

**Knowledge and Beliefs Concerning Development and Income Inequality in
China and the United States**

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September 12, 2009

Abstract

This paper investigates the knowledge and beliefs of ordinary people in China and the United States about levels and trends in societal development and income inequality. We also investigate whether individual Chinese and Americans believe that development and inequality are positively or negatively interrelated. Our paper is guided by the hypothesis that people's views about development and income inequality are affected by the international dissemination of information and ideas about these topics and by actual trends in development and inequality in a person's country. Our data come from three surveys in the United States and two surveys in China conducted in 2006 and 2007. These data show that people in both countries perceive an international hierarchy of countries on development that is very similar to the development hierarchy of the United Nations Human Development Index. These data also show that in both countries there is little correspondence between respondent views of income inequality and the actual levels of inequality in countries. Our analyses also indicate that both Americans and Chinese perceive positive links between levels of development and income inequality, with the relationships more pronounced in China than in the U.S. The majority of people in both countries perceive development programs as increasing the levels of income inequality.

Introduction

For centuries, scholars and policy makers have posited a developmental hierarchy of countries on development, with the United Nations regularly publishing a human development index (HDI), incorporating indicators of income, education, and health. Scholars and policy makers have also long been interested in income differences within countries, with Gini coefficients frequently used as indicators. In addition, scholars have often addressed the causes and consequences of income inequality and socioeconomic development.

Although there is general agreement that development is good, there is debate about appropriate levels of inequality. Many social movements have sought equality, and inequality is often a political issue. Another controversial issue concerns whether socioeconomic inequality increases or decreases a country's standard of living and whether high income and income growth affect inequality. Also, people's values and beliefs about socioeconomic inequality are related to their satisfaction with life and their views about the legitimacy of their country's social, economic, and political system.

Our paper investigates the knowledge and beliefs of ordinary people in China and the United States concerning levels and trends in development and income inequality. Our data come from three surveys conducted in the United States and from two surveys conducted in China during 2006 and 2007.

We examine people's ratings of development levels in various countries, which permits us to evaluate our hypothesis that people in China and the US perceive an international development hierarchy. We also evaluate whether the developmental hierarchies perceived by Chinese and Americans are similar to each other and to the developmental hierarchy

promulgated by the United Nations. Similarly, we investigate the perceptions of Americans and Chinese concerning the levels of income inequality within various countries and compare these perceptions with the actual estimates (Gini coefficients) of income inequality within the same countries. We also consider how individuals perceive the connections between a country's development level and its income inequality by examining whether people who rate a particular country high (low) on development also rate it high (low) on inequality.

In other analyses we take a dynamic approach to the relationship between development and income inequality by asking respondents to estimate past and future changes in both development and inequality in three different countries. For each of the three countries, we examine the association between views of past changes in development and income inequality and the association between views of future changes in development and inequality. Finally, we ask people whether they believe that development increases or decreases income inequality and whether they believe that increases in inequality change development.

These analyses provide the first information about how individuals in two important societies—China and the United States—view development and income inequality. They also provide understanding of whether individuals believe that development and inequality are correlated and if such a correlation is the product of development causing inequality or the product of inequality causing development.

We now discuss the ways scholars and policy makers have addressed development and income inequality and consider how these ideas may have been transmitted to people in everyday life. We then describe our samples and survey questions, present our analyses, and end with conclusions.

Writings of Scholars and Policy Makers about Development and Inequality

Scholars and policy makers have long recognized that income levels have varied greatly across the world's countries and have interpreted such differences through the developmental paradigm and its model of change that has dominated much of Western thinking from the Enlightenment of the 1600s and 1700s to the present (Burrow 1981; Harris 1968; Mandelbaum 1971; Nisbet 1969; Sanderson 1990; Smith 1973; Stocking 1968, 1987; Thornton 2005). The developmental paradigm suggests that all societies develop through the same stages but at different rates. Consequently, societies at many developmental stages could be observed in a single cross-section of time.

Scholars and policy makers have generally believed that the most developed countries were in northwest Europe and the northwest European diasporas. They used cross-sectional variation among countries to infer a developmental trajectory by assuming that in the past the most advanced countries had been like the currently less developed countries and that in the future the less advanced countries would become like the currently more developed countries (Berkhofer 1978; Carniero 1973; Gordon 1994; Harris 1968; Manuel 1962; Sanderson 1990; Sheehan 1980). Thornton (2001, 2005) has referred to this developmental interpretation of cross-country differences as reading the past and the future sideways.

The developmental model and the reading of history sideways also had implications for scholar's views about the nature of inequality within societies at the lowest stage of development. One common view was that some of the indigenous peoples of Africa, America, Asia, and Australia of the 17th, 18th, and 19th centuries were at this lowest stage of development and did not have government, laws, social organization, and other elements of social life

(Hobbes 1991/1642; 1996/1651; Locke 1988/1690; Montaigne 1946/1580; Robertson 1780/1777; Rousseau 1984/1775; Tylor 1781)¹. These scholars also believed that in this so-called “state of nature” people were free and equal. According to this reading history sideways perspective, it was only after people entered into society and civilization that social hierarchy appeared, with unequal distribution of resources and power.

Many scholars of the 18th and 19th centuries believed that inequality declined as societies moved from medium levels of development to high levels of development like those in northwest Europe. This was particularly relevant for gender relations, with gender inequality believed to have reached a particularly low level in northwest Europe². Karl Marx’s (Marx and Engels 1848) grand view of history posited decreasing income inequality with higher levels of development, with full equality expected to be achieved under communism at the pinnacle of development. Lenski’s (1984) widely used text on social stratification reached the same conclusion, as it hypothesized that the most advanced societies can afford to pay for the welfare of all citizens through redistribution.

