Regional Inequality of Gansu in China: A Focus on Rural-Urban Income Difference, 1990 – 2005

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ABSTRACT China has been experiencing an incredible growth since the economic reforms of 1978. These reforms not only accelerated economic development, but also resulted in regional inequalities among China's provinces, especially between Western China and the coastal provinces. The Chinese Government values equity as a central issue in economics, sociology and politics. The People's Congress listed regional inequality as one of the most pressing problems to be targeted during the ninth five-year plan and income distribution is often used to understand regional inequality in the Chinese context. Gansu, as one of the poorest provinces in China, is characterized by severe natural conditions, a large number of minority groups and low urbanization rates. In order to understand the spatial patterns of regional inequality in Gansu, this study measures the distribution of income within the region. Descriptive statistics are used to distinguish between urban and rural counties on the basis of several socio-economic variables. GIS Spatial Analysis is also used to illustrate the geographical relevance of the income disparity measures. The findings of this study suggest that income disparity is strongly correlated with urbanization rates, revealing a consistent urban-rural disparity within the province.

INTRODUCTION

China has been experiencing a considerable growth since the economic reforms of 1978, while simultaneously facing a growing gap between its developed eastern coasts, especially the ultramodern metropolises and the littoral zones, and with the poor hinterlands in the Western regions. The great majority Of some 48 million people living under the official poverty line in China are located in the Western China (World Bank, 2001), where poverty is most pronounced in rural, ethnic minority areas, while urban areas enjoy a much higher standard of living. In 2000, The Chinese Government has made the development of the Western provinces' social and economic conditions a national priority (China's Western Development Priority). Since then, however, this development has been hindered by a lack of understanding of many factors that have created this disparity in Western China.

The development experience during the last century has shown that economic progress alone does not achieve either the social equity or the multi-sector dynamics, essential for the long-term advancement of human welfare. After decades of development, many populations are still facing "decreased opportunity, political and economic disempowerment, and general insecurity when it comes to food, social safety, political and legal representation, as well as financial well-being" (Jones, 2004 p.145). It has become clear that economic growth cannot be sustained without taking into consideration

the social and political development of vulnerable populations, particularly minority populations.

China is facing more and more challenges since the late 1980's because the benefits of its economic growth continue to be distributed inequitably, as is often the case with the core-periphery territorial organizations. While the urban area is certainly the core of developing activities, continued polarized development in China underlies numerous social and demographic shortcomings at the county level, as in the Western minority counties (Cao *et al*., 2000).

This research focuses on Gansu, as a study region, exploring the urban-rural income disparity at the county level, and examining the evolution and spatial distribution of the disparity for last two decades in the province. The following text will first review the existing regional disparities in China, then it will provide a brief introduction to the study region and will introduce the method applied in this research as well; thirdly, the article will study the evolution and spatial distribution of the urban-rural income disparity during the last 15 years; fourthly, the factors that contribute to the increasing regional disparity in the province will be presented; finally, a summary of the research findings will be provided.

REVIEW OF REGIONAL DISPARITIES IN CHINA

The Chinese government considers equity to be a central issue in economics, sociology and politics (Yang, 1999). Since 1990, the People's Congress listed regional inequality as one of the most pressing problems needing to be addressed; it is listed for the eighth "five-year" plan.

It is widely recognized that the reforms that have taken place in China since 1978, though overall very successful in achieving high economic growth rates, have been accompanied by a substantial increase in income disparity. This income disparity has manifested itself as follows:

- inter-regionally, including coastal versus inland regions, northern versus southern regions, and inter-provincial;
- intra-regionally, that is urban versus rural areas;
- between groups of individuals, especially between the rich and poor. Those getting rich through successful business endeavours or by the abuse of power are leaving many people behind struggling to meet their basic needs.

For the purposes of this research, the focus is on the intra-regional disparity, in particular **urban-rural income disparity**.

Urban-rural income disparity has been at the centre of scholarly and policy debates since the establishment of the People's Republic of China in 1949 (Chang, 2002; Ma, 2003; Wu and Perloff, 2004; Xiang, 1998), largely due to the diverse views on the nature and practice of socialism (Wu, 2002). A number of studies have emphasized the relationship between urban growth and urban-rural income disparity. Lu (2002) attempts to determine the validity of the Kuznets-Williamson model[1] in order to explain

