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**Assessing Ethnic Disparities in Income and Poverty in China:
The Case of Han and Hui in Ningxia**

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Assessing Ethnic Disparities in Income and Poverty in China – The Case of Han and Hui in Ningxia¹

Abstract

This paper contrasts the Han and the Hui populations living in the autonomous region of Ningxia, People's Republic of China with regards to household per capita income and poverty. The Hui have language and physical appearance in common with the Han majority, but being of the Muslim faith, they differ from the majority in religious practice, dress and often name. Household surveys for 2006 covering rural as well as urban areas are used.

Compared to the Han, the Hui are found to be disadvantaged regarding length of education as well as household wealth. Despite this, however, in rural Ningxia there is no gap in household per capita average income or poverty between the two ethnic groups. The Hui earn more income outside the farm, for example, and they have a higher propensity to migrate. In urban Ningxia the Hui have a mean household per capita income that is 21 percent lower than among the Han. A main reason for this gap is that Hui females participate in the labour market less than Han females due to shorter educations. In urban Ningxia the Han and the Hui are to a large extent segmented into different sectors of the labor market. However, while earning function analysis indicates that females are disadvantaged compared to men, signs of ethnic disadvantages in earnings determination are not found.

Keywords: China, Ethnic minorities, Hui ethnicity, income, poverty, migration
JEL classification: I32 J15 P36

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1. Introduction

Public policy in China has stressed equality between ethnic groups. China's 55 officially recognised national minorities (Minzu) are unequally distributed throughout the country. An important component of the policy is the system of regional autonomy which consists of intersecting territories. The largest autonomous areas are the five autonomous regions (zizhi gu): Tibet, Xinjiang, Guangxi, Ningxia and Inner Mongolia. Ethnic regional autonomy has several dimensions. One such dimension is cultural by allowing the official use of the minority language. Another dimension is social by promoting minority persons to become cadres and to take part in policymaking and policy implementation. Ethnic regional autonomy also has an economic dimension by the provision of special funding to the autonomous areas.

Each of the autonomous regions are made up of minority persons as well as members of the Han majority, although the proportions vary across regions. In Tibet and Xinjiang minority persons make up the majority, though not in the other three autonomous regions. Clearly it should be of great interest to know if and to what extent there are ethnic income and poverty disparities within the autonomous regions. In this study we focus on Ningxia Hui autonomous region and compare the two ethnic groups Han and Hui. Ningxia is located in the northwest of China and has a GDP per capita and life expectancy somewhat under the median for China as a whole.

The Hui and the Han majority have language and physical appearance in common, but the Hui are of the Muslim faith and due to history have their own identity. Differences between the Hui and Han are visible in religious practice, diet, dress and often name. As we will show, the two populations are rather separated from each other concerning marriage and to a somewhat lesser extent concerning friendship. Several other countries have Muslim minorities and results from recent research indicate that they are at a disadvantage compared to the majority. This is the case in Britain (Georgiadis and Manning, 2011), Germany (Buechel and Frick, 2004) and India (Basant and Shafiff, 2010).

The literature on ethnic disparities in China is scanty regarding household income, poverty and the labour market as shown in Section 2 of this paper. This study focuses on the entity of autonomous region and covers rural as well as urban areas by using household level data collected for 2006. We are not aware that such a research design has been applied to China previously when studying ethnic disparities in income and poverty.

This study shows that the Hui are disadvantaged within the region in which they are supposed to have a special position ensured by household endowments: they have shorter educations and own less household wealth. This is true for rural Ningxia as well as for urban Ningxia. However, there is no divide between the Hui and the Han in rural Ningxia concerning average income and poverty. This can be explained by the Hui earning more income outside the farm. For example, a larger fraction of the Hui migrate, partly due to low income in villages where they live.

For urban Ningxia we report that Hui females, mainly due to their shorter educations, are less likely to be employed than Han females. This together with a larger number of dependent children is one important reason for a gap in mean income between the ethnicities that amounts to 21 percent. The proportion of Hui falling under a relatively high poverty line is higher than among the Han. Consistent with findings from previous studies of ethnic differences in the Chinese labour market, we report that the labour market in urban Ningxia is

ethnically segmented. However, estimates of earnings functions including sector of the labour market as independent variable indicate that while females, Han and Hui alike, are at a disadvantage compared to men of the same ethnicity, but we find no signs of an ethnic disadvantage in earning determinations.

The rest of the paper is laid out as follows: In Section 2 we survey the literature on ethnic disparities in the labour market, household income and poverty in China. Section 3 presents some facts on the Ningxia autonomous region and the Hui ethnic group. The survey we work with is described in Section 4. Some key facts on the two ethnic groups including length of education and household wealth in rural as well as in urban Ningxia are presented in Section 5. Focusing on rural Ningxia, Section 6 compares household income and poverty for the two ethnic groups. It also investigates factors that determine rural migration in order to better understand the lack of differences in mean household income and poverty across the two ethnic groups. In Section 7 we turn to ethnic differences in urban Ningxia regarding the labour market, income and poverty. Finally we sum up the findings in the concluding section.

2. Previous research on ethnic disparities in income and poverty in China

The People's Republic of China officially defines ethnic minorities as comprising those persons who belong to one out of 55 different recognised ethnic minorities (not the Han majority). Ethnic status is registered on the identification card citizens of China possess. PRC policies grant minorities certain advantages. For example, minorities have preferred treatment for entering higher education and many minority groups are exempted from the one child policy.²

A fact of relevance for understanding ethnic differences in income and poverty in China is that its ethnic minority population is spatially unevenly distributed. A larger proportion of ethnic minority groups live in rural areas compared to the majority population, and most are concentrated to the less-developed western part of the country. Even within province level units, ethnic minorities can be concentrated to regions that are less developed.³ Furthermore, at the village level there is often segmentation, meaning that persons belonging to one ethnicity dominate in number.

Based on existing research, how do ethnic minorities differ in economic well-being from the majority in China? Starting with educational attainment (which in China has increased rather rapidly across birth cohorts), evidence surveyed by Hannum et al (2008) and Hannum and Wang (2010) indicates that although minority persons belonging to later birth cohorts are much better educated than older cohorts, most minority groups are still at a disadvantage when compared to majority persons belonging to the same birth cohort. Such disadvantages can be traced to ethnic minorities living in low-income locations where school quality often is lower, as well as to family circumstances such as low educational attainment among parents and financial difficulties in the household.

Education affects labour market participation as well as what kind of occupation an individual has. For studies of ethnic disparities a critical question is: Is education the only factor

² For the recent debate about China's ethnic policy see Sautman (2010).