The literature in economics has reached the same prediction of income inequality increasing and then declining with development. One dominant view is Kuznets's (1955) thesis that inequality initially rises in the early and intermediate stages of development and then eventually declines with continued development. Kuznets conjectures that the creation of an industrial sector increases income inequality because the industrial workers are scarce and enjoy a large wage premium. Then, income inequality falls as industrial wages fall and agricultural

¹ For commentary on these issues, see Axtell 1981; Berkhofer 1978; Myres 1916; Pagden 1982; Sheehan 1980.

²For example, see Alexander 1995/1779; Grimke 1988/1838; Hegel 1878/1837; Home 1813/1774; Mill 1989c/1869; Millar 1979/1779.

wages rise as a result of the increasing numbers of workers in the industrial sector relative to the agricultural sector. Another argument suggests that educated members of the labor force are always in short supply during times of economic growth and are better able to take advantage of new opportunities, which increases both returns to education and income inequality during times of rapid economic growth (Chiswick 1971). With even higher levels of income, it is hypothesized that the skill premium diminishes as the labor force becomes more skilled, resulting in a reduction of income inequality (Barro 2000). However, the empirical support is mixed for this hypothesis of an increasing and then decreasing level of inequality with economic growth (Fishlow 1972; Executive Yuan 1990; Deininger and Squire 1998; Barro 2000).

Dissemination of Views about Development and Inequality

As Thornton (2001, 2005) has discussed, there have been many routes for the distribution of understanding of the developmental paradigm around the world. The treatises of scholars advocating a developmental worldview have been widely disseminated. Dissemination of this developmental model was assisted by European colonization, educational institutions, the mass media, and industrialization and urbanization. International organizations, such as the United Nations, social movements, including communism, the human rights movement, and the women's movement have also been instrumental in spreading ideas about development.

There is extensive evidence suggesting widespread understanding of developmental hierarchies around the world (Thornton 2005). Such evidence comes from the writings of government and political leaders, colonial administrators, leaders of feminist movements, and family planning advocates. Developmental models have also been demonstrated in the documents of the United Nations, numerous governments -- including those of China and the

United States -- and international nongovernmental organizations. Data from people in everyday life indicate an understanding of the developmental paradigm and developmental hierarchies. For example, ordinary people in Africa, India, Nepal, and New Guinea have been shown to use the developmental paradigm in evaluating their place in the larger world (Ahearn 2001; Amin 1989; Blaut 1993; Caldwell et al. 1988; Dahl and Rabo 1992; Pigg 1992). In addition, surveys have documented familiarity with the paradigm in Argentina and Nepal (Binstock and Thornton 2007; Thornton, Binstock, and Ghimire 2008).

We expect, however, that ordinary people have little information about how countries compare on their internal levels of income inequality. Nevertheless, it has been argued that just as ideas about development have been disseminated widely, so have ideas about the relationship between inequality and development (Thornton 2001, 2005). As discussed above, these ideas suggest that inequality levels decline at upper levels of development. This argument is sometimes offered in the form of income and other social equalities being an attribute of an advanced society.

This argument may be particularly powerful for China between the revolution of the late 1940s and the social and economic restructuring that began in the late 1970s. During this period, the ideology and policy of the communist government advocated the joint achievement of both development and equality. However, with the beginning of the economic reforms in 1978, the government openly tolerated, if not encouraged, inequality as a price to pay for rapid economic growth (Zhao 1994).

We hypothesize that both Chinese and Americans are widely cognizant of the developmental model and the hierarchy of countries on development but have little direct

knowledge of differences between countries on income inequality. However, if people believe that societal development and income inequality are negatively related, they could use this negative relationship to conclude that that a country that is highly developed is low on inequality or that a country low on development is high on inequality.

Country Trends in Development and Income Inequality

We believe that people may also obtain ideas about the association between development and income inequality from their own country's experiences. If a country experiences both rapid economic growth and great declines in income inequality, that country's people may conclude that development is associated with low levels of inequality. Conversely, if a country experiences both rapid economic growth and great increases in income inequality, people are likely to conclude that development and high inequality are associated. Such actual experience would reinforce or negate the views received from the ideas discussed above.

Between the revolution and the economic reforms of the late 1970s, China experienced both low economic growth and low inequality. Since 1978, China has experienced very rapid economic growth and significant increases in inequality (Hauser and Xie 2005). One study estimates that China's Gini Inequality index moved steadily from 0.310 in 1985 to 0.415 in 2001 (Wu and Perloff 2005). Social inequality has become a frequently discussed topic in China in recent years (Whyte 2005; Wong and Lee 2000), but the public concern is much more with perceived unfairness and its institutional mechanisms, such as corruption, rather than with high levels of inequality (Sun 2008; Zeng and Yue 2006; Zhao 1994).

We hypothesize that because of recent rapid increases in both economic growth and social inequality in China, many Chinese will view these two factors as causally linked. We

conjecture that individual Chinese will project high levels of inequality onto countries they view as more developed and project low levels of inequality onto countries perceived as less developed. If true, their ratings on inequality would tend to be positively correlated with their ratings on development.

This prediction based on China's experience in the past three decades is, of course, opposite in direction to the prediction that we would draw from the ideology of communism between the late 1940s and the late 1970s equating development with income equality. It is possible that some Chinese accept the ideological belief that income equality and development go together positively while others extrapolate from the recent Chinese experience and conclude that income inequality and development are positively associated. The ways these two groups of individuals use development levels to predict inequality would thus be different.