[1] Kuznets (1955) had proposed an inverted U-shaped relationship (also called a Kuznets curve) between the level of urbanization and income level, measured by the average income between urban and rural sectors, using scant sample data of the United States, England and Germany. He concluded that, in general, the urban-rural disparity would increase at the beginning of the urbanization process, as the population moved away from the rural sector to the urban sector in search of higher urban incomes; gradually the income disparity would decrease as the population settled down in the urban sector, receiving progressively higher

urban-rural income disparity in China. He finds that the provinces where economic growth raises per capita consumption, urban-rural consumption differences are likely to be smaller, or at least, increase very slowly. Unlike other developed countries, China has not followed Kuznetz's principles because the governing registration system, *Hukou* policy, has restricted the mobility of rural labourers. Lu and Chen (2006) suggest the reason why China has not followed the Kuznets curve is richer rural areas are the first to be urbanized; because residents in these areas have a greater possibility of getting a higher paying job, they are more likely able to afford higher education for their children. Xue (1997) also notes that the high per capita income of urban workers, the availability of multiple subsidies, and the restrictions on migration from rural to urban areas, explain most of the differentials of the urbanization effect. Yang and Zhou (1999) observed that urban-rural per capita income and consumption experienced a U-shaped change after the economic reforms were launched in the late 1970s. From 1978-1990, the differentials decreased. Afterwards, however, they increased rapidly. Changes traced through the 1990s, indicate that consumption differentials peaked around 1993-1994, followed by another U-shaped change. Given the multi-U-shaped experience of China's urban-rural inequality, it is especially interesting to investigate the validity of a Kuznets-Williamson hypothesis in this particular country's urban–rural context.

Apart from economic development, other factors have also contributed to rural–urban income disparity. Predominantly, as Yang and Zhou (1999) have shown, inter-sector gaps in marginal productivity of labour, as well as barriers to inter-sector reallocation of labour are major sources of urban-rural disparity (Lu, 2002).

Todaro (1969) suggested that the urbanization process narrows the disparity between urban and rural sectors. When rural labour forces look for higher income in urban areas, their migration contributes to the urban-rural income disparity because of the expectation for higher wages. At the same time, the rural to urban migration accelerates the urbanization process (Lu and Chen, 2006; Bruecknera and Zenoub, 1999; Yang, 1998). Chen (2002) examined the correlation between variables such as GDP per capita, urban-rural income gap, and levels of urbanization and industrialization by using the Chinese provincial data of 2000. His study confirms that the regions with higher GDP per capita and higher levels of urbanization and industrialization, such as Jiangsu, Zhejiang, Liaoning, Shanghai, Beijing and Tianjin, have a smaller urban-rural income gap. Provinces and autonomous regions with lower GDP per capita, such as Tibet, Yunnan, Guizhou, Shaanxi, Qinghai and Gansu, usually have higher urban-rural income disparities. Consequently, it is concluded that urbanization contributes to reducing both urban-rural income and regional disparities.

Yang (1999) attributed the rise in urban-rural disparity after 1990 to what he called the "urban-biased policy mix", which included increased subsidies, investments, and banking credits for urban regions. These policies brought about higher inflationary taxes on rural earnings. Johnson (2000) summarized three other major policy areas that adversely affected rural incomes: restrictions on rural-to-urban migration, frequent inaccessibility to education, and the urban-biased allocation of investment and credit. Moreover, the individual effect of household composition has increased income inequality (Lanjouw and Ravallion, 1995; Brandolini and D'Alessio, 2001). Larger families tend to be poorer because they have more children; consequently, they achieve a lower level of welfare.

Little is known about the relative importance of potential factors contributing to urban-rural inequality (Wan, 2007). Nevertheless, it is clear that urban-rural income

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incomes.

disparity is considerably wider in Western China, where minority populations are most highly concentrated (Xue, 1997). Ethnic inequality is an important concern because of the implications that it might have on economic development and the functioning of society in China. It has been confirmed that the income disparity in minority populations is the result of socioeconomic inequality between minority and majority (non-minority) groups (Cao *et al.*, 2005; Frisbie and Neidert, 1977).