³For example in Xinjiang Uygur Autonomous region the Han are concentrated to the industrialised and most well-off region in the northeast, while minority people are concentrated to the less-developed, agricultural southwestern part of the autonomous region, see for example Cao (2010).

affecting labour market participation and occupation or does ethnicity play a role independent of education? Labour markets can be segmented along various dimensions and for various reasons. Social networks can be structured along ethnic dimensions, for example, information on jobs can differ for people of different ethnicities. A troublesome question from a policy perspective is whether minority individuals face barriers due to discriminatory hiring or advancement. The opportunity for employers to practice such behaviour was probably small in China during the planning époque when labour was allocated and policy emphasised equality between ethnic groups. However, since the mid-90s, firms have been given the right to employ workers and unemployment has surfaced; two processes signifying increased room for discrimination on the part of employers.

What does empirical research on China show? Most work refers to urban China. Maurer-Fazio et al (2007) who used Census data for 1990 and 2000 and Maurer-Fazio et al (2010) who also included data for 1982, analysed labour market participation among larger ethnic groups in urban China. Men's participation rates are found to be high and show little variation by ethnic group while among women most ethnic minorities had lower participation rates than the majority. Across years studied labour force participation generally decreased, more so among women than among men, and more among some ethnic minorities than among the majority. Results from estimated probit models indicate that minority women are rich in levels of those attributes that discourage market work that possibly are due to discrimination (Maurer-Fazio et al, 2010).

An early study using census data for Xinjiang autonomous region 1982 and 1990 provides mixed results concerning ethnicity playing a role for labour market segmentation apart from education. Hannum and Xie (1998) who compared Han and Uygur show that the lower proportion of Uygur among professional and technical occupations can be traced to a large extent to their shorter educations. However, occupational differences by ethnicity remained severe net of education in agriculture (dominated by Uygur) and blue-collar occupations (dominated by Han).

Results from more recent studies of three different local labour markets all indicate that ethnicity plays a role which is independent of education concerning what kind of job a worker has or in which sector he or she is active. This is shown in Zang (2010) who collected data for 2005 in Urumchi, the capital of Xinjiang. The author found indications that Uygur ethnicity worked as a barrier to job attainment in state firms. A second example is Hasmath (2008) who studied the labour market in Beijing where the Manchu followed by the Hui are the two largest ethnic groups. Although ethnic minorities in Beijing outperform the majority when it comes to education, census data for 2000 shows that they are less likely to be found in high-wage occupational sectors. Hasmath (2011) carries the analysis further and suggests that social-network capital for the job search, hiring and promotion are of importance. The third example, Zang (2008), is closest to our study as it relates to the Hui ethnic group and the Han in the city of Lanzhou, the capital of Gansu province which borders on Ningxia. Based on data collected in 2001, it reports that minority persons have shorter educations on average than the majority. Furthermore, when considering education and certain other variables in a multivariate model, Hui ethnicity is found to decrease the probability of occupation in a state firm or other state unit.

While there are thus results from several studies indicating that the urban labour market in China is segmented by ethnicity, less work seems to have been done regarding earnings determinations. One exception is Li and Ding (2011) who report little difference in earnings

levels between Hui and Han in urban Ningxia using the same survey used here. Another example is Zang (2012) in a study of earnings determination in Urumchi, which reports that on one hand, Uygur workers earned less than Han workers of the same gender. However, in an earnings function analysis including variables such as education, age and ownership sector, the coefficient for Uygur ethnicity was estimated with a low t-statistic in the male subsample, but among females the negative coefficient was estimated with a t-value over 2.

Some studies have investigated ethnic disparities in economic well-being in rural China by focusing on household income and poverty in rural China. Using data from the China Household Income Project (CHIP), Gustafsson and Li (2003) analysed households living in rural regions of 19 provinces for 1988 and 1995. They found that although average income per capita among minorities increased between the two years, the minority/majority income gap also increased. This was found to be the result of economic growth being spatially unbalanced during the period studied in combination with China's ethnic minorities living primarily in other locations than the majority. In the two provinces studied, Yunnan and Guizhou in the southwest, few ethnic differences on average per capita household were reported. In line with these studies, Gustafson and Ding (2009A) who used household panel data from 22 province level units for 2000 to 2002, reported rural poverty to be more widespread among ethnic minority households than among the majority. However, as majority persons are more numerous, most poor people in rural China belong to the ethnic majority.

The unit of analysis in Gustafsson and Ding (2009B) is the village and a large survey for 2002 is used for studying household per capita income as well as household per capita wealth. Persons living in minority villages in northeast China were found to on average have a somewhat better economic situation than inhabitants in the average Chinese village, but minority villages in the southwest were clearly faring worse. Among many factors affecting the economic situation in the village, location was found to be the single most important circumstance negatively affecting the economic situation of a village in the northwest and particularly the southwest.

Some authors have investigated migration by ethnic minorities and compared it with migration of the majority population. As reasons and destinations for migration differ across time and space it is not necessarily easy to generalise results from various studies. Furthermore, differences across ethnic minorities might be as large, or perhaps even larger, as those between the majority and minorities taken as one category. For example one could hypothesise that minorities having a language of their own and being visibly different from the Han, like the Uighur for example, face larger barriers to migration than the Hui who have the same language as the majority.

One example of a study of ethnic minority migration in China is Iredale et al (2001). For example, migration rates between minorities and the majority using the 1990 census are compared in Chapter 4. Rates of movements within provinces are reported to be relatively similar, but lower rates of minority movements across province boundaries are found. Fieldwork in Inner Mongolia (Chapter 5) indicates that migration generally is viewed as a good thing by both individuals and politicians, a positive force for aiding economic development. Also Jijiao (2003) paints a positive picture of ethnic minority migration based on experience from Guizhou: Many skilled migrants have returned, remittances sent back by rural migrants are significant and urban influences brought back by migrants are not necessarily destructive.

3. Hui and Ningxia

According to the fifth national Census 2000, the Hui number 9 816 508 persons which makes it the largest of China's ten officially recognised Muslim minorities, and after Zhuang and Manchu the third largest ethnic minority group in the People's Republic of China. The Hui are spread all over China's 31 province level units. The highest concentration is in Ningxia Hui autonomous region where 35.4 percent of the population are Hui and 1.4 percent belong to some other ethnic minorities (according to published reports from the 2010 Census). An above-average concentration of Hui is also found in Gansu, Xinjiang, Henan, Hebei, Shandong and Yunnan. The Hui are as urbanized as the majority (China's Yearbook of Ethnic Works, 2003).

The Hui are of varied ancestry. It is often claimed that it was during the Ming Dynasty (1360 to 1644) that the Huihui (later referred to as the Hui) began to emerge as an ethnic group.⁴ The Hui are similar to the Han majority in language and physical appearance. However, as Muslims they follow Islamic dietary laws and reject the consumption of pork. They also dress differently from the Han as women typically wear headscarves and men white caps. Certain family names also signal that the person most probably belongs to the Hui minority.⁵ Hui typically marry within their ethnic group (see Zang, 2007).

Ningxia Hui autonomous region was formed in 1958 and is small compared to most other of China's province level units in terms of area as well as population. With a population of 6.25 million in 2009, only Tibet and Qinghai have smaller populations. However, compared to member countries in the European Union it would rank close to the median just after Bulgaria and before Denmark in terms of population size. Measured by indicators such as household income and life expectancy, Ningxia ranks below the median for China.⁶ Natural conditions are in many parts of Ningxia unfavourable for agriculture activities and the government has for some decades initialised resettlement projects (Merkle, 2003). The area used for agricultural production has decreased due to the implementation of national policies aimed at reducing soil erosion by converting farm land on steep slopes into forest and compensating farmers thereafter (see for example Zhang et al, 2008). Furthermore, Ningxia is one of China's less industrialised province level units.

Almost half (46 percent in 2009) of Ningxia's population live in cities, a proportion almost identical to China as a whole. As in other parts of China, the existence of the Hukou system long limited rural to urban mobility which contributed to keeping the urban to rural income gap high (White, 2010). In the data we present in Section 4, the gap in per capita household income between urban and rural areas is 2.60 to 1.

Many rural households in China have sought to improve their economic situations by sending members to places with better employment conditions as migrants or commuters. Results from our survey show that temporary migration in Ningxia is typically short, as only a minority of migrants have moved out of Ningxia permanently. Migration often takes the form of chain migration. As opposed to many other parts of China, local government officials in rural Ningxia have taken an active role in promoting out-migration of its inhabitants due to

⁴ For a history of Muslims in northwest China see Lipman (1997).

⁵ Some clans in southeast China identified as Hui and recognized as such are Hui due to ancestry only and do not practice Islam as a religion.

⁶ However, provinces in southwest China with a large proportion of ethnic minorities have still lower income levels. See for example Bahall and Qiu (2006, p 58) who focus on poverty and income among ethnic minorities living in southwest China.

official policy. This is due to the officials' performance being evaluated based on the number of out-migrants in their jurisdiction.

4. Data

We use data from a socioeconomic survey conducted in 2007 in the Ningxia Hui Autonomous Region by the Ningxia Survey Team of the National Bureau of Statistics on behalf of the Institute of Ethnology and Anthropology, Chinese Academy of Social Sciences. The samples were selected from the larger pool of households surveyed in the region used for official statistical information published each year in the statistical yearbook for Ningxia Autonomous region.

The sampling was drawn as follows: All regularly sampled households in Ningxia living in all five divisions (Yinchuan, Shizuishan, Wuzhong, Guyuan and Zhongwei) of Ningxia were selected. In order to increase the size of the urban sample up to 800 households and make the coverage of Hui in it closer to that of Ningxia, additional urban households living in three southern divisions of Ningxia (Wuzhong, Guyuan and Zhongwei) were derived.⁷ The research team also designed questionnaires for the rural and urban households respectively. For example questions on various household assets were posed making it possible to investigate household wealth using an approach previously applied by Zhao and Ding (2008) for samples covering larger parts of China. For the households surveyed we received access to information already collected by the survey team. This means for example that we can define and measure household income in the same way as the National Bureau of Statistics. Our questionnaire was answered by members in almost all households (100 percent in the urban survey, 99.72 percent in the rural survey).

/Figure 1 about there/

There is considerable variation in mean household per capita income across villages surveyed in rural Ningxia. We can compare village household income in our sampled villages with the corresponding income for rural China as a whole.⁸ Figure 1 shows that the Ningxia sample has comparably many villages with per capita income placing them in the first three deciles of the all-rural China distribution, and also in the seventh decile. In contrast there is no village in the Ningxia sample with an income high enough to place it in the top decile of the all-rural China distribution. There are also comparatively few villages in the Ningxia sample with a per capita income placing them in decile three to six or in decile nine in the all-rural China distribution.

The rural survey contains 1 190 households with 5 399 individuals and covers 120 villages. In the sample, 3 028 persons (57 percent), are Han, 2 289 persons (43 percent), are Hui. The urban survey contains 800 households with 2 455 persons. Of those 1 680 persons (69 percent), are Han and 715 persons (29 percent), are Hui.⁹

5. Portraying the populations

⁷ The total number of Hui persons in the sample is 2 257 and of those 1 732 are from the southern part of Ningxia (Wuzhong, Guyuan and Zhongwei) and represent 76.7 percent of all Hui in the sample.

⁸ The latter is derived from a sample for 2002 (see Gustafsson and Ding, 2009B) covering 22 provinces and updating the income information with the growth rate for the entire rural China from 2002 to 2006 as reported by NBS.

⁹ There are also 43 persons (2 percent), belonging to other minorities (mostly Manchu) which we do not use in the analyses presented here.

/Table 1 about here /

Table 1 provides some basic information on the two ethnic groups in rural as well as urban Ningxia derived from our samples. The Hui population has a larger proportion of children than the Han, and the Hui households consistently have a somewhat larger number of members than the Han households. Households are smaller in size in urban Ningxia than in rural Ningxia. Marriages across ethnicity groups are very uncommon in rural as well as urban Ningxia. Patterns of friendship also are demarked by ethnic borders, particularly in rural Ningxia. In urban Ningxia a third of Han respondents indicate that among their three closest friends at least one is Hui. Hui more often than Han have at least one person of the other ethnicity among their three closest friends. While almost all Hui respondents indicate that they are religious, this was only the case among a minority of Han respondents and they also indicate that they are Buddhists. Urban inhabitants are much more likely to be members of China's Communist Party than rural inhabitants, but within each region there is no ethnic difference.

/Figure 2 about here/

Figure 2 illustrates years of education among adult persons in rural and urban Ningxia by ethnicity. We report that urban inhabitants have longer educations than rural inhabitants; males longer than females and Han longer than Hui. Comparing the extremes we find that while female rural Hui are educated on average only 3.5 years, urban male Han have an average education of 11 years. Our data shows that very few urban persons of any gender or ethnicity are illiterate, while illiteracy is widely spread in rural Ningxia and has both a gender and ethnic dimension. The extreme is female rural Hui with an illiteracy rate as high as 45 percent.¹⁰

/Table 2/

We now turn to results on household per capita wealth measured at the household level. Table 2 reports wealth components/average total wealth and Gini coefficient for household wealth per capita. This is done for rural as well as urban Ningxia and for Han as well as Hui. We report a large wealth gap between urban and rural households with the former owning about double as much wealth as the latter. Most importantly, urban households own housing valued on average five times as much as the rural households. In contrast to urban households, rural households own user rights to land, their single most valued wealth component. Urban households, however, own considerably more financial assets than rural households.

In rural as well as urban Ningxia, the Hui on average own less valued household wealth than Han households. The gap is estimated to be 29 percent in rural Ningxia and 30 percent in urban Ningxia. The gap is slightly larger in user's right to land and productive assets. The ethnic gap in financial assets in urban Ningxia is particularly large - 47 percent. In contrast, the ethnic gap in the value of consumer goods is small in rural Ningxi, and scarcely exists in urban Ningxia.

¹⁰ A further analysis of the education variable reported in Gustafson and Ding (2011) illustrates that China's education expansion has led to rather large differences by birth cohorts. Gender differences in length of education have decreased across birth cohorts, and are actually not present in urban Ningxia for the youngest birth cohorts. Among the youngest cohort of males in urban Ningxia, years of education is the same for Han and Hui. However, ethnic differences prevail among urban females, as well as among females and males in rural Ningxia.

We have thus found that on average the Hui are not as well-endowed as the Han in terms of length of education and household wealth. This is true for rural Ningxia as well as for urban Ningxia. If these are the only circumstances which affect how much income a household earns, we would expect to find the Hui to be disadvantaged compared to the Han. However, this is not what we report in the next section when we turn to rural Ningxia.

6. Rural Ningxia

It is a widely held view in Chinese society that the Hui have great ability in taking advantage of income earning opportunities (see also Yang and Ding, 2003, Uang, 2012). This can be due to necessity as reported in the previous section; the Hui own fewer user rights to land and productive assets and they have shorter educations than the Han. One can claim that during the course of many generations the Hui have acquired a somewhat different lifestyle than the Han. This is shown by the Hui more often than the Han being involved in out of farm activities including migration. Field visits in rural Ningxia show that remarkably often, Hui migration is organised by local officials. The Hui have the reputation of often being involved in private business or working for a wage (see Liu and Li, 2011).

The large involvement of the Hui in migration can be seen in our data. Table A1 in the Appendix shows that in rural Ningxia migration is a typically male activity. As many as 46 percent of male Hui were involved in migration in 2006, while the corresponding proportion among Han males was 11 percent lower. On average migration lasted for about half a year. Data from our survey and from Ningxia Statistical Bureau indicate that many migrants work in construction. Often people migrate over a short distance. According to Table A1, out of province migration is typical for neighbouring provinces and most migrant income is remitted home.

We are interested in better understanding to what extent migration in Ningxia is influenced by low village income and by ethnicity. We have therefore specified and estimated probit models for adults in work active ages. As can be seen in Table 3 we relate the event of having migrated during 2006 to village characteristics (as obtained from the survey to village cadres) in specification 1, household and individual characteristics in specification 2. Specification 3, on which our comments are concentrated, includes characteristics at the village, individual as well as at the household level.¹¹

/Table 3 about here/

The pattern we find is a very clear negative relation between mean income of the village and the probability of migrating. As migrants bring home income, it follows that migration has an income-redistributing function. Turning to individual characteristics we find that age of person negatively affects the probability of migrating as does being female. Two household variables are found to affect the probability of migrating. Per capita land has a negative effect as does the number of children in the household. We also find that Hui ethnicity has an independent, positive effect on probability to migrate. In the Appendix Table A2 we use specification 3 to predict the probability of migrating for persons with different characteristics. For a base person (a man aged 23, living in a village belonging to the lowest

¹¹ As the variable proportion of Hui in the village and the dummy indicating being Hui are correlated, we drop the first mentioned in the third specification.

decile according to per capita income), the probability of migrating is predicted to be 52 percent. The corresponding probability is 36 percent (16 percent lower) if the village has a mean income placing it in the top decile. The significance of age is illustrated as changing the age of the base person to 40 causes the probability for migration to decrease from 52 percent to 24 percent, a reduction of 28 percent. This change is almost identical to the probability obtained for being 23-years-old and female. Changing the amount of land the household has access to for the base individual leads to a variation in migration probability by 10 percent. Compared to the variations in village income, age and gender, the importance of changed number of children in the household is of lesser importance.

/Table 4/

Have the higher migration activities among the Hui (partly triggered by a low village income in combination with a higher frequency of out of farm work) fully evened out the disadvantages of being less educated and owning less valuable land when it comes to earning an income? In Table 4 we compare income components per capita, average household income per capita and income inequality among the Hui and the Han in rural Ningxia. We find that average total income per capita is estimated to be identical.. True, the Hui have agriculture income amounting to only 65 percent compared to the Han. However, this is fully compensated for with higher incomes from wages and business as well as non-agriculture income. Much of this is due to greater migration and other out of farm activities.¹²

/Figure 3 about here/

Table 4 also shows that income inequality among the Hui (a Gini of 0.45) is larger than among the Han (a Gini of 0.36). Does this, in combination with identical means lead to the Hui being more likely to be poor than the Han? The answer to this question is “no” as long as we apply poverty lines in use by the National Bureau of Statistics for the year under investigation. In Figure 3 we show Cumulative Density Functions for household per capita income of Hui and Han individuals for the lower range of the distributions, whereby the horizontal axis shows household per capita income and the vertical axis cumulative proportion of individuals. In the figure we have also drawn the poverty line at 693 Yuan per person and year which was the poverty line NBS applied for rural China in 2006, as well as the low income line of 958 Yuan per year also applied by NBS for the same year.¹³ However, note that at income levels higher than these the graph for Hui is higher than the graph for Han. This means that for higher poverty lines the Hui would be deemed more poverty prone than the Han.

7. Urban Ningxia

/Table 5 about here/

¹² Our data does not allow us to isolate the importance of remittances from migrants as a separate income component.

¹³ The estimated proportion of individuals falling under the poverty line set to 693 Yuan per year is 4.9 for Hui and 4.5 percent for Han. The proportion falling under the low income line is estimated to 12.1 percent among the Hui and 10.3 percent among the Han.

We now change our focus to circumstances in urban Ningxia. Table 5 describes key characteristics among persons aged 18 to 60 (males) alternatively 55 (women). We report that females, particularly Hui females, have lower employment rates than males and among males there are no differences by ethnicity. We have classified persons who were not employed into five different categories and report that 14 percent of Han females are in the category homemakers, while the corresponding proportion for Hui females is as high as 31 percent. Unemployment rates, computed as the proportion of unemployed persons among those in the labour force (the sum of employed and unemployed), is 7 percent for males and 11 percent for females with no differences by ethnicity.

/Figure 4 about here/

Workers are further classified into four categories: workers in SOEs, workers in other enterprises (for example private), workers in government departments and institutions (schools, hospitals etc) and a residual category (including self-employed). Consistent with findings in the studies of urban China surveyed in Section 2, we find that the urban labour market in Ningxia appears rather segmented, see Figure 4. The Han, particularly males, have a higher proportion employed in SOEs and other enterprises than the Hui. In contrast, Hui of both genders have a higher proportion employed in governmental departments and institutions. From the numbers we cannot judge if this is the result of Hui being discriminated against when SOEs and/or other enterprises hire workers or due to receiving preferred treatment when government institutions hire staff. Mirroring the sector discrepancy, Han of both genders are more prevalent than Hui in work units with many employees. Of particular interest is that among full-time workers, yearly average earnings are very similar for Han and Hui males. However, they are distinctly lower for females, particularly Hui females. Employed Han females earn on average 77 percent of what Han males do, while Hui females earn only 63 percent of what Hui males earn.

/Table 6/

To better understand labour market status we estimated a multinomial logit model with four outcomes: Not working, employed in SOEs, employed in other enterprises and employed in government departments or institutions. Explanatory variables are age, years of education, the employment rate in the city (obtained from the data), two dummies defined as interactions of being female having at least one child and ethnicity, and three dummies defined as interactions between gender and ethnicity. The estimates are reported in Table 6. We find that years of education strongly and positively affect the probability of being employed in a government department or institution and negatively affect the probability of being employed in other enterprises as well as not working. The comparatively low level of education among Hui females provides thus important background for why Hui females are economically active to a lesser degree than Han females. Actually the coefficients for female interacted with ethnicity are of the same magnitude for each of the ethnicities, indicating that while gender has an independent influence on not being employed, ethnicity does not. Similarly, the negative coefficient for the interaction between Hui ethnicity and being male is estimated with a relatively low z-value.

The ethnic segmentation in the labour market of urban Ningxia shows up for Hui males in a negative coefficient estimated with a high z-value for the State Owned Enterprises and a positive coefficient for the coefficient for being employed in a government department or

institution. Likewise For females, the estimates indicate higher probabilities for Hui than for Han to be employed in government departments or institutions and mirrors the lower probabilities of being employed in a SOE as well as in another enterprise. Finally Table 6 indicates that the probability of being employed in other enterprises is positively affected by the city employment rate which also, not surprisingly, negatively affects the probability of not working.

/ Table 7 about here/

For people who are employed we estimate alternative wage functions with ln earnings as dependent variable.¹⁴ The specification reported in the first column of Table 7 uses age, age squared, years of education and three dummies interacting gender and ethnicity as explanatory variables. The coefficient for education indicates a rate of return of 9.1 percent. We report strong negative effects of being female on earnings, but no evidence of ethnicity affecting earnings.¹⁵ This conclusion also follows from the estimates from the specifications reported in column two. In the second specification we have added dummies indicating production sector. Many coefficients for the added variables are estimated with high t-values. The coefficient for the sector finance and housing is particularly high. Finally in the third specification we interact years of education with ethnicity and find that the coefficient for years of education is somewhat higher for Hui than for Han.

/Table 8 about here/

The lower employment rate for female Hui, the larger number of children in Hui households together with shorter education makes us expect that average household per capita income is lower for the Hui. This is also what is reported in Table 8. Per capita household income of the Hui is reported to be 79 percent of its Han counterpart. The importance of differences in household composition emerges if we for example focus on persons in households with one child. In this case the income gap is no more than 10 percent less for the Hui, not 21 percent as when comparing all Hui and Han.

/Figure 5 about here/

Does this gap also appear in higher poverty rates for the Hui? Figure 6 shows that the answer very much depends on which poverty line is applied. If one applies the thresholds used for households applying for the means-tested program of Di Bao in Chinese cities, the gap in poverty rate by ethnicity is 3.0 percent, as we estimate the poverty rate for Han to 4.5 percent and for Hui to 7.5 percent. However, for higher poverty lines the gap widens. In Figure 6 we have also drawn the province level average (5 283 Yuan per year) poverty line for urban China as used by NBS in 2007. This results in 26.8 percent of Han inhabitants in Ningxia being deemed poor, while the proportion of Hui is found to be as high as 38.8 percent and the gap 12 percent.¹⁶

¹⁴ There is no question in the survey on hours of work meaning that some of the variation in earnings is due to variation in hours of work.

¹⁵ The negative coefficient for female is larger than is commonly reported from other studies of urban China, which most likely is due to our sample including some not full-time workers (predominately females) .

¹⁶ NBS applies urban poverty lines that are province-specific, but does not document them.

8. Conclusions

In this study we have studied income and poverty of Hui and Han persons living in Ningxia–Hui autonomous region in the People’s Republic of China. We have used a household survey collected for 2006 to investigate circumstances in rural and urban areas. Our data shows that intermarriage is rather uncommon between people belonging to the two ethnicities. Rural Hui persons live to a large extent in poorer villages than Han persons and both ethnicities socialise mainly with persons of the same ethnicity. In this sense we are talking about two distinct populations where the Hui live in households having a larger number of members than Han households. However, circumstances for the population in Ningxia differ not only by ethnicity, but also by rural and urban areas as well as by gender.

We have reported that in rural as well as urban Ningxia adult Hui persons have on average shorter educations than Han of the same gender. In rural Ningxia, Hui households own user rights to land and productive assets which on average are valued at only two-thirds of what Han households own. In rural as well as urban Ningxia the value of housing is lower for Hui households than for Han. This is the background for the ethnic gap in household per capita wealth disfavouring the Hui in Ningxia.

Based on lower educational attainment and ownership of lesser-valued assets, one would expect that the Hui in rural Ningxia would be disadvantaged compared to the Han in terms of mean disposable per capita income as well as in rates of poverty. However, this is not what we have reported. The explanation of this paradox is that the Hui to a larger extent than the Han are involved in out of farm work including migration. According to our data, as many as almost one in two Hui males in Ningxia migrated in 2006 and they brought home substantial amounts of income. Results from estimated models indicate that a low village income is one but not the only factor behind the higher probability for Hui to migrate. This analysis has also illustrated that the probability to migrate is particularly high for young males in households with little land and no dependent children, living in a village with low income.

For urban Ningxia we reported that fewer female Hui than Han are employed. Mirroring this is that almost one in three Hui females are classified as homemakers, a proportion more than double that of Han females. An estimated multinomial logit indicates that this dispersion can be traced to the fact that Hui females have shorter educations and that education positively affects the probability of being employed. The comparatively low employment rate among Hui females is a main reason for why average per capita household income for the Hui in urban Ningxia is 21 percent lower than for the Han. Consistent with findings from other studies, we report that the urban labour market in Ningxia is segmented by ethnicity. Han, particularly males, are more likely to work in SOEs, Hui in government departments and institutions. However, employed Han males and Hui males earn the same amount, on average, which is considerably more than what Han females and Hui females earn. Also, results from estimating earnings functions indicate that gender differences are much more an issue than ethnic differences in earnings determination in the urban labour market of Ningxia.

To summarize, the main results show a non-existent ethnic income gap in rural areas and that gaps in income and poverty in urban areas are mainly caused by shorter female educations among the Hui. However this has been a study comparing one of China’s 55 minorities with the Han majority. The territory covered is one out of 31 province level units. One distinctive feature of the territory studied is the special status of the Hui, as they are favoured by policy in several ways. Furthermore, the Hui ethnic group differs from several of China’s other

ethnic minorities, as they share language of the Han majority as well as physical appearance. Therefore our results should not be used to generalise about other province level units or how other ethnic minority groups in China are faring. However, for readers familiar with the present situation in northern Europe with Muslim populations (often of recent residency and tending to have considerably lower income than the majority), our results can stimulate further consideration.

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Table1
Descriptive statistics on Han and Hui persons in urban and rural Ningxia 2006

	Rural Ningxia		Urban Ningxia	
	Han	Hui	Han	Hui
Proportion under 18. Percent	26.8	34.2	22.8	32.9
Proportion 18 – 55 (females) / 60 males Percent	63.4	59.0	63.6	47.7
Proportion over 55 (females) 60 (males)	9.8	6.8	13.7	19.4
Average age of individual (years)	32.3	28.5	35.5	29.3
Average household size (persons)	4.35	4.90	2.88	3.58
Percentage adults that are married	75.9	80.2	87.6	86.7
Percentage endogamy among couples	99.7	99.8	96.6	95.4
Percentage of adults indicating that at least one of three best friends belong to another ethnic group	12.4	28.1	34.6	59.8
Percentage of adult respondents that indicate they are religious (Buddhism, Islam)	22.6	100.0	14.4	93.5
Percent of adults that are CPC members	5.9	5.5	21.0	19.3
Number of observations	2 268	1 486	1 301	481
Mean administration village household income RMB (Rural Ningxia)	3049	2601	-	-

Note: There is a large non-response in the question on ethnicity of three best friends as answers were obtained by 555 / 556 Han / Hui respondents in rural areas and by 1509/625 Han/Hui in urban areas. The question of endogamy was answered by 1715 / 1176 Han/Hui in the rural sample and 1139 / 417 Han/Hui in the urban sample The question on religion was answered by 2721 / 2050 Han/Hui in the rural sample and 1531 / 680 Han/Hui in the urban sample.

Table 2**Household Per capita Wealth among Han and Hui households in rural and urban Ningxia: Components, mean value and Gini coefficients 2006.**

Household is unit of analysis

Wealth component etc	Rural Ningxia			Urban Ningxia			Rural to urban. Percent	
	Han Yuan	Hui yuan	Hui as percent of Han	Han Yuan	Hui Yuan	Hui as percent of Han	Han	Hui
User rights to land	11 374	7 330	64	-	-	-	-	-
Housing net of housing debts	5 338	4 260	80	30 114	22 093	73	18	19
Productive assets	3 746	2 464	66	966	1 103	114	388	223
Financial assets	2 391	2 029	85	13 754	7 347	53	17	28
Consumer goods	1 522	1 305	86	2 964	2 895	98	51	45
Other assets	/	/		742	1 574	212	/	/
Debts	1 518	1 256	83	909	1 615	178	167	78
Total average net wealth	22 853	16 131	71	47 631	33 396	70	48	48
Gini coefficient	0.440	0.451		0.441	0.451			
Average household size	4.90	4.35		3.58	2.89			
Number of observations	716	467		203	584			

Note: There is no question of "Other assets in household" in the rural questionnaire.

Table 3
Determinants of migration in rural Ningxia 2006.
Probit model

	Coef.	Z-value	Coef.	Z-value	Coef.	Z-value
Mean household income in a village	-0.0001	-4.53	/	/	-0.0002	-5.30
Proportion migrants in a village	0.0579	0.22	/	/	0.0817	0.29
Proportion Hui in a village	0.1542	2.55	/	/	/	/
Age of person			-0.0253	-9.68	-0.0236	-8.94
Education years			-0.0272	-3.00	-0.0140	-1.48
Female			-0.9890	-16.16	-0.9781	-15.88
Per capita land			-0.0083	-1.27	-0.0261	-3.51
Number of children			-0.0328	-1.82	-0.0531	-2.84
Number of elderly			-0.0944	-1.47	-0.0846	-1.30
Hui			0.2106	3.53	0.1561	2.57
Constant	-0.3870	-4.68	0.9021	5.10	1.3961	6.90
Pseudo R2	0.012		0.1258		0.1354	
Obs.	2540		2540		2540	

Table 4
Income components and total per capita income among Han and Hui in rural Ningxia.
Yuan 2006. Individual is unit of analysis

	Han	Hui	Hui as percent of Han
Farm net income	1 855.36	1 207.96	65
Wages and business income	697.40	985.26	141
Non-agricultural activity income	314.78	766.83	244
Benefits of renting out land, etc	28.40	11.43	40
Imputed rents of owner-occupied housing	105.22	93.61	89
Transfer income	200.22	101.48	51
Other income	281.37	259.65	92
Total net income	3482.76	3434.96	99
Gini coefficient	0.3616	0.4490	
Number of households	716	467	
Number of individuals	3080	2297	

Figure 5**Employment, characteristics of work units and earnings in urban Ningxia 2006 by ethnicity and gender.**

Males aged 18 – 60 and females aged 18-55. Percent.

	Han		Hui	
	Male	Female	Male	Female
Employment among persons aged 18 to 60 for male and 18 to 55 for female				
Employed (including self-employed)	80.43	63.79	80.18	54.59
Early retired	1.27	1.29	0.92	0.92
Unemployed	6.34	8.64	6.45	6.42
Students	5.25	5.70	8.29	4.13
House workers	0.91	13.79	1.38	30.73
Other	5.80	6.80	2.76	3.21
Number of Obs.	552	544	217	218
Unemployment rate				
Unemployed as percent of the sum of employed and unemployed	7.3	11.9	7.4	10.5
Characteristic of work unit (among employed)				
SOEs	26.56	18.36	12.43	9.92
Other enterprises	25.64	27.24	11.81	16.87
Government department and institutions	33.17	36.11	53.94	57.15
Other	14.62	18.83	21.82	16.07
Size of work unit (number of employed) among employed				
- 100	50.86	56.44	80.50	78.30
101-500	17.85	19.80	9.43	14.15
501-1000	4.40	4.29	3.14	2.83
1001-	26.89	19.47	6.92	4.72
Yearly earnings among full-time workers. Yuan				
As percentage of Han of the same gender			104	86
As percentage of earnings of males of the same gender		77		63
Number of employed observations	445	346	174	119

Table 6**Employment function. Urban Ningxia person aged 18 to 55/60. Marginal effects**

	Non-worker		Employed in SOE		Employed in other enterprises		Employed in government department or institutions	
	Coefficient	Z-value	Coefficient	Z-value	Coefficient	Z-value	Coefficient	Z-value
Dummy for age under 25	0.6021	20.09	-0.1180	-9.00	-0.2251	-9.61	-0.2589	-18.96
Dummy for age 25-30	0.0701	2.24	-0.0430	-1.97	0.0413	1.23	-0.0684	-2.86
Dummy for age 50+	0.3030	9.20	-0.0312	-1.37	-0.2298	-10.94	-0.0420	-1.44
Education year	-.03048	-12.60	0.0028	1.25	-0.0291	-10.73	0.0568	23.54
Child*female*Hui	0.0078	0.15	0.0576	0.57	-0.0130	-0.17	-0.0523	-0.93
Child*female*Han	0.0398	1.32	0.0240	0.70	0.0182	0.48	-0.0820	-2.82
Male*Hui	-0.0562	-1.86	-0.0776	-4.54	-0.0149	-0.44	0.1487	4.47
Female*Han	0.1415	4.85	-0.0893	-5.23	-0.0742	-2.60	0.0220	0.82
Female*Hui	0.1364	2.89	-0.1254	-6.62	-0.1632	-4.22	0.1522	2.90
City employment rate	-0.0065	-4.25	-0.0002	-0.12	0.0047	2.71	0.0020	1.25

Note: The Pseudo R2 is 0.2295, number of observation is 1550.

Table 7 Earnings functions. Dependent variable: ln earnings

	Coefficient	t-value	Coefficient	t-value	Coefficient	t-value
Age	0.0940	11.84	0.0807	10.09	0.0807	9.95
Age square	-0.0008	-10.27	-0.0007	-7.51	-0.0007	-7.53
Education year	0.0906	18.01	0.0875	16.45		
Male*Hui	0.0289	0.47	0.0221	0.37	-0.2917	-2.29
Female*Han	-0.3729	-9.30	-0.3293	-8.22	-0.3634	-8.97
Female*Hui	-0.3088	-4.62	-0.2693	-4.08	-0.5806	-4.63
City employment rate	0.0064	1.41	0.0022	0.50	0.0015	0.33
Second industry (include mining, manufacturing, construction)			0.3030	5.06	0.3014	4.96
The state controlled second industry (include electricity, gas, water)			0.3156	3.39	0.3159	3.35
The tertiary industry			0.3505	6.56	0.3423	6.32
Finance and housing			0.7235	6.64	0.7530	6.82
Education, arts, science and work in government departments			0.2914	5.12	0.3156	5.47
Education year*Han					0.0683	12.18
Education year*Hui					0.0933	10.19
City dummies	Included		Included		Included	
Constants	5.6903	15.18	5.9534	16.16	6.2659	16.60
Adj R-squared	0.3265		0.3574		0.3394	
Number of observations	1454		1454		1454	

Note: there are 13 cities in the sample. The sample consists of people who are employed.

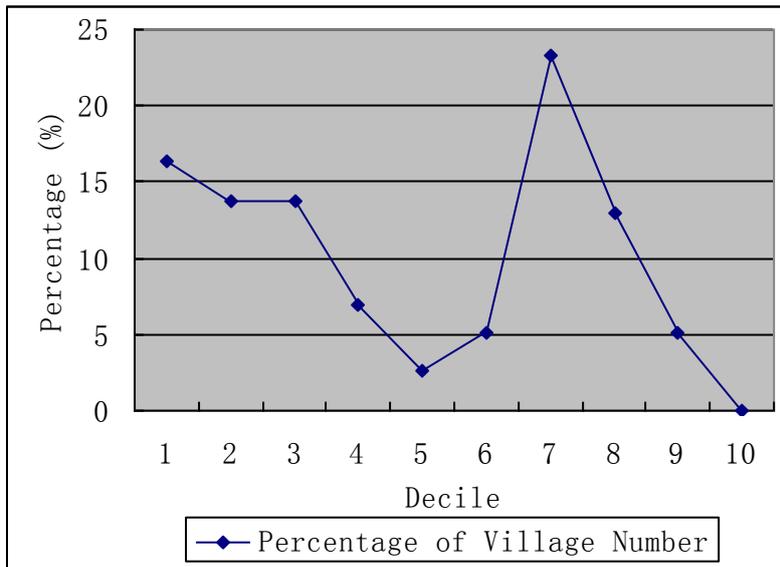
Table 8 Household per capita income among Hui and Han in urban Ningxia 2006

	Han	Hui	Hui in relation to Han
	Yuan	Yuan	Percent
All persons			
Total net per capita income, Yuan	9003	7107	78
Gini coefficient	0.3288	0.3350	
Number of individuals	1685	717	
Number of households	584	203	
Persons living in household with one child			
Total net per capita income, Yuan	8 341	7 520	90
Number of individuals	764	292	
Number of households	225	83	

Note: Individual is unit of analysis..

Figure 1

The distribution of villages in Ningxia surveyed 2001 in deciles of per capita income in rural village of China surveyed in 2002



Note: The distribution of village per capita income in 2002 is from a survey reported in Gustafsson and Ding (2009) and updated with the average growth in rural household income for China 2002 to 2006.

Figure 2

Average years of education among males and females in rural and urban Ningxia by ethnicity

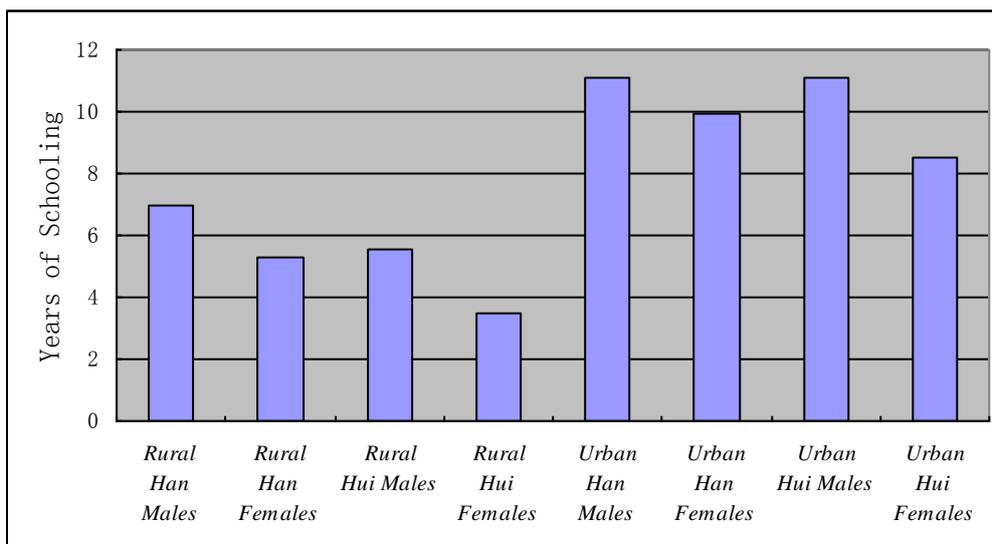
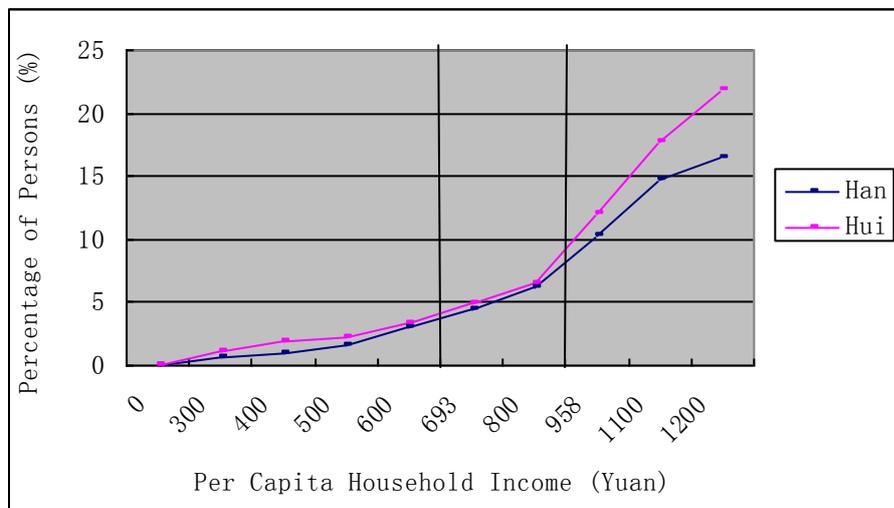


Figure 3
Cumulative density functions for Han and Hui in rural Ningxia 2006.



Note: 693 Yuan per capita household income is the poverty line of rural China; 694 to 958 Yuan per capita household income is the low income line in rural China in 2006 published by NBS.

Figure 4
Employment in various sectors urban Ningxia by ethnicity and gender

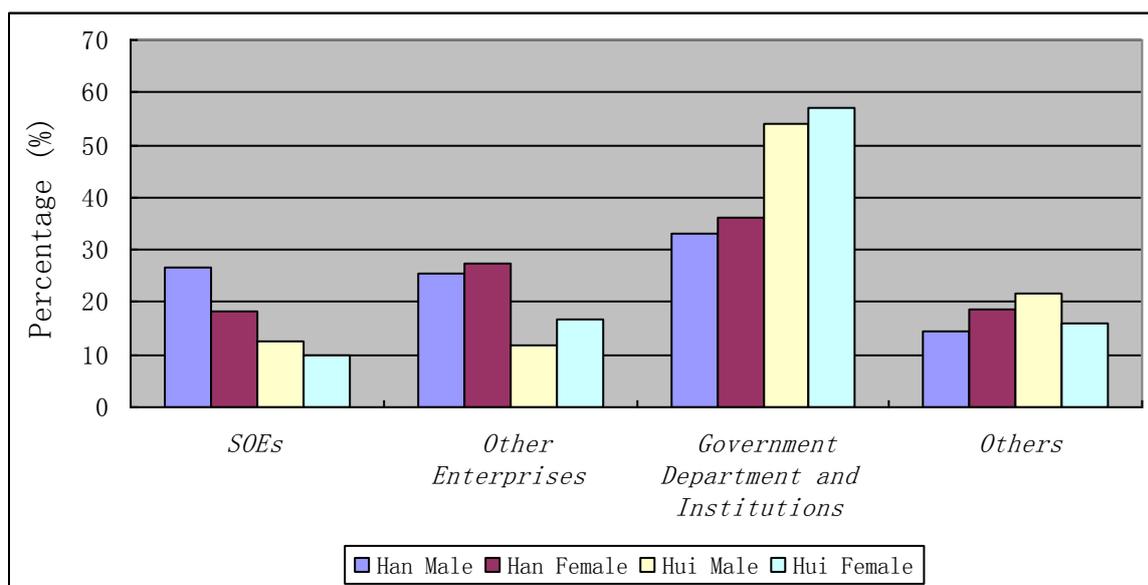
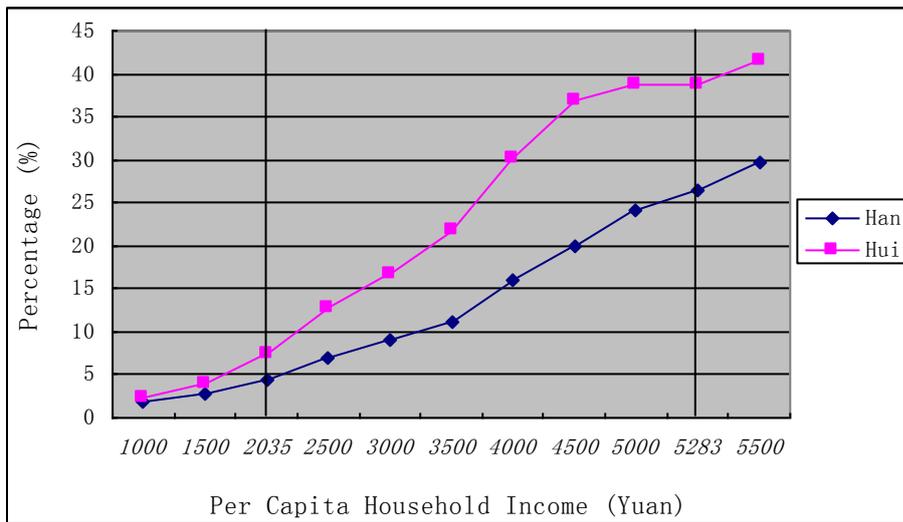


Figure 5
Cumulative density functions for Han and Hui in urban Ningxia 2006.



Note: Based on The Civil Affairs Development Statistics Report 2006, the average Dibao line in urban China 2006 is 169.2 a month. So, one year is $169.2 \times 12 = 2035.2$ Yuan. 5283 Yuan is the poverty line in 2007 in urban China.

Appendix

Table A1
Migration among Hui and Han in rural Ningxia 2006

	Han		Hui	
	Males	Females	Males	Females
Migration				
Proportion with migrant experience during 2006 Among people 16-55/60	34.7	11.1	46.2	14.2
Average duration of migration in 2006 (months)	7.0	7.5	6.2	5.9
Income of migration work in 2006 (among migrants) RMB	6774	5 581	5779	3843
Percent of migrant income remitted	69.5	57.0	71.8	68.5

Table A2
Probabilities of migrating

	The first group of average per capita income in a village decile	The fifth group of average per capita income in a village decile	The top group of average per capita income in a village decile
A man aged 23 having middle level of average per capita land	0.518	0.439	0.356
Man changed to woman	0.230	0.151	0.068
Aged 23 changed to 19	0.546	0.467	0.384
Aged 23 changed to 30	0.468	0.389	0.306
Aged 23 changed to 40	0.235	0.318	0.235
Middle level of average per capita land changed to the first group of deciles of average per capita land	0.536	0.457	0.375
Middle level of average per capita land changed to the top group of deciles of average per capita land	0.437	0.358	0.275
Child number changed to 0	0.593	0.514	0.432
Child number changed to 1	0.578	0.499	0.416
Child number changed to 2	0.563	0.484	0.401
Child number changed to 3	0.548	0.469	0.386

Source<. Table 4

Note: The base person is a male aged 23, the average per capita household income in a village is in the middle of deciles of average per capita household income in villages, and the per capita household land is in the middle of deciles of total per capita household land. There are 4 children in a household.