Income and income inequality in the US also increased during recent decades, but the rate of increase was much smaller than in China and probably less perceptible to ordinary people. This suggests that Americans would probably be less likely than Chinese to infer a correlation, positive or negative, between economic growth and income inequality.

Data and Methods

Samples and Interviewing Methods

We use data from two surveys in China and three in the United States. The first China survey was conducted in May 2006 through face-to-face interviews using a multi-stage, stratified, systematic random sampling method. From a total of 31 provinces, autonomous regions, and directly governed municipalities, six were chosen: Beijing, Hebei, Qinghai, Hubei, Sichuan, and Guangdong, representing China's diversity in geography, wealth, and urban/rural

residence. Within selected households, the study randomly selected a married man or woman of reproductive ages (15-49), as the survey was also designed to gather information about family planning policies. Out of a total of 5,400 attempted interviews, 4,898 interviews were successfully conducted, yielding a response rate of 90.7%. Of the 4,898 interviews, 1,845 were urban and 3,053 were rural respondents.

Our second China survey was conducted in Gansu Province in the Fall-Winter of 2007. Gansu Province is located in West-central China, has a relatively poor population, and has a significant Muslim minority population in addition to the majority Han. The sample was selected using a multi-stage procedure, with random selection at all levels. The sample was drawn to represent the adult residents of the province, both women and men, and the sampled individuals were interviewed face-to-face.

The data collections for the United States were conducted via three separate 15 minute supplements that we added to the Survey of Consumer Attitudes, a nationally representative monthly telephone survey of approximately 500 American adults. The three data collections were conducted in April 2006, May 2007, and November 2007.

Measures

In both China surveys and two of the surveys in the United States (April 2006 and November 2007) respondents were asked to rate the level of development in several countries using a scale from zero to ten, with 10 representing the most developed and 0 representing the least developed country. We also asked respondents in both China surveys and in the April 2006 US Survey to rate countries on their levels of income inequality. We used a scale from zero to ten, with 10 identified as a country with the largest difference in income between the richest and

poorest and 0 representing a country with the smallest difference. We discuss later the number and identity of the countries rated.

In the Gansu Province Survey we asked respondents whether the United States, China, and Pakistan were each currently more or less developed than they were fifty years ago. Depending upon the answer to this question, we asked whether development had increased or decreased a lot, somewhat, or just a little in each country. We also asked respondents to think about 20 years into the future and to tell us whether each of these countries will be more or less developed than it is today. Depending on whether they thought development would increase or decrease, we asked whether the increase or decrease would be a lot, somewhat, or just a little. We asked similar questions about past and future trends in income inequality in each of the three countries.

In both China surveys and the May 2007 US Survey we asked respondents directly about the relationship between development and income inequality. In the China Six Province Survey we asked respondents whether they strongly agree, agree, disagree, or strongly disagree with three statements: “In general, economic inequality is larger in developed countries than in underdeveloped countries”; “As countries undergo economic development, economic inequality will, in general, decline”; and “In order for an underdeveloped country to achieve economic development, it should increase economic inequality.” In the Gansu Province Survey we asked whether the income difference between rich and poor people was bigger in developed countries or bigger in countries that are not developed³. The Gansu Survey also asked whether the

³ This question was part of a series asking whether certain things were more prevalent in developed or not developed places. One of the items was: “The income difference between rich and poor people—in general, is this bigger in countries that are developed or bigger in countries that are not developed?”

successful implementation of a development program in a rural country with a low standard of living and poor access to healthcare would result in the income difference between rich and poor people increasing or decreasing⁴. Later in the survey respondents were asked to strongly agree, agree, disagree, or strongly disagree whether, “generally speaking, in order for an underdeveloped country to achieve economic development, it should increase income differences.”

The May 2007 US Survey asked a single question about the relationship between development and income inequality. With a similar introduction to the one used in the Gansu Province Survey, Americans were asked about the influence of a development program in a rural low income country with poor access to healthcare, using the following question: “The income difference between rich and poor people—over time, will a successful implementation of a development program increase or decrease the income difference between rich and poor people?”

Results

Rating Countries on Level of Development

We begin by examining the ratings that people in China and the United States gave various countries on an eleven point development scale from zero to ten, with ten being the highest. Average ratings for Chinese and American respondents for each country is shown in

⁴ This question was asked as part of a series with the following introduction, “Now, imagine a country where the standard of living is low, most people live in rural areas, and access to healthcare is poor. Suppose that country introduces a program to help make the country more developed. I will read a list of things this development program might change. Please tell me whether it will increase in that country or decrease in that country once the development program has been successfully implemented”. The precise income inequality question was: “After the successful implementation of a development program, will the income difference between rich and poor people increase or decrease?”

Table 1, along with the UN HDI scores for the same countries (multiplied by 10). These data indicate that people in both countries tend to report lower scores on development than provided by the United Nations HDI. The only exceptions are the ratings of the Central African Republic.

Although the absolute rating levels vary among the United Nations and the respondents, both American and Chinese averages order the various countries very similarly to the HDI. We calculated Pearson correlations between the HDI and the average scores provided by respondents in the four surveys. The first row of correlations in Table 1 indicates the correlations between the HDI scores and the average ratings of respondents for all countries rated. For the two China surveys, the correlations of average ratings of all countries asked about with the HDI range from .87 to .93. For the two US surveys, the correlations range from .81 to .93. These correlations indicate that people in both China and the US view the developmental hierarchy very similarly to the way it is viewed by the experts at the United Nations.

However, the correlations of average ratings with the HDI vary between the US and China, between the two China surveys, and even between the two closely-spaced American surveys. These differences could be the result of either differences in developmental understandings across settings and time or the fact that different countries were asked about in the different data collections. To control for the differences in countries included, we calculated the correlations of average scores with the UN HDI for just the five countries asked about in all four data collections: Japan, US, China, Brazil, and Pakistan. These correlations are reported in the second row of correlations in Table 1.

Remarkably, the correlations are identical (.94) in the two United States surveys. Equally remarkable is that the .94 correlations observed in the United States are very similar to the .93

correlation for the China Six Province Survey. The correlation for Gansu Province is somewhat lower (.83) for the same five countries. These results indicate a very high congruence of views in the general Chinese and American populations, but somewhat less consensus with the HDI for Gansu Province, which is a more rural and poorer province than average in China.

Additional confirmation of the similarity across the two American surveys can be seen in the third row of correlations in Table 1, which provides correlations with the following countries rated: Japan, India, US, China, Central African Republic, Brazil, Pakistan, and either France or Sweden. These correlations are identical at .93 which suggests that the low correlation for the US November 2007 Survey for all countries rated (.81) is the result of including a set of countries—Egypt, Saudi Arabia, Russia, and Bulgaria—that Americans rate substantially lower than the HDI. Explanation of these very low ratings for these countries is outside the scope of this paper.

We now turn to individual rather than average ratings of the development of countries. Just as we calculated the correlation between the average ratings for each country and the HDI scale for each country in Table 1, we calculated Pearson correlations for each of the individuals participating in the various surveys. Building off our observation from Table 1 that the correlations with the HDI vary when the countries being rated vary, we calculated these individual-level correlations holding the countries rated constant, or nearly constant. In columns labeled “a” in Table 2, we limit the countries rated to Japan, US, China, Brazil, and Pakistan and in columns labeled “b” we expand the countries rated to include Japan, India, US, China, Central African Republic, Brazil, Pakistan, and either France or Sweden. For all comparisons, we report these individual-level correlations by deciles.

The data in Table 2 indicate that most respondents in both China and the United States rate countries on development very similarly as the HDI. Looking first at columns labeled “a” with correlations between scores for five countries and the same five country’s HDI scores, we see that for the China Six Province Survey and the two US surveys, less than ten percent of the respondents have correlations of their scores with the HDI of .46 or less, more than one-half have correlations greater than .84, and thirty percent have correlations at .90 or greater. There are more respondents in the Gansu Province Survey with low correlations with the United Nations HDI. This is consistent with the aggregate observation from Table 1 that Gansu respondents are more discrepant from the United Nations, on average, than either the more general Chinese population or the United States population. However, even in Gansu Province, more than half of the individual correlations are .68 or above.

Switching to the columns labeled “b” for the two American surveys, with an expanded set of countries, we see that individual ratings correlate only slightly lower than when the correlations are calculated for just five countries (columns “a”). For example the median correlations with the expanded number of countries rated are .81 for both American surveys, as compared to .84 or .85 with the smaller set of countries. These results, thus, consistently show that most respondents have clear images of the distribution of development across countries, and those images generally match the ratings provided by United Nations experts.

Rating Countries on Level of Income Inequality

We now turn to the income inequality ratings from zero to ten (with ten being the highest) that Americans and Chinese gave various countries. The average ratings for the countries are provided in Table 3, along with Gini coefficients (divided by 10) and the

correlations between the average respondent ratings and the Gini coefficients. Most of the average inequality ratings are higher than the actual Gini coefficients in both American and Chinese surveys. This is likely related to the fact that respondents were asked to use the full eleven point scale while country Gini coefficients seldom fall in the highest levels.

The country by country comparisons in Table 3 show very little association between the average ratings of countries on income inequality and the actual levels of inequality in those countries. For the two Chinese surveys, correlations between the average respondent ratings and the Gini coefficients range from only .09 to just .22. These correlations are of a substantially different order of magnitude than the correlations between the Chinese development ratings and the United Nations HDI scores. This confirms our expectation that ordinary people in China have much poorer conceptions of income inequality than they do of developmental.

The data in Table 3 suggest that American respondents may rate income inequality across countries better than do Chinese respondents. This is evident in the fact that the correlation between American ratings and the Gini coefficients is .40, as compared to the .09 and .22 correlations for the two China surveys. However, this is largely an artifact of the countries rated in the US, since the American correlation is the same (.22) as the correlation for Gansu Province when the countries rated are the same. Also, even the US inequality correlation of .40 is much lower than the .81 to .94 correlations of American reports on development with the UN HDI.

Further evidence of the low level of knowledge about the distribution of income inequality across countries is provided in Table 4, which shows the distribution of individual correlations of ratings of country income inequality with Gini coefficients. Those data indicate that more than 30 percent of American respondents and more than 40 percent of Chinese

respondents actually have negative correlations between their income inequality ratings and country Gini coefficients. The median correlations in each of the three surveys are just slightly over zero. In both the China Six Province Survey and the US April 2006 Survey, less than ten percent of the respondents had individual correlations above .5. Only in the Gansu Province Survey do twenty percent of the respondents have correlations at .5 or greater, but this is counterbalanced by the fact that ten percent have correlations below negative .5.

Comparing Ratings of Countries on Development with Ratings of Countries on Inequality

We now examine how the ratings of countries on development correlate with country ratings of income inequality. Table 5 provides correlations of United Nations HDI scores and Gini coefficients for the small group of countries included in the surveys. These data show virtually no correlation between the UN HDI and the UN Gini coefficients for the countries included in our surveys, with the estimated correlations ranging only from -.02 to -.05.

Table 5 also includes the correlations between average ratings of countries on development and income inequality as provided by the respondents in the China Six Province Survey, the Gansu Province Survey, and the US April 2006 Survey. Whereas the UN correlations on development and income are essentially zero for the countries considered here, the survey correlations of country averages on development and income inequality are .84, .82, and .69 respectively for the three surveys. The high correlations for China are consistent with the hypothesis that Chinese people couple development and income inequality very closely. Americans, on average, link the two things together less closely than the Chinese, but still the correlation for the US is a very high .69.

Before making conclusions about these high average development-inequality correlations, it is important to consider the possibility that the correlations are simply the result of a methodological artifact in that some respondents place all of their numerical ratings at the high end of any rating scale while others use the low end of any rating scale. This alone would produce a positive correlation between average scores on development and average scores on income inequality.

This concern led us to move to the individual level and the strategy of Table 2 where we calculated the correlations between each individual's development ratings for the various countries and the ratings of the HDI for the same countries and the strategy of Table 4 where we calculated the correlations between each individual's country inequality ratings and the UN country Gini coefficients. In this analysis we calculated correlations between individual development and inequality ratings for the various countries and report the distributions of these correlations in deciles in Table 6. These correlations are helpful because they control the tendency of some individuals to use the high end of rating scales while others use the low end of scales. This control works because Pearson correlations reflect how deviations from the mean on one scale relate to deviations from the mean on a second scale.

Table 6 shows an enormous range of correlations between individual development and individual income inequality ratings. Some respondents had very large negative correlations between ratings of development and inequality while others had very large positive correlations. For example, ten percent of the respondents in each of the three countries had correlations at $-.62$ or below and twenty percent of the respondents in the China Six Province Survey and the US April 2006 Survey had correlations of $-.58$ or lower. These high negative correlations suggest

strongly that at least some respondents in both countries were extrapolating negatively between development levels and income inequality levels. Even more respondents had large positive correlations. For example, 50 percent or more in the three surveys had correlations of .30 or greater while 30 percent had correlations of .73 or above. These data suggest that many people in both China and the United States extrapolate closely and positively from development ratings to inequality ratings.

The data in Table 6 show that positive correlations are substantially more frequent in all three surveys. This is reflected in both the distributions discussed above and in the fact that the median correlations range from .30 to .59 in the three surveys while the mean ranges from .17 to .27. Thus, it appears that the tendency to make positive extrapolations is greater than the tendency to make negative extrapolations.

Evaluating Past and Future Trends in Development and Income Inequality

We now shift to Table 7 and the ways people evaluate past and future trends in development and income inequality in various countries. We ascertained such information only in Gansu Province and only for Pakistan, China, and the United States. These data indicate that Gansu respondents overwhelmingly recognize increases in development in China over the past five decades, with 85 percent believing that this increase has been “a lot”. Most Gansu respondents also are optimistic about future increases in development, with 70 percent expecting such increases to be “a lot” in the next two decades.

The majority of Gansu respondents also perceive substantial past development increases in the US, but see less growth than in China. However, the Gansu respondents perceive past

growth in the US to be greater than past growth in Pakistan. Still, most respondents believe that there have been at least modest increases in development in Pakistan.

Most Gansu respondents also believe that the next twenty years will bring about increases in development in both the United States and Pakistan, but much less than future growth in China. Whereas 70 percent of Gansu respondents expect “a lot” of future development in China, only 32 and 21 percent respectively expect “a lot” of future development in the United States and Pakistan. Interestingly, although more Gansu respondents expect a lot of change in the United States than in Pakistan, the percentage expecting a decrease in development in the United States exceeds the percentage expecting a decline in Pakistan.

Turning now to the beliefs of the Gansu respondents about trends in past and future income inequality, we see that respondents perceive much smaller trends in inequality than in development. Whereas 85 percent believe that development in China has increased “a lot” in the past 50 years, only 45 percent believe that inequality has increased “a lot” in the same time span. Similarly, whereas 70 percent of the Gansu respondents believed that in the next twenty years development would increase “a lot”, only 27 percent thought that income inequality would increase “a lot”. The differentials are in the same direction for both Pakistan and the United States.

Just as the Gansu respondents believe that past development changes were greatest for China and least for Pakistan, they believe that past income inequality changes were greatest in China and least in Pakistan. Whereas 45 percent believe that China had experienced “a lot” of increase in income inequality, only 27 believe that there had been “a lot” of increase in income inequality in the United States, and 16 percent believe this to be the case for Pakistan. Clearly, at

the country level, Gansu respondents perceive a linkage between past changes in income inequality and development.

The differentials are in the same direction, but less marked, for expectations about future trends in income inequality. Whereas 27 percent of Gansu respondents expect “a lot” of increase in income inequality in the next 20 years, only 15 percent expect a lot of increase in the United States and only 13 percent for Pakistan. Again, there appears to be a tendency at the country level between perceived trends in development and income inequality.

We also checked the perceived linkage of development and inequality in the minds of Gansu residents by cross-tabulating their perceptions of past changes in income inequality by their perceptions of past changes in development. Those results, reported in Table 8, suggest that most Gansu respondents perceive a positive association between development and income inequality. This generally positive association exists for perceptions of past changes for all three countries. For China, 71 percent of respondents who believe that in the past development had increased a lot said that inequality had increased a lot or somewhat in China. This compares with 15 percent of those who said that development in China had increased only a little also saying that inequality had increased a lot in China. The differentials for perceptions of the United States and Pakistan are in the same direction, although smaller in magnitude. Interestingly, Gansu respondents perceive future inequality trends being positively related to future development trends in the United States and Pakistan but not in China.

Questions about the Relationship between Development and Income Inequality

We now turn our attention to direct questions that we asked respondents about the relationship between development and income inequality. We first consider views in Gansu

Province about whether income differences between the rich and poor are greater in developed or not developed countries. Fully 69 percent of the respondents said that income inequality is greater in countries that are developed, whereas only 28 percent said that inequality is greater in countries that are developed⁵. These data thus suggest that more people in Gansu believe in a positive correlation than believe in a negative correlation between development and income inequality.

In the China Six Province Survey, we asked respondents to tell us whether they strongly agreed, agreed, disagreed, or strongly disagreed with the statement that “Income inequality is larger in developed countries than in underdeveloped countries”. In this survey 62 percent agreed or strongly disagreed with the statement, whereas 37 percent disagreed or strongly disagreed. Again, these results suggest that more people in China believe in a positive development-inequality relationship than believe in a negative development-inequality relationship.

We now turn to the questions about the effects of a successful development program on income inequality in a low income, rural country with poor health care. In Gansu Province 62 percent said that a development program would increase income inequality, whereas only 35 percent said that it would decrease inequality⁶. In the United States 59 percent said that they

⁵ Three percent of respondents volunteered that income inequality was the same in developed and not developed places.

⁶ Three percent volunteered that income inequality would remain about the same.

believed a development program would increase income inequality, and 37 percent believed that it would decrease inequality⁷.

Finally, in both China surveys, we asked respondents to strongly agree, agree, disagree, or strongly disagree with the statement that “in order for an underdeveloped country to achieve economic development, it should increase income differences”. In both surveys a majority of respondents disagreed or strongly disagreed with this statement--62 percent in the Gansu Province Survey and 71 percent in the China Six Province Survey. These results suggest a belief that increases in income inequality hurt rather than help efforts for economic development.

However, there is another possible interpretation of these data. Our question did not ask whether increases in income inequality would help economic development, but asked whether an underdeveloped country “should” increase income differences to achieve economic development. This way of asking the question may have mixed together evaluations of the results of increasing inequality and evaluations of the desirability of income inequality. Further research is required to separate evaluations of the desirability of income inequality and perceptions of its influence on economic development.

Conclusions

Our empirical data are consistent with our hypothesis that the ideas of development and development hierarchies are widespread in China and the United States. Ordinary people in both countries are able to rate countries on development and those ratings match closely the ratings of the same countries provided by the United Nations. The correlations between the average ratings of ordinary people in China and the United States with the UN HDI are remarkably high—in the

⁷ Four percent volunteered that income inequality would remain about the same after such a development program.

range of .81 to .94. Furthermore, large fractions of the individuals in both countries rate countries on development very similarly to the ratings of the HDI. Such high correlations indicate both that the idea of development is widely disseminated in the two countries and that the idea of development in the two countries closely matches the UN's idea of development, consisting of a composite of education, longevity, and income.

Although the correlations of ratings with the HDI were, as expected, lower in Gansu Province than in the more general population of China and in the United States, the ratings of countries by Gansu residents were remarkably close to the HDI. So even in this relatively rural and less educated area of China, the idea of development is widely understood.

Our findings from China and the United States concerning ordinary people's ideas of development and development hierarchies are particularly important when considered in the light of other research showing that such knowledge is also widespread in Argentina and Nepal (Thornton, Binstock, and Ghimire 2008). Together, Argentina, China, Nepal, and the United States represent four geographically, economically, and culturally diverse countries, and the widespread understanding of development in these countries supports Thornton's (2005) suggestion that these ideas have been widely spread around the world.

Turning now to income inequality, our results reveal that ordinary people in China and the United States are willing to rate countries on income inequality, but those ratings have little similarity to actual inequality. This lack of correspondence is true at both the individual and aggregate levels. Although we do not have direct evidence of how people construct their inequality ratings, indirect evidence suggests that many individuals in the United States and China extrapolate their ratings of countries on income inequality from their ratings of countries

on development. Interestingly, just as scholars are divided on whether income inequality is positively or negatively related to development levels, some individuals in both China and the United States believe that income inequality is negatively related to development while others believe that income inequality is positively related to development. However, the number believing in a positive correlation is substantially greater than the number believing in a negative correlation.

The data from China in this regard are particularly important in the light of China's recent history. Between 1949 and 1978, the official ideology in China was that development and inequality were negatively correlated, with only modest actual changes in both during this period. Both the ideology and the actuality shifted after 1978, as the government adopted an ideology that the two were positively related, and this ideology was consistent with large increases since 1978 in economic levels and income inequality. Our data suggest that both views are currently reflected among ordinary Chinese, but that the majority endorse the view that income inequality is positively associated with development. The situation is similar in the United States, where ideological shifts have been less extreme and trends in both economic growth and income inequality have been more muted.

Other data also suggest that people in China perceive a positive association between development levels and trends and income inequality levels and trends. This is reflected in the fact that people in China's Gansu Province overwhelmingly perceive that economic growth and inequality have both increased substantially during the last half century. The amount of past increase in both development and income inequality were perceived to be higher in China than in Pakistan and the United States, another indication of a belief in a positive association between

development and inequality. In addition, respondents who believed that there had been a lot of development in a country were also more likely than others to believe that income inequality had increased substantially.

We also found that in both China and the United States the majority of people perceive income inequality to be higher in developed places than in not developed places. In addition, most respondents in both countries believe that a development program will lead to higher levels of income inequality. Respondents in China and the United States did not endorse increases in income inequality to increase development, but that may have been due more to an overall aversion to increasing income inequality than to a belief that income inequality decreases development.

We have found that there is a modest minority of people in the United States and China who perceive a negative association between development and income inequality. However, the predominant view is one of a positive correlation between development and income inequality.

We close by advocating additional research in both China and the United States in order to resolve the remaining uncertainties and inconsistencies in the data and to verify the overall conclusions of our research. We also advocate similar research in other countries to establish how widespread the linkages we observed in China and the United States are in other places.

Table 1

Mean Country Scores on Development as Reported by the United Nations, Chinese Respondents, and United States Respondents

Countries Rated	United Nations 2006 HDI X 10	China 6 Provinces	China* Gansu	US* April '06	US* November '07
Japan	9.56	7.78	7.21	8.82	8.56
Nigeria	4.99		4.36	3.29	
India	6.09		5.07	5.34	5.02
United States	9.50	9.19	8.39	8.80	8.73
China	7.62	5.56	6.92	7.52	6.92
Central African Republic	3.52		4.67	3.42	3.56
France	9.53		6.68		7.36
Brazil	8.07	5.49	5.62	6.13	5.63
Pakistan	5.62	3.80	5.02	4.14	3.96
Zimbabwe**	5.13			2.89	
Sweden	9.58			7.37	
Egypt	7.16				5.50
Saudi Arabia	8.35				5.53
Russia	8.06				5.95
Bulgaria	8.34				4.50
Number of cases		4858	633	483	489
Correlation between Country and UN Scores (all countries rated)		.93	.87	.93	.81
Correlation between Country and UN Scores (Japan, US, China, Brazil, Pakistan rated)		.93	.83	.94	.94
Correlation between Country and UN Scores (Japan, India, US, China, Central African Republic, Brazil, Pakistan, and France or Sweden rated)		--	--	.93	.93

*Weighted

** 2005 HDI

Table 2

Bivariate Correlations Between Individual Respondent's Ratings of Development and the United Nations' Ratings of Development⁸

Percentiles	China 6 Provinces	China * Gansu	US April '06*		US Nov '07*	
	a	a	a	b	a	b
10 th	.54	.01	.52	.46	.47	.46
20 th	.72	.29	.67	.62	.69	.62
30 th	.81	.48	.76	.70	.76	.72
40 th	.84	.60	.82	.76	.80	.77
50 th	.87	.68	.85	.81	.84	.81
60 th	.90	.73	.87	.85	.87	.84
70 th	.91	.81	.90	.89	.90	.87
80 th	.94	.86	.94	.92	.94	.90
90 th	.95	.93	.96	.94	.97	.94
Mean Correlation	.78	.56	.77	.74	.77	.74
Number of Cases	4795	626	468		476	

* Weighted

a= Bivariate Correlation between Individual and UN Scores (Japan, US, China, Brazil, Pakistan)

b= Bivariate Correlation between Individual and UN Scores (Japan, India, US, China, Central African Republic, Brazil, Pakistan, and France or Sweden)

⁸ These correlations are computed at the individual response level. They represent the Pearson correlation coefficient between the country scores given by an individual for development with the United Nation scores for the same countries on development. The possible range is from -1 to 1.

Table 3

Mean Country Scores on Income Inequality as Reported by the United Nations, Chinese Respondents, and United States Respondents

Countries Rated	United Nations 2006 Gini / 10	China 6 Provinces	China* Gansu	US* April '06
Japan	2.49	5.92	5.54	
Nigeria	4.37			5.65
India	3.68			6.29
United States	4.08	6.81	6.43	7.50
China	4.69	6.25	6.47	6.62
Brazil	5.70	5.46	5.28	6.14
Pakistan	3.06	5.07	5.05	5.46
Sweden	2.50			5.43
Number of Cases		4858	633	480
Correlation Between Country and UN Scores (all countries rated)		.09	.22	.40
Correlation Between Country and UN Scores(Japan, US, China, Brazil, Pakistan, Except Japan is deleted for the US April 2006 Correlation)		.09	.22	.22

*Weighted

Table 4

Bivariate Correlations Between Individual Respondent's Ratings of Income Inequality and the United Nations' Ratings of Inequality⁹

Percentiles	China 6 Provinces	China* Gansu	US* April '06
10 th	-.38	-.50	-.26
20 th	-.25	-.32	-.09
30 th	-.15	-.20	-.02
40 th	-.06	-.06	.07
50 th	.02	.10	.14
60 th	.11	.22	.20
70 th	.20	.35	.27
80 th	.31	.50	.37
90 th	.46	.63	.48
Mean Correlation	.03	.08	.12
Number of Cases	4768	619	473

* Weighted

⁹ These correlations are computed at the individual respondent level. They represent the Pearson correlation coefficient between the country scores given by an individual for inequality with the United Nations scores for the same countries on inequality. The possible range is from -1 to 1.

Table 5

Correlations of UN HDI Index and Income Inequality Gini Coefficients and Correlations of Average Development and Average Income Inequality Ratings of Respondents in Three Surveys**

	United Nations	China 6 Provinces	United Nations	China* Gansu	United Nations	US* April '06
Mean Correlation	-.02	.84	-.02	.82	-.05	.69

* Weighted

** UN Comparisons are calculated using the same countries rated by Respondents

Table 6

Bivariate Correlations Between Individual Respondent's Ratings of Development and Individual Respondent's Ratings of Income Inequality

Percentiles	China 6 Provinces	China* Gansu	US* April '06
10 th	-.94	-.62	-.77
20 th	-.78	-.29	-.58
30 th	-.30	.00	-.29
40 th	.23	.23	.05
50 th	.59	.43	.30
60 th	.80	.60	.51
70 th	.91	.73	.73
80 th	.96	.84	.84
90 th	1.0	.93	.92
Mean Correlation	.24	.27	.17
Mean Correlation Minus UN Mean Correlation	.22	.25	.12
Number of Cases	4761	616	470

* Weighted

Table 7

Weighted Distributions of 2007 Gansu Survey Respondents on their Evaluations of Past and Future Changes in Development and Inequality in the United States, China, and Pakistan

	Increase			Decrease			Total
	A Lot	Somewhat	A Little	A Little	Somewhat	A Lot	
United States							
Past Development Trend	52.6	32.0	9.5	2.3	3.4	0.2	100
Future Development Trend	31.5	38.1	15.1	4.2	8.8	2.3	100
Past Inequality Trend	27.4	36.3	13.8	7.3	10.1	5.1	100
Future Inequality Trend	15.1	30.4	19.5	8.5	19.8	6.6	100
China							
Past Development Trend	84.7	10.7	4.3	0.1	0.2	0.0	100
Future Development Trend	70.4	19.4	7.0	0.9	1.7	0.7	100
Past Inequality Trend	44.7	22.9	9.7	4.6	9.8	8.3	100
Future Inequality Trend	26.7	24.2	10.5	6.0	22.3	10.4	100
Pakistan							
Past Development Trend	27.5	46.7	21.2	1.2	2.6	0.7	100
Future Development Trend	20.9	47.1	26.0	3.0	2.2	0.8	100
Past Inequality Trend	15.7	38.5	23.0	6.2	13.5	3.0	100
Future Inequality Trend	12.8	28.7	21.3	12.4	20.3	4.5	100

Table 8

Weighted Cross-tabulation of 2007 Gansu Survey Respondents Evaluations of Past Changes in Inequality by Past Changes in Development in the United States, China, and Pakistan

	Development Increased over Time		
	A Lot	Somewhat	A Little*
United States			
Inequality Increased A Lot	36.2	14.0	25.3
Inequality Increased Somewhat	30.9	51.1	24.6
Inequality Increased a Little	11.1	13.0	24.3
Inequality Decreased a Little	4.2	8.3	15.7
Inequality Decreased Somewhat	11.1	10.6	5.7
Inequality Decreased A Lot	6.5	3.1	4.4
	100	100	100
China			
Inequality Increased A Lot	47.5	39.8	4.2
Inequality Increased Somewhat	23.4	24.2	10.5
Inequality Increased a Little	6.5	17.1	52.3
Inequality Decreased a Little	4.4	0.9	18.1
Inequality Decreased Somewhat	9.5	10.6	12.8
Inequality Decreased A Lot	8.7	7.4	2.1
	100	100	100
Pakistan			
Inequality Increased A Lot	31.0	12.6	5.03
Inequality Increased Somewhat	32.3	48.2	27.8
Inequality Increased a Little	15.0	21.4	34.6
Inequality Decreased a Little	4.3	5.1	10.4
Inequality Decreased Somewhat	11.8	11.0	20.0
Inequality Decreased A Lot	5.6	1.8	2.2
	100	100	100

* Very few Respondents indicated that they believed development decreased over time (see Table 5). Their answers were combined with those Respondents believing development had increased over time “a little.”

References

- Ahearn, Laura M. (2001). Invitations to love: Literacy, love letters, and social change in Nepal. Ann Arbor, MI: The University of Michigan Press.
- Amin, Samir. (1989). Eurocentrism. New York: Monthly Review Press.
- Barro, Robert. (2000). Inequality and Growth in a Panel of Countries. Journal of Economic Growth, 5, 5-32.
- Berkhofer, Robert F. (1978). The white man's Indian: Images of the American Indian from Columbus to the present (1st ed ed.). New York : Knopf : distributed by Random House.
- Binstock, Georgina & Thornton, Arland. (2007). Knowledge and Use of Developmental Thinking About Societies and Families Among Teenagers in Argentina. Demografia , 50(5), 75-104.
- Blaut, James M. (1993). The colonizer's model of the world: Geographical diffusionism and Eurocentric history. New York: The Guilford Press.
- Burrow, John W. (1981). Evolution and society. Cambridge: Cambridge University Press.
- Caldwell, John C., Reddy, Palli H., & Caldwell, Pat. (1988). The causes of demographic change: Experimental research in South India. Madison, WI: The University of Wisconsin Press.
- Carneiro, Robert L. (1973). Classical evolution. In R. Naroll, & F. Naroll (Eds.), Main currents in cultural anthropology (pp. 57-121). Englewood Cliffs, NJ: Prentice-Hall, Inc.
- Chiswick, Barry. (1971). Earnings Inequality and Economic Development . Quarterly Journal of Economics, 85, 21-39.
- Dahl, Gudrun, & Rabo, Annika. (Eds.). (1992). Kam-ap or take-off: Local notions of development . Stockholm: Stockholm Studies in Social Anthropology.
- Deininger, Klaus & Squire, Lyn. (1998). New Ways of Looking at Old Issues: Inequality and Growth. Journal of Development Economics, 57, 259-287.
- Executive Yuan. (1990). Report on the Survey of Personal Income Distribution in Taiwan Area of the Republic of China. Taipei: Directorate-General of Budget, Accounting, and Statistics .
- Fishlow, Albert. (1972). On the Emerging Problems of Development Policