
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<td>5.5</td>
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</tr>
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<td>Liaoyang</td>
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<td>25.9</td>
<td>100.0</td>
<td>71.7</td>
</tr>
<tr>
<td>-city core</td>
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<td>96.3</td>
<td>24.7</td>
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<td>0.9#</td>
<td>3.5</td>
<td>16.7</td>
</tr>
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<td>TOTAL</td>
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<td>100.0</td>
<td>345.1</td>
<td>100</td>
<td>1113.9</td>
</tr>
<tr>
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<td>309.9</td>
<td>89.8</td>
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<td>12.8</td>
<td>3.7</td>
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<td>4.4</td>
<td>22.4</td>
<td>6.5</td>
<td>190.2</td>
</tr>
</tbody>
</table>

Notes: *: Dengta county only, Liaoyang data not available.!: 1978-92 annual growth rate. #: Only Liaoyang county. ^: Only Gongchangling district. @: Data in 1979 (excluding village industry). Definitions of city core, suburbs and rural areas are based on existing administrative boundaries. All data in 1980 fixed prices.

City cores in the corridor's 4 major urban areas dominated over 90 per cent of the total metropolitan industrial output in 1978 (Yingkou over 73 per cent) (Table 8.1). Yet by 1992, rapid rural industrialization and decentralization policies caused this level of domination to decline to less than 60 per cent for Dalian and Yingkou and to 75 per cent for Shenyang, Anshan, and Liaoyang.

The industrial output value in the corridor's suburbs and rural areas grew at an annual rate of about 25 per cent during 1978-1992 (Table 8.1). The only exception was the suburban region of Liaoyang city where the industrial growth rate was just 6.7 per cent, causing its share of industrial output value in the metropolitan total to remain constant. This low figure may be explained by the fact that the suburbs of Liaoyang city are the sites of mining (Gongchangling and Taizihe). Consequently, their ability to take decentralized manufacturing industries has been severely restricted.

It should be noted that the rapid growth rate and increasing share of industrial output in the surrounding suburban and rural areas of the city cores has not necessarily resulted in any industrial decline or stagnation in the city cores. Rather, the city cores still registered an annual growth rate of about 10 per cent from 1978-1992 (Table 8.1). This indicates that the policies of decentralization and rural development have been successfully implemented without affecting the economic vitality of the major urban areas.

Population Growth Patterns:
It might be thought that these new industrial growth patterns have led to substantial population redistribution. Table 8.2 analyzes the changes of the population share of the city cores, suburban areas and rural areas in each metropolitan region of the Shenyang-Dalian corridor, and indicates whether the new industrial growth patterns led to a spatial redistribution of the corridor's population. Surprisingly, the results show that general pattern of the population distribution in the Shenyang-Dalian corridor had changed very little between 1984-91. Thus, all city cores, as shown
Table 8.2
Population by city cores/suburban districts/rural areas in the Shenyang-Dalian corridor, 1984 and 1992 (million)

<table>
<thead>
<tr>
<th></th>
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<td></td>
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<td>% (i)</td>
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<td>total</td>
<td>% (i)</td>
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<td></td>
<td>total</td>
<td>% (i)</td>
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<td>18.2</td>
<td>3.4</td>
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</tbody>
</table>

Notes: Population data of city core are based on officially registered population including permanent urban residents and long-term migrants in the city core. City core, suburbs and rural areas are based on 1992 administrative division. * Suburban districts' population in 1984 were calculated from Liaoning Rural Economic Sketch, 1985: 251-258, 719-724, and 847-854. Suburban district' population = total population of shijiao (city cores and suburban) - population of suburban district. Shijiao population from Liaoning Economic Statistical Yearbook, 1985: 507, 532, and 542.

in Table 8.2, for instance, maintained a slight increase in population, but the share in the region's total population slightly declined, while in the suburban districts as well as some rural areas increased due to the migrants from other rural areas of the non-EMR. Dalian was an exception as its city core increased its population share by 2.3 per cent of total population over the study period. One of reasons for this increase was mainly due to an establishment of new city - New Dalian (*The Vancouver Sun*, November 16, 1994) - in the north of Dalian city core along the coast. Yet this is only a mere fraction of the total population which Dalian' suburban and rural areas possess. The slight increase in population of the suburban districts and rural areas in the Shenyang-Dalian corridor indicates an ability of these non-city core areas to maintain their population share, rather than an estimate of all rural inhabitants moving to city cores. This will be further confirmed by the fact that most of the illegal migrants (migrants without official registration statuses in their destination places) tended to move to suburban districts and rural areas (for details, see Chapter 9).

8.5. Summary

This chapter has delineated two important development processes which have helped to transform the surrounding areas of the major urban centres in the Shenyang-Dalian corridor. On the one hand, industrial decentralization policies and the establishment of three growth poles have turned traditional rural localities into minor industrial centres in the middle part of the corridor and the northern areas of the Dalian metropolitan region. In addition, rural industrialization has grown at a much faster rate than industry in the surrounding areas of large cities and the city core. This was further confirmed by the study of the spatial growth patterns within the corridor. In the last 15 years, the rural areas and region outside the 'city cores' have experienced much faster growth rate than the urban cores themselves. However, this did not lead to a parallel decline of the corridor's metropolitan centres. In fact, all metropolitan centres gained impressive growth during the post-reform period. Such a changing pattern of the space economy resulted in higher growth rates of industry but not much population (as Table 8.2 indicated). This indicates a slowdown in the traditional pulling force of urban centres to new migrants. This may be explained by the fact that new industrial development
Industrial Decentralization and Rural Industrialization

patterns have caused new jobs to occur in the suburban and rural areas along the Shenyang-Dalian corridor. This in turn has helped to keep the local population 'down at the farm' rather than contribute to mass migration to the industrial cities, as predicted by the traditional urban transition model.
CHAPTER 9
IMPROVEMENTS IN TRANSPORTATION INFRASTRUCTURE
AND TIME SPACE CONVERGENCE

9.1. Introduction

Yet another factor in the emergence of the Shenyang-Dalian EMR has been the laying down of advanced transport infrastructure almost continuously over the last five decades, involving both the Japanese colonial government and the PRC government. One of the direct outcomes of such transportation improvement, as well as the rapid growth of the informal transportation sector, has been a dramatic increase in population and commodity flows along the Shenyang-Dalian corridor. McGee and Lin (1993) have shown that increased spatial interaction is a key element of EMRs, and so its growth in the Shenyang-Dalian corridor is an important component of this study. Spatial interaction within the corridor may be reflected by movement of goods, passengers, migrants, money, information, as well as ideas, between the rural and urban areas. This chapter will discuss how improved transportation facilities have promoted 'time-space convergence' in the study region and how this has impacted on flows of commodities and mobility of population within the corridor.

9.2. Improvement Of Transportation Infrastructure

As mentioned in chapter 5, this region has had a well developed road and railway system as well as water transportation, compared with many other areas in China. This was due to its singular colonial experience in the 1930s and 1940s under Japanese occupation, as well as the priority given to Liaoning province during the communist period. The acceleration of investment in ports, railway and road construction, both in the colonial period and in the post-independence period, created the necessary linkages to allow economic growth to flourish.
Comprehensive data on spatial interaction at the county level in the Shenyang-Dalian corridor is lacking. For example, data on flows of commodities, population, and capital among the counties are not available. Nevertheless, Table 9.1 documents the tremendous growth of transportation facilities put in place in Liaoning province by both central and provincial governments over the last 35 years or so, as well as the substantial increase in transportation volumes. For example, the total road length in the province as a whole was extended from 11,680 km in 1957 to 40,300 km in 1991. A highway linking Shenyang and Dalian was not available before the 1970s, but the length of highway grade road reached 11,470 kilometres in 1991. The spatial configuration of the Shenyang-Dalian corridor transport infrastructure is shown in Figure 9.1. As noted by Liang and others (1990: 199), this corridor has been one of China's major transportation axes, and it has had the densest railway networks in the country, with double-trailed railways.

The newly developed transportation systems enhance relatively developed transportation networks in the Shenyang-Dalian corridor. Open to traffic of the Shenyang-Dalian expressway in 1990 (China's longest) further reduces the travel time within the corridor. With a four-lane expressway, a maximum speed of over 100 km/hr, this highway passes through five large industrial cities and eleven counties and has reduced the travel time from Shenyang to Dalian (375 km) from eight hours in the early 1980s to about 4 hours in 1990 (LSB, 1992). Consequently, the road transport has overtaken the railway's top position for long-distance passengers since the middle 1980s. In 1990, passengers transported by road amounted to 2.1 times as many as those transported by railway, compared with a more or less equal share passengers transported by road and railway in China as a whole (260 billion kilometres total trips by road and 261.6 billion kilometres by railway) (SSB, 1991b). Airline routes now connect the cities of Shenyang and Dalian with Hong Kong, Tokyo, and Osaka in Japan, and Moscow and Vladivostok in Russia (Li, 1994: 9).

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30The construction of the Shenyang-Dalian Expressway started in 1984. The official opening to traffic was in 1990, but most parts of it had been opened to traffic since 1985.
Table 9.1  
Major developments of transportation infrastructure in Liaoning province

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Railways (100 km)</td>
<td>26.4</td>
<td>35.9</td>
<td>48.8</td>
<td>49.4</td>
</tr>
<tr>
<td>Road Total (100 km)</td>
<td>116.8</td>
<td>303.5</td>
<td>330.1</td>
<td>402.0</td>
</tr>
<tr>
<td>Highways (100 km)</td>
<td>0.0</td>
<td>46.0</td>
<td>65.7</td>
<td>114.7</td>
</tr>
<tr>
<td>Pipeline (100 km)</td>
<td>0.0</td>
<td>12.2</td>
<td>14.3</td>
<td>14.2</td>
</tr>
<tr>
<td>Airline Routes (1,000 km)</td>
<td>0.0</td>
<td>17.6</td>
<td>38.0</td>
<td>136.0</td>
</tr>
<tr>
<td>-Domestic (1,000 km)</td>
<td>0.0</td>
<td>17.6</td>
<td>36.9</td>
<td>129.2</td>
</tr>
<tr>
<td>-International (1,000 km)</td>
<td>0.0</td>
<td>0.0</td>
<td>1.1</td>
<td>4.0</td>
</tr>
<tr>
<td>Civil car and truck (1,000)</td>
<td>7.9</td>
<td>89.6</td>
<td>205.4</td>
<td>407.6</td>
</tr>
<tr>
<td>Other vehicles (1,000)*</td>
<td>n.a.</td>
<td>n.a.</td>
<td>84.4</td>
<td>262.3</td>
</tr>
<tr>
<td>Commodities (million ton)</td>
<td>102.9</td>
<td>452.7</td>
<td>685.3</td>
<td>790.6</td>
</tr>
<tr>
<td>Total passengers (million)</td>
<td>62.2</td>
<td>263.6</td>
<td>395.8</td>
<td>466.4</td>
</tr>
<tr>
<td>-by railway (million)</td>
<td>50.2</td>
<td>175.4</td>
<td>187.3</td>
<td>147.3</td>
</tr>
<tr>
<td>-by road (million)</td>
<td>11.9</td>
<td>87.9</td>
<td>205.5</td>
<td>314.8</td>
</tr>
<tr>
<td>-by water (million)</td>
<td>0.1</td>
<td>0.2</td>
<td>2.7</td>
<td>3.6</td>
</tr>
</tbody>
</table>

Note: * Excluding scooters and other small engine motor vehicles.

Figure 9.1
Transportation Networks and Cities
in the Shenyang-Dalian Region, 1992
Transportation and Time-Space Convergence

The high utilization of automobiles and motorcycles in various metropolitan regions in Liaoning is shown in Figure 9.2. This pattern indicates that more vehicles are used within the corridor than other parts of the province. For example, the levels of automobile use and motorcycles per 10,000 population in this corridor were as much as twice or more times higher than levels in the remaining parts of the province (Figure 9.2).

Time-Space Convergence Within The Shenyang-Dalian Corridor:

Advances in transportation facilities have linked the corridor region in a network of trade and travel hardly envisioned 20 years ago. One immediate outcome of improving transportation facilities is a reduction of travel time from one place to another. For instance, the average travel time from Shenyang to Dalian has been reduced tremendously within the last 40 years (Janelle, 1969). Table 9.2 indicates that by using transport modes which are affordable to ordinary people (e.g. according to the regular income of workers and farmers), travel times between Shenyang and Dalian have been reduced from about 2 weeks in the 1900s, to 1 day in the 1950s, and to just 8 hours in 1989. After 1989, the average travel time between Shenyang and Dalian has shrunk to only four hours, mainly because of the opening of a high-speed highway between two cities (Liaoning Year Book, 1992). Beyond normal highway transport, the travel time between Shenyang and Dalian for business people and other elites is now only about half an hour by airline (Yue, 1992: 193) (Table 9.2).

The impact of such time-space compression can be seen in a number of ways. First, since 1978, commuting peasant workers have been able to work, or operate their own business, in urban areas along the corridor such as Shenyang, Dalian, Anshan, Yingkou, Benxi, and Fushun. In 1991, the Shenyang-Dalian corridor recorded more than 105,000 rural labours working in urban areas, which was more than 3 per cent of the total rural labour force in the corridor (Liang and others, 1990: 199). Some of these stayed in urban areas and remitted income to their families, while some were mere daily commuters bringing agricultural products to sell at urban markets. This was possible
Figure 9.2
Automobiles and Motorcycles Per 1000 Population
(by Metropolitan Regions), Liaoning, 1991

Source: Liaoning Statistical Year Book, 1992
Table 9.2  
Travel time between Shenyang and Dalian, 1900-1992

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Major routes</strong></td>
<td>simple road, waterway</td>
<td>simple road; railway</td>
<td>road; railway</td>
<td>railway; road</td>
<td>railway; highway; airline</td>
<td>highway; railway; airline</td>
</tr>
<tr>
<td><strong>Affordable for ordinary people</strong></td>
<td>walking</td>
<td>water; donkey</td>
<td>train</td>
<td>train</td>
<td>train; bus</td>
<td>train; bus</td>
</tr>
<tr>
<td><strong>Travel time</strong></td>
<td>2 weeks</td>
<td>1 week</td>
<td>1 day</td>
<td>12 hrs</td>
<td>8 hrs</td>
<td>4 hrs</td>
</tr>
<tr>
<td><strong>For elites</strong></td>
<td>water; donkey</td>
<td>train</td>
<td>train</td>
<td>car</td>
<td>plane; car</td>
<td>plane</td>
</tr>
<tr>
<td><strong>Travel time</strong></td>
<td>1 week</td>
<td>1 day</td>
<td>12 hrs</td>
<td>8 hrs</td>
<td>1 hr</td>
<td>30 min</td>
</tr>
</tbody>
</table>

Notes: * For business people and other elites. Travel times in 1900 and 1950's are based on author's estimation. Travel time between 1980 and 1992 were estimated based on the author's field research.
because of the more convenient transportation links which were set up during the 1980s and the rise of vehicle ownership among the rural peasants.

Second, the improvement of transportation facilities has also made it possible for some crops sold in urban markets (such as vegetables and milk dairy products, which were traditionally planted only in suburban districts) to be planted in the rural areas farther away from the city core. For example, agricultural products from distant rural areas, such as vegetables, and dairy product, can now be transported to urban markets in Shenyang, Dalian, Anshan, Benxi, and Fushun. Often this is stimulated as land in nearby suburbs becomes more and more taken over by urban activities, such as large scale construction of housing, making it difficult to sustain market gardening in the city's immediate suburban areas. Therefore, over time, relatively remote rural areas have developed vegetable farming oriented to supply urban markets (Yue, 1992).

Third, the increased use of highways in the corridor has also facilitated subcontracting activities in rural areas, as noted in Chapter 8. This is because rural subcontractors have been able since 1980s to deliver their products to urban 'parent' factories (for assembling or delivery to final markets), and have been able to receive the materials they need for production without delay (Interview with Demin Wang, Officer of Rural Township and Village Enterprise Section of Liaoning province, Shenyang, December 1992).

Finally, transportation improvements have indirectly facilitated the diffusion of technology and new information and skills into rural areas. Due to the shortening of rural-urban commuting times, some urban technicians now carry out part-time consultant work for rural industrial enterprises or for special cash farming enterprises. These technicians and engineers can commute at the weekend when they are not working on state jobs, and are often called 'Sunday technicians' or 'weekend technicians' (Bao, 1991: 101). This term refers to those urban technicians whose secondary jobs are engaged in either consulting or teaching local employees to learn specific skills in rural areas. Although there is no official data available to show either the actual number of this group working in this way, or the
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occupation of their second job in rural areas, it is considered that numbers have been increasing because of the rise of the rural economy, both in the industrial and agricultural sectors, within the corridor. For all the above reasons, the considerable advance in transportation networks along the corridor and the further development of the former treaty ports of Dalian and Yingkou, have hastened the mobility and circulation of commodities, people, and capital, and facilitated the transfer of urban technology and know-how throughout the wider region.

9.3. Informal Transportation Sectors

Besides the growth of formal transport links, developed or assisted by government, the development of regional mobility has also benefitted from the emergence of new informal transportation sectors in both rural and urban areas. This refers to non-state and low-cost transportation such as motor cycles, bicycles, tractors, a variety of pedal bikes, and horse or donkey-drawn carriages, as well as carts pulled by people. While traditional low-technology transportation such as carts and bicycles have always been prevalent in communities along the Shenyang-Dalian corridor, new forms of informal transportation have been developed since 1978 to address problems of inadequate formal modern transport and the increasing demands for mobility. It should be noted that modern transportation, such as new highways and railways, requires massive capital investment that government authorities cannot easily make. Informal transportation modes, by comparison, require far less capital. Although the informal transportation sectors operate outside official recognition, they have served to increase the mobility of people and goods between rural and urban areas in the Shenyang-Dalian region. They normally operate over short distances, and as such are mainly used for commuting between nearby urban and rural areas. The popularity of such transportation modes is also due to their flexibility in congested roads. Although there is little reliable statistical data for such categories, partial evidence suggests that these modes now play a very important role in the corridor's regional interaction. By way of illustration, data available from the Liaoning Yearbook indicate that in this province the number of private-owned tractors increased from just a small number in 1978 to 73,900 in 1991, and that motor cycles increased from 79,860 in 1986
Transportation and Time-Space Convergence

to 236,000 in 1991 (LSB, 1992). Such a form of transport 'take-off' since 1978 is because of both increases in household income and changes in the central government regulation towards private ownership of various vehicles. There is also no reliable data to indicate the exact pattern of use of other informal transportation modes, such as bicycles and carts. It should be noted, however, that the rural labour force engaged in the transportation sector increased from 20,000 in 1978 to 246,000 in 1991 (i.e. an annual growth rate of 21 per cent), and the output of this sector increased from 10,000 yuan in 1981 to 283,000 yuan in 1991 (LSB, 1992). The rising significance of informal transportation is reflected by the fact that 'private-run' transportation services accounted for 39.5 per cent of total provincial transported passengers and 29.5 per cent of total commodities in 1990 (ibid, 1991).

Increased use of this type of transportation has tended to congest the urban road network in the Shenyang-Dalian corridor. Field surveys conducted by the author in 1992 and 1993 found that close to Shenyang, Dalian and many other metropolitan areas in this corridor, the major highways were utilized by a mixture of modern transportation vehicles (cars, buses, trucks) together with horse-drawn-carriages, carts, bicycles or tricycles often with fully loaded goods, motorcyles, and tractors fully loaded with passengers or goods.

One of the important results of recent growth of informal transportation modes is the expansion of people's activity space in the corridor. In China as a whole, Chang and Kwok's research indicates that rural villagers regularly commute to work by bicycle an average of 10 kilometres (about a 20 minute ride) (Chang and Kwok, 1990: 140-157). Other research indicates that peasant workers commute daily by bicycle from one to five kilometres between their jobs in towns and their homes in nearby villages (Zhang, 1986: 206). It is likely that these patterns also occur in the Shenyang-Dalian corridor, and with the growth of various other kinds of informal transportation modes, people have the means to travel between rural and urban areas in the corridor more frequently. Indeed, by motor cycles and tractors, the commuting distance may reach as far as 30 kilometres (about half an hour distance). An implication of the low cost and flexible informal transportation modes is that
peasant workers in the Shenyang-Dalian corridor can continue to maintain a dual status: i.e. working in urban areas during the day and returning home to the village at night, or during the busy harvest season as noted in Chapter 7. Also, informal transport allows shipments of rural products to urban markets to be more affordable. Moreover, 'weekend technicians,' as mentioned above, who reside in urban areas can now frequently conduct producer services to rural businesses utilizing motor cycles, and this, in turn, has greatly hastened technological diffusion into rural areas.

Rural-urban interaction in the Shenyang-Dalian corridor has become more and more influenced by informal transportation. The coexistence of such unique dual transportation systems (both formal/modern and informal transportation sectors) has created a special driving force for rural-urban integration in the Shenyang-Dalian corridor.

9.4. Population Flows

Generally speaking, the intensity and patterns of population flows are influenced by the transportation lines, available transportation modes, and numbers of people involved. The population mobility in the Shenyang-Dalian corridor is measured by the number of passengers, travelling frequency, and the purpose of their travel.

The highly developed transportation facilities in this region, together with the high demand for frequent rural-urban and inter-city interaction, has led to higher levels of mobility in this region since 1978. Thus in 1991, the number of trips per capita per year on formal transportation modes in Liaoning was 11, which was the highest in China (the overall China average was 6.9 (SSB, 1992)). Not surprisingly, within Liaoning province, the Shenyang-Dalian EMR registered a much high rate of travel frequency. Figure 9.3 shows, for example, that the region within the Shenyang-Dalian corridor, as well as the southeastern coastal region, had a larger number of trips per capita than the rest of the province. Each person within the corridor travelled on average about 15-30 times a year, compared with 5-10 times in other regions of the province.
Figure 9.3
Frequency of Travel Times Per Capita in Liaoning Province, 1990

Source: Based on Liaoning Statistical Bureau and Liaoning Urban Socioeconomic Investigation Team, 1991: 52 and 108
Transportation and Time-Space Convergence

As might be expected, the spatial pattern of migration in and out of Liaoning province revolves around the Shenyang-Dalian corridor due to the high density of economic opportunities and transportation facilities. As it is growing more strongly than other parts of the province, the Shenyang-Dalian corridor experienced a net inflow of migrants since 1978. The degree of in-migration along the corridor is estimated by examining the ratio between 'in-migration' and 'out-migration' for each county. Figure 9.4 shows that higher levels of both in- and out-migrants occurred along the corridor than other parts of the province. The analysis reveals that places with higher than the provincial average in/out migration ratios were the suburban areas of the central cities (such as the city suburbs of Shenyang, Anshan, Fushun, Benxi, Yingkou, and Dalian), as well as the rural areas along the corridor. This confirms that the corridor has been the major destination for the migrants from other parts of the province.

The pattern of high population mobility in the corridor reflects strong regional economic interactions and rural-to-urban linkages. Partial data suggests that more and more people travel within the corridor for economic reasons rather than for social reasons (such as visiting relatives, or visiting to a hospital). Thus, Table 9.3 shows the long-distance bus passengers' travel purposes - through results of surveys conducted in the cities of Shenyang and Dalian (both within the corridor) and Chaoyang (out-side the corridor). The passengers travelled between rural and urban areas, towns and major urban centres, as well as between large cities. In terms of trip analysis by purpose of travel, economic activities (including government official business, conferences, training, private business, seeking for job, and for daily work commuting) were the major reason for travelling by bus in Shenyang and Dalian. In contrast, 'visiting relatives' was the major reason for travel in Chaoyang - a city in the non-EMR region, lying in the western part of the province. Passengers travelling between rural and urban areas in Shenyang and Dalian accounted about 40 to 44 per cent of the total rural-to-urban travellers, compared with just 29 per cent in Chaoyang. In particular, about 14 to 25 per cent of passengers in the Shenyang-Dalian region travelled for 'economic reasons' between rural and urban areas (i.e. rural-to-urban and township-to-urban area trips) in contrast to about 6 per cent in the non-EMR region of Chaoyang region (Table 9.3).
Figure 9.4
Inward and Outward Migration Patterns
(by County), Liaoning, 1990

Source: Chinese Academy of Social Sciences,
Population Research Institute, 1993: 370-375
Table 9.3
Bus passengers's travel purposes,
Results of survey conducted in Dalian, Shenyang, and Chaoyang, 1986 (%)

<table>
<thead>
<tr>
<th>Reason for Travel</th>
<th>EMR</th>
<th>Non-EMR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Dalian</td>
<td>Shenyang</td>
</tr>
<tr>
<td></td>
<td>U-U</td>
<td>R-U</td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Economic Reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-on official business</td>
<td>34.3</td>
<td>10.8</td>
</tr>
<tr>
<td>-conference, training</td>
<td>14.7</td>
<td>4.3</td>
</tr>
<tr>
<td>-business</td>
<td>4.8</td>
<td>14.1</td>
</tr>
<tr>
<td>-exported labour</td>
<td>2.7</td>
<td>6.8</td>
</tr>
<tr>
<td>-commuting</td>
<td>2.0</td>
<td>4.0</td>
</tr>
<tr>
<td>Social Reasons</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-tourism</td>
<td>17.7</td>
<td>9.0</td>
</tr>
<tr>
<td>-hospital treatment</td>
<td>2.9</td>
<td>6.8</td>
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<tr>
<td>-visit relatives</td>
<td>19.9</td>
<td>44.2</td>
</tr>
<tr>
<td>Others</td>
<td>1.0</td>
<td>0.0</td>
</tr>
</tbody>
</table>


Source: Liaoning Transportation Bureau, 1990: 57 (Survey conducted in November 20-26, 1986).
Transportation and Time-Space Convergence

Within the category of 'travel for social reasons', both Shenyang and Dalian had a higher percentage of passengers who made trip for tourism (ranging from 9 per cent to 27 per cent), than in Chaoyang (3 per cent). This may be explained in two factors: one is the available tourist attractions, such as beaches in Dalian and large city landscapes in Shenyang; the second reason could be the higher than family average incomes found along the corridor than in Chaoyang (see chapter 6), which may have enabled people to have more money to spend on tourism. Travel in Chaoyang has more traditional patterns and motives, such as visiting relatives. The higher numbers of economic and tourism-oriented bus travellers in the Shenyang-Dalian corridor suggest a wider level of economic interaction in this region than adjoining counties. In fact, the extent of travel for economic reasons in the Shenyang-Dalian corridor may be much higher than recorded in Table 9.3 if we calculate passengers transported by airplane, and cars used by business people and government officials.

Floating Population:

Another phenomenon in the Shenyang-Dalian corridor that has resulted from increased levels of population mobility is the so called 'floating population.' As noted in Chapter 3, this term refers to the large number of peasants who leave the farm each year in search for jobs in cities and towns, as well some prosperous rural areas, without changing their original registration status. This component of rural-urban interaction is peculiar to the EMRs in China. Some commentators refer to this phenomenon as the 'blind flow' (mongliu), but most refer it as the 'floating population' (Ma and Noble, 1986: 279-290).

Table 9.4 shows a rapid increase in the proportion of population that is floating in selected cities along the Shenyang-Dalian corridor between 1981-1989. Whereas the floating population in major cities accounted for about 4 to 6 per cent of these cities' population in 1981, by 1989 it was 14 per cent in Anshan, 22 per cent in Fushun, 16 per cent in Shenyang, and 22 per cent in Dalian.
Table 9.4
Floating population of major cities of the Shenyang-Dalian region ('000)

<table>
<thead>
<tr>
<th></th>
<th>Shenyang City</th>
<th>Dalian City</th>
<th>Fushun City</th>
<th>Anshan City</th>
</tr>
</thead>
<tbody>
<tr>
<td>1981</td>
<td>Floating population ('000)</td>
<td>190.0</td>
<td>60.0</td>
<td>70.0</td>
</tr>
<tr>
<td></td>
<td>As % of city population</td>
<td>6.5</td>
<td>5.0</td>
<td>6.9</td>
</tr>
<tr>
<td>1986</td>
<td>Floating population ('000)</td>
<td>600.0</td>
<td>170.0</td>
<td>250.0</td>
</tr>
<tr>
<td></td>
<td>As % of city population</td>
<td>18.0</td>
<td>12.0</td>
<td>22.1</td>
</tr>
<tr>
<td>1989</td>
<td>Floating population ('000)</td>
<td>538.0*</td>
<td>38.0</td>
<td>n.a.</td>
</tr>
<tr>
<td></td>
<td>As % of city population</td>
<td>16.6</td>
<td>22.6</td>
<td>n.a.</td>
</tr>
</tbody>
</table>

Note: * data in 1988.

Source: Li, 1991: 97-98.
The impact of the floating population on large cities has both positive and negative attributes. On the positive side, the floating population provides cheap labour, reduces urban enterprises' welfare burdens, eases urban labour shortages, and allows urban enterprises, particularly labour intensive industry, to adopt a more flexible employment system. The floating population contributes to various kinds of urban services (babysitting, housekeeping, fast food service in the streets, carpenter, repair, et al). The negative effects include an increase in security costs reflected by increase of crime rates in urban areas (Chan, 1994). Thus, in 1988, the Shenyang floating population accounted for about 69.8 percent of total criminal cases (Li, 1991: 4 and 49). China's rigorous family planning policy may be under jeopardy due to the floating population, as it is difficult for the government to monitor the second or third children per couple of the floating population. Yet another negative effect of the increase in size of the floating population has been the increase in pressure on urban infrastructure. The pressure of public transport in all large cities of the corridor increased about 16.6 per cent during 1987 because of the increase of the floating population (ibid: 65). Moreover, the water supply situation has deteriorated in China's urban areas due to the increase of the floating population. Table 9.5 shows that the floating population caused the cities of Shenyang, Fushun, and Anshan in 1991 to have about 12 to 18 percent less water supply per capita compared with a situation without any floating population.

The 'floating population' in the rural areas of the Shenyang-Dalian corridor is more difficult to monitor. It should be noted that the official population data of the rural areas excluded short-term migrants and long-term illegal migrants (i.e. those without official registration status). In fact, since the late 1980s, population migration into the corridor from remaining parts of the province has increasingly moved to the rural areas along the corridor and the suburban areas around the cities. Table 9.6 shows that in 1990 the population census of Liaoning province recorded a higher shares of in-migrants in the total population within the Shenyang-Dalian corridor than in other parts of the province. Thus, in-migrants in most of the counties and suburbs in the corridor accounted for about 3 to 11 per cent of total population, while those in the non-corridor region accounted for only 1 to
Table 9.5

Amount of water supply per capita urban resident with and without floating population (Litro/per person per day)

<table>
<thead>
<tr>
<th>City</th>
<th>Shenyang</th>
<th>Fushun</th>
<th>Anshan</th>
</tr>
</thead>
<tbody>
<tr>
<td>Without Floating Population (i)</td>
<td>195.0</td>
<td>106.1</td>
<td>137.0</td>
</tr>
<tr>
<td>With Floating Population (ii)</td>
<td>165.8</td>
<td>86.9</td>
<td>120.4</td>
</tr>
<tr>
<td>Reduced*</td>
<td>14.97%</td>
<td>18.10%</td>
<td>12.12%</td>
</tr>
</tbody>
</table>

Note: Per capita water supply reduced due to floating population is calculated by \( \text{[(i)-(ii)]/(i)} \)*100%.

Source: Adapted from Li, 1991: 65.
## Table 9.6
Share of migrants in total population in selected counties and suburban districts, 1990 (%)

<table>
<thead>
<tr>
<th>Region</th>
<th>Within Shenyang-Dalian EMR</th>
<th>Outside Shenyang-Dalian EMR</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>%</td>
<td>Notes</td>
</tr>
<tr>
<td>Shenyang city core</td>
<td>3.65</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dalian city core</td>
<td>3.12</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bayuquan</td>
<td>11.63</td>
<td>new economic zone near Yingkou city</td>
</tr>
<tr>
<td>Jiubu</td>
<td>4.61</td>
<td>suburb of Anshan city</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Donglin district</td>
<td>5.97</td>
<td>suburb of Shenyang city</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Jinzhou</td>
<td>3.23</td>
<td>outer suburbs of Dalian city</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haicheng</td>
<td>2.68</td>
<td>county-level city near Anshan</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wafandian</td>
<td>2.80</td>
<td>county-level city in the north of Dalian</td>
</tr>
</tbody>
</table>

Transportation and Time-Space Convergence

2.5 per cent per cent. This is especially obvious in the newly developed economic zones such as Bayuquan District of Yingkou city (one of the corridor's growth poles (see chapter 8)) (in-migrants accounted for 11 per cent of total population), as well as in Panshan county lying near the corridor (migrants accounted for 6.9 per cent of total population), where the oil field has expanded to the third largest in China (Table 9.6). Interestingly, counties and suburban districts within the Shenyang-Dalian EMR have same level, or even higher in-migration rates than the non-EMR city cores.

The 'floating population' prefers to reside in the outer-lying suburbs and the rural areas along the corridor rather than in the major urban centres, as discussed in previous chapters. This is mainly due to the fact that most long-term migrants living in rural areas did not register with government agencies because controls there are generally much looser and not so strictly enforced as in the city core areas. Another obvious reason is economic, i.e. the lower living costs and increased job opportunities and general prosperity of the economy in the outlying suburban and rural areas of the corridor since 1978. Therefore, even those who work in the city core prefer to live in the out-suburbs due to the lower living expenses such as rent and food.

9.5. Patterns Of Commodity Flows

Apart from population and migration flows, another indicator of time-space convergence within the corridor concerns commodity flows. The provincial total commodity flows in Liaoning increased from 545 million ton/km in 1980 to 791 million ton/km in 1991 (Lu, 1990: 233; LSB, 1992: 557). Interestingly, the spatial pattern of the commodity flows in Liaoning province was characterized by the majority of goods being transported along the corridor between the cities of Shenyang and Dalian. Thus, Figure 9.5a shows the intensity of flows of commodities transported from Dalian to the rest of the province in 1990. The major destinations from the Dalian region (including its surrounding counties and suburban districts) were the corridor cities of Anshan, Fushun, and Shenyang. Conversely, the strongest flows of commodities from the large urban cluster in the
Figure 9.5
Commodities Transported by Train and Trunk in Liaoning, 1990

Transportation and Time-Space Convergence

central part of the province (including cities of Shenyang, Anshan, Fushun, Benxi, and Liaoyang and counties and suburban districts of Shenyang) were dominantly transported to Dalian (Figure 9.5b). The rest of the province had small shares of total commodities transported either from Dalian region or the central part of the province. An analysis of commodity flows by major roads also demonstrates the same pattern (Figure 9.6), namely that the roads around Shenyang and between Shenyang and Dalian carried the largest flows of commodities.

9.6. Summary

This chapter has highlighted the important role of improved transportation systems - both formal and informal - in the Shenyang-Dalian corridor in terms of shrinking time-space dimension and integrating urban-rural activities. Since 1978, higher levels of flow of commodities and the increased mobility of population and migration have brought a new vitality to the Shenyang-Dalian region mega-urban region. In summary, Part Three of the thesis has delineated the macro processes of spatial integration in the Shenyang-Dalian EMR. In part these processes confirm the general model of EMR development. However, there are particular Chinese and regional characteristics involved. These included the importance of government policy changes (e.g. changes in administrative systems and industrial development policies), and a well-developed transportation network stemming from the specific history of Japanese colonial control in the 1930s and 1940s. Changes in the administrative system (allowing the central cities to have jurisdiction over the surrounding counties, and the raise of the status of Shenyang and Dalian to cities listed separately in the plan) by the government created a mechanism for rural-urban integration. Rural industrialization processes and industrial decentralization from urban areas formed two driving forces for the rapid development of rural-based industry. Higher flows of commodities and population within the Shenyang-Dalian EMR were the direct outcomes of frequent rural-urban interaction and major dynamic indicators of the formation of a new space economy.

However, all these discussion are based on macro-level (county) analysis. The thesis now
Figure 9.6
Commodities transported along the major highway
in Liaoning province (1990)

Source: Liaoning Transportation Bureau, 1991,
"Liaoning Transportation 2000,"
Transportation and Time-Space Convergence

turns to a discussion of the evolution of the Shenyang-Dalian EMR and its impact on local communities, including rapid socioeconomic transformation of the corridor villages. This will be done by investigation of a number of case studies in Part Four.
The documentation of recent changes along the Shenyang-Dalian corridor now shifts to the micro scale with an examination of socioeconomic transformation in three villages during the reform period. As noted earlier in Chapter 6, the Shenyang-Dalian corridor is in the midst of at least two major transformations. First, in the rural areas along the corridor, both the occupational and economic structures are shifting from being predominantly agricultural to a mix of agricultural and non-agricultural activities. Second, the rural towns and villages in the corridor are changing from predominantly rustic fabric to a settlement pattern containing more urban land use functions, such as manufacturing, major roads, and intensive agriculture using green-houses.

At the macro-level, the post-1978 reform programmes have attracted a large amount of research on China's rural transformation. Leeming (1993) refers to this period of agricultural development as a 'golden age' characterized by an impressive increase in grain production, as well as diversification and specialization in the rural economy (i.e. a move away from traditional grain or rice production towards pigs, cotton, and vegetables) (Leeming, 1993: 89-103; Leeming, 1990: 153; Sainth, 1987). Since 1978, the most impressive achievement of the rural economy has been the emergence of rural-based industries, which have acted as a new engine for rural growth. During the first decade of economic reforms, it has been estimated that as many as 80 million non-agricultural jobs were created, and about half of these were in township and village enterprises (Far Eastern Economic Review, Feb. 8, 1989: 46-47). However, there has been limited research on the impact of these transformations on rural life and consumption patterns at the village level (Johnson, 1989).
Hunhebu Village

This part of the thesis analyzes transformations in detail at the village level. For each village the study will follow a similar format. First, the village location along the corridor will be described followed by its major natural resource endowments. Then the processes of economic and social change will be discussed. Next, the labour market changes, including demographic and occupational characteristics, will be presented, which in turn will be followed by an examination of each village's major linkages with the urban areas. Different geographical forces have produced different development outcomes. The villages selected as the case studies in this section were chosen by the author to represent three types of locations along the Shenyang-Dalian corridor, and three types of active incorporation in the emergence of EMR that have occurred in the rural economy. Their localities represent three different settlement types including a 'near suburb' village, an 'out-lying suburb' village, and a village located on the rural periphery half way between two major urban places (Shenyang and Dalian). As will be seen, the natural resource endowments and economic structures of each settlement, as well as the key economic sectors, vary widely among the three villages. Thus while the socioeconomic transformation in each village is characterized in each case by a sharp departure from the traditional rural economy, the thesis shows how the different geographical locations of these three villages within the corridor have intersected with the general transition process and resulted in quite different social and economic outcomes, as well as three distinct types of linkages with the core cities and other parts of the corridor.
CHAPTER 10
HUNHEBU VILLAGE - A 'NEAR SUBURB' VILLAGE CASE STUDY

10.1. Location And Natural Resource Endowments

Hunhebu village, is a suburban village lying near a large urban area in the corridor (5 kilometres away from Shenyang city). Since the administrative reforms of 1984 (see Chapter 8), it is now administrated by the Shenyang city suburban district of Dongling (Figure 10.1).

As a 'near suburb' village type, Hunhebu village has a relatively higher population density and lower land-person ratio than the other two cases. In 1991, Hunhebu village had a total population of 6,114 in 1,707 households (Liaoning Rural Socio-Economic Survey Team, Hunhebu (LRSEST-HHB), 1992: 22). The village's population density was 2,370 persons per square kilometre within a land area of 3,870 mu (2.58 square kilometres), which was even higher than the average population density of China's cities of over '2-million' and their suburbs (2,054 persons per square kilometre) (SSB, 1992b: 30). In Hunhebu, the land-person ratio was very low and per capita farmland was only 0.423 mu (282 square meter), which was only about 22 percent of the national average level (1,233 square meter per agricultural population). All this attests to the 'urban' character of this village because of its close proximity to Shenyang.

The agricultural land use pattern of Hunhebu is dominated by vegetables and rice. As Table 10.1 shows, about 23 per cent of land was used for rice fields, 43.5 per cent for vegetable planting, and 31.7 per cent for other uses (including roads, housing, irrigation, and unusable land) as well as 1.5 per cent for garden plots.
Figure 10.1
Location of the Case Study Villages in the Shenyang-Dalian Region
Table 10.1
Land use in Hunhebu village in 1991

<table>
<thead>
<tr>
<th>LAND USE</th>
<th>Mu/sq.km</th>
<th>%</th>
<th>LAND USE</th>
<th>Mu/sq.km</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Farmland</td>
<td>2,586/1.72</td>
<td>66.82</td>
<td>2. Garden plot</td>
<td>56/0.04</td>
<td>1.45</td>
</tr>
<tr>
<td>-Paddy field</td>
<td>902/0.60</td>
<td>23.31</td>
<td>3. Others*</td>
<td>1,228/0.82</td>
<td>31.73</td>
</tr>
<tr>
<td>-Vegetable planting</td>
<td>1,684/1.12</td>
<td>43.51</td>
<td>Total Land</td>
<td>3,870/2.58</td>
<td>100.00</td>
</tr>
</tbody>
</table>

Note: *Other land uses including irrigation, roads, unusable land, and housing.

10.2. Processes of Economic and Social Changes

As with other rural areas, the national economic reforms of 1978 produced great opportunities for residents of Hunhebu village. As of 1978, agriculture was the major rural economic activity creating more than 60 per cent of village GDP (Table 10.2). Since then, the dominant rural agricultural economy has been replaced by new valued-added rural industries, such as the manufacture of mini electric motors, electric wire, chemical engineering products, plastic products, and so on. The share of industrial output in this rural area increased from 15 per cent in 1978 to 64 per cent in 1991. By 1991, the rural industrial and service sectors together became the major source of the Hunhebu village economy (Table 10.2). However, this did not necessarily lead to a decline of the agricultural output. In fact, the absolute value of agricultural output increased from 750,000 yuan in 1978 to 4,930,000 yuan in 1991 or just 9 per cent of village output (Table 10.2).

10.2.1. Changing Ownership Structure

Another important economic characteristic of this village was that ownership of the village economy was shared by both individual households (including families and individuals, and the so-called 'backyard economy') and the collective (village-run economy). Table 10.2 indicates that at the beginning of the economic reform period in 1978, the productive structure was fully owned by the collective (i.e. the village), yet since then, particularly after the introduction of the household responsibility system in 1982 (LRSEST, 1991: 92), the household sector and the individual economy now produce more than one third of the total output (Table 10.2). By 1991, the total output from collective ownership declined to 63.9 per cent of total village output. Family-run and individual (private)-owned economy accounted for 36.1 per cent.
### Table 10.2

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Total output ('000 yuan)</td>
<td>123</td>
<td>771</td>
<td>1,519</td>
<td>3,133</td>
<td>4,497</td>
<td>5,482</td>
</tr>
<tr>
<td>Collective ownership (%)*</td>
<td>100</td>
<td>56</td>
<td>60</td>
<td>64</td>
<td>66</td>
<td>64&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>Family ownership (%)**</td>
<td>0</td>
<td>44</td>
<td>40</td>
<td>36</td>
<td>34</td>
<td>36&lt;sup&gt;1&lt;/sup&gt;</td>
</tr>
<tr>
<td>From agriculture ('000 yuan/%)</td>
<td>75/61</td>
<td>138/18</td>
<td>181/12</td>
<td>313/10</td>
<td>405/9</td>
<td>493/9</td>
</tr>
<tr>
<td>From industry ('000 yuan/%)</td>
<td>18/15</td>
<td>308/45</td>
<td>961/63</td>
<td>2,005/64</td>
<td>2,743/61</td>
<td>3,509/64</td>
</tr>
<tr>
<td>From tertiary ('000 yuan/%)</td>
<td>30/24</td>
<td>285/37</td>
<td>377/25</td>
<td>815/26</td>
<td>1,349/30</td>
<td>1,480/27</td>
</tr>
</tbody>
</table>

Notes: * Output from collective (village-run) operation; ** Output from family or private operation.

10.2.2. Diversification of Agricultural Products

The rapid socioeconomic transformation from farming to a more diverse array of activities in this village has greatly benefited from its favourable location viz a viz Shenyang. This location facilitates the development of agricultural production and a tertiary sector oriented to the large city's market. In particular, the proximity of this village to Shenyang enables the rapid development of vegetable and fresh agricultural production (such as vegetable, meats, fish, and so on) and the gradual decline in rice production (interviews with Mr. Wanlin Liu, head of Hunhebu village, Hunhebu, January 18-21, 1993). The supply of these fresh agricultural products to Shenyang has formed an important feature of agricultural production in this village since 1978. Among them, vegetable production has now emerged as the key agricultural sector. Close proximity to markets and high prices obtained for vegetables throughout the 1980s has led to the conversion of about 65 per cent of village farmland into vegetable plots since 1982. In 1992, vegetable production amounted to 2.77 million yuan output, which accounted for more than half of total agricultural output (LRSEST-HHB, 1993: 39).

This pattern of production can be contrasted with the period of 1950-1985 when a "state monopoly for purchase and marketing" (tonggou tungxiao) system was in force (Shi, 1990: 55-58). Under that system, the village had to sell all its vegetable and meat to state-run-stores in the cities at fixed low prices. Due to an arbitrary price mechanism, there was little advantage for planting vegetables or other agricultural products to meet the urban demand. Consequently, rice farming was the major industry in Hunhebu. Since 1985, however, the state monopoly of vegetable marketing was abandoned (Leeming, 1993: 97) and a new system, called the 'dual price system' (shuangguizhi), was introduced. This now allows peasants to sell vegetables both under state contract at official prices, but also outside the contract system at roughly double the official prices (Shi, 1990: 55-58). Moreover, families growing vegetables under the contract system can now receive production subsidies. For example, vegetable farmers are able to purchase grain and coal at low prices. Their risks in production and marketing are virtually nil, being assumed in effect by the official marketing
Hunhebu Village

system. Since 1990, village farmers in Hunhebu can produce their vegetables with even more flexibility. They increasingly sell their best and earliest vegetables on the open market so to receive a higher income, keeping only later and inferior crops for the state contract. Consequently, about 60 per cent of the vegetable market were estimated to be sold through the state-owned vegetable stores and 40 per cent in the free market in Shenyang in 1990, as compared with almost 100 per cent by the state-owned vegetable stores pre-1978. Actually, the share of the vegetables sold in free markets is still increasing (interviews with Mr. Wanlin Liu, village head, Hunhebu Village, January 18-21, 1993).

Targeted at the Shenyang market, newer agricultural products have become the most important agricultural income in this village. In 1992, more than 90 per cent of Hunhebu village's newer agricultural products, such as vegetables and meats, were sold in Shenyang's city markets. The output of these newer fresh and live products accounted for more than 90 percent of the village's total agricultural output in 1992 (LRSEST-HHB, 1993: 3).

10.2.3. The Growth of Tertiary Sectors

Proximity to Shenyang has also allowed Hunhebu villagers better opportunities to develop their service sectors, such as shops, hotels, and restaurants, since 1978. As shown in Figure 10.1, this village is located at the junction of two important transportation lines: the Shenyang-Dalian express highway and the Shenyang-Dandong transportation lines (both highway and railway). Daily transit passengers and vehicle operators comprise the major customers for Hunhebu village's service sectors (interviews with Mr. Wanlin Liu, village head, Hunhebu, January 18-21, 1993). The tertiary sector was already an important part of village income before the economic reforms and in 1978, it accounted for 24 per cent of the village output (Table 10.2). However, a major growth of the service sector occurred after 1978 when Hunhebu village took advantage of the reforms, capitalized on its prime location, and set up a variety of new services. Hunhebu's comparative advantage in the tertiary sectors has been due to the lower costs of accommodation and food in this suburban village when compared to the urban core. For instance, passerby travellers and vehicle drivers prefer to stay in its
hotels, and eat and even be entertained in this village because of its lower price. Often travellers to Shenyang conduct businesses in the city core but stay outside in this village because of its short distance from downtown Shenyang (interviewed with Mr. Wanlin Liu, village head, Hunhebu, January 18-21, 1993). The 'commercial street' (shangye yi tiaojie) of this village was built along the Shenyang-Dalian highway and consists of a wide variety of commercial enterprises, including hotels, retailer, catering and trading establishments, repair shops, tourism offices, and financial services, which are owned by either the village or by individuals. The total labour force employed in this main street reached almost 1,000 persons in 1992 (including workers who had moved from other places), of which 500 were engaged in hotels, restaurants, and tourist shops (LRSEST-HHB, 1993: 47-48).

The orientation towards city consumers has also led to the emergence of a pet market in this village which is patronized by visitors from Shenyang (a pet market is rare phenomenon in rural China). In 1992, the village leaders invested 100,000 yuan and built a pet market (the Shenyang Pet Free Market) occupying 2,600 square meters. Thus was both a commercial outlet and recreation facility. The economic profit for the first year was reportedly high due to the large number of urban consumers who visited this facility (LRSEST-HHB, 1993: 49).

10.3. Occupational Transition

Before the 1978 rural reforms, as with most other coastal parts of rural China, the majority of the peasants in Hunhebu were engaged in rice farming. Table 10.3 shows that in 1978, more than 83 per cent of village labour force were engaged in agricultural activities. This was dramatically reduced to 21 per cent by 1991. Interestingly, among the agricultural labour force in 1991, about 60 per cent were engaged in both farming and non-farm activities. Following the abandoning of the rural commune movement in the early 1980s, Hunhebu's rice paddies were planted by just a few families (compared with over 80 per cent of the labourers before 1978), and by 1992, all the rice fields were farmed by just five families with a total of 10 labourers. A large amount of this
Hunhebu Village

Table 10.3
Labour occupation structure in Hunhebu village in 1978 and 1991

<table>
<thead>
<tr>
<th>Occupation</th>
<th>1978</th>
<th>1991</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>%</td>
</tr>
<tr>
<td>TOTAL LABOUR</td>
<td>1,198</td>
<td>100.00</td>
</tr>
<tr>
<td>1. Agricultural Labour</td>
<td>1,001</td>
<td>83.56</td>
</tr>
<tr>
<td>----Agriculture Only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>----Farming first, others second</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Village enterprises workers (peasant workers)</td>
<td>158</td>
<td>13.19</td>
</tr>
<tr>
<td>4. Individual or partnership-owned business</td>
<td>302</td>
<td>14.42</td>
</tr>
<tr>
<td>----Individual-owned</td>
<td>162</td>
<td>7.74</td>
</tr>
<tr>
<td>----Partnership-owned</td>
<td>140</td>
<td>6.69</td>
</tr>
<tr>
<td>5. Private enterprises owners</td>
<td>74</td>
<td>3.53</td>
</tr>
<tr>
<td>----Single-owner</td>
<td>48</td>
<td>2.29</td>
</tr>
<tr>
<td>6. Village political officers (Cadres)</td>
<td>7</td>
<td>0.33</td>
</tr>
<tr>
<td>7. Teachers, doctors, nurses</td>
<td>41</td>
<td>1.96</td>
</tr>
<tr>
<td>8. Others</td>
<td>54</td>
<td>2.58</td>
</tr>
<tr>
<td>Subtotal 3-8</td>
<td>39</td>
<td>3.25</td>
</tr>
</tbody>
</table>

Hunhebu Village

agricultural labour later shifted to vegetable production. For example, in 1992 vegetable plots were operated by 340 employees who were former agricultural peasants. The remaining labour force was transferred to the non-farming sectors. Most of them became employees in new village small enterprises, such as metal wire factories, boric acid, machine tools, fireproof material, and automobile glass factories (LSEST-HHB, 1991: 119), or staff for individual or partnership-based industrial or business enterprises. In 1992, about 78 per cent of the village labour force engaged in industrial and other service activities and this percentage excluded those agricultural labourers who were partly engaged in non-farm activities. Those sectors outside farming which most rapidly absorbed the village labour force comprised the 'peasant workers' category as well as rural industrial sectors. The category of 'peasant workers' rose from just 13 per cent of the total labour force in 1978 to 49 per cent in 1991. The other rural non-agricultural category absorbed 3 per cent of the rural labour force in 1978 and 29 per cent of the Hunhebu labour force in 1991 (Table 10.3).

The dominance of non-agricultural activities in this village by the end of the study period is evident by the data contained in Table 10.4. This indicates that in 1992, the non-farming labour and village income obtained from non-agricultural sectors were 3.7 and 2.9 times of that from agriculture, respectively. Gross output and income from non-agricultural activities were about 10 times that from agriculture and tax from the non-agricultural sector was 71 times of that from agriculture. These figures reveal a dramatic contribution of non-agricultural activities in Hunhebu village's economic development (Table 10.4).

Women's Participation:

One of characteristics of Asian EMRs is the growth of female employment in non-agricultural activities (see Chapter 3). This feature was not, however, typical during the pre-1978 period in most rural villages in the Shenyang-Dalian corridor. Indeed, during the pre-1978 period, all labour (either male or female) had to participate in the collective economic activities of the commune or village,
### Table 10.4
Ratio of non-agricultural and agricultural index in Hunhebu village, 1992

<table>
<thead>
<tr>
<th>Ratio</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Agricultural Labour Input/Agricultural Labour Input (Labour Days)</td>
<td>$1647/447=3.7$</td>
</tr>
<tr>
<td>Non-Agricultural Gross Output Value/Agricultural Gross Output Value (million yuan)</td>
<td>$55.05/5.1=10.8$</td>
</tr>
<tr>
<td>Non-Agricultural Income/Agricultural Income (million yuan)</td>
<td>$18.33/1.82=10.1$</td>
</tr>
<tr>
<td>Per Capita Net Income From Non-Agriculture/Net Income From Agriculture (yuan)</td>
<td>$2650/909=2.9$</td>
</tr>
<tr>
<td>Taxes From Non-Agriculture/Taxes From Agriculture (million yuan)</td>
<td>$2.63/0.37=71.0$</td>
</tr>
</tbody>
</table>

Source: LRSEST-HHB, 1993: 3.
which at that time were mostly agriculture. Consequently females living in the village could be said to be already fully employed, although strictly in a non-market-economy.

After the 1978 reforms, female participation has been characterized not so much by the increase in absolute numbers, but by the increase in their engagements in non-agricultural and more market-oriented activities. It is well-known that since the rural reform, due to the household responsibility system, peasants have had a much freer choice over how long and how many hours they would devote to production. In this environment, some women shifted from traditional farming to various kinds of non-farming activities. For example, some of them engage in the manufacturing sector, such as wickerwork making, metal wire, boric acid, machine tool, fireproof material, and automobile glass. Others engage in service activities, such as working in restaurants, hotels, and retail outlets (LSEST-HHB, 1991: 119). As Table 10.5 shows, female peasants were not left behind in the general shift of the rural labour structure from farming to non-farming activities. The 1991 general pattern of labour distribution in Hunhebu village was similar between males and females in the overall distribution as between agricultural, peasant workers, and those employed in individual businesses. However, there was a stark difference in the relative distribution between women and men in certain other sectors. As Table 10.5 clearly shows, there were more males than females in the village political cadres (males accounted for 86 per cent, and females for 14 per cent), private-owned businesses, monopoly-owned businesses (males 71 per cent, females 29 per cent), and village enterprise management (males 72 per cent, females 28 per cent) (Table 10.5). This indicates that although the communist political system formally promotes equality in the workforce, the post-1978 reform has resulted in men still comprising the major decision makers in the village.

However, by itself, this distribution does not indicate that women have been left completely out of the changes facilitated by post-1978 reforms. Thus, in certain occupations women are more often hired than men, e.g. village teachers and barefoot doctors (females 78 per cent, males 22 per cent), partnership business (female 69 per cent, male 31 per cent), and in the dual occupation of both
Table 10.5
The labour structure by gender in Hunhebu village in 1991 (persons)

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Labour</th>
<th>Male (%)</th>
<th>Female (%)</th>
<th>Male (%)</th>
<th>Female (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2,094</td>
<td>53.4</td>
<td>46.6</td>
<td>100.0</td>
<td>100.0</td>
</tr>
<tr>
<td>Agriculture</td>
<td>447</td>
<td>48.1</td>
<td>51.9</td>
<td>19.2</td>
<td>23.8</td>
</tr>
<tr>
<td>-- Engaged entirely in agriculture</td>
<td>190</td>
<td>56.3</td>
<td>43.7</td>
<td>9.6</td>
<td>8.5</td>
</tr>
<tr>
<td>--Primarily engaged in agriculture and secondarily in non-agriculture</td>
<td>257</td>
<td>42.0</td>
<td>58.0</td>
<td>9.7</td>
<td>15.3</td>
</tr>
<tr>
<td>Peasant workers</td>
<td>1,035</td>
<td>55.9</td>
<td>44.1</td>
<td>51.7</td>
<td>46.8</td>
</tr>
<tr>
<td>Village enterprise managerial</td>
<td>134</td>
<td>71.6</td>
<td>28.4</td>
<td>8.6</td>
<td>3.9</td>
</tr>
<tr>
<td>Individual or partnership business</td>
<td>302</td>
<td>42.1</td>
<td>57.9</td>
<td>11.4</td>
<td>17.9</td>
</tr>
<tr>
<td>---Individual business</td>
<td>162</td>
<td>51.9</td>
<td>48.1</td>
<td>7.5</td>
<td>8.0</td>
</tr>
<tr>
<td>---Partnership business</td>
<td>140</td>
<td>30.7</td>
<td>69.3</td>
<td>3.9</td>
<td>9.9</td>
</tr>
<tr>
<td>Private-owned business</td>
<td>74</td>
<td>63.5</td>
<td>36.5</td>
<td>4.2</td>
<td>2.8</td>
</tr>
<tr>
<td>--Monopoly capital owned</td>
<td>48</td>
<td>70.8</td>
<td>29.2</td>
<td>3.0</td>
<td>1.4</td>
</tr>
<tr>
<td>Village political cadres</td>
<td>7</td>
<td>85.7</td>
<td>14.3</td>
<td>0.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Teachers, barefoot doctors</td>
<td>41</td>
<td>17.1</td>
<td>82.9</td>
<td>0.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Others</td>
<td>54</td>
<td>77.8</td>
<td>22.2</td>
<td>3.8</td>
<td>1.2</td>
</tr>
</tbody>
</table>

farming and non-farm activities (females 58 per cent, males 42 per cent). The different patterns of occupation between men and women in Hunhebu village may be explained by the female labour force's other obligation - domestic housework and traditional gender-based value systems (interview with Mr. Wanlin Liu, village head, Hunhebu, January 18-21, 1993). Thus village teachers and barefoot doctors are viewed as female-feasible occupations in the Chinese system of values. Other more female-oriented economic activities, such as partnership business and employees engaged in both farming and non-farming occupations are more flexible occupations for married women and more acceptable. This is because a combination of farming and certain non-farm activities, as well as work in privately-owned partnership businesses offer female workers some flexibility in order to fulfil both the obligations of family housework and their more formal occupations at the same time. So, in this sense, although women still face discrimination, it may be said that female labourers were not entirely left out of the process of labour transition.

10.4. Rural-Urban Linkages: Subcontractor Firms and Their Impact on Rural Technology Transformation

The leaders of village enterprises located in suburban areas close to urban cores, such as Hunhebu village, are able to negotiate contracts to supply state enterprises with parts or processed raw materials, and in this process gain valuable technical and financial help. As noted in Chapter 8, subcontracting has been a special form of rural-urban linkage based on the spatial division of labour. Thus, in the post-1978 period, the village enterprises became responsible for routine production and utilizing cheap labour and land, while urban-based enterprises provided capital, know-how (managerial, techniques, and technology), and some raw materials. Urban-based enterprises were also responsible for searching out markets for products.

In 1992, Hunhebu village had 8 enterprises which acted as subcontractors for urban-based enterprises. Their combined total output amounted to 8.7 million yuan, which accounted for 31.6 per cent of total village industrial output (LRSEST-HHB, 1993: 5). Examples of this form of
subcontracting included mini electric motor, electric wire, chemical engineering products, and plastic products (interview with Wanlin Liu, village head, Hunhebu, January 18-21, 1993). Hunhebu village subcontracting enterprises were set up according to the urban enterprises' cooperative demands. In 1992, the total sum of industrial products which were sold to urban areas (mainly Shenyang) reached 25.67 million yuan, which was 14.3 times the amount sold locally (1.8 million yuan) (LRSEST-HHB, 1993: 3). It should be noted that the high dependency of village industrial production on large urban assembling enterprises was quiet different from that in other parts of rural China. In China as a whole in 1985, only about 15 per cent of the production value of rural industries was associated with urban-based factories and so included in national plans. Thus, nearly 85 per cent of the industrial production in rural China depended on village enterprises organizing their own sources of raw materials and final markets (He and Li, 1985: 13-15). By contrast, a majority of Hunhebu village's industrial production was associated with Shenyang-based enterprises.

Besides the economic benefits obtained from subcontracting linkages, this form of rural-urban interaction also promotes the transfer of urban know-how and technology to Hunhebu village enterprises, bringing direct benefits from the larger and more advanced urban enterprises. For example, in 1992, there were more than 35 urban technicians and engineers working in Hunhebu village (LRSEST-HHB, 1993: 14) and more than 347 technicians and engineers were invited as consultants for 61 village enterprises in 1992. Some of these were retired technicians, engineers, and accounting clerks from urban enterprises (ibid: 34). Their main benefit was to introduce new technological designs. In fact, some of these technicians found new markets for the products of the Hunhebu village enterprises and brought in some orders from outside. For example, in 1992, 14 technological projects and work orders were imported to Hunhebu from Shenyang, which stimulated an additional 29 per cent in industrial output and 21 per cent in profits for this village's industry as a whole (ibid: 34). The Hongqiao Chemical Enterprise company in Hunhebu village is an illustration. It produced glass putty, but before 1991, its products were not in high demand, so the gross annual output of this factory was only 600,000 yuan and the profit was only 100,000 yuan. In 1992, however, this enterprise invited engineers from the Shenyang Chemical Engineering College to
Hunhebu Village

develop machinery and equipment for a new product - cellulose. This new single product successfully found lucrative markets and created an output value of 1 million yuan and a profit of 260,000 yuan in that year (ibid).

Accompanying the introduction of engineering technology through the 'weekend consultants,' the village in 1992 invested 350,000 yuan and set up its first village research institute - the 'Lan Bell Applied Technology Institute.' By cooperating with two academic institutions in the nearby urban area (the Scientific Information Centre of Liaoning Province and the Shenyang Industrial College) (LRSEST-HHB, 1993: 48), the institute hired 10 faculty members and set about considering applied research to assist village enterprises to upgrade their technological capacities. The new institute also gives advice on engineering technology for enterprises in other regions. In 1992, this institute completed a beer production line for Faku county in the northern part of Liaoning province (ibid).

10.5. Summary

In summary, the Hunhebu case reveals a particular urban-suburban transformation process in the Shenyang-Dalian corridor focused on socioeconomic changes and subcontracting relations with Shenyang city enterprises. Its subcontracting linkages with Shenyang city and the technological transfer Shenyang as well as its urban-oriented services and agricultural products indicated strong and growing economic linkages. This case study shows that metropolitan centres play an important role for the economic 'take-off' of their surrounding regions. However, this is not to say that the socioeconomic transformation throughout the Shenyang-Dalian EMR was predominantly dependent on the trickle-down activities from its urban centres. The following case study of another village will show that rural areas with local specialty products can also achieve economic transition, grounded on the development of local resource-based processing activities.
CHAPTER 11
HOUISHI VILLAGE
-A RICH RESOURCE VILLAGE CASE STUDY

11.1. Location And Natural Resource Endowments

Houshi is an example of an 'out-lying suburban' village, located 60 kilometres away from the metropolitan centre of Dalian, and lying along the coast of the Bohai Sea in the southern part of the corridor. Administratively, it is under the jurisdiction of Dawei Xiang (township, previously commune), Jinzhou district, an outer-suburban district of the Dalian Metropolitan administration (see Figure 10.1). This village has the largest land area among the three selected case study villages and comprises 22,408 mu (14.9387 square km). In 1991 its total population was 3,167 and its population density was 212 persons per square kilometre. Its person-to-land ratio was about 1 mu (663 square metre) farmland per capita, which is higher than Hunhebu (0.423 mu) but lower than Tuchengzi (2.66 mu). However, it differs sharply from the other two case study villages due to its highly diversified natural resource base, which comprises farmland, forests, garden plots, pasture land, lakes and, more importantly, marine products from its favourable coastal location. Table 11.1 shows its diverse land use structure in 1991. Its forested land, lakes, garden plots, pasture land, and coastal beaches provided a raw material base for the development of diversified local specialty products. In particular, because it is located along an 8 kilometre coastline of the Bohai sea, the villagers catch lots rich marine products, such as prawns, scallops, and other fish. These, together with the specialty products from the forest (eg. haws, chestnuts and walnuts), and fruits from garden plots, provided a wide variety and large quantity of local specialty products.
### Table 11.1
Land use in Houshi village, 1991

<table>
<thead>
<tr>
<th>Land Use</th>
<th>Area (mu)</th>
<th>%</th>
<th>Land Use</th>
<th>Area (mu)</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>22408</td>
<td>100.00</td>
<td>4. Garden Plots</td>
<td>3067</td>
<td>13.69</td>
</tr>
<tr>
<td>1. Farmland</td>
<td>3149</td>
<td>14.05</td>
<td>--Operated By Village</td>
<td>3058</td>
<td>13.65</td>
</tr>
<tr>
<td>--Operated By Village</td>
<td>3005</td>
<td>13.41</td>
<td>--Operated by Family</td>
<td>9</td>
<td>0.04</td>
</tr>
<tr>
<td>--Operated By Family</td>
<td>144</td>
<td>0.64</td>
<td>5. Pasture land</td>
<td>2053</td>
<td>9.16</td>
</tr>
<tr>
<td>2. Forest Land Use</td>
<td>6229</td>
<td>27.80</td>
<td>--Operated by Village</td>
<td>2053</td>
<td>9.16</td>
</tr>
<tr>
<td>--Forest Covered</td>
<td>5998</td>
<td>26.77</td>
<td>6. Coastal beach</td>
<td>1755</td>
<td>7.83</td>
</tr>
<tr>
<td>--Suitable to Forest</td>
<td>231</td>
<td>1.03</td>
<td>7. Others</td>
<td>3285</td>
<td>14.66</td>
</tr>
<tr>
<td>3. Water Surface</td>
<td>2870</td>
<td>12.81</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11.2. Processes of Economic and Social Change

The process of the post-1978 socioeconomic change in Houshi village involved the establishment of a local resource-based production system (including diversification of agricultural activities and integrated rural industrial production systems) and changes in collective ownership. This section will emphasize the socioeconomic transformation based on its local resources.

11.2.1. Diversification of Agriculture

Before 1978, Houshi was a traditional fishing village where the major economic sectors comprised fishing and farming. As in other parts of rural China, the pre-1978 conditions in Houshi village were characterized by the central government's policy of 'take grain as the key link' (Leeming, 1993; Cannon and Jenkins, 1990). In other words, an overriding emphasis was placed on grain production, with little or no investment placed in developing village fisheries or other non-agricultural sectors. However, since the reforms of 1978, as with many other rural areas in the corridor, the economic structure of Houshi village was sharply transformed away from its prior dependence on agricultural and other primary sectors towards a more balanced structure which included both manufacturing and service activities.

Table 11.2 shows the output value of Houshi's economy from 1978 to 1990, and reveals that farming has now lost its dominant position in the total economic structure and declined from 51 per cent to just 9 per cent between 1978 and 1990. In addition, the total share of forestry and animal husbandry in the total village output value declined from 14.6 per cent in 1978 to less than 2 per cent in 1990. Meanwhile, non-agricultural sectors and fishery output (including marine product processing) became the dominant sources of village income. The share of non-agricultural products measured in output value increased from 27.6 per cent in 1978 to 54.9 per cent in 1990, and fishery output from 5.9 percent to 34.5 per cent. These two sections together accounted for almost 90 per cent of village total output value (see Table 11.2).
Table 11.2
The output value structure in Houshi village (‘000 yuan)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>output</td>
<td>%</td>
<td>output</td>
<td>%</td>
</tr>
<tr>
<td>Total</td>
<td>1,340</td>
<td>100.0</td>
<td>5,790</td>
<td>100.0</td>
</tr>
<tr>
<td>Farming</td>
<td>690</td>
<td>514.9</td>
<td>1,110</td>
<td>191.9</td>
</tr>
<tr>
<td>Fisheries</td>
<td>80</td>
<td>59.7</td>
<td>930</td>
<td>160.8</td>
</tr>
<tr>
<td>Forestry</td>
<td>200</td>
<td>149.3</td>
<td>10</td>
<td>1.7</td>
</tr>
<tr>
<td>Animal husbandry</td>
<td></td>
<td></td>
<td>510</td>
<td>88.2</td>
</tr>
<tr>
<td>Non-agriculture</td>
<td>370</td>
<td>276.1</td>
<td>890</td>
<td>153.8</td>
</tr>
<tr>
<td>-Industry</td>
<td></td>
<td></td>
<td>260</td>
<td>44.9</td>
</tr>
<tr>
<td>-Construction</td>
<td>370</td>
<td>27.6</td>
<td>10</td>
<td>1.7</td>
</tr>
<tr>
<td>-Transportation</td>
<td></td>
<td></td>
<td>190</td>
<td>32.8</td>
</tr>
<tr>
<td>-Catering trade*</td>
<td>30</td>
<td>5.2</td>
<td>70</td>
<td>4.4</td>
</tr>
<tr>
<td>Others</td>
<td>400</td>
<td>69.1</td>
<td>1,010</td>
<td>64.2</td>
</tr>
</tbody>
</table>

Note: *: Mainly includes catering trade (grocery) and services.

11.2.2. Changes in Collective Ownership

A distinctive feature of this village is its continuing strong collective economic ownership. Since the introduction of the household responsibility system in 1978, most parts of rural China have been dominated by either family or individual operations. However, in Houshi village, the majority of production, resources, farmland, and other assets are still operated and owned by the village collective. The responsibility system is attached to working teams or groups, rather than individual families. In other words, families work as transportation teams, fishery teams, shrimp catching teams, rice plantation teams, and vegetable production teams which control village enterprises. Moreover, the village farmland has not been distributed to individual families, as in other two case study villages, but remains operated by the village collective. Thus even though this village has adopted the responsibility system in 1982, it appears to have evolved in a different way from many others. Over all, the village farmland continues to be operated by the village collective. The new responsibility system practiced in Houshi village involved labourers being reorganized into small teams (several families or group of labours) to work directly for the village under contract. Thus, each team was contracted to particular production lines or parts of production processes under the management and guidance of the village committee. When teams fulfil their production quota set up by the village committee, they gain further income in the form of bonuses for extra output. Moreover, the responsibility for the distribution and sale of the products manufactured by teams was also taken care of by the village.

Table 11.3 shows the percentage share of Houshi village's labour force and income which came from collective output. It indicates that between 1984 and 1992 the share of the village's labour force engaged in village-collective operations remained at over 90 per cent, and the share of other village income derived from village collective enterprises had even increased over the period (Table 11.3).


Table 11.3  
Village-collective shares of labour, income sources,  
and per capita income in Houshi village, 1984-92

<table>
<thead>
<tr>
<th>Year</th>
<th>Labour</th>
<th>Total income ('0000 Yuan)</th>
<th>Per capita income</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total</td>
<td>from the collective</td>
<td>%</td>
</tr>
<tr>
<td>1984</td>
<td>1486</td>
<td>1484</td>
<td>99.9</td>
</tr>
<tr>
<td>1988</td>
<td>1705</td>
<td>1607</td>
<td>94.3</td>
</tr>
<tr>
<td>1992</td>
<td>1728</td>
<td>1716</td>
<td>99.3</td>
</tr>
</tbody>
</table>

Note: Collective means village owned and operated.

**Houshi Village**

Why have peasants in this village preferred a collectively-owned economic system over a more individual or family-oriented structure? Field research found that this preference was mainly because the major wealth production sectors of this village were dependent upon local specialty products, such as fish ponds, fruits and garden plots. If products were managed by individual families, it was thought that the households without production assets would feel discriminated against because they had no access to these highly profitable operations. By contrast, the operation of these local resources by the village collective allowed everyone to share in the profit (Interview with Mr. Yugui Chen, village head, Houshi, March 8-19, 1993). As with Hunhebu village, Houshi's village enterprises have performed well under the collective system since 1978, and in 1992, produced about 58.9 per cent of total village income. It was thought unlikely that alternative forms of management would emerge to replace the village collective ownership, especially as it was seen as difficult for individual families to run these well-established enterprises with higher levels of economic efficiency (ibid).

This style of collective-dominant economic ownership distinguishes Houshi from other villages of the Shenyang-Dalian corridor in the post-1978 period. However, there are, indeed, several advantages accruing from such ownership. First, is the ability to accumulate a higher proportion of profit which then could be re-invested back into local resources. Thus between the years of 1978-1992, the capital accumulation rate of return from collective operation in this village was recorded as over 30 per cent per year (LRSEST-HS, 1992: 6). The capital accumulated from the village-collective economy was 180,000 yuan in 1978 (LRSEST-HS, 1988: 140), 627,000 yuan in 1984, and reached 3,310,000 yuan in 1991 (LRSEST, 1991: 197 and LRSEST-HS, 1992: 19). This continuing strong economic growth has allowed the village collective to accumulate capital for further expansion and for new production systems.
11.2.3. Formation of Local Specialty Productions

From 1984, the village started developing local specialty products, such as fruits and marine products. The village has structured all its local rural industries into an integrated production system called 'agricultural-industrial-trade combinations' (nong-gong-mao lianheqiyi). Figure 11.1 shows that these combinations linked agricultural production and local natural resource exploitation with processing, storage, distribution and marketing. The village leaders classified these combinations into coordinated production lines, and by 1992 six coordinated production lines had been established. These were: (1) an industrial combination of fruit production and fishery products linked with canned food processing factories, fruit storage and cooler houses; (2) a combine of quarry limestone mining (limekiln) linked with prefabricated building materials processing and construction teams; (3) a combine of vegetable production units linked with the village transportation teams; (4) sweet potato plantation linked with a sweet potato starch factory; (5) dairying linked with an ice cream factory; and (6) small and unsold fish linked with raising martens (A marten is a small furry, weasel-like mammal having thick, soft fur ranging in colour from golden brown to blackish-brown. It eats fish and its length ranges up to 80 centimetres, including the tail. Its fur is made into coats, stoles, and other materials used for trimmings) (interviews with Yugui Chen, village head, Houshi, March 8-19, 1993).

The objective of such a stream-lined agricultural-industrial-trade combine was to integrate the production of local specialty products with their processing, storage, transportation, and inter-regional trade. Teams of salespeople were assigned to search for markets in the corridor cities of Dalian and Shenyang, as well as further away, such as Shanghai and other major large cities in China. For example, the village-based fruit plantations and fishing activities were linked with collectively-owned canning, and storage. Both the fresh and canned fruit output were transported to urban markets and sold there by teams of Houshi village salespeople. In 1992, the output value of exported processed fish products reached 8 million yuan in this village, which was about 19 per cent of the total village GDP (LRSEST-HS, 1992). Associated with fishing has been the development of raising martens. Martens are fed by left-over and small-size fish, and marten fur is a valuable product.
Figure 11.1
Local Specialty Production Lines in Houshi Village

Source: Author's Field Investigations, 1993.
Another successful line has been the raising of milk cows linked with the production of ice cream. Ice cream was stored in village cooler houses and finally distributed to urban markets. In terms of vegetable plantations, Chinese chives are the major crop in Houshi village. The fresh vegetables were directly transported to markets by village transportation teams. Another activity, involving a sweet potato plantation, provides raw materials for potato starch factories. Other teams such as those quarrying limestone are associated with the manufacture of prefabricated building materials. The building material production line is based upon the village's successful bid to supply construction materials to projects in the Shenyang-Dalian urban areas, new housing in surrounding rural areas, as well as the newly developed economic zones (Interview with Yugui Chen, village head, Houshi, March 8-19, 1993).

The integrated production system is able to maximize the use of local resources, offer more jobs for local workers, create more value-added products, and also greatly reduce distribution costs to final markets. Moreover, due to the different seasonal peaks of many of these activities, labourers can be organized in a flexible way to optimize the use of Houshi village's workforce. Thus in the busy farming seasons (June-October), the village labour force is mostly engaged in household farms. Much of the village's other production can be operated in the less busy farming seasons (November-May), such as the processing of sweet potato starch, quarrying limestone, and the processing of prefabricated building materials. These production activities have become complementary sectors for the seasons (mainly winter and spring) associated with a surplus of farm labour. This way of organizing enterprises is possible because of the strong collective economic foundation and collective administration of the village.
11.3. Occupational Changes

This section looks at the overall changes in the Houshi village's labour market which have occurred since 1978. Table 11.4 indicates that the labour structure of Houshi village in the pre-1978 period was characterized by a high agricultural involvement and a high unemployment rate. For example, in 1978, about 76 per cent of the village labour force were engaged in the agricultural sector, 12 per cent in non-agricultural sectors and the remaining 12 per cent were unemployed. Moreover, among the 1,439 employed labourers, there were 400 working only half-time (LRSEST- HS, 1992: 2). In total, then, roughly a quarter of the labour force could be said to be either unemployed or underemployed, due mainly to the limited capacity of farming activities to absorb full-time labourers all year round. The seasonality of farming activities could only fully employ labour during the busy season, while during the rest of the year, most of the village labour force could be not assigned to any job.

After 1978, more and more labourers were transferred to new rural-based industries. The non-agricultural sectors absorbed about 45 per cent of the total labour force in 1991, compared with just 12 per cent in 1978. Within the agricultural sector, the share of the labour force in farming declined from 57.7 percent in 1983 to 36.7 percent in 1991. Meanwhile, fishery and fish processing became a major labour absorbing sector, and the work force in this sector increased from 8.9 per cent in 1983 to 15.7 per cent in 1991 (Table 11.4). By 1991 the rapid development of non-farming activities absorbed all the available labour force and there was no person who was either unemployed or under-employed. As discussed in Chapter 13, the high demand for labour in this village also attracted migrants from other parts of the province.
### Table 11.4
Labour structure in Houshi village, 1978-1991 (persons, %)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Labour</td>
<td>%</td>
<td>Labour</td>
<td>%</td>
</tr>
<tr>
<td><strong>Total labour</strong></td>
<td>1455</td>
<td>100</td>
<td>1263</td>
<td>100</td>
</tr>
<tr>
<td><strong>Farming</strong></td>
<td>726</td>
<td>57.5</td>
<td>418</td>
<td>25.7</td>
</tr>
<tr>
<td><strong>Forestry</strong></td>
<td>21</td>
<td>1.7</td>
<td>23</td>
<td>1.4</td>
</tr>
<tr>
<td><strong>Animal husbandry</strong></td>
<td>16</td>
<td>1.3</td>
<td>72</td>
<td>4.4</td>
</tr>
<tr>
<td><strong>Fishing &amp; fish processing</strong></td>
<td>113</td>
<td>8.9</td>
<td>292</td>
<td>18.0</td>
</tr>
<tr>
<td><strong>Non-agriculture#</strong></td>
<td>175</td>
<td>12.0</td>
<td>387</td>
<td>30.6</td>
</tr>
<tr>
<td><strong>--Industry</strong></td>
<td>--</td>
<td>--</td>
<td>360</td>
<td>28.5</td>
</tr>
<tr>
<td><strong>--Construction</strong></td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>--Transportation</strong></td>
<td>--</td>
<td>--</td>
<td>22</td>
<td>1.7</td>
</tr>
<tr>
<td><strong>--Catering trade^</strong></td>
<td>--</td>
<td>--</td>
<td>5</td>
<td>0.4</td>
</tr>
<tr>
<td><strong>Others</strong></td>
<td>--</td>
<td>--</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td><strong>Jobless</strong></td>
<td>175</td>
<td>12.0</td>
<td>--</td>
<td>0.0</td>
</tr>
</tbody>
</table>

**Notes:**
* The reason for less of total labour in 1983 than that in 1978 was due to more than 300 labours who were originally "urban youth" had returned to their home cities since 1979 (LRSEST-HS, 1987, p.201).

** The number of the jobless labours is calculated by total jobless days divided by 300 labour days.
# Fishery processing was excluded.
^ Catering trade (grocery) and services.

11.4. Rural-Urban Linkages

The emphasis on using a local resource based industrial growth strategy does not mean that subcontractor links with large assembly enterprises from surrounding cities and foreign investments (as in the case of Hunhebu village) have been totally ignored. Links with state enterprises in Dalian city, for example, also played an important role in this village's industrial development. The subcontractor links with large urban enterprises brought capital and industrial production to the village enterprises. For example, in the 1980s and early 1990s, a number of urban enterprises from Dalian invested 30 million yuan in Houshi village. These investments included a paint manufacturing factory from Dalian, an adhesive-bonding fabric factory from Jinzhou (half way between Dalian city and Houshi village) and three other enterprises from Dalian (interviews with Yugui Chen, village head, Houshi, March 8-19, 1993).

Other external linkages were forged with foreign investors. As the focus of foreign capital from Japan, Taiwan and Hong Kong gradually shifted from the major cities of the corridor to the rural areas, in search of an inexpensive labour force, Houshi village was able to set up several joint-ventures. For example, in 1990, Taiwanese investors set up a toothbrush factory joint venture in this village whose production had earned an annual value of 394,000 yuan by 1992. Houshi's toothbrushes have been exported to foreign countries, earning US$40,000 a year for this village (LRSEST-HS, 1992). In the early 1990s, several other foreign companies became interested in this village, and it was expected that the further earning from export products might account for more than half of village GDP (ibid, 1992: 9).
11.5. Summary

This case study has demonstrated a pattern of rural transformation based on both local specialty resources and strong collective economic ownership. The economic organization of 'agricultural-industrial-trade combines' in this village was made possible due to both of these factors. The Houshi case study demonstrates how labour and economic changes have occurred in an area along the Shenyang-Dalian corridor which is endowed with rich resources, yet this has brought rapid prosperity, and relative income equality. The next case study will consider the post-1978 transformation of a village in the corridor with few natural resources but a favourable location close to newly established free markets.
Tuchengzi Village

CHAPTER 12
TUCHENGZI VILLAGE
- THE CHICKEN RAISING AND LEATHER BAGS VILLAGE

12.1. Location And Natural Resource Endowments

Tuchengzi village is interesting due to its remote location more or less midway in the Shenyang-Dalian corridor. It lies 30 kilometres away from the city of Anshan (population 1.4 million), and is administered by the Haicheng county-level city (see Figure 10.1). It is also the smallest village among the three selected. In 1992, Tuchengzi consisted of just 189 households, and a total population of 666 in a land area of 2,052 mu (approximately 1.4 square kilometres). The population density was 487 persons per square kilometre and the total labour force was 374 persons (LRSEST-TCZ, 1992).

Unlike Houshi village, there were few diversified natural resources in Tuchengzi village apart from surrounding farmlands. Consequently, its economic activity is dominated by farming which accounted for 86 per cent of its total land area (2054 mu or 1.37 square kilometres). Other uses accounted for 14 per cent of total land, including roads, irrigation systems, housing, and unusable land (LRSEST-TCZ 1991: 454-455). In this sense, Tuchengzi is more representative of the majority of villages in the eastern parts of China where farmland is the primary resource (Leeming, 1993). In 1992, Tuchengzi had 2.66 mu (1,773 square meters) farmland per capita ranked highest among the three case study villages. The example of Tuchengzi represents how even a relatively isolated farming village within the Shenyang-Dalian corridor had its economic structure and workforce virtually transformed by the post-1978 reforms and the greater rural-urban links.
12.2. Processes of Economic and Social Changes

Unlike Houshi village with its wide array of natural resources, and Hunhebu village with its urban market-oriented economy, the economic transformation in Tuchengzi has been oriented around the production of leather goods together with raising chickens and pigs. This section first discusses the structural changes which occurred after 1978 from an almost exclusive farming economy to a more diversified one. It then focuses on explaining the successful development of leather production and chicken raising in this part of the Shenyang-Dalian corridor.

Table 12.1 shows the change in economic structure from 1978 to 1992 and indicates a dramatic increase of non-farming sectors. In common with the other two case study villages, farming was the dominant economic sector during the pre-1978 period, it accounted about 70 per cent of the village total income, while industry accounted for only 0.7 per cent, and other non-agricultural activities (such as transportation and repairing) for 15 per cent (Table 12.1). By 1986, however, farming accounted for only 20 per cent, while manufacture accounted for about 60 per cent of the village income. The farming sector's position further declined to about 19 per cent of village's net income by 1992, while raising chickens and pigs accounted for 22 per cent, and leather bag and suitcase production provided more than half of the village income (Table 12.1).

The Leather Products and Chicken Raising Sectors and their Linkages with Nearby Free Markets:

Since 1986, the local government (Haicheng county-level city) has offered a three-year tax free policy to encourage peasants to sell their agricultural and side-line products in free markets (LRSEST-TCZ, 1993: 4). This is because Haicheng has been selected as an experimental county for 'County-level Comprehensive Reform Program' since 1984. The purpose is aimed at helping to establish a commodity market economy for agricultural production and family-operated enterprises (Liaoning Economic Dictionary, 1992: 443). Indeed, the free markets in this area were well-
## Table 12.1

<table>
<thead>
<tr>
<th>Sectors</th>
<th>1978</th>
<th>1986</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total income</td>
<td>%</td>
<td>Total income</td>
</tr>
<tr>
<td>Farming</td>
<td>151.4</td>
<td>70.6</td>
<td>216.5</td>
</tr>
<tr>
<td>Raising chicken and pig</td>
<td>28.4</td>
<td>13.2</td>
<td>157.8</td>
</tr>
<tr>
<td>Manufacture</td>
<td>1.4</td>
<td>0.7</td>
<td>636.7</td>
</tr>
<tr>
<td>-Leather Bags and Suitcases</td>
<td>0.0</td>
<td>0.0</td>
<td>n.a.</td>
</tr>
<tr>
<td>Transportation</td>
<td>16.1</td>
<td>7.5</td>
<td>23.9</td>
</tr>
<tr>
<td>Catering Trade and Service</td>
<td>n.a.</td>
<td>n.a.</td>
<td>3.6</td>
</tr>
<tr>
<td>Repairers#</td>
<td>17.1</td>
<td>8.0</td>
<td>14.7</td>
</tr>
<tr>
<td>Total</td>
<td>214.4</td>
<td>100.0</td>
<td>1,053.2</td>
</tr>
</tbody>
</table>

Notes: #: Repairers refer to those with skill to repair bikes, motorcycles, and shoes, and so on. *: Including other manufacture industry, service and other family and private industries. n.a.: not available.

established in the late 1980s. For example, within an area of about 50 kilometres from Tuchengzi village, in 1992 were located the six largest specialized free markets in Northeast China (LSB, 1993) (Figure 12.1). In particular, two large free markets lay about 15 kms away from Tuchengzi village. The Genzhuang Free Market specializes in embroidery products in the northwest, and Xiangtang Free Market in building materials in the southeast. Slightly farther away, about 40 kms, lie another two large free markets - the Niuzhuang Grain Market in the west and the Xiliu Free Market, which is China's largest free market selling dresses and cloth (LRSEST-TCZ, 1992: 95). About 50 kms away from Tuchengzi lies the Ganwang Off-Season Vegetable Market, which provides a wide variety of vegetables, especially during the off-season (Oct-April). However, the most important free market for Tuchengzi was the Nantai leather products and eggs free market, which lies just 1.5 kilometres away from this village (Figure 12.1). This free market, which was established by the Haicheng county-level government in the early 1980s, offered not only a large market for Tuchengzi leather bag and suitcase producers, but also chickens and eggs, and also a convenient source of raw materials, tools, and medical supplies for raising chickens.

In order to understand the rapid rise of chicken raising and leather bag production in Tuchengzi, note must be taken of the favourable links with Tuchengzi's farm sector. As shown in Figure 12.1, the village farm sector supplies adequate chicken feed for raising chickens which, in return provides manure suitable for the farm land. For leather bag and suitcase production, producers in Tuchengzi village collect information on new fashions and styles in other parts of China and the world through visits to large cities. Since the mid-1980s, leather bags and suitcases have been produced in Tuchengzi village by peasants and family businesses. These new entrepreneurs have few skills to engage in innovative designs but, none the less, manage to keep up with new fashions. This has been achieved by producers searching for new styles and fashions in the major cities of China, where new styles or fashions of leather bags and suitcases from all over the world first appear (interviews with Mr. Yongli Wang, leather bag and suitcase producer, Tuchengzi, February 15-24, 1993). Villagers from Tuchengzi have been sent out by the private leather bag owners to investigate new styles, and to bring them back samples of products to Tuchengzi so that they can be copied.
Figure 12.1
Links between Markets, Leather Bag and Suitcase Production, Raising Chickens, and Farming in Tuchengzi Village

Tuchengzi Village

Source: Author's Field Investigations, 1993

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By way of illustration, Mr. Yongli Wang, a member of a leather bag and suitcase production family in Tuchengzi village, spent an entire year travelling to the major markets in Guangzhou, Shanghai, Beijing, Dalian, and other large cities, to collect ideas for new fashions in bags and suitcases. Design details or samples of new style bags and suitcases were then sent back to his family. His wife, Mrs. Xiaoyan Wang, who stayed at home in charge of 8 hired women from other villages, purchased raw leather materials at the Nantai Free Market for a new generation of bags and suitcases. Within a day of manufacture, the new bags and suitcases were sold in the Nantai Free Market at the prevailing wholesale price. Therefore, the whole manufacturing process, including the introduction of new styles and fashions, the purchase of raw materials, and subsequent manufacturing took place at Tuchengzi village within just two or three days of new design information, without any delay or other bureaucratic processes. In 1992, this family produced 70,000 bags and suitcases. This amounted to a total output of 670,000 yuan, and profits of over 65,000 yuan. Quick access to the new styles and fashions in other parts of China gave this family a competitive edge in the local Nantai Free Market (interviews with Mrs. Xiaoyan Wang, leather bag and suitcase producer, Tuchengzi, February 15-24, 1993).

Field investigation found that almost all the producers of the leather goods in Tuchengzi were like the Wang family in their management style and level of innovation. Good access to up-to-date styles and fashions is an important factor in the success of leather goods production in Tuchengzi village. Another major reason for the success of this industry was the village's high degree of competitiveness in terms of market prices. These prices are normally 40 or 50 percent lower than the whole-sale price of similar leather products at state stores. This is because of the lower production costs and more flexible organization enjoyed by village family operations compared with large state enterprises (LRSEST-TCZ, 1992). For example, the Nantai Free Market normally sell leftover pieces of leather (left by the large state sector leather production enterprises) to village producers at about
Tuchengzi Village

one third of regular prices. This advantage was fully utilized by family operations which were able to manufacture products without any waste or leftover pieces. Full utilization of raw materials reduced leather production cost for the Tuchengzi enterprises. A second factor in reducing costs was the ability of family operations to operate in family houses or in backyards, thus avoiding the expense of new or separate facilities. Finally, labour costs in Tuchengzi were much less per unit of production than large state-owned manufacture operations. This was because the majority of the workforce was women, some of which owned their own leather bag and suitcase enterprises. In fact, some families had production levels sufficiently high to hire several workers, who were either local village women or were from other rural areas in this province. These workers' salary was based on piece rate wages and so the Tuchengzi manufacturers did not have to pay state government welfare and insurance premiums (Interview with Mr. Yongli Wang, leather bag and suitcase producer, Tuchengzi, February 15-24, 1993).

In Tuchengzi village, some workers engaged both in farm work as well as part-time employment in the village leather production enterprises. For example, in 1992, about 42.3 per cent of the total village households (80 households) and 23.5 per cent of the village labour force (88 labourers) were involved in leather bag and suitcase production (LRSEST-TCZ, 1993: 4). Yet, during the busiest farming seasons, many of the women often worked in the fields during the day and made bags and suitcases in the evening. As suggested in Figure 12.1, there were close links between the Tuchengzi village workforce who worked in leather goods production and the more traditional farming sector (mainly rice, wheat, maize, and soybean). On the one hand, the newer family-operated chicken raising and leather bag and suitcase production enterprises allowed peasant farmers to be engaged in two or more activities (Figure 12.1). On the other hand, such employment patterns have allowed a reduction in production costs for locally-made leather products, mainly due to the flexibility of peasant farmers being able to shift work to an alternative sector while their major occupation (farming) was not busy.

The family operation system in Tuchengzi (such as leather bag and suitcase production,
chicken raising activities, and so on) has reshaped the village's economic ownership. The village's dominant income sources are now from family-run operations. For example, in 1991, about 80 percent of village net income came from the family or individual-run economy (LRSEST-TCZ, 1993: 9). This pattern is quite different from the strong collective economy found in Houshi village, and also from the mixed ownership pattern found in Hunhebu village. Private and individual ownerships are the backbone of this village economy.

12.3. Occupational and Income Changes

Table 12.2 shows the changes in occupational structure in Tuchengzi village from 1978 to 1992. Prior to 1978, farming in Tuchengzi village followed the natural pattern, and agriculture was the major occupational sector. Indeed, about 88 per cent of the village's labour force was engaged in the farming sector in 1978 (Table 12.2). Since then, however, the labour transition in this village has been characterized by a strong shift from farming to non-farming sectors. This is reflected by the fact that the percentage of the agricultural labour force (of the total village workforce) declined from 89 per cent in 1978 to 59 per cent in 1986 and to 41 per cent in 1992. Non-agricultural sectors, such as industry and private business, increased their share in total labour force from 11 per cent to 26 per cent between 1978 and 1992 (Table 12.2).

However, compared with the other two case study villages, the labour transition in this village was characterized by more labourers remaining in the agricultural sector. For instance, there was about 74 per cent of the village workforce remained engaged in agricultural (including 40.8 per cent in farming and 30.5 per cent in animal husbandry) in Tuchengzi village during 1992, compared with 22 per cent in Hunhebu village and 55 per cent in Houshi village (refer to Tables 10.3 and 11.5). However, about one third of the labour force was engaged in one of the village's new economic sectors - that of raising chickens (see animal husbandry in Table 12.2).
Table 12.2
Change in occupational structure in Tuchengzi village, 1978-1992

<table>
<thead>
<tr>
<th>Category</th>
<th>1978</th>
<th>1986</th>
<th>Category</th>
<th>1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>153</td>
<td>100.0</td>
<td>Total</td>
<td>358</td>
</tr>
<tr>
<td>Farming</td>
<td>124</td>
<td>81.0</td>
<td>Farming</td>
<td>146</td>
</tr>
<tr>
<td>Animal husbandry</td>
<td>12</td>
<td>7.8</td>
<td>Animal husbandry</td>
<td>120*</td>
</tr>
<tr>
<td>Industry</td>
<td>2</td>
<td>1.3</td>
<td>Peasant worker</td>
<td>69</td>
</tr>
<tr>
<td>Transportation</td>
<td>4</td>
<td>2.6</td>
<td>Village leaders#</td>
<td>11</td>
</tr>
<tr>
<td>Construction</td>
<td>0</td>
<td>0.0</td>
<td>Private business</td>
<td>10</td>
</tr>
<tr>
<td>Catering trade and service</td>
<td>0</td>
<td>0.0</td>
<td>Teacher &amp; doctor</td>
<td>2</td>
</tr>
<tr>
<td>Others</td>
<td>11</td>
<td>7.2</td>
<td>Others</td>
<td>0</td>
</tr>
</tbody>
</table>


Tuchengzi Village

Here, two phenomena should be noted that have characterized the post-1978 labour transition in this village. First is the jump in total size of the village labour force from 153 in 1978 to 388 in 1986, and then a small decline to 358 in 1992 (Table 12.2). Such a jump after 1978 was not so much through a natural increase of the labour force, but rather through a shift from the pre-1978 unemployment and under-employment categories. It is well-known that up to 1978, most of labour force was engaged in farming sector and about six months of a year were not working due to the cold weather and the seasonality of farming activities. However, since 1978, more and more non-farming activities, such as raising chicken and leather bag and suitcase production, have enabled the village workforce to be fully employed all year around. In this way, the size of the labour force has increased (Table 12.2).

The transition to more productive sectors in this village has increased living standards. As more and more of the workforce shifted from farming to non-farming sectors, the level of per capita income has risen.

12.3.1. Income Changes and Distribution

During the period of 1978 to 1992, the labour transition in Tuchengzi village can be summarized by three stages. First, from 1978 to 1984, the household responsibility system released the full potential of the village's agricultural productivity. The village farmers' initiative was raised due to the new system and farm labours spent more time working their own farm land and per capita income increased from 98 yuan in 1978 to 500 yuan in 1984. Still, the major income source for the village continued to come from traditional farming. The second stage started from 1985 when the raising of chickens and pigs, manufacturing and other service sectors emerged as important complementary source of income. By 1987, per capita income reached 900 yuan. Finally, commenced in 1988, leather production and raising chickens overtook traditional farming as a source of income. The per capita income for Tuchengzi village increased from 900 yuan in 1987 to 1,232 Yuan in 1992 (LRSEST-TCZ, 1993). At that time, half of the families in this village had per capita
Tuchengzi Village

incomes of 1,500 to 2,000 yuan, which was labelled as comparatively well-off, according to a standard set up by the Chinese government (see Table 12.3).

12.3.2. Occupational Change

Besides changes in industrial sectors, the second phenomenon of the labour force transition concerns the rise in dual or multiple occupations. Those with dual or more occupations earned more income than those with a single occupation. As Table 12.4 shows, in 1992 the dual occupational labourers recorded the most rapid increase in income between 1986-1992. The top three income families were those with two or more occupations (namely agricultural first, non-agricultural secondary, both farming and raising chickens, and non-agricultural first, agricultural secondary). The highest average income was among those families engaged in both raising chickens and non-agricultural activities. This category had an average household income of 21,443 yuan in 1992, of which about 70 per cent came from raising chickens (LRSEST-TCZ, 1993: 14). The second highest income group was those families who combined farming with raising chickens; their income was 10,634 yuan in 1992. The third highest group comprised families primarily engaged in non-agriculture and agriculture as secondary occupation, their income was 8,242 yuan as shown in Table 12.4.

By contrast, those families with only a single occupation recorded lower incomes. Thus per household income for families engaged entirely in non-agricultural sectors (i.e. those hired by either village enterprises or the owners of leather production) or farming comprised the lowest income categories which were about half to tenth of that in dual occupational households (Table 12.4).
## Table 12.3
Per capita income group in Tuchengzi village, 1986 and 1992 (%)

<table>
<thead>
<tr>
<th></th>
<th>Impoverished (&lt;500 yuan)</th>
<th>Just dress warmly and eat one's fill (500-1,000 yuan)</th>
<th>Moderate income (1,000-1,500 yuan)</th>
<th>Comparatively well-off (1,500-2,000 yuan)</th>
<th>Rich (&gt;2,000 yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1986</td>
<td>33.3</td>
<td>60.0</td>
<td>3.0</td>
<td>2.0</td>
<td>0.0</td>
</tr>
<tr>
<td>1992</td>
<td>4.0</td>
<td>12.0</td>
<td>22.0</td>
<td>50.0</td>
<td>10.0</td>
</tr>
</tbody>
</table>

Note: The terms listed in this table are used by the Chinese government to reflect living standards.

Table 12.4
Household occupation structure and income level in Tuchengzi village, 1992

<table>
<thead>
<tr>
<th>Household Major Occupation</th>
<th>% of household</th>
<th>Per Household Income (Yuan)</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Total</td>
<td>Agric.</td>
<td>%</td>
<td>Non-agr.</td>
</tr>
<tr>
<td>Entirely engaged in Farming</td>
<td>4</td>
<td>4,320</td>
<td>4,320</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>Both Farming and Raising Chicken</td>
<td>6</td>
<td>10,634</td>
<td>10,634</td>
<td>100.0</td>
<td>0</td>
</tr>
<tr>
<td>Agric. First, Non-Agric. Secondary</td>
<td>42</td>
<td>21,443</td>
<td>15,198</td>
<td>70.9</td>
<td>6,245</td>
</tr>
<tr>
<td>Non-Agric. First, Agric. Secondary</td>
<td>38</td>
<td>8,242</td>
<td>2,758</td>
<td>33.5</td>
<td>5,484</td>
</tr>
<tr>
<td>Entirely engaged in non-Agriculture</td>
<td>10</td>
<td>2,947</td>
<td>0</td>
<td>0.0</td>
<td>2,947</td>
</tr>
</tbody>
</table>

Note: The survey was conducted in 50 households.

The major reasons for the higher income of dual occupational families in this village were associated with two types of complementarities. Families who worked in two or more economic sectors had the flexibility to maximize their working hours during the day by switching activities. Some occupations, such as raising chickens and pigs, were not really full time and did not require full attention in all seasons of the year. Consequently, families could shift their working hours according to the demands of each sector. In some cases family members could assist each other in a flexible manner (interviews with Mr. Kui-An Luan, village head, Tuchengzi, February 15-24, 1993). Thus, whenever a particular sector required more labour, other family members could contribute their working hours to help. This kind of complementarity offered families the flexibility to maximize the whole family labourers' working hours. The second type of complementarity was related to changes in each sector's profitability. Often the performance of any sector was difficult to predict due to changing markets and competition from other villages. When a certain sector had a better profit or a surge in demand, then family members could shift their labour and capital quickly to expand production in this sector. The higher economic efficiency of families with dual or more occupations is shown in Table 12.5. On the basis of 1992 data for Tuchengzi village, every 100 yuan input produced an output value of 290 yuan for households working in the combined agricultural, industry, and trade sectors. For households working in combined farming, raising chickens and pigs the output value was 270 yuan. But the output value for each 100 yuan input was only 258 yuan for those households entirely engaged in farming (Table 12.5).
Table 12.5  
The relationship between occupation and input/output ratio in Tuchengzi, 1992

<table>
<thead>
<tr>
<th>Occupation Combination</th>
<th>Input (1,000 yuan)</th>
<th>Output (1,000 yuan)</th>
<th>Output /Input (yuan/100 yuan)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agriculture + Industry + Trade</td>
<td>153.82</td>
<td>446.09</td>
<td>290.00</td>
</tr>
<tr>
<td>Farming + Raising Chickens and Pigs</td>
<td>40.63</td>
<td>109.70</td>
<td>270.00</td>
</tr>
<tr>
<td>Grain + Cash Crops</td>
<td>0.97</td>
<td>2.56</td>
<td>264.00</td>
</tr>
<tr>
<td>Grain Only</td>
<td>1.35</td>
<td>3.46</td>
<td>258.00</td>
</tr>
</tbody>
</table>

12.3.3. Gender Issues

Further analysis showed that most female labourers were likely to be engaged in two or more sectors. Raising chicken and pigs, and making leather bags and suitcases are predominantly female occupations whereas the men engaged in manufacturing, farming, and other sectors. For example, in 1991, among a total 180 female work force in this village, 74 per cent were involved in making leather bags and suitcases either full time or part time (LRSEST-TCZ, 1993: 33). Most of these women earned more income than men and their role in family prosperity has become more and more important. For instance, in 1991, there were total 131 households (among the total village 187 households) that had reached the standards of the 'comparatively well-off' which was approximately 1,100 yuan of per capita in 1991.31 Interestingly, 57 per cent of these 'comparatively well-off' families were those where the wives' income was higher than husbands, either through making leather products at home or by raising chicken and pigs, or a combination of both (LRSEST-TCZ, 1993: 59).

12.4. Summary

In summary, the case study of Tuchengzi village demonstrates the degree of rural transformation along the Shenyang-Dalian corridor in a village with few available natural resources. The rapid growth of the family-run labour-intensive non-farming economy, such as leather products and raising chickens, was due to the villages' proximity to several large free markets. Tuchengzi village has a multi-occupational labour force characterized by a combination of farming and non-farming activities. This has led to families having two or more non-farming activities to reach income levels higher than those engaged in farming alone.

The three case studies demonstrate three quite different processes of rural transition during

31A living standard set up by the Chinese government to predict average Chinese income by the year 2020.
the post-1978 period. The Hunhebu village case indicates the influence of a strong metropolitan centre on nearby suburban villages and the re-orientation of Hunhebu's development towards serving the nearby urban market. Its use of subcontracting from large state-run urban enterprises, the development of fresh agricultural products (vegetable, meats and fish products) for the urban market, as well as the growth of a well-developed service sector, all closely associated with the dynamism of Shenyang. The Houshi village case illustrates how unique resource endowments and local specialty products play an important role in rapid growth of an agriculture-industry-trade complex. In this case, economic growth based on local resources could be achieved in the rural areas of the southern part of the corridor.

The Tuchengzi village case represents the rural transformation in the more remote rural area of the middle part of the corridor, where well developed free markets had been established for commercial channels for variety of specialized products. This successful transformation was due to the village's utilization of nearby free markets. Its dependence upon free markets in designated towns and other market towns indicates growing rural-urban relations.

The major differences in the style and pattern of rural transformation in the three case studies were clearly shown to be due to a combination of their distinctive geographical locations and local conditions. However, it is equally valid to examine the common aspects of socioeconomic transformation in these villages in the period since 1978, an issue which forms the material of the next chapter of the thesis.
CHAPTER 13
COMMON FEATURES OF
THE VILLAGES' SOCIOECONOMIC TRANSFORMATION

13.1. Introduction

The three case study villages demonstrate different processes towards diversification of the rural economic and labour markets in the Shenyang-Dalian corridor in the post-1978 period. However, this is not to say that all the rural areas and surrounding regions of the metropolitan centres in this corridor follow one or more of these three models. Actually, socioeconomic transition in the corridor as a whole has taken place through a combination of them. For example, many villages within the corridor have developed their economies based on either local specialty production (as in Houshi village), or urban-market-oriented agricultural products (as in Hunhebu), or labour-intensive production such as in the leather products case (as in Tuchengzi). The important issue is that each has transformed their labour force and economy from a purely farming to more mixed orientation. In all three case study villages, non-farming sectors had become the major economic sources of both village income and labour absorption by 1992. However, this did not necessarily imply a parallel decline of agricultural production. Indeed, during the period 1978-1992 all these villages experienced a relatively steady increase in farm production in terms of absolute value. The decline in farming was only relative, and was only reflected by the smaller share of farming in both output and labour force, especially the labour force engaged solely in farming (see Tables 10.5, 11.5, and 12.4). Together, these two trends imply, of course, an increase of farming productivity.

This chapter focuses on identifying the common features at work among the three case study villages in order to comprehend more clearly the space economy transition in the Shenyang-Dalian
This chapter also demonstrates the emergence of what the author terms 'invisible urbanization' which has occurred in the rural areas of the corridor. This analysis has policy implications for it shows that the actual level of urbanization in the Shenyang-Dalian corridor far exceeds the official levels recognized by the government. The chapter will first discuss the important common features among the three villages, including the role of geographical location and increasing rural-urban links, labour markets, the accumulation of development capital, income inequality and different income classes, the role of women, and emerging environmental problems. This discussion provides a bridge between Parts Four and Five of the thesis.

13.2. Accessibility and Location Factors

Accessibility and location factors are always essential to understanding patterns of regional development (Fellmann and others, 1994: 11-12; Morrill, 1970: 13-14). It should be noted that all the three case villages were connected by major highways and railways along the Shenyang-Dalian corridor, as explained in chapters 10, 11 and 12. This, of course, greatly accelerated flows of people and commodities, once administrative restructures on mobility were lifted in 1984. The importance of geographical location for rural-urban linkages in China as a whole was shown by Fei's research (Fei, 1993). He indicated that most of the rural villages in inland regions, such as the provinces of Qinghai and Ningxi in western China, could not have developed their village and township enterprises without good transportation infrastructure, even although they might have had surplus labour and even access to capital. This is because they have had very little connections to modern industrial technology and marketing information from such remote locations. Technology and marketing information in China can still not be found in remote rural sectors, but only in commercial and industrial cities (Fei, 1993: 6). Therefore, particular location characteristics, such as transportation access to large urban centres, are very important for successful rural industrial development. Basically, Fei argues that rural industries require external supports from urban areas, such as in the form of markets, capital and technology, and this conclusion is supported by the village case studies in the Shenyang-Dalian region. Access to both urban markets and technology found in urban centres
were vitally important in understanding the transformation of the rural economy in all three case study villages along the Shenyang-Dalian corridor.

Beyond a more general access to important urban centres, the case study villages all had particular locational advantages, and shared a common feature - favourable location (see Table 13.1). The opportunity to take advantage of their relative locations, as well as local conditions, allowed them to experience higher levels of growth during the post-1978 reform periods than villages lying outside of the corridor (as shown in Chapter 6). Thus the Hunhebu experience is representative of an outer-suburban village and a typical socioeconomic transformation process which has occurred in nearly all villages lying close to cities in the corridor. Access to large urban centres offered people in Hunhebu and similar villages channels to city markets, the ability to develop fresh agricultural products, service sector activities (such as hotels, and restaurants), and better opportunities to subcontract from large state-run urban enterprises (Table 13.1). In the case of Hunhebu, the overall growth in the village economy was evenly shared by both the village collective and family enterprises (Table 13.1).

On the other hand, Houshi village is typical among those parts of the corridor with rich resources, particularly local specialty products, such as fishery, fruits, and mineral resources. Even here, successful value-added processing of its local specialty products required good access to city markets. Subcontracting links from urban enterprises were found to be another important component of Houshi's economic links.

Tuchengzi, located in the middle part of the corridor, represented a rural village having only farmland as its major natural resource. Despite this limitation, this village successfully developed family-operated and labour-intensive sectors, such as leather bag and suitcase manufacturing and raising chickens. The field research found that such a pattern of economic development was typical in the middle parts of the Shenyang-Dalian corridor. These key sectors performed well due to their
### Table 13.1
Summary of location advantages and major rural-urban linkages in three selected villages in the Shenyang-Dalian corridor

<table>
<thead>
<tr>
<th>Village</th>
<th>Location</th>
<th>Location advantages and local specialty products</th>
<th>Rural-urban linkages</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hun-hebu</td>
<td>near suburban</td>
<td>proximity to a large city; vegetable and fresh agricultural products</td>
<td>subcontracting links, service sectors; Shenyang as a market for fresh agricultural products</td>
</tr>
<tr>
<td>Houshi</td>
<td>outer suburbs</td>
<td>rich in marine resources and other in local specialty products</td>
<td>Dalian as market and window to sell village products; subcontracting linkages</td>
</tr>
<tr>
<td>Tu-chengzi</td>
<td>rural</td>
<td>nearby large free markets; labour-intensive production (leather products &amp; raising chickens)</td>
<td>free markets as a major supplier of materials, and as a market for leather products and chickens</td>
</tr>
</tbody>
</table>
superior access to well-developed rural free markets (various specialized free markets in the rural areas between the cities of Shenyang and Yingkou are discussed in Chapter 12). This transformational feature differs both from a suburban case Hunhebu, with urban-market-oriented economy and subcontracting relations with urban enterprises and from the rich resource-based case Houshi village, with well-performed local specialty production. Once again, these differences indicated the importance of geographical location and local conditions.

The differences in the transformation of the space economy among these three villages reflected individual socioeconomic conditions and their specific localities. However, there are similar socioeconomic transformation processes occurring among all these village and others along the Shenyang-Dalian corridor. One of the common rural-urban linkages is that all these villages have established some sort of subcontracting linkages or cooperation with urban enterprises, and/or technological consultant linkages with research institutes and universities in urban centres, or have very good accesses to nearby free markets. One of the important impacts of these rural-urban linkages has been the creation of new employment opportunity for labour released from farming, which is reflected in 'no surplus labour' in the three case studied villages and their ability to absorb labourers from other parts of the province (see section 13.4 of this chapter).

13.3. Access to Sources of Investment Capital

The three village case studies demonstrate different types of economic ownership. Tuchengzi village has transferred ownership from a pre-1978 predominantly collective ownership to a post-1978 structure focused more on family and private ownership. Houshi village keeps its strong collective ownership. In between, is the case of Hunhebu village, where the economic ownership was transferred from the pre-1978 collective dominance to a more mixed structure based on both collective as well as family and private ownerships in 1992. What was significant in the transformation of each of the three case study villages has been their access to quite different sources
of capital accumulation. These differences are shown in Table 13.2, which reveals a co-relationship between ownership structure and the major source of investment capital. In the case of Hunhebu village, the primary source of capital was from urban-based enterprises in Shenyang. In Houshi village, however, capital for diversification was mainly accumulated from the village collective economy. In Tuchengzi village, capital funds came mainly from bank loans to family business (Table 13.2).

For both Houshi and Tuchengzi, urban enterprises and foreign investment were important secondary sources of capital for village enterprises. This indicated yet another flow of capital funds from the large cities of the Shenyang-Dalian corridor to the rural areas along the corridor.

13.4. Fully-Employed Rural Labour

A fully-employed village labour force was one the major features of all villages during the study period. As the shift of the rural economies occurred in the 1980s, from farming to a greater diversity of non-farm activities, especially industrial activities, more and more labourers became fully employed. This type of rural industrial development can be called a 'Chinese silent industrial revolution' (Bell and others, 1993), because it involved little investment from the government, it absorbed a large number of surplus labourers within villages that previously would have been employed full time in agriculture, or underemployed under the rural commune system.

As noted earlier in Part one, when the reforms started from 1978, a huge amount of rural surplus labour was released in China as a whole because of improvements in agricultural productivity. For example, the rural surplus labour in China amounted to an estimated 180 million persons, which accounted for about 40 per cent of total rural labour force in 1990 (SSB, 1991c). This, however, was not the case in the Shenyang-Dalian EMR. The three selected villages were rural villages according to the Chinese official definitions, but by 1992 they had very little surplus labour (see Table 13.3).
Table 13.2
The capital sources of village enterprises in selected villages in the Shenyang-Dalian region, 1990

<table>
<thead>
<tr>
<th>Sources</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1,000 yuan</td>
<td>%</td>
<td>1,000 yuan</td>
</tr>
<tr>
<td>Total</td>
<td>18,224.9</td>
<td>100.0</td>
<td>18,972.5</td>
</tr>
<tr>
<td>1. Loans from banks</td>
<td>1,354.1</td>
<td>7.4</td>
<td>3,705.0</td>
</tr>
<tr>
<td>2. Village accumulation</td>
<td>4,223.3</td>
<td>23.2</td>
<td>10,009.1</td>
</tr>
<tr>
<td>3. Personal savings</td>
<td>3,604.8</td>
<td>19.8</td>
<td>0.0</td>
</tr>
<tr>
<td>3. Others*</td>
<td>9,042.7</td>
<td>49.6</td>
<td>5,258.4</td>
</tr>
</tbody>
</table>

Note: *: Others mainly include capital from urban enterprises and foreign capital.

## Table 13.3
Summary of survey results of 'Seriousness of your village surplus labour', 1990

<table>
<thead>
<tr>
<th>Non-corridor villages*</th>
<th>Corridor villages*</th>
<th>Corridor village **</th>
<th>Non-corridor villages*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hunhebu</td>
<td>Houshi</td>
<td>Tuchengzi</td>
</tr>
<tr>
<td></td>
<td>persons %</td>
<td>persons %</td>
<td>persons %</td>
</tr>
<tr>
<td>A Problem</td>
<td>79 29</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Somewhat problem</td>
<td>79 29</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td>Slight problem</td>
<td>54 20</td>
<td>2 7</td>
<td>7 7</td>
</tr>
<tr>
<td>No such problem</td>
<td>49 18</td>
<td>28 93</td>
<td>27 90</td>
</tr>
<tr>
<td>Do not know</td>
<td>9 3</td>
<td>0 0</td>
<td>1 3</td>
</tr>
<tr>
<td>Total</td>
<td>270 100</td>
<td>30 100</td>
<td>30 100</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Labour Structure (1990)</th>
<th>Total</th>
<th>Agriculture#</th>
<th>Industry and construction</th>
<th>Other non-agriculture.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Corridor village **</td>
<td>4,121/100%</td>
<td>1,445/35%</td>
<td>1,680/41%</td>
<td>996/24%</td>
</tr>
<tr>
<td>Non-corridor villages*</td>
<td>3,835/100%</td>
<td>2,988/78%</td>
<td>383/10%</td>
<td>464/12%</td>
</tr>
</tbody>
</table>

Notes: *: Non-corridor villages are nine villages outside the Shenyang-Dalian region. **: The three case study villages. #: Including farming, animal husbandry, forestry, and fishery sectors.

Survey reports indicate that surplus labour was not a problem in these case study villages within the corridor, but was problematic in villages lying outside the Shenyang-Dalian corridor (Table 13.3). As matter of fact, the corridor villages were so successful in generating new jobs that they became major destinations of rural migrants from other parts of Liaoning province. This suggests that some rural villages along the Shenyang-Dalian corridor performed similar functions as urban areas in China in terms of absorbing rural surplus labour from other villages. It again indicates the better economic opportunities found in rural regions within the corridor compared with other rural areas in Liaoning province. Such a process has led to uneven patterns of development between the Shenyang-Dalian corridor region and other regions of Liaoning province found earlier in Chapter 6.

Yet another feature of the rural labour transition concerned changes in both their sectoral and spatial distribution. Thus in terms of sectoral redistribution, part of the villages' rural labour force was transferred from farming to other agricultural activities, and part from agricultural to manufacturing and then from manufacturing to service activities. Interestingly, some rural labourers shifted their occupation directly from agricultural to service activities (Figure 13.1). Another important feature of rural labour transition in these villages was characterized by what may be termed a partial labour transition. In other words, at the end of the study period certain members of the labour force were engaged in at least two occupations. As noted in the case studies, most of those employed in dual occupations had a better opportunity to earn higher incomes.

13.5. Income Growth and Income Equality

One outcome of the economic transformation of the Shenyang-Dalian corridor was that the levels of income in corridor villages were, in general, much higher at the end of the study period than those lying outside the corridor. For example, when economic reforms commenced in 1978, the three case study villages did not register in some levels which were not any higher than that of the rural average in Liaoning province (see Table 13.4). In fact, their income per capita was even lower than
Figure 13.1
Rural Labour Transition in the Shenyang-Dalian Region

Agriculture
  Farming
  Other Agricultural Activities

Manufacturing

Service

---

Fully Transferred  Partially Transferred (Dual Occupations)
### Table 13.4
Rural per capita income of Liaoning province and three selected villages, 1978-1992

<table>
<thead>
<tr>
<th>Year</th>
<th>Rural Liaoning Average (1)</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yuan</td>
<td>% of (1)</td>
<td>yuan</td>
<td>% of (1)</td>
</tr>
<tr>
<td>1978</td>
<td>185</td>
<td>108</td>
<td>58</td>
<td>167</td>
</tr>
<tr>
<td>1980</td>
<td>273</td>
<td>166</td>
<td>61</td>
<td>253</td>
</tr>
<tr>
<td>1983</td>
<td>452</td>
<td>450</td>
<td>99</td>
<td>1,067</td>
</tr>
<tr>
<td>1984</td>
<td>477</td>
<td>910</td>
<td>191</td>
<td>1,381</td>
</tr>
<tr>
<td>1986</td>
<td>533</td>
<td>1,532</td>
<td>287</td>
<td>1,708</td>
</tr>
<tr>
<td>1988</td>
<td>700</td>
<td>2,150</td>
<td>307</td>
<td>2,397</td>
</tr>
<tr>
<td>1990</td>
<td>776</td>
<td>1,974</td>
<td>254</td>
<td>2,198</td>
</tr>
<tr>
<td>1991</td>
<td>897</td>
<td>2,028</td>
<td>226</td>
<td>2,453</td>
</tr>
<tr>
<td>1992</td>
<td>--</td>
<td>2,036</td>
<td>--</td>
<td>2,760</td>
</tr>
</tbody>
</table>

Tuchengzi Village

the rural average of the province because these villages had less farm land per capita than other rural areas in Liaoning province, at a time when farming was predominant income source. For example, in 1978, the per capita income in rural Liaoning comprised an average of 185 yuan, while Tuchengzi village had only 98 yuan per capita, Houshi village 108 yuan, and Hunhebu village 167 yuan (Table 13.4). However, since 1982, when the responsibility system was introduced into the province\(^2\), these three villages began to catch up to the provincial average and later, after the mid-1980s, their average incomes became much higher than the provincial rural average. This was due to their better performance in rural non-farming activities. In 1991, these three villages had per capital incomes which were about 1.5 to 2.8 times more than the average level of rural Liaoning. This indicates an increasing gap between the corridor villages and surrounding areas due to the emerging diversified economies of corridor villages. As shown in Table 13.3, about 65 per cent of the corridor village labour is engaged in various kinds of non-agricultural activities, compared with only 22 per cent in non-corridor villages.

It should be noted that along the Shenyang-Dalian corridor the difference in income distribution between the rural and urban populations has gradually narrowed when compared with China as a whole. Table 13.5 shows the income levels of three case study villages and China's rural and urban averages. In 1957, the income of urban residents in China was 3.48 times that of the peasantry. Just before the start of the economic reforms in 1978, rural-urban inequalities had diminished somewhat and the income of urban residents was 2.36 times of that of the peasantry. The rural-urban income gap continued to decrease until 1983, yet after 1983 the gap began to widen again due to the urban reforms that started in the mid-1980s (see Griff and Zhao, 1993) and by 1991 rural-urban income inequality reached as high as that in the 1960s and 1970s (Table 13.5). However, since the mid-1980s, the income levels of these three villages in the Shenyang-Dalian corridor were

\(^{2}\)Although the household responsibility system was introduced in Liaoning province in 1980, this system was not widely spread until 1984 (only 40 per cent of villages accepted this new system in 1980 and 84 per cent in 1984) (Yue, 1992: 129).
Table 13.5
The comparison of rural-urban income gaps between national average and three selected villages in the Shenyang-Dalian region (yuan)

<table>
<thead>
<tr>
<th>Year</th>
<th>National Average</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>all rural areas</td>
<td>all urban areas</td>
<td>(2)/(1)</td>
<td>income (2)/(3)</td>
</tr>
<tr>
<td>1957</td>
<td>73</td>
<td>254</td>
<td>3.48</td>
<td>--</td>
</tr>
<tr>
<td>1964</td>
<td>102</td>
<td>243</td>
<td>2.38</td>
<td>--</td>
</tr>
<tr>
<td>1978</td>
<td>134</td>
<td>316</td>
<td>2.36</td>
<td>108</td>
</tr>
<tr>
<td>1980</td>
<td>191</td>
<td>439</td>
<td>2.30</td>
<td>166</td>
</tr>
<tr>
<td>1983</td>
<td>310</td>
<td>573</td>
<td>1.85</td>
<td>450</td>
</tr>
<tr>
<td>1985</td>
<td>398</td>
<td>749</td>
<td>1.88</td>
<td>1366</td>
</tr>
<tr>
<td>1987</td>
<td>463</td>
<td>1012</td>
<td>2.19</td>
<td>1810</td>
</tr>
<tr>
<td>1990</td>
<td>630</td>
<td>1523</td>
<td>2.42</td>
<td>1974</td>
</tr>
<tr>
<td>1991</td>
<td>709</td>
<td>1544</td>
<td>2.42</td>
<td>2028</td>
</tr>
<tr>
<td>1992</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>2036</td>
</tr>
</tbody>
</table>

catching up or even surpassing the urban income levels (Table 13.5). In all, the data presented here suggest that village income levels in the corridor had grown and at the end of the study period were not far behind those in adjoining urban centres.

13.6. Internal Differential of Income and Emergence of New Socio-Economic Groups

A narrowing of difference between rural and urban incomes and increased prosperity of rural economies along the Shenyang-Dalian corridor has occurred at the same time as the emergence of new of households within the villages based upon income differences and occupation. Table 13.6 indicates the major opinions of residents as to those who earn more income. This survey was conducted in 1991 and shows that there were sharp differences in the ability of different groups within the village population to adapt to the post-1978 reform environment. These differences are measured by differences in the ability to earn higher incomes. The results indicate that initially, those with knowledge of management and access to market information were most likely to earn higher incomes. This was specifically true in the villages of Hunhebu and Tuchengzi, where family and private operations were so important. In Houshi village, the survey found that persons with skill (technicians, repairers, and so on) were most likely to earn higher incomes. This reflects the collective organization in this village and the assignment of skilled labour to higher income jobs. The second reason for earning a higher-income was the use of authority or power for decision making. Persons in authority could take advantage of their position and increase their incomes (Table 13.6). Former village cadres and private enterprise owners were among those most likely to become richer (see Appendix 7).

In summary, the post-1978 reforms offered opportunities to become rich to different income groups within the village population. Therefore, it was not surprising that since 1978 new emerged in rural areas of the Shenyang-Dalian corridor in a similar fashion as throughout China (Griffin and Zhao, 1993). Comprehensive data on income by occupation are unavailable at the village level.
Table 13.6
The results of the 'Who earns more income' survey, conducted in the case study villages in 1991 (%)

<table>
<thead>
<tr>
<th>Reason</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1st</td>
<td>2nd</td>
<td>3rd</td>
</tr>
<tr>
<td>Skills</td>
<td>3.3</td>
<td>16.7</td>
<td>33.3</td>
</tr>
<tr>
<td>Knowledge of markets and management</td>
<td>83.3</td>
<td>13.3</td>
<td>0.0</td>
</tr>
<tr>
<td>In authority</td>
<td>6.7</td>
<td>46.7</td>
<td>16.7</td>
</tr>
<tr>
<td>Hard working only</td>
<td>6.7</td>
<td>20.0</td>
<td>36.7</td>
</tr>
<tr>
<td>Others</td>
<td>0.0</td>
<td>3.3</td>
<td>13.3</td>
</tr>
<tr>
<td>Total Sample (persons)</td>
<td>30</td>
<td>30</td>
<td>30</td>
</tr>
</tbody>
</table>

Source: LRSEST-HHB; TCZ, and HS, 1992.
However, based on interviews conducted by the author in 1993, the following groups of village households can be identified according to income level from highest to lowest: 1) private enterprise owners, 2) village collective enterprise managers, and purchasing and marketing agents, 3) village political cadres, 4) individuals or partners who operate an industrial or commercial business, 5) agricultural labourers, 7) peasant workers, and 8) intellectuals (teachers and barefoot doctors). This new array of socio-economic groups appears to have replaced Mao's rural class categories of 'the poor, middle peasant, rich peasant, and landlord,' which were based on pre-liberation income levels and distribution (Snow, 1961: 408). These new socio-economic groups differ not only because of their different occupation and income levels, but also due to their interests in the new economy of the Shenyang-Dalian corridor.

For the highest income group - private enterprise owners - their major income was derived from the output of their employees. Their major concern appears to be that their new-formed wealth might be confiscated. This could be the case if the government perceives them as exploiters, or as some other income groups complained over private enterprise owners' supposedly illegal and exploitative behaviour, bribery, evading the payment of taxes, and poor working condition for their employers. These individuals hoped for long-term continuity of the post-1978 economic reform policies and no sudden changes in their opportunities to accumulate wealth.

The second highest income group comprised the village collective enterprise managers and purchasing and marketing agents. They consisted of the major decision makers of the village enterprises, and most were previously village cadres during the pre-reform period. Their major concerns related to the levels of taxes and other financial burdens placed upon village enterprises, and

33There are several differences between private enterprise and individual or partnership business. The major dividing line between these two categories is numbers of employees. According to the Chinese government definition, the properties of a private enterprise are fully owned by privates, who have employed more than 8 labourers. Individual business owners own a certain amount of their business property but in most cases, they share the property with other partners and they hire fewer than 8 employers (For details, see LRSEST-HHB, 1991: 124).
their complaints were about unequal competitive conditions with urban enterprises, especially the lack of assistance from the government in terms of access to raw material supplies and marketing for their production.

The third group consisted of full-time village political cadres, such as village party secretaries of communist party branches. Their duties were mainly in organizing political studies within the village (e.g., reading government documents), and making decisions such as choosing village collective enterprises managers. Their salaries were normally determined by the township government and were comprised of two parts: a regular salary, which was subsidized by the village collective, and a bonus, which was determined by the previous year's village performance measured by such items as the fulfilment of birth control objectives, sanitation, performance of women organizations, as well as the communist party and youth league (LRSEST-HHB, 1991: 170). Generally, about 30 per cent of their income was derived from a bonus payment. Normally, the level of the salary was 50 to 100 per cent higher than the average village income. Their major concerns were related to the continuity of reform policies, because the reform programs benefitted the village as well as themselves.

The fourth group comprised those individuals or partners who operated small manufacturing, commercial, or service businesses. They tended to have negative feelings towards the local tax collectors and the officials of local government agencies, mainly because these local officials demanded bribes before granting their authority for any action.

The sixth group comprised the village labour force engaged in traditional activities, such as farming, vegetable production, raising chickens and pigs, planting fruit, and so on. Their concerns mainly focused on the inflation of agricultural supply prices, such as fertilizer, machinery, and plastic film. The prices for these necessary agricultural products were perceived as being very expensive to the degree that their profit was jeopardized.

The seventh group comprised the village peasant workers, who often worked both as peasant
farm and in a variety of non-agricultural activities. As explained in Chapter 6, this group was partly involved in individual household farming and was partly employed by either village or town enterprises. Their major complaint was the poor level of working conditions. For instance, some of them worked in very noisy environments or in high-temperature operations without proper protection.

The last group comprised the rural intellectual population, such as school teachers, doctors and nurses. Their income level was the lowest among the rural population. They complained about their low incomes and wished to create a fairer income distribution system which would narrow the income gap between their work and that of manual labours.

In summary, based on the author's fieldwork, the emerging contradiction among these new socio-economic groups appeared to mainly concern differences in income. In particular, the income gap among the categories was perceived as not being fully dependent on the ability of any individual (such as skilled, knowledge of management), but more on personal connections (guanxi). The emergence of these different occupations and income groups indicated that these villages were involved in a transitional process from a 'monopoly society' where agriculture is dominant, to a more diversified economic society.

13.7. The Changing Role of Women

Changes in the role of women in the labour force were one of the important indicators of the depth of labour transition in the Shenyang-Dalian corridor. In China as a whole, it has often been assumed that well-paid jobs will be assigned to those who are male, well-educated and members of the Communist Party. In general, women are seen to have a lower probability of receiving good wage income, and in 1990 those women who obtained wage employment were paid around 14 per cent less than men (Griffin and Zhao, 1993: 17). The evidence also suggests that there is more discrimination against working women in rural areas than in the state enterprises of the cities.
In these case study villages, women were recorded as having been assigned different jobs than men. Thus women seemed more involved than men in family-based and dual occupation activities, such as farming, raising poultry, pigs, and other family-based manufacturing works. However, in terms of gender equity, there was little evidence in these three villages that the village women were paid less, or took less meaningful roles in the village. In Tuchengzi, for example, women acted as the major contributors to the family income. In fact, the status of the female labour force appeared to improve, at least in terms of income, following the 1978 reforms.

13.8. Common Problems

The rapid socioeconomic changes in the Shenyang-Dalian corridor were accompanied by certain negative effects. The author's field work recorded particular common problems including conflict between the household registration system and farmers' need for mobility, and dissatisfaction with the general price increase of industrial products over the study period which surpassed the increase in the sale price of agricultural products. The success of economic growth has not been without environmental costs. Pollution problems in rural areas along the corridor increased, not only from field run-off, but more importantly from industrial pollutants (in water and air). For example, a factory of magnesium mineral mining in Dashiqiao city of the Yingkou metropolitan region polluted a surrounding area to such a point 5 km that almost no plants could grow, and no seed could sprout (Dong, 1991: 19).

Another problem concerns the increased taxation of peasants. In most cases, peasants had to pay more than standards set by the central government (Qi and others, 1990). For instance, according to central government policy, the maximum amount of taxes and fees should not exceed 5 per cent of a peasant's income (LRSEST, 1991). Yet, the reality was that the taxation burden has almost doubled this limitation. As Table 13.7 shows, the share of per capita taxation on village peasants' net income was 5.46 per cent in 1987. This figure increased and reached 9.5 per cent by
Table 13.7
Peasants taxes and net income in Tuchengzi (yuan/person), 1986-92

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Net Income</td>
<td>898</td>
<td>972</td>
<td>951</td>
<td>958</td>
<td>1,012</td>
<td>1,232</td>
<td>6.53%</td>
</tr>
<tr>
<td>(2) Tax</td>
<td>49</td>
<td>57</td>
<td>49</td>
<td>57</td>
<td>74</td>
<td>117</td>
<td>19.01%</td>
</tr>
<tr>
<td>(2)/(1)</td>
<td>5.46%</td>
<td>5.86%</td>
<td>5.15%</td>
<td>5.95%</td>
<td>7.31%</td>
<td>9.50%</td>
<td>--</td>
</tr>
</tbody>
</table>


1992. The annual growth rate of taxes and fees over this period was 19.0 per cent compared with a mere 6.5 per cent annual growth of peasant's income during the period of 1987-1992 (Table 13.7). The majority of this increase in taxes and fees was not due to the central government but rather local governments. Local government levied various types of fees on peasants to cover their increasing costs of administration (LRSEST-TCZ, 1993: 19). This increase in taxes has been a major factor disturbing rural China since the middle part of 1980s and, as reported by various media, there have been several strikes and demonstrations organized by Chinese peasants to complain of such increases in their financial burdens (Leeming, 1993: 92-93). This has perhaps been first time in the communist regime's history that peasants have openly opposed the government, which indicates the seriousness of the problem for the stability of the state - not just in the Shenyang-Dalian region, but throughout China.

13.9. Towards Invisible Urbanization in the Three Villages

This chapter has previously demonstrated the rising prosperity of the residents of the Shenyang-Dalian region's rural areas since 1978. The field studies of the three villages provides an inside account of the impacts of rural transformations. This section describes how the rural areas have changed from traditional (i.e. pre-1978) rural features by defining what the author calls the 'invisible urbanization' phenomenon. A quantitative analysis shows the degree to which these 'rural' areas have urban features, and how far these 'rural' areas have shifted from the traditional rural pattern in China where agriculture had been dominant.

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34 Invisible Urbanization' refers to the growth of towns and non-agricultural employment taking place in an EMR outside the major core cities. This phenomenon has not been recognized by the Chinese government (for details, see Appendix 3). It is used in a "metaphorical sense" to capture the idea of a process which has urban features but is not regarded as such by government policy-makers.
Tuchengzi Village

Attempting to reflect the urbanization processes and changing life styles in the rural areas of the Shenyang-Dalian EMR requires a choice of appropriate indices. According to the official Chinese definition, the non-agricultural population as a percentage of total population is the most important indicator for the urbanization level. However, as shown earlier in chapter 3, this simple definition has many disadvantages. Consequently, it is important to try to measure more subtle changes in aspects of cultural life, education levels, and material consumption levels, as these are significant shifts in the 'way of life' for the villagers concerned. The indices selected to reflect urban features of the three case study villages comprise: 1) changes in material life, including per capita income, the Engel coefficient (food expenses as percentage of total living expenses), as well as the number of bikes, washing machines, electric fans, and refrigerators; 2) cultural indices, including cultural and entertainment expenses, and the number of tape recorders and TV sets per 100 households, 3) education levels (number of years of education), and 4) occupation (non-agricultural labour as a percentage of the total labour force). The 1990 data of these indices for each case study village is summarized in Table 13.8. Most of the indices of material and cultural life, educational level, and non-agricultural activities were close to the Chinese urban average. Some of them were even higher than the total Chinese urban average, such as income level, the reciprocal of the Engel coefficient\(^{35}\), and the level of bicycles per 100 households in village of Hunhebu and Houshi (Table 13.8).

\(^{35}\)Here, reciprocal Engel coefficient is compatible with other indices (such as income level and per capita durable goods). Based on its definition, the less the Engel coefficient, the better the living condition. So it is easy to understand that the more the reciprocal of Engel coefficient, the better the living condition.
### Table 13.8
Living standard of selected villages in the Shenyang-Dalian region, 1990

<table>
<thead>
<tr>
<th>Index</th>
<th>HHB*</th>
<th>HS*</th>
<th>TCZ*</th>
<th>Urban¹</th>
<th>% of urban average</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net income (yuan/person)</td>
<td>1,875</td>
<td>2,126</td>
<td>1,240</td>
<td>1,563</td>
<td>120 136 79</td>
</tr>
<tr>
<td>Cultural &amp; entertainment expenses (yuan/person)</td>
<td>67.0</td>
<td>45.6</td>
<td>27.7</td>
<td>77.8</td>
<td>86   59  36</td>
</tr>
<tr>
<td>Dress expenses (yuan/person)</td>
<td>200.0</td>
<td>163.6</td>
<td>95.3</td>
<td>203.7</td>
<td>98   83  47</td>
</tr>
<tr>
<td>Non-staple food expenses (yuan/person)</td>
<td>457.5</td>
<td>241.8</td>
<td>167</td>
<td>424.4</td>
<td>108  57  39</td>
</tr>
<tr>
<td>Share of food cost in total expense (%)</td>
<td>36.2</td>
<td>30.1</td>
<td>48.9</td>
<td>37.3</td>
<td>--   --  --</td>
</tr>
<tr>
<td>Inverse Engel coefficient</td>
<td>2.76</td>
<td>3.3</td>
<td>2.04</td>
<td>2.7</td>
<td>103  123 75</td>
</tr>
<tr>
<td>-- TV per 100 households</td>
<td>114.0</td>
<td>97.0</td>
<td>82.0</td>
<td>113.5</td>
<td>100  85  72</td>
</tr>
<tr>
<td>-- Colour TV</td>
<td>51.0</td>
<td>40.0</td>
<td>25.0</td>
<td>63.7</td>
<td>80   63  39</td>
</tr>
<tr>
<td>-- Bikes per 100 households</td>
<td>219.0</td>
<td>211.0</td>
<td>169.0</td>
<td>187.0</td>
<td>117  113 90</td>
</tr>
<tr>
<td>-- Tape recorders</td>
<td>69.0</td>
<td>48.0</td>
<td>40.0</td>
<td>69.4</td>
<td>99   69  58</td>
</tr>
<tr>
<td>-- Washing machines</td>
<td>83.0</td>
<td>76.0</td>
<td>41.0</td>
<td>79.9</td>
<td>104  95  51</td>
</tr>
<tr>
<td>-- Electric fans</td>
<td>60.0</td>
<td>22.0</td>
<td>20.0</td>
<td>42.3</td>
<td>141  52  47</td>
</tr>
<tr>
<td>-- Refrigerators</td>
<td>28.0</td>
<td>35.0</td>
<td>3.0</td>
<td>44.6</td>
<td>63   78  7</td>
</tr>
<tr>
<td>Average (1) to (7)²</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>100.0</td>
<td>92   77  52</td>
</tr>
<tr>
<td>Years of education for labour</td>
<td>7.9</td>
<td>7.5</td>
<td>7.7</td>
<td>10.2</td>
<td>77   74  75</td>
</tr>
</tbody>
</table>

Notes: HHB-Hunhebu. HS-Houshi. TCZ-Tuchengzi. 1-China's urban average (Wang and Zhou, 1993: 16-24). 2: Average value of index (1) to (7) (the value of each index ranges from 0<= to >=100, if the value > 100, then it has been defined as 100) (see Appendix 3). Engel coefficient index = food expense as % of total expenses.

Based on data in Table 13.8, the invisible urbanization level is listed in Table 13.9 (for detailed calculations see Appendix 3). It reflects roughly the degree of urbanization attained in these three selected villages as of 1990. Although the calculation can not take account of all socioeconomic changes since 1978, such as the quality of entertainment facilities and levels of rural cultural life, these data suggest that the three corridor villages substantially increased their standard of living, towards that attained in urban centres in the Shenyang-Dalian corridor, by 1990.

This change cannot be explained adequately using official Chinese definitions, which are based on the officially defined non-agricultural population. For example, according to the official definitions, Hunhebu village had only 1.8 per cent of its population defined as non-agricultural population in 1990 (see Table 13.8). However, based on labourers' occupations, Hunhebu village had about 78 per cent of its population engaged in non-agricultural activities. Considering the levels of income, education, cultural life, and consumption patterns, Table 13.8 shows that Hunhebu's actual urbanization level was 70.1 per cent. Therefore, the invisible urbanization level in Hunhebu village reached 68.3 per cent in 1990, which was the gap between actual urbanization level (70.1 per cent) and officially defined urbanization level (1.8 per cent). That is to say that about 68 per cent of the urbanized population in Hunhebu village were not recognized as such by the Chinese government. A similar gap in 1990 between the official definition and the derived index of urbanization can be derived for Houshi and Tuchengzi villages. This difference amounted to 38.5 per cent in Houshi village and 19.1 percent in Tuchengzi village (Table 13.9). Such differences reflect one of the major features of Asian EMRs: the 'grey zone' of Asian EMRs recognized by McGee (1989). On the other hand, the differences also indicate a failure of Chinese official definitions of the non-agricultural population to reflect the reality of a rapid transforming region during the post-reform period.
## Table 13.9
Summary of calculation for invisible urbanization in three selected villages in the Shenyang-Dalian region, 1990

<table>
<thead>
<tr>
<th>Index</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive Invisible Urbanization Coefficient (CIUC)</td>
<td>0.90</td>
<td>0.77</td>
<td>0.61</td>
</tr>
<tr>
<td>Total Population (P) (person)</td>
<td>4,813</td>
<td>3,167</td>
<td>674</td>
</tr>
<tr>
<td>Actual Non-Agricultural Labour (ANAL) (person)</td>
<td>1,629</td>
<td>881</td>
<td>167</td>
</tr>
<tr>
<td>Per non-agricultural labour sponsored family members (F)</td>
<td>1.30</td>
<td>0.90</td>
<td>0.80</td>
</tr>
<tr>
<td>Actual Non-Agricultural Population (ANAP) [ANAP=ANAL*(1+F)] (person)</td>
<td>3,747</td>
<td>1,674</td>
<td>301</td>
</tr>
<tr>
<td>Actual Non-Agricultural Population as % of Total Population (%) [(ANAP/P)*100%]</td>
<td>77.90</td>
<td>52.70</td>
<td>44.70</td>
</tr>
<tr>
<td>Invisible Urbanized Population (IUP) (person)</td>
<td>3,374</td>
<td>1,290</td>
<td>183</td>
</tr>
<tr>
<td>Actual Urbanization Level (AUL) (%) {AUL=[(ANAP/P)*(CIUC)]*100%}</td>
<td>70.10</td>
<td>40.70</td>
<td>27.20</td>
</tr>
<tr>
<td>Officially Defined Urbanization Level (ODUL)* (%)</td>
<td>1.80</td>
<td>2.20</td>
<td>8.10</td>
</tr>
<tr>
<td>Invisible Urbanization Level (%) (AUL-ODUL)</td>
<td>68.30</td>
<td>38.50</td>
<td>19.10</td>
</tr>
</tbody>
</table>

Notes: For a calculation of the indices in this table see Appendix 3. *: Officially defined non-agricultural population divided by total population.
13.10. Summary

This chapter has revealed certain common experiences of the three selected villages during the post-1978 period through comparison of their geographical location, and various impacts of the villages' transformation processes, including labour transition, income inequality between the EMR villages and non-EMR villages, the role of women, and certain negative aspects of growth. It is clear that since 1978 all these villages have experienced rapid socioeconomic transformation. Their economic and occupational structures, as well as their income sources are more diversified and they rely more on non-farming sectors. These, together with changes in lifestyle and consumption patterns lead to the emergence of an 'invisible urbanization' phenomenon, which further confirms a departure of the Shenyang-Dalian rural areas from any traditional rural definition in China.
PART FIVE

RESULTS AND CONCLUSIONS

Previous chapters have looked at a number of topics, including: 1) the broad context for rural to urban transition issues in China; 2) a spatial delineation of the Shenyang-Dalian EMR; 3) an identification of the important economic, political, and mobility transformation processes; and 4) specific case studies of recent changes in three villages. The thesis now brings together these materials and summarizes the major features of socioeconomic transformation in the Shenyang-Dalian EMR. The Shenyang-Dalian corridor has indeed the characteristics of an Extended Metropolitan Region, albeit one with a form and growth trajectory different from the rest of China and Asia.

The implications of the development of the EMR are manifold. They give rise to theoretical reconsideration, policy suggestions and point to useful directions for further research.

CHAPTER 14

CONCLUSIONS

14.1. Summary of Major Findings

This study has tested the utility of the EMR model for the Chinese case by providing a descriptive-explanatory account of the current round of socioeconomic transformation in the Shenyang-Dalian corridor. The research is based on a synthesis of detailed field research and Chinese statistical data. These data have been obtained at a number of geographic scales (provincial, county,
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and village). In turn, the multiple levels of change have had to be mapped onto broader sets of ideas about urbanization, development and China's trajectory. The main theoretical model (aside from that of the EMR) is the supposition of a three stage development model of urbanization in China. The features of rural-urban transition in the Shenyang-Dalian EMR during the third stage (post-1978) are distinct from those of the previous two stages in a number of ways. These include: 1) the economic structures/bases of both rural and urban areas 2) the number of foreign trade partners; 3) rural-urban migration patterns; and 4) the nature and depth of rural-urban linkages. The changes occurring in Stage III have made the classical model of a rural-urban divide much less tenable for contemporary China.

Improved peasants' living standards, dual occupations and 'peasant industrial workers' have changed the corridor's rural settlements from solely agricultural villages to ones with many more urban features. However, these changes have not been formally recognized by the Chinese government. This policy lacuna underlines the emergence of 'invisible urbanization' along the Shenyang-Dalian corridor.

The current study examines the "invisible urbanization" process through a number of stages. In the introductory section, it is argued that there is a need to develop models that take into account certain Chinese characteristics of urbanization. Chapter 2 proposed the three-stage urban transition model for post-war China, which was then tested in the remainder of the thesis. Chapter 3 clarified the statistical and conceptual background necessary for the ensuing analysis and presented interpretations of Chinese concepts about places and population defined as 'urban' or 'rural.' The chapter explained how measuring 'urbanization' is problematic in China, and how the distinctive Household Registration System (hukou) and its related regulation of population mobility act as 'invisible walls' to control rural-urban migration.

Chapter 4 discussed changes in Chinese government policies regarding urbanization in both the pre- and post-1978 periods. A comparison of changes in urban functions and rural industrial
policies during these two periods, together with the previous chapter's discussion of the hukou system provide a framework for understanding the impact of post-1978 reforms. In particular, China's development and modernization under Maoist principles of 'self-sufficiency' during the pre-1978 period was based on a sharply dualistic pattern between the rural and urban economies. While the doctrine of 'walking on two legs' positively encouraged the establishment of rural industry, rural-urban interaction was severely restricted. However, the recent economic reform programs, dating from 1978, have enabled a breaking-down of the formerly present invisible walls separating rural and urban spaces. Once rather more distinct rural and urban spaces are now increasingly integrated. This trend, with regional variations, is especially evident within the key economic regions of coastal China.

Within this schematic background, Part Two turned its focus towards an empirical examination of the Shenyang-Dalian development corridor. The region's excellent natural resource endowment, geographical location and historical development (including Japanese occupation) distinguishes it from China's three other main EMRs (Shanghai-Nanjing-Hangzhou, Beijing-Tianjin, and Guangzhou-Shenzhen-Hong Kong).

The Shenyang-Dalian region has had a singular history. In the last six decades colonial powers and the Chinese communist government invested heavily in the industrial development of the region. In order to explore the rich natural resources, the Japanese (1930-1945) developed transport infrastructure and established large urban centres based on heavy industry. Examples of such centres of activity include: mining in Anshan, Fushun, and Benxi, machinery in Shenyang and port facilities in Dalian and Yingkou.

The communist reconstruction of 1949-1978 further expanded the heavy industrial sectors. During the open door period which began in 1978, the Shenyang-Dalian corridor once again became a major focus of the Chinese government. There are several 'Open Zones' and 'Coastal Cities' in the study region. The renewed development push has brought special privileges and opportunities to regional enterprises.
Results and Conclusions

While the Shenyang-Dalian region is not the oldest industrial complex in China, in recent years it has experienced the most rapid growth. It is now the dominant centre for heavy industry and has an urbanization pattern uniquely characterized by population concentrations in large cities.

The Shenyang-Dalian EMR covers an area about 400 kilometres long and 50 kilometres wide, including five cities over 1 million in population and six medium-sized and county-level cities. The EMR also plays the role of the economic and social 'main street' of Northeast China. Since 1978, the corridor as a whole has intensified its control over the wider region in terms of its centralization of economic activity, population movements and infrastructural developments. In sum then, the post 1978 period has seen a diversification of the regional economy. However, although current changes are based on previous patterns there are also remarkable changes occurring in the form, nature and location of economic activity throughout the region itself.

Part Three investigated specific trends in the regional space-economy transition during the 1978-1992 period at a county level. The dynamism of the EMR was shown to lie in greater rural-urban interaction which emerged in the post-1978 period. The trend to integration is evinced in more frequent flows of population and commodities between the region's cities and the countryside. The growing levels of interaction have been assisted by changes in administrative systems and a general improvement of transportation and communication facilities.

The important role of the Chinese government in facilitating rural-urban integration after 1978 was the focus of Chapters 7 and 8. Key government policies which underlie the EMR's formation included: 1) administrative reform; 2) the extension of the urban boundaries to incorporate rural areas; 3) rural industrialization incentives and policies; and 4) infrastructure development.

Chapter 9 revealed that transportation changes played a crucial role in the formation of a new space-economy within the region. Pre-war transport infrastructure constructed by the Japanese has been an important precondition for today's changes. The region's transportation and communication
Results and Conclusions

Structures have been further enhanced by the communist Chinese government which gave priority to the region in terms of transportation networks. More convenient transportation linkages have allowed people and commodities to move more frequently within the region and to/from the outside world. New infrastructure, such as highways, has shrunk the time-space dimension and facilitated urban-rural interchange in the EMR. The increase in daily two-way commuting between rural and urban areas by both 'formal' and 'informal' transport modes indicates the increasingly vigorous level of urban-rural linkages. In particular, 'informal' transport modes provide flexible and low cost mobility and lead to a region with more dynamic vitality.

One of the outcomes of such a convenient transportation system is a new synthesis of urban and rural lifestyles. This can be expressed by the large numbers of people living in the corridor's 'rural' areas (which are officially classified as part of the 'rural population') who are connected to the major cities through daily commuting. Moreover, others living in the cities (who are classified by official statistics as urban dwellers) often commute to work in rural enterprises as consultants or 'weekend technicians.' Such two-way urban-rural movement has also been promoted by the practice of large urban-based state enterprises subcontracting certain functions to new village or household small/medium enterprises in rural areas. Rural workers commuting to the cities offer urban employers cheap labour. Conversely, the commuting of skilled urban workers to rural areas transfers design, production, distribution and management 'know-how' to rural areas. Overall, increased levels of urban-rural interaction within the Shenyang-Dalian EMR have blurred the traditional rural-urban divide enforced by the Communist government for 30 years up to 1978. But one needs to ask what these changes mean on the ground.

The case studies in Part Four (Chapter 10-12) provided a detailed investigation of the impacts of the post-1978 transitional processes at the rural village level within the corridor, and outline certain changes consequent upon the incorporation of rural villages within the Shenyang-Dalian EMR. For 'suburban' villages lying close to urban areas, such as Hunhebu, urban-market-oriented fresh agricultural products and services, as well as the forging of subcontracting links with urban based
Results and Conclusions

state enterprises, demonstrate new types of rural-urban links. In villages near the southern coast which produce various types of natural resources and local specialty products, such as Houshi, the new processing industries formed a mainstream of the village economy. Villages such as Tuchengzi, which lay in the middle of the corridor and which were without many natural resources, have been strongly affected by the presence of well-developed free markets. In these villages labour-intensive non-agricultural sectors, such as leather products and raising chickens, formed a new backbone of economic growth. The distinctiveness of development processes within the EMR indicated that differences in locational attributes have played a crucial role in the formation of a complex and diversified space economy within the corridor.

In Chapter 13, the similarities of socioeconomic transformation drawn from the three case study villages were summarized this also provided an insight into the transformation processes and features of the Shenyang-Dalian EMR. In all cases, labour-intensive non-farming activities represent the dominant pattern of economic development in rural regions along the corridor. These activities have absorbed large numbers of rural workers who became surplus to farming activities since the reforms of 1978.

Two important results can be drawn from the analysis of the peasants' occupational transition in the case-study villages. First, it is not always true that employment specialization brings higher incomes. The case studies reveal that those with two or more occupations are able to secure higher incomes than those with just one occupation. The higher incomes from multi-occupation employment have greatly improved women's income levels and thus improved the role of women in the family (although some kinds of exploitation continue to exist at the time of the study). The introduction of flexible working hours, such as in family-run 'backyard' manufacturing activities, avoided the time restrictions imposed by household work and allowed women to more fully participate in various economic activities. Second, a relatively high proportion of rural surplus labour was absorbed by the villages' new non-farming sectors. The result has been a retention of workers in the villages rather than workers moving into the nearby urban centres. Interestingly, both urban centres and the rural
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areas along the corridor have become major destinations for 'surplus labour' in Liaoning province as well as neighbouring regions. This trend indicates that the Shenyang-Dalian EMR is increasingly playing an 'urban' role in the wider region of Northeast China.

14.2. Theoretical Implications

There are a number of theoretical implications which flow from these findings. First, the evidence in this research supports the general thrust of McGee's EMR settlement transition model. Yet there are a number of other important theoretical implications which arise from the current study.

One of the most crucial issues concerns the concepts of 'the rural-urban dichotomy' and 'the central urban system' in China. Crucial to the traditional wisdom of the urban transition process is the notion that rural and urban activities are usually treated as distinctive, separated over space, and polarized in function (Chan, 1994). The findings of this thesis suggest that as the distinction between rural and urban sectors has become semi-porous, the physical boundary between them has become increasingly fuzzy. Compared with the traditional rural to urban transition theories of the developed countries, a more appropriate model for China was conceptualized (Figure 2.2) and tested in the Shenyang-Dalian corridor. The rapid development of rural non-farming activities, particularly rural industries, has changed the labour processes, economic structures and life styles of local villages in the corridor from rural to urban-type activities. This has led to what the author has called 'invisible urbanization.' This finding from one of China's key economic regions supports McGee's notion of an EMR as an alternative to the traditional city-centred urban transition model. In the Shenyang-Dalian corridor it is unlikely that there will be mass migration into the core cities from surrounding rural areas. This is because rural industrial development and other non-farming activities have emerged over the last 16 years without heavy investment from the government and without large numbers of villagers migrating to urban areas. Assuming continuing government support for local agriculture, together with the inherent conservatism of local farmers, this alternative spatial should endure in the Shenyang-Dalian corridor for the foreseeable future.
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The Shenyang-Dalian EMR is experiencing some distinctive features. The labour transition in the Shenyang-Dalian corridor suggests three important differences from the model of what is assumed to have occurred in developed countries.

First, in terms of sectoral division, part of the rural labour force has shifted directly from agriculture to services, bypassing the manufacturing sector. Some farm labourers have shifted from farming to other value-added agricultural activities. There is also a good deal of evidence of multiple occupational niches within family units or even for individuals. McGee has described the trend to diversified family employment as a key element of the mega-urban model. He has written "... one (member of the family) may commute to the city to work as a clerk, another engage in farming, a third in industry, and another in retailing in the desakota zone" (McGee, 1987: 19).

The fragmentation of employment is also found at the individual level. Within the Shenyang-Dalian corridor large numbers of rural workers have not been fully engaged in a single activity, rather they have been involved in two occupations, such as traditional farming together with other agricultural activities, agricultural and manufacturing, manufacturing and service, and agricultural and service activities.

A second difference from the traditional western model is that this labour market fragmentation and diversification has largely occurred in rural areas. Thus the rural labour transition does not always lead to a change in the location of labourers' residences or work places. In other words, spatial change may not necessarily be the direct outcome of occupational transitions.

Third, associated with the labour transition process is the increasing relationship between development of rural agriculture and urban growth. In Shenyang-Dalian region, the rural-urban transition has distinctive feature. In the post-reform period, China's rural transformation has been associated with the rapid development of non-agricultural activities such as the growth of rural-based industries accompanied by a continuing growth in the agricultural economy. The growth of the
Shenyang-Dalian corridor's agricultural sector and its rural-based industrialization have complemented one another and have depended upon increasing rural-urban interaction. While the agriculture sector has declined as a percentage of total rural GDP, its absolute value rose continuously over the study period. In other words, the sectoral and structural shifts of economic activities from farming to non-farming are not necessarily at the cost of farming activities. Consequently, the mixture of agricultural and non-agricultural activities within the same geographical territory also serves to mark a blurring of the traditional rural-urban divide.

The Shenyang-Dalian EMR shares many of the characteristics that appear in other Asian EMRs described by McGee, especially the complex mix of agricultural and non-agricultural activities. The current study also serves to suggest some points of critique and possible extensions of McGee's original EMR model. The first area of concern involves the role of female labour. One of the major features of McGee's EMRs model is an increased participation of females in non-agricultural labour. However, this study shows that in the Shenyang-Dalian EMR there was no significant increase in the absolute level of female labour force participation. Moreover, there is no clear evidence showing that more female workers were engaged in rural production activities compared with the pre-1978 period, mainly because there was a full labour participation policy in force (even when productivity was low). However, the role of female labourers in the rural family's income generation and their involvement in the general labour transition has been significant within the last 16 years. The village case studies showed that females were increasingly employed in two or more occupations, thus changing their occupations without changing the place of residence. Some women earned higher incomes than males. This may suggest that the increase in the absolute numbers of the employed female workers was not a necessary feature of an EMR. Rather, the increase in their role and degree of involvement in the general economic transition of these regions may have been more important.

The second theoretical implication in terms of McGee's model involves the ecological niches that have spawned the emergence of the EMRs in Asia. McGee notes that most Asian EMRs are located within rice paddy areas, such as in Java, Bangkok, and the Shanghai-Nanjing-Hangzhou
region. However, this by itself may not be a necessary pre-condition for their emergence. In fact, the Shenyang-Dalian EMR is located in a rural area having rice fields mixed with non-rice fields (such as wheat, corn, fruit plantations, and aquaculture). It seems therefore that EMRs may emerge in areas not dominated by rice paddies, as long as there are high population densities. In confirmation of other ecological elements of the McGee model the current study shows that the seasonality of farming activities was important. It determined the availability of surplus labour which could be employed in non-farming activities.

The third theoretical implication of the current study for the EMR model, concerns the role of the state. A most important factor for the emergence of the Shenyang-Dalian EMR has been the role of government (state, provincial and local governments). EMRs in China have been crucially influenced by the changes in government policy. For example, the relaxation of population mobility regulations, changes in administrative structure, decentralization of decision making power to local governments, open door policies, and the establishment of rural free markets are crucial in reshaping rural-urban relations and the general transformation of the space economy in the corridor. The bulk of EMR research has been into areas operating within largely free-market oriented economies. The Chinese case highlights the role of the state. Yet one would do well to avoid over-emphasizing a top-down model of EMR formation for China. As was also noted in Ma and Fan's (1994: 1625-1645) study of towns in Jiangsu, much of the 'urbanization' along the Shenyang-Dalian corridor has occurred in the smaller villages, and is essentially spontaneous and unplanned. It is interesting that some contemporary economic transformation processes which have received a good deal of attention in North America and Europe such as the growth of producer services, vertical integration and disintegration, and flexible capitalism more generally, are taking place in the Shenyang-Dalian corridor.

'Weekend technicians' from urban areas acting as consulting engineers in rural villages and villagers' marketing their products or searching for new styles for their products in cities are part of a reformation and re-emphasis on producer services. As the case studies illustrate, these services are
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often focused in urban areas but are also found to have diffused to rural spaces to an extent which would not have been predicated by traditional quaternary location theory.

The processes of both vertical integration and disintegration are taking place within the corridor at the same time. An integrated industrial production system (agricultural-industrial-trade combine) in Houshi village is an example of vertical integration in rural industry. On the other hand, the transformation of rural enterprises from collectives to family operation in Tuchengzi is an example of industrial disintegration. The coexistence of vertical integration and disintegration implies there are multiple vectors of change and forms of adaptation which are leading the corridor towards economic prosperity. The mix serves to enhance both the flexibility and the specialization of the regional complex. The evolution of the forms and strategies of enterprise in the region is occurring in a largely organic manner. However, this is not to say that there is no role for the state in managing the region's development. At the very least, the growth of the EMR raises a number of policy concerns in regards to how the state should react to these changes.

14.3. Implications for Public Policy

The findings of this study have several policy implications. First, from a practical point of view, the Shenyang-Dalian EMR phenomenon casts serious doubt on the capacity of a few large cities to be the primary locus of any rural-to-urban transition in the future. Most Chinese cities have huge deficits in housing, transportation, electricity, water, drainage and sewage systems, and suffer from high levels of pollution, traffic congestion and related ills in varying proportions (Chang, 1983: 196-202; Leeming, 1993: 141-142; Tang and Jenkins, 1990: 212-214; Kojima, 1987). The expected increase of 440 million people to the urban population of China within the next two decades will not almost impossible to absorb into existing city centres (Chan, 1994: 153; Economist, 1994: 34-35). Thus, EMRs may in certain cases be one choice for Chinese planners to address the challenge of increasing pressures from rural to urban migration. Policies which promote 'leaving the land but not the rural areas' (changing peasants' occupations without changing residence) may, where appropriate,
be the best option for managing China's rural-urban transition process. This said, it needs to be noted that EMRs are unlikely to work in all areas. They are most likely to emerge along major transportation corridors. The Chinese government should develop programmatic strategies to recognize the importance of the extended metropolitan region as a settlement option. Along these lines, the enhancement of communication and transportation facilities throughout the region would provide an important pre-condition for the furtherance of the regional take-off and the retention of population in rural areas. Thus, the suggestion is to engineer space as much as the economy itself.

Second, the fusion of rural and urban economies in the Shenyang-Dalian corridor challenges the practice of the PRC government in keeping distinct approaches to rural and urban populations and activities. On the one hand, the Chinese government must reconsider its definition of the non-agricultural population, which is used to describe the nation's urbanization level. As shown in this thesis, existing official definitions of the non-agricultural population fail to reflect the real occupation division in the rural area in China, as more and more peasants are involved in non-farming activities or a combination of both farming and non-farming activities (i.e. invisible urbanization). The existing definition of the non-agricultural population was intended to limit rural to urban migration through implementation of the household registration system (hukou). Yet the hukou system, in spite of its objective of advancing industrialization and national development, has become a problematic heritage for the Chinese government. The rapid changes in the rural labour structure and the increasing levels of rural to urban migration during the last decade demonstrate that the system has lost its main raison d'etre. According to the government, peasant workers, enterprise managers and small business owners in rural areas are not considered officially part of the non-agricultural workforce because their household registration status belongs to the agricultural population, even though they are fully engaged in non-agricultural activities. The idea of 'invisible urbanization,' as documented in this thesis, shows the inadequacies of the government's definitions. The urbanization process in the Shenyang-Dalian corridor has long been under-calculated and has become 'invisible' from the viewpoint of the government. In reality, the non-agricultural population based on an occupational division rather than the official 'urban population' based on access to urban-types of subsidies, is the
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single most important and valid indicator showing actual urbanization levels in China today.

Third, the government will also have to encourage and support the development of agricultural activities in the EMRs. This is because China has a very small fraction of per capita farmland compared with the world average (Leeming, 1993: 11; Zhao, 1994: 167). Further, as the village case studies implied, any increased financial burden for peasants tends to discourage the initiatives of farming.

Fourth, the Chinese government must set up new policies to respond to the rapidity and scale of the rural peasants' occupational changes. The current changes present many challenges in terms of the maintenance of social equity and social cohesion at the village level. As the case studies show, higher levels of farm labourers' education have led to higher incomes. Consequently, change in the rural economy from the traditional model of self-sufficiency to a more market-oriented stance requires labourers with better education and skill levels. However, the government must also carefully monitor any increase in income gaps and resulting political conflicts between different groups in the rural areas. While the government has focused on rural economic reform, at present there seems to be little attention given to some of the social and political issues which accompany the changes documented in the rural economy.

Fifth, the emergence of different occupation groups and new socio-economic groups in rural villages has important policy implications as it indicates the formation of a more plural or diversified rural society in China. The economic and political demands of these different groups are quite different from each other, and so the potential conflicts between different groups in the rural areas require more government policy attention. Recent reports of peasant demonstrations over their financial burdens and inadequate income for their agricultural products indicates an increasing social problem in China (Leeming, 1993, 92-93).

Sixth, the Chinese government should carefully monitor the growth of economic activities in
the EMRs for the potential problems associated with environmental degradation. The evolution of EMRs should be based on sustainable development principles (Douglass, 1991: 239-274). While population pressures on existing cities may be somewhat avoided due to the development of the EMRs, this should not occur at the cost of environmental tragedy in rural areas.

Finally, the Chinese government should continue its decentralization of decision making and leave a room for local governments to work out local solutions. The development process in each of the case studies indicates that regional solutions are more successful than "one model for all" because regional solutions (to regional issues) generated at the local level are more suitable to local conditions.

14.4. Suggestions for Future Research

The shift of economic structure and life styles from rural to urban-type activities, as well as high invisible urbanization levels in the corridor’s rural areas, suggest that EMRs need to be defined not only quantitatively but also qualitatively. It is suggested that several questions need to be further studied.

First, as the Shenyang-Dalian EMR becomes an attractive centre for economic activities and the concentration of population intensifies along the corridor, the demands for delivery of urban-type services, such as water, sewage, and energy, as well as health, education and other social services will increase. In addition, new economic infrastructure, such as telecommunications and financial services will be required. Therefore, further research is needed to deal with how to provide these services in a decentralized environment.

Second, more research is needed as to the potential conflict between state enterprise workers and rural migrant labourers. If all restrictions and privileges that go with the hukou system were abolished, the urban state enterprise workers could lose their privileges and have to compete with
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rural peasants for jobs. They would likely face a drop in wages, the loss of state subsidies for both consumption expenditure and for housing, as well as a list of social security benefits, due mainly to the possibility of hiring lower wage migrant workers in urban areas. This would create serious social unrest. Therefore, there is an urgent need to study and put forward a set of workable policies on this issue. That is to say that a study is required as to the labour market impacts of transformation in the rural parts of the Shenyang-Dalian corridor.

The third research question regards what administrative frameworks need to be developed to manage EMR development. In other words, what kind of new government department(s) should be developed or existing government departments should be appointed to manage the semi-urban and semi-rural areas and to monitor 'invisible' urbanization processes. So far, none of the existing government organizations carries out this duty. For example, the Ministry of Urban and Rural Construction is to set up the national urban development policy, and designate new towns and cities. Therefore, a new administrative organization should formulate special policies to integrate the socioeconomic development of EMR's rural and urban areas, and to encourage inter-government linkages (horizontal linkage). In particular, special attention needs to be paid to economic interaction among adjacent areas of different central cities' jurisdictions. Moreover, a set of statistical indices is needed to collect socioeconomic information in EMRs (see Zhou, 1989).

The fourth research question is related to producer services. What is the role of producer services for EMRs' development and what are the mechanisms by which producer services stimulate and facilitate economic development? As the current study suggests, producer services are somewhat dependent upon manufacturing activity and the producers of producer services are mainly urban engineers (e.g. weekend technicians), village manufacturers or salespeople (e.g. leather bag and suitcase producers in Tuchengzi village and marketing teams in Houshi village). Therefore, the issues of who are the potential consumers of producer services and who are the potential producers of producer services are important issues. These question help the government to set up the organizational structures and strategies to extend the scale and scope of producer service operation.
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The final research question concerns the future evolution of the Shenyang-Dalian EMR. Does this EMR exist permanently or is it just a temporary process? If it is a temporary process involving redistribution of population and economic activities, how long will this form last, and what are its likely trajectories. How will this EMR evolve into next transition stage? What are the crucial conditions to transfer to the next stage? All these questions need further study.
APPENDIX

Appendix 1
Field Work in China
(From Nov. 2, 1992 to May 30, 1993)

Nov. 2-6, 1992: Arrived in Beijing and resided in Beijing Teachers' University; made appointments for interviews.

Nov. 9-13, 1992: Meeting with Prof. Zhang, Lanshen, Dean of Beijing Teachers' University and Chairman of the Chinese Association of Geographers; Discussed with Prof. Hu Zhailiang, Head of Department of Geography, Beijing University; Obtained personal introduction letters from these famous Chinese professors. This facilitated the data collection.

Nov. 16-20, 1992: Library work in Beijing University Library and Beijing Library (the largest one in China).

Nov. 22-27, 1992: Travelled to Changchun, Capital city of Jilin province in northeast China; Began preliminary discussion with Prof. Wang, Benlin, field supervisor at the Department of Economic Geography, Changchun Institute of Geography, Chinese Academy of Sciences (CIGCAS); Obtained approval and introduction letters from my official hosts at CIGCAS.

Nov. 30-Dec. 4, 1992: Discussed my 'shopping lists' for the field work with Prof. Wang, Benlin and my previous colleagues at CIGCAS; Library work in Northeast Normal University and collected some data for transportation development in Liaoning province; Visited Department of Geography, Northeast Normal University.

Dec. 7-11, 1992: Prepared for an open lecture to be given at CIGCAS.

Dec. 14, 1992: Delivered lecture at CIGCAS.

Dec. 15-18, 1992: Travelled to Shenyang, capital city of Liaoning province and took 'permanent' residence in Shenyang and set up a field work base.

Dec. 21-22, 1992: Hired a local assistant (a graduate student of Department of Geography, Liaoning University).

Dec. 28-30, 1992: Conducted formal interviews with the officials at the Planning Section, Rural Development Section, and Mr. Demin Wang, Officer of Rural Township and Village Enterprise Section of Liaoning provincial government.


Jan. 4-8, 1993: Started formal interviews with the officials at local government level, including surrounding counties and suburban districts of Shenyang city (2 counties and 3 suburban districts).

Jan. 11-14, 1993: Travelled around Shenyang area.

Jan. 18-21, 1993: Visited Hunhebu village and interviewed Mr. Wanlin Liu, village head.
Appendix

Feb. 8-12, 1993: Travelled to Anshan's urban districts and two counties.
Feb. 15-24, 1993: Visited Tuchengzi village and its surrounding free markets (the largest free market in northeast China) and interviewed Mr. Yongli Wang and his family (a leather bag and suitcase producer) and Kui-An Luan, village head.
March 3-5, 1993: Interviewed Mr. Yugui Chen, Head of Houshi village.
March 8-19. Worked at the Faculty Library of Shenyang University. I was mostly interested in searching for references on rural industrial development in Liaoning province; Travelled to Liaoyang city and collected data on Japanese colonial influence in Liaoning province.
March 22-26, 1993: Reviewed and collated data in Shenyang.
March 29-April 2, 1993: Prepared IDRC report; Prepared for next stage field work.
April 5-9, 1993: Conducted interviews at Hu-he village - a village located in the suburb of Shenyang city. Rural industry in this village has become the dominant economic sector here since 1980.
April 12-16, 1993: Visited a rural commercial town - Xiliu, 100 km away from Shenyang. This market town is the largest clothes market in Northeast China.
April 19-22, 1993: Visited several enterprises in Shenyang city. It is interesting that some equipments in these factories have been in used even since the Japanese colonial period (late 1930s - early 1940s).
April 23, 1993: Packing, Say goodbye to friends in Liaoning province.
April 24-26, 1993: Travel to Changchun; Discussion with Professor Wang, Benlin and other professionals in the Economic Department of Changchun Institute of Geography, Chinese Academy of Sciences. Hosted a 'thank-you' party in Changchun.
April 27-28, 1993: Travel to Taiyuan, capital city of Shanxi Province in North China.
April 29-30, 1993: Stayed in Taiyuan city - a new industrial city in China's inland area, and visited several urban suburbs and made appointments for interview.
May 3-7, 1993: To further investigate the resource base of Northeast China I interviewed several officials at Shanxi provincial government, including the Deputy Minister of Provincial Energy Production and Transportation Bureau.
May 10-14, 1993: Worked at the library and data base office of Transportation Section of Shanxi province.
May 16-21, 1994: Travel to Beijing; Last visit to Libraries of Beijing University, Beijing Normal University and Chinese People's University.
May 24-28, 1993: Discussed my initial findings and ideas with Chinese famous professors: Prof. Zhang, Lanshen, Dean of Beijing Normal University; Prof. Hu, Zhaoliang, Head of Department of Geography, Beijing University; and Mr. Li, Qinyuan, Planning Section of China's Domestic Trade Ministry.
Appendix

Appendix 2
The Major Stages of Post-1978 China's Reform Program

Generally speaking, China's ongoing reform program since 1978 has been characterized by a gradual approach in contrast with the recent reforms undertaken in the post-communist countries of Eastern Europe and the former Soviet Union. The goal of the Chinese leadership has been not to transform the entire political economic system but to develop the Chinese economy as rapidly as possible within the basic framework of socialism and the existing political system.

The major features of the silent reforms undertaken during the last 16 years revolve around the principle of undertaking reforms first on an experimental basis in certain localities, before they can be applied to the whole country. Chinese policy makers believe that such a gradual approach to reform had several advantages. First, it avoids major disruption to the economy, and in cases where the policies turn out to be deficient, they can be modified to suit national and local conditions. Second, by carrying out first those policies that are likely to be successful, the leadership has been able to build up political support for further reform. This has been particularly important in avoiding social unrest and political conflicts which could potentially derail the whole reform process. Third, for certain reforms to be effective it was necessary to build new institutions, set up new legal and regulatory frameworks, and train personnel to become familiar with new practices, all of which are time-consuming tasks. Finally, through an incremental approach, the administrative apparatus of the planning system can continue to be available - but with diminishing effectiveness - until a new system becomes effective.

### Appendix

#### Summary of Synopsis of China's Reform from 1978

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1978-83</td>
<td>Household responsibility system started from 1978 and emerged as the dominant form by 1983</td>
</tr>
<tr>
<td>1984-88</td>
<td>Mandatory farm product procurement by the state replaced in 1985 by contracts with households at negotiated prices</td>
</tr>
<tr>
<td>1989-92</td>
<td>Continued household responsibility system framework continuing further evolution of agricultural production reforms with the goal of maximizing efficiency of land use</td>
</tr>
<tr>
<td>1978-83</td>
<td>Prices in forms of contracts (quota), negotiated and free market; some agric. inputs still supplied at planned or contract prices; market price apply to growing a number of retail items</td>
</tr>
<tr>
<td>1984-88</td>
<td>By 1987, free markets are dominant at the retail level, except for some goods such as grain and oil supplies under urban rationing system; subsidies on essential foodstuffs continue to increase sharply</td>
</tr>
<tr>
<td>1989-92</td>
<td>Support-pricing machinery invoked to guarantee farm incomes in light of a large grain harvest; large adjustment in urban prices of rationed goods (grain and oil) in 1991-92; rationing abandoned in 1993; gradual strengthening of wholesale markets; grain reserves established to preserve price stability</td>
</tr>
<tr>
<td>Continuing</td>
<td>National futures trading to be encouraged, to stimulate farmers' supply direct to the market.</td>
</tr>
<tr>
<td>1978-83</td>
<td>Selected state enterprises sell a portion of output at negotiated prices on experimental basis</td>
</tr>
<tr>
<td>1984-88</td>
<td>Dual-track pricing introduced (fixed prices for plan quotas and guided prices in contracts with state purchasing agencies); and market prices for other sales</td>
</tr>
<tr>
<td>1989-92</td>
<td>Dual-track prices of a large number of commodities were unified, and energy prices adjusted repeatedly; ratio of producer goods under fixed/guided/market pricing is down to 45:19:36 in 1991</td>
</tr>
<tr>
<td>Continuing</td>
<td>Gradual phasing out of the remaining dual-track prices</td>
</tr>
<tr>
<td>Enterprises -ownership issues</td>
<td>1978-83</td>
</tr>
<tr>
<td>1984-88</td>
<td>securities exchanges open in some cities; foreigners can purchase shares in Chinese enterprises</td>
</tr>
<tr>
<td>1988-92</td>
<td>more access to securities exchanges; greater autonomy for state enterprises</td>
</tr>
<tr>
<td>continuing</td>
<td></td>
</tr>
</tbody>
</table>

| Rural small enterprises (SME) | 1978-83 | existing rural enterprises benefited from increased investment associated with agricultural income and availability of surplus labour |
| 1984-88 | SMEs designated in 1984 being given concessional tax treatment and favourable access to credit |
| 1989-92 | credit restrictions under rectification program result in closures, a sharp drop in growth rate, and loss of employment; credit restrictions eased in second half of 1990; SMEs growth accelerated sharply |
| continuing | further development of SMEs |

| Fiscal policy -resource sharing (Central/provincial relations) | 1978-83 | various forms of revenue sharing: local governments responsible for negotiating management contracts, including tax/profit arrangements with enterprises. |
| 1984-88 | revenue-sharing contracts between central and provincial government started in 1987 or 1988. |
| 1989-92 | new contracts due to start in 1991 under negotiation; some experiments with clearer demarcation of central/local resources began in nine provinces in 1992 |
| continuing | clearer demarcation of central-local resource assignment to be universal; strengthening central control over fiscal policy |

| Fiscal policy-funded enterprises | 1978-83 | wholly owned foreign enterprises taxed at 20-40%; joint ventures taxed at 30%; various incentives (tax holidays, etc.) for new enterprises |
| 1984-88 | no significant changes, but local governments in SEZs & open coastal cities have considerable discretion in granting additional concessions |
| 1989-92 | two taxes merged in 1991, effective 1992, with tax rate unified at 33% |
| continuing | unification with domestic enterprise taxation |

Appendix

Appendix 3
Calculation of Invisible Urbanization Level in the Three Case Study Villages

'Invisible urbanization' level refers to percentage of the actual rural population involved in non-agricultural activities in total population. Although it can not take account of quality of entertainment facility and availability of rural cultural life, it reflects how the urbanized corridor has invaded areas thought to be rural. China's official definition of urban population and urbanization level (which is based on officially defined non-agricultural population) can not explain this phenomenon. According to official definition, these village had only less than 5 percent of population were classified as non-agricultural population.

Following calculation for index Ri is based on data in Table 3. Here, Index Ri = (village's index) / (Urban average). If village index > urban average, let Ri = 1. Therefore:

\[ 0 \leq Ri \leq 1 \]

and Weight Wi meets

\[ 0 \leq Wi \leq 1 \]

and

\[ \sum_{i=1}^{7} Wi = 1 \]

The Comprehensive Invisible Urbanization Coefficient (CIUC) is defined as

\[ CIUC = \sum_{i=1}^{7} (Wi \times Ri) \]

Comprehensive Invisible Urbanization Coefficient represents to what degree the rural settlement is approaching to the way of life in urban areas.

Actual Non-Agricultural Population (ANAP) (total population are related to non-agricultural activities) can be calculated by:

\[ ANAP = ANAL \times (1+F) \]

Here ANAL: Actual Non-Agricultural Labour; F = Per Non-agricultural labour sponsored family member. It is easily interpreted that [ANAL \times (1+F)] equivalent to actual non-agricultural labourers and their sponsored family members.
Appendix

Actual Urbanization Level (AUL) would be percentage of Actual Non-Agricultural Population in total population modified by Comprehensive Invisible Urbanization Coefficient (CIUC). Therefore,

\[
AUL = \left( \frac{\text{AUL}}{P} \right) \times \text{CIUC} \times 100\%
\]

Here, \( P \) = Total Population.

The difference between Actual Urbanization Level and Officially Defined Urbanization Level (ODUL) would represents 'Invisible Urbanized Level' (IUL):

\[
\text{IUL} = AUL - \text{ODUL}.
\]

Index of Selected Three Villages' Living Standards (As proportion of Urban average)

<table>
<thead>
<tr>
<th>Index of Selected Three Villages' Living Standards</th>
<th>Weight</th>
<th>Hunhebu</th>
<th>Houshi</th>
<th>Tuchengzi</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation</td>
<td>Wi</td>
<td>Ri</td>
<td>Ri</td>
<td>Ri</td>
</tr>
<tr>
<td>Non-agricultural labour</td>
<td>0.20</td>
<td>0.78</td>
<td>0.53</td>
<td>0.44</td>
</tr>
<tr>
<td>Economic Feature</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Per capita income</td>
<td>0.20</td>
<td>1.00</td>
<td>1.00</td>
<td>0.79</td>
</tr>
<tr>
<td>Education</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Labour's education length</td>
<td>0.20</td>
<td>0.77</td>
<td>0.73</td>
<td>0.75</td>
</tr>
<tr>
<td>Consumption Pattern</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Durable goods*</td>
<td>0.10</td>
<td>0.92</td>
<td>0.77</td>
<td>0.52</td>
</tr>
<tr>
<td>Reciprocal of food expenses</td>
<td>0.10</td>
<td>1.00</td>
<td>1.00</td>
<td>0.75</td>
</tr>
<tr>
<td>Dress expenses</td>
<td>0.10</td>
<td>0.98</td>
<td>0.83</td>
<td>0.47</td>
</tr>
<tr>
<td>Cultural life</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Entertainment expenses</td>
<td>0.10</td>
<td>0.86</td>
<td>0.59</td>
<td>0.36</td>
</tr>
<tr>
<td>Comprehensive Invisible Urbanization Coefficient</td>
<td>--</td>
<td>0.89</td>
<td>0.77</td>
<td>0.61</td>
</tr>
</tbody>
</table>
## Appendix 4

Peasants' Per Capita Net Income in Liaoning Province 1978-1991 (yuan)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Liaoning Province</td>
<td>185.2</td>
<td>273.0</td>
<td>533.2</td>
<td>896.7</td>
</tr>
<tr>
<td>---From agriculture (%)</td>
<td>90.1</td>
<td>82.7</td>
<td>76.6</td>
<td>62.0</td>
</tr>
<tr>
<td>---From non-agriculture (%)</td>
<td>9.9</td>
<td>17.3</td>
<td>23.4</td>
<td>38.0</td>
</tr>
</tbody>
</table>

Appendix

Appendix 5
The Share Holder System in Hunhebu Case Study Village

Since 1990, Hunhebu village has adopted the 'share capital' system to accumulate capital. Nineteen highly productive village enterprises out of 61 were selected by the village leaders and the representatives of the villagers as share enterprises. Some of the family's saving were collected in order to expand village collective enterprises further. In 1992, among the total share capital of 8.11 million yuan, 1.38 million yuan were directly from peasants. That is to say, 17.4 per cent of the village capital collected through this system was held directly by individuals, and the remaining 82.6 per cent of the share capital was collected from village collective enterprises. So far, more than 68 percent of peasants in this village are share holders through this system.

The reasons that the peasants are willing to purchase capital share for village-run industrial enterprises, rather operating industry by themselves, may be summarized through an examination of two factors. The first objective has been to accumulate capital to further attract foreign investment into this village. There is a common belief that foreign enterprises have access to better markets, and can better earn profit and pay less tax to the government. The share holder system in the village was considered to provide a better channel or environment for foreign investments and joint ventures. So far, in China, the share holder system has only been tested in few urban enterprises and special economic zones and there are very few villages in China which have often adopted this share holder system. Yet without the share holder system, foreign investors have doubted the responsibility of village, and the enthusiasm of rural peasant workers for joint venture enterprises, especially as the village and peasant workers are not tightly linked with the performance of the joint venture enterprises. Now the share system in this village has linked the rural peasants' profits to the performance of joint venture production. Therefore, starting from 1990, foreign investors from Taiwan, South Korea and Hong Kong have invested several projects in this village. By the end of 1992, four joint venture enterprises have been established and total foreign investment was US$1.58 million. Parallel to the foreign investment, the village has invested around US$ 820,000 of its own funds. Two of the joint venture enterprises produced 10 million yuan annual output in 1992. Another high technology enterprise already invested 50 million yuan in 1992. However, it should be noted that foreign investment did not play such a crucial role as some have thought, particularly during the take-off stage of development in rural villages. In fact some village capital was accumulated mainly by the village collective, peasants saving, and partially through government loans.

The second reason was that individual peasants had difficulties when deciding what sector would earn the better potential investment return, and it has been hard for them to predict the market demands and changes as many of them were only 8 years education. They therefore tend choose the collective-run enterprises as their capital bearers in order to avoid risk.

The collectivilization of individual family's saving has been proved a suitable and successful capital accumulation in this village. So far, share capital has been utilized to set up another eight new village enterprises. The share holder system also creates a positive participation and concern of every share holder (peasants) for the performance of village enterprises.

(Based on interviews with Mr. Wanlin Liu, village head, Hunhebu, January 18-21, 1993)
Appendix

Appendix 6
China's 'Comparatively Well-Off' Indices for 2020s and Hunhebu Village Indices in 1992

As one of the 'four modernizations' program indices, the Comparatively Well-Off Standard was set up by the Chinese government. As an indicator of an individual's wealth was proposed that by the year 2020, China would reach the comparative well-off level (LRSEST-TCZ, 1990). The following table shows the standards of the 'Comparatively Well-off' level set for the China's rural population in 2020, and this standard is compared with Hunhebu village's living standards in 1992. The analysis shows that Hunhebu's living standard in 1992 was over the 'Comparatively Well-off' level set up by the Chinese government for the year 2020.

Comparison of Hunhebu's living standards with China's Comparatively Well-Off Standards

<table>
<thead>
<tr>
<th>Index</th>
<th>2020 national goals</th>
<th>Hunhebu (1992)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income</td>
<td>&gt; 1,100</td>
<td>2,036</td>
</tr>
<tr>
<td>Per capita net income (yuan)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gini coefficient¹ (%)</td>
<td>30-40</td>
<td>40</td>
</tr>
<tr>
<td>Material Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Engel coefficient² (%)</td>
<td>&lt; 50</td>
<td>33</td>
</tr>
<tr>
<td>Per capita daily absorbed protein (grams)</td>
<td>&gt; 75</td>
<td>77</td>
</tr>
<tr>
<td>Per capita expense on clothes (yuan/year)</td>
<td>&gt; 70</td>
<td>298</td>
</tr>
<tr>
<td>Percentage of reenforced concrete houses</td>
<td>&gt; 80</td>
<td>100</td>
</tr>
<tr>
<td>Cultural Life</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TV sets per 100 households</td>
<td>&gt; 70</td>
<td>113</td>
</tr>
<tr>
<td>Expenses in cultural service as % of total</td>
<td>&gt; 10</td>
<td>12</td>
</tr>
<tr>
<td>Life Expediency and Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Life expectancy (years)</td>
<td>&gt; 70</td>
<td>71</td>
</tr>
<tr>
<td>Length of labour's education (years)</td>
<td>&gt; 8</td>
<td>8</td>
</tr>
<tr>
<td>Living Conditions</td>
<td>Sanitized drinking water (%)</td>
<td>&gt; 90</td>
</tr>
<tr>
<td>Electricity in households (%)</td>
<td>&gt; 95</td>
<td>100</td>
</tr>
<tr>
<td>Social Security and crime rate</td>
<td>% of population enjoying social welfare</td>
<td>&gt; 90</td>
</tr>
<tr>
<td>Criminal rate (cases/per 10,000 people)</td>
<td>&lt; 5</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: 1. Gini coefficient reflects degree of concentration of economic sectors or income distribution. The less the Gini Coefficient, the more even the income distribution. 2. Engel Coefficient is defined by the ratio of food expenses in total living expenses.

Appendix

Appendix 7

Survey Result for the Question 'Which Families Became Rich' in 1992 (%)

<table>
<thead>
<tr>
<th>Category</th>
<th>non-corridor villages*</th>
<th>corridor villages</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Hunhebu</td>
<td>Houshi</td>
<td>Tuchengzi</td>
<td></td>
</tr>
<tr>
<td>Village cadres</td>
<td>32.2</td>
<td>13.3</td>
<td>76.7</td>
<td>40.0</td>
<td></td>
</tr>
<tr>
<td>More labours and hard working</td>
<td>12.2</td>
<td>0.0</td>
<td>20.0</td>
<td>3.3</td>
<td></td>
</tr>
<tr>
<td>Individually operated business</td>
<td>17.4</td>
<td>3.3</td>
<td>3.3</td>
<td>23.3</td>
<td></td>
</tr>
<tr>
<td>Contractor</td>
<td>10.4</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Managers of village enterprises</td>
<td>21.9</td>
<td>16.7</td>
<td>0.0</td>
<td>20.0</td>
<td></td>
</tr>
<tr>
<td>Private enterprise owner</td>
<td>4.4</td>
<td>66.7</td>
<td>0.0</td>
<td>13.3</td>
<td></td>
</tr>
<tr>
<td>Members working outside village</td>
<td>1.5</td>
<td>0.0</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>Total Sample (persons)</td>
<td>270</td>
<td>30</td>
<td>30</td>
<td>30</td>
<td></td>
</tr>
</tbody>
</table>

* Note: Non-corridor villages include nine villages located outside of the Shenyang-Dalian corridor.

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investigation materials for long-term fixed survey village - Tuchengzi village) (internal material).

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