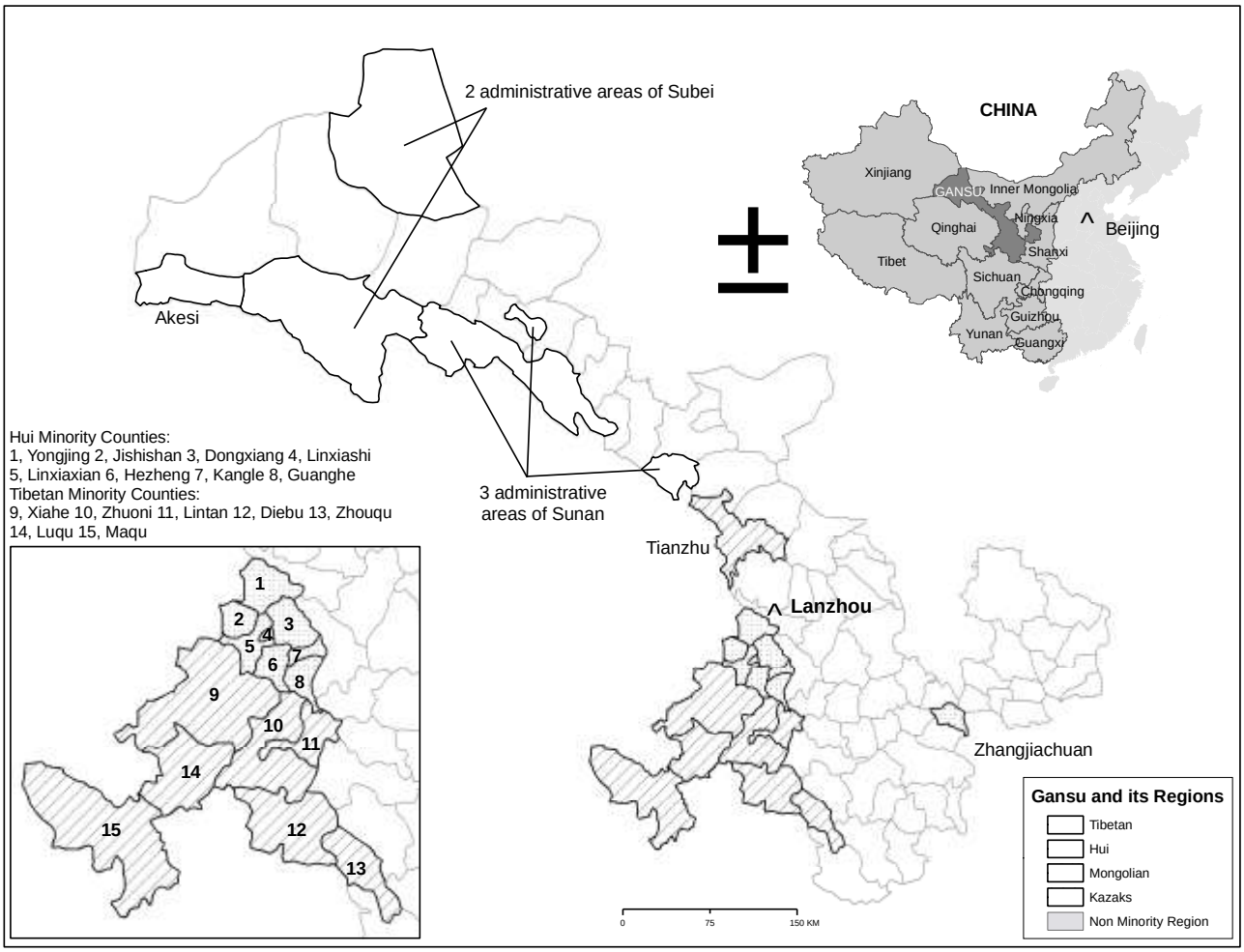
METHODOLOGY

STUDY REGION. The province of Gansu is located in Western China (see Figure 1) and at the intersection of the Loess Plateau, the Inner Mongolian Plateau and the Tibetan-Qinghai Plateau. Each of these plateau regions have distinct cultures, creating in the province of Gansu distinguished socio-economic and cultural characteristics. Gansu adjoins three Minority Autonomy Provinces: Inner Mongolia (Mongolian Minority) in the northeast, Ningxia (Hui Minority) in the north, and Xinjiang (Uyghur Minority) in the northwest. It also connects three other provinces where a significant number of minority populations live: Qinghai (45.5% minority proportion, including Tu, Hui, Tibetan, Mongolian, etc.), Sichuan (5.6% minority proportion, including Tibetan, Qiang, etc.) and Shanxi (0.6% minority proportion, including Hui, etc.).

Although Gansu is not recognized as a Minority Autonomy Region, it counts 45 ethnic minority groups among its total population of 2.5 million people. This minority population accounts for 8.75% of the total population in Gansu. Most of these ethnic groups live in one of the 22 government-designated minority counties (Figure 1), which represent nearly 20% of the total counties in Gansu province. The geographical distribution of the minority counties is characterized by the neighboring provinces, which are the source of the different ethnic minority groups. The Kazaks, Salars and Mongols located in the northern autonomous territories; for example, originate in the Inner Mongolia and Xinjiang provinces. The Hui and Tibetans located in the southern part of the province come from Qinghai province. The cohabitation of the majority population, Han, and the various ethnic minorities listed above, make Gansu a very interesting region for a case study of Western China.

Aside from its unique placement at the intersection of three plateaus, and its role in adjoining three minority provinces, the impoverished socioeconomic characteristics of Gansu also make this province distinct. Nearly 40% of Gansu's total population is considered relatively poor; an additional 10% is considered very poor. In 2000, the average GDP per capita in Gansu was 3490 yuan (US $426), which represented only 54% of the national GDP per capita average of China. According to the Chinese government, of the 80 counties in the province, 41 were poverty stricken; 12 of these were populated mostly by minority groups. The average annual net income of the 0.9 million people living in these 12 minority poverty counties was below 1,000 yuan (US $125) in 2000.

Figure 1
Gansu Province and its Minority Regions



Projection: Regional Conformal Projection (China)
Softwear: ArcGIS 9.0

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METHOD AND DATA. Since the analysis of the urban-rural income disparity contains two steps, first, the evaluated the urban-rural income disparity and its special distribution from 1990 to 2005; second, examining the contributed of the socio-economic variables to this disparity, there are different methods apply to each steps. Income disparity will be presented by urban-rural income ratio which is calculated by urban income / rural income. Moreover, a GIS analysis will present the special distribution of this ratio over each of the geographical region of the province. Finally, a multi-regression analysis will examine the factors that had contributed to the disparity.

County as the geographical unit will be used in this research. There are 80 counties in the province as shown in Figure 1. Data used in this research are base on the Gansu Statistical Yearbook (GSY) and the Gansu Statistic Bureau (GSB) database.

EVOLUTION OF THE URBAN-RURAL INCOME RATIO IN GANSU, 1990-2005

To find out the evolution of how the disparity occurred in each county during the last 15 years, an elaborate examination of the urban-rural income ratio was considered. Table 1 shows the average urban-rural income ratios of the province. This table illustrates that, despite slight decreases at various times, the overall urban-rural income disparity

increased between 1990 and 2005. Throughout the province, the average ratio was 5.1431, but in 1995 it decreased to 4.9397. The ratio kept increasing over the next five years, reaching 5.0088 in 2000 and 6.8260 in 2005. Between 1990 and 2005, therefore, the urban-rural income ratio grew at a rate of 32.72%. Minority counties' average ratio is greater than the provincial average. The average ratio of minority counties grew from 5.9086 to 6.0015 between 1990 and 1995. There was a slight decrease income ratio of 0.0461 between 1995 and 2000; in 2000 the ratio was 5.9554. By 2005, the urban-rural disparity in the minority counties had widened once again, attaining a ratio of 8.1146. Non-minority counties' urban-rural income ratios were better off than both the overall province and minority counties ratios. In 1990 the average ratio for non-minority counties was 4.9514; it decreased to 4.6023 in 1995. A minor increase in income disparity occurred in 2000 when the ratio reached 4.7068. Again, urban-rural income disparity increased in non-minority counties in 2005. The highest ratio was recorded in Dangchang: a ratio of 12.9607 in the year 2005. As is expected, the counties of Dangchang also experienced a great increase in income disparity; in 2000, the ratio was 11.1591. Kanxian had the highest ratio in 1995 at 10.2078, and Minxian had the largest disparity of 10.6653 of the urban-rural income ratio in 2005. These counties are all located in the south of the province.

Table 1. Average Urban-rural Income Ratio in the Province of Gansu, 1990-2005

	1990	1995	2000	2005
87 counties	5.1431	4.9397	5.0088	6.8260
Minority counties	5.9086	6.0015	5.9554	8.1146
Non-minority counties	4.9514	4.6023	4.7068	6.4019

Data has been calculated by author
Source: Gansu Statistical Yearbook 2001 and 2006; Statistic Gansu Documents

In 1990, there were six counties (see Table 2) with very high urban income disparity ratios, incomes eight times greater than the average rural incomes of the province. These six counties are located in the south of Gansu. Among these counties, four are minority counties (Zhouqu, Lintan, Jishishan and Dongxiang) dominated by Tibetan and Hui minority populations. Furthermore, there were 26 counties, representing 30.23% of the total counties, with high urban income ratios between 6.0 and 7.9 times greater than the rural income ratios. Among these 26 counties, six were minority counties, again, all located in the southern part of the province. A high proportion of the counties (33.72%) had a relatively high ratio of income disparity in 1990 that is 4.0-5.9. Among these counties, five were Tibetan minority autonomous counties (Luqu, Xiahe, Diebu, Guanghe and Tianzhu) four were located in the south, and one, Tianzhu, was located in the north. There were eleven counties in the ratio category of 3.0-3.9; only two of these were minority counties (Linxia and Maqu). In 1990, only fourteen counties were found to have an urban-rural income ratios lower than 2.9. Three of these counties were minority counties, namely Sunan, Subei and Akesai (Mongolian and Kazaks nationalities).

In 1995, there were two more non-minority counties that had a ratio greater than 8.0. These higher ratio counties represented 9.30% of the total number of counties in the

province. There were seventeen counties in the second 6.0-7.9 ratio category; more than half of these counties, nine, to be exact, were minority counties. That same year, 30 counties, that is 34.88% of the total number of counties in the province had a high ratio of disparity – these counties fell between 4.0 and 5.9 which represented 34.88%. However, only one minority county, namely, Zhangjiachuan placed itself in the 4.0-5.9 ratio category. Fourteen counties found themselves in the 3.0-3.9 ratio category. Two of these were minority counties, Linxia and Luqu, both located in the southern province. The number of counties finding themselves in this, at 2.9, the lowest category of urban-rural income ratio, had thus grown.

Table 2. Number of Counties in Different Categories of Urban-rural Income Ratio

Province	**1990**		**1995**		**2000**		**2005**	
< 8.0	6	6.98%	8	9.30%	7	8.05%	31	35.63%
6.0 – 7.9	26	30.23%	17	19.77%	21	24.14%	26	29.89%
4.0 – 5.9	29	33.72%	30	34.88%	31	35.63%	12	13.79%
3.0 – 3.9	11	12.79%	14	16.28%	7	8.05%	14	16.09%
> 2.9	14	16.28%	17	19.77%	21	24.14%	4	4.60%
minority counties	**1990**		**1995**		**2000**		**2005**	
< 8.0	4	20.00%	4	20.00%	4	19.05%	15	71.43%
6.0 – 7.9	6	30.00%	9	45.00%	10	47.62%	2	9.52%
4.0 – 5.9	5	25.00%	1	5.00%	3	14.29%	1	4.76%
3.0 – 3.9	2	10.00%	2	10.00%	-	-	2	9.52%
> 2.9	3	15.00%	4	20.00%	4	19.05%	1	4.76%

Data has been calculated by author
Source: Gansu Statistical Yearbook 2001 and 2006; Statistic Gansu Documents

In the year 2000, the number of counties found in the first category of income ratio, that is greater than 8.0, had decreased. There were four minority counties in this category; three of these (Zhouqu, Lintan and Dongxiang) were in the same ratio category as in 1995. Zhouni County, however, replaced Jishishan, which became another county suffering from a large urban-rural income disparity. About 24.11% of the counties had an urban-rural income disparity ratio between 6.0 and 7.9; about half of them were minority counties. A greater number of counties found themselves in the 4.0-5.9 ratio category. Of these, only three were minority counties. Fewer counties had ratios between 3.0 and 3.9 and none of these were minority counties. The counties finding themselves in the smallest disparity ratio category had increased to 21. The same minority counties, namely, Sunan, Subei and Akesai remained in this category, and were joined for the first time by Lianxiashi County.

In 2005, income disparity throughout Gansu became greater than ever before. There were 31 counties (35.63%) with a ratio greater than 8.0; about half of these were minority counties. These particular minority counties were all located in the south, mainly

in the Linxian Hui and Gannan Tibetan Autonomous Prefectures. About 26 counties a ratio between 6.0 and 7.9; these were located throughout the province. Only two were minority counties, they are Luqu and Maqu. These particular counties had a substantial Tibetan population. Twelve counties' urban-rural income disparity ratio was between 4.0 and 5.9, only one minority county, Linxiashi, among them. Among the fourteen counties with a ratio between 3.0 and 3.9, two were minority counties, namely, Subei and Akesai, which, in the past, always had lower income disparity ratios than other minority counties. In 2005, only four counties found themselves in the lowest ratio category, Sunan County having the lowest disparity of all.

FACTORS INFLUENCING URBAN-RURAL INCOME DISPARITY

In order to examine the individual effects of each variable on urban-rural income disparity, represented by urban-rural income ratio, a series of multiple-liner regression analyses were carried out. The selected variables were based on our literature review. The multi-regression analyses conducted include three models: Model 1 was applied for all the counties in the province in 2000; Model 2 tested the relation between the dependent and the independent variables, as tested in model 1, in the 60 counties of the southern province; Model 3 examined if the independent variables also had the same effect on the 16 minority counties of the south, where performance an unfavorable socioeconomic condition than the other counties.

The dependent variable in these regression analyses is: the urban-rural income ratio for each county of Gansu in 2000. The independent variables are: township density, female illiteracy rate, immigration rate, household size (more than 6 people), and per capita GDP.

Results of the Multi-regression Analysis

The multi-regression analysis confirms that the there is a strong association between urban-rural income disparity and predictors among the 80 counties of the province (Model 1: R=0.776, R^2=0.602, Adjust R^2=0.575, F=22.348) in the year of 2000.

Among the five independent variables, four variables, namely township density, female illiteracy rate, immigration rate and household size, contribute to urban-rural income disparity (see Table 3). Two variables have positive relations with urban-rural income disparity. To begin, the female illiteracy rate has a very strong correlation with income disparity, which means that a higher proportion of female illiteracy results in a higher urban-rural income disparity throughout the province. Household size also has positive correlation with income disparity, signifying that counties that have larger size households usually have higher urban-rural income disparity. The other two variables have negative relations with income disparity. The correlation with the immigration rate shows that a higher mobility among the population results in less disparity in a county. The same is true of the township density variable – counties with higher township density have less significant income disparity.

The second model of the regression analysis tested the same variables as those mentioned above on income disparity in the 60 southern counties (Model 2: R=0.750, R^2=0.563, Adjust R^2=0.522, F=13.892). Three variables have contributed to the

urban-rural income disparity in 60 south counties.

Female illiteracy had a positive relation with income disparity, while the other two variables, namely township density and immigration rate, had a negative correlation with the income disparity.

Table 3. Results of the Multi-regression Analysis

Independent Variables	***Model 1*** **80 Counties**	***Model 2*** **60 Southern Counties**	***Model 3*** **16 Southern Minority Counties**
Township Density	-0.674 (-1.804)*	-1.037 (-3.097)***	-1.305 (-2.532)***
Female Illiteracy Rate	0.078 (3.954) ***	0.086 (4.902)***	0.046 (1.304)
Immigration Rate	-0.082 (-3.767)***	-0.172 (-3.149)***	-0.242 (-2.452)***
Household Size (> 6 pop.)	0.045 (1.895)*	-0.013 (-0.524)	-0.066 (-1.449)
per Capita GDP	-0.021 (-0.653)	-0.018 (-0.535)	-0.878 (-0.439)
Model Summary			
Constant (C)	4.104 (8.412)	5.823 (10.489)	9.123 (5.941)
R	0.776	0.750	0.853
R^2	0.602	0.563	0.727
Adjusted R^2	0.575	0.522	0.591
F Statistic	22.348	13.892	5.328
Sample of Size	80	60	16

Note: 1. Dependent variable: Urban-rural income Ratio in 2000
*2. In the brackets are the t statistics. *, **, *** represent the level of significance greater than or equal to 0.10, 0.05, 0.01 respectively*

The third model concentrated on the 16 minority counties of the province's south. The aim of this model was to test whether the same independent variables had the same influence on income disparity. In Table 4.6, it is clear that Model 3 was highly significant (Model 3: R=0.853, R^2=0.727, Adjust R^2=0.591, F=5.328). Only two variables, township density and immigration rate, are correlated with income disparity in the 16 southern minority counties, both of them are negatively related with the dependent variable.

Analyses on the Influential Variables of Urban-rural Income Disparity

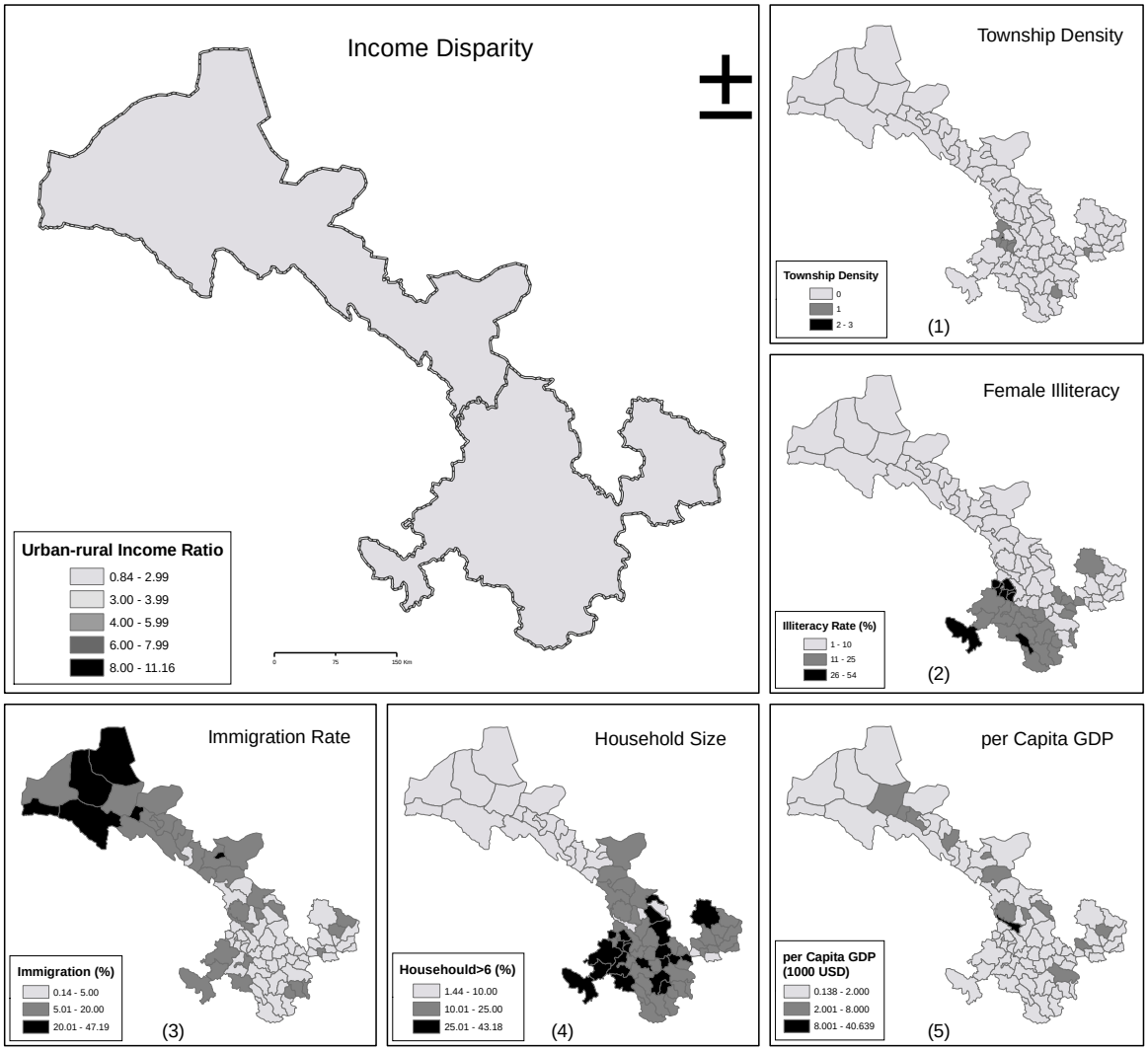
TOWNSHIP DENSITY Researchers have argued that the urbanization process will help to reduce both urban-rural and regional income disparity, meaning as the level of urbanization increases, the disparity will decrease. It has been shown that a region with a higher urbanization level has a smaller urban-rural income disparity (Chen, 2002). The regression analysis supports this fact: when all other conditions are equal, regions with a higher township density have a smaller urban-rural income disparity.

Figure 2 shows the distribution of urban-rural income disparity in relation to the density of townships in the province of Gansu in 2000. Figure 2.3-1 shows that while all the counties of Gannan prefecture had low township density, they also had high income disparity. Due to close proximity to the provincial capital, Lanzhou, there are some high density townships in the minority counties in Linxia. Although one of the counties Linxiashi, a city level county, had a little income disparity, the rest of the counties in Linxia had both high density townships and high level of income disparity.

FEMALE ILLITERACY Often there is a correlation between parents' level of education and the educational level of their child. Indeed, negative attitudes towards education are usually linked to the parent's low level of education. . Low levels of education among women are often associated with high levels of fertility, which reduces the probability of having enough money for the education of all children. Parents, especially mothers, are considered the first teachers of their children. Subsequently, children's attitudes toward education are likely to reflect those of their parents. Children from families whose parents have not been educated may lack a thirst for knowledge because they have not been encouraged to learn. These children lack the skills necessary to learn academics, such as the ability to focus. Furthermore, they do not see the value of education.

Figure 2-2 shows the distribution of female illiteracy. Generally, female illiteracy has a positive relation with income disparity with income disparity. As is made clear in the regression results in Table 3, female illiteracy contributes positively to the income disparity at both the provincial and southern county levels. Thus a higher-educated population, especially female population, could reduce income disparity between urban and rural regions.

Figure 2. Spatial Distribution of Urban-rural Income Disparity and its Influential Variables in Gansu Province, 2000



Projection: Regional Conformal Projection (China)
Software: ArcGIS 9.0
Source: Gansu Statistical Yearbook 2001

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MOBILITY Large flows of immigrants seem to help reduce urban-rural income disparity, as highlighted by Fu (2004). Migration helps reduce urban-rural income disparity in two ways. First, urban wages are generally higher than rural ones. In an idealized labour market, rural labourers flow into urban areas to seek higher paying jobs. The excess labour supply lowers urban wage rate, while the reduced labour supply in the rural labour market increases rural wages. Ideally, this process continues until rural and urban wages are equal. In this way labour mobility could decrease income disparity. Second, rural household incomes heavily depend on transfers from migrants. Li and Wei (1999) found that the outflow of rural labourers not only increased the income of rural residents because of the remittance to their hometowns but also raised the productivity of the remaining labourers due to the reduced labour surplus.

Figure 2-3 shows the distribution of the immigration rates in Gansu. As the regression results indicate, immigration rate had very strong relation with income disparity at all three geographic levels – Counties with more immigrants have less income disparity.

SIZE OF HOUSEHOLD The structure of households is a closely linked with the distribution of income among its members (Brandolini and D'Alessio, 2001). In particular, the size of a household makes for a strong positive correlation in developing countries (Lanjouw and Ravallion, 1995). The part of rural China that is less developed still holds to the tradition of the son as the hope of the family. Most rural families ignore China's "One Child" policy; they typically continue producing children until they have a boy. Consequently, household size has been increasing greatly. As the household size grows the demand for goods and food increases, less money, thus, is left over for the education of children. Boys become the priority, and female illiteracy increases.

Figure 4-4 shows the distribution of lager household sizes (more than six people in one household). It is clear that larger households are mostly found in minority counties; higher urban-rural income disparity is also found in these counties

ECONOMIC CONDITIONS Regions with higher per Capita GDP have smaller urban-rural income disparities, while regions with lower per Capita GDP, have higher urban-rural income disparities (Chen, 2002). Chen suggests that the growth of GDP has become an important force in reducing urban-rural disparity. Since the Chinese central government has defined the poverty-stricken counties according to the people's annual income, families' yearly revenue has become crucial in measuring the development of a county. In 2000, Gansu had 41 government-designated poor counties, in which the average income of rural residents was 1,945 yuan (US $243). The poor counties with the lowest incomes were generally concentrated in the eastern, interior and southern parts of Gansu, as well as in the southern minority counties. Figure 4-5 shows the distribution of GDP per Capita in all the counties. Generally, minority counties do not have a high GDP for their region due to the domination of the lower productive agricultural industry.

CONCLUSION

In this research, the urban-rural income disparity has been reviewed from 1990 to 2005 on a county level over the province of Gansu. The distribution of this disparity is quite different. The southern province and especially the southern minority counties have a higher disparity. Overall the province, the income disparity between urban and rural had a slight decrease from 1990 to 2000, but an increase in the last five years between 2000 to 2005, however, the minority counties evolution has a different trend which the disparity was keep growing during the last 15 years.

It is also been found that there are several socio-economic variables that have strongly influenced this urban-rural income disparity: First, the township density had a significant contribution to reduce the income disparity between urban and rural; Second, the proportion of the female illiteracy is one of main raisons of the disparity; Third, mobility as one of the most important one had a significant negative relation with the disparity, which also means that the population's mobile could reduce the income disparity in the minority counties of Gansu.

REFERENCES

Brandoloni A and D'Alessio G (2001) "Household Structure and Income Inequality", working paper at Center for Houshold, Income, Labour and Demographic Economics.

Bruecknera J. K. and Zenoub, Y. (1999) "Harris-Todaro Models with a Land Market", *Regional Science and Urban Economics* 29: 317–339.

Cao H., Chouinard O. and Dehoorne O. (2005) "De la périphérie vers le centre : l'évolution de l'espace francophone du Nouveau-Brunswick au Canada (From the periphery to the center : evolution of the Acadian (french-speaking community) spatial distribution in New Brunswick, Canada)", *Annales de géographie,* 114: 115-140.

Cao H., Zhao Y. and Losier S. (2000) "Le projet urbain de Pudong Shanghai : Offre-t-il un développement durable pour la globalisation de la Chine? (Does the Pudong urban project in Shanghai have a sustainable future?) ", *Annales de la recherche urbaine* (Paris), 92-100.

Chang G. H. (2002) "The Cause and Cure of China's Widening Income Disparity", *China Economic Review,* 13: 335-340.

Chen A. (2002) "Urbanization and Disparities in China: Challenges of Growth and Development", *China Economic Review,* 13: 407-411.

Fu X.L. (2004) "Limited Linkages from Growth Engines and Regional Disparities in China", *Journal of Comparative Economics,* 32(2): 249-270.

Frisbie W. and Neidert L. (1977) "Inequality and the Relative Size of Minority Population: A Comparative Analysis", American Journal of Sociology, 82 (5): 1007-1030.

GANSU STATISTICAL YEARBOOK 甘肃统计年鉴 1991 (Committee of Yearbook of Gansu Province 甘肃省统计年鉴编委会, Beijing: China Statistics Press, 1991)

GANSU STATISTICAL YEARBOOK 甘肃统计年鉴 1995 (Committee of Yearbook of Gansu Province 甘肃省统计年鉴编委会, Beijing: China Statistics Press, 1996)

GANSU STATISTICAL YEARBOOK 甘肃统计年鉴 2000 (Committee of Yearbook of Gansu Province 甘肃省统计年鉴编委会, Beijing: China Statistics Press, 2001)

GANSU STATISTICAL YEARBOOK 甘肃统计年鉴 2005 (Committee of Yearbook of Gansu Province 甘肃省统计年鉴编委会, Beijing: China Statistics Press, 2006)

Johnson D. G. (2000) "Reducing the Urban-rural Income Disparity", Paper no. 00-07, Office of Agricultural Economics Research, The University of Chicago.

Jones M. E. (2004) "Forging an Asean Identity: The Challenge to Construct a Shared Destiny", *Contemporary Southeast Asia,* 26(1): 140-55.

Lanjouw P. and Ravallion M. (1995) "Poverty and Household Size", *The Economic Journal,* 105(11): 1415-1434.

Li S. and Wei Z. (1999) "Rural Labour Outflow and Distribution in China", *Economic Research Journal,* 475-511.

Lu M. and Chen Z. (2006) "Urbanization, Urban-Biased Policies, and Urban-Rural Inequality in China, 1987-2001", *Chinese Economy,* 39(3): 42-63.

Lu D. (2002) "Rural-urban Iincome Disparity: Impact of Growth, Allocative Efficiency,

and Local Growth Welfare", *Chain Economic Review*, 13: 419-429.

Ma X. H. (2003) "Analysis o the Current Income Disparity", *Rad Flag*, 16: 24-34.

Todaro M.P. (1969) "A Model of Labor Migration and Urban Unemployment in Less Developed Countries", *The American Economic Review,* 59: 138-148.

Wan G. (2007) "Trends in China: Methodological Issues and Empirical Findings", *Review of Income and Wealth,* 53: 25-34.

World Bank (2001) *World Development Indicators*, the World Bank, Washington DC, March.

Wu Y.R. (2002) "Regional Disparities in China: an Alternative View", *International Journal of Social Economics*, 29 (7): 575-599.

Wu X. and Perloff J. M. (2004) "China's Income Distribution over Time: Reasons for Rising Inequality", *Department of Agriculture and Resource Economics, University of California, Berkeley. Working paper*.

Xue J. (1997) "Urban–rural Income Disparity and its Significance in China", *Hitotsubashi Journal of Economic*, 38: 45-49.

Xiang S. J. (1998) "Dynamic Research on the Urban-rural Income Disparity in China", *Journal of Heibei University of Economics and Trade*, 6: 30-34.

Yang D. T. (1999) "Urban-Biased Policies and Rising Income Inequality in China", *American Economic Review,* 89(2): 306-10.

Yang D. T. and Zhou H. (1999) "Rural-urban Disparity and Sectoral Labour Allocation in China", *The Journal of Development Studies*, 35 (3): 105-133.

Yang R. M. (1998) "Relevance Analysis for China Urbanization and Non-agriculturalization", *Areal Research and Development*, 17: 17-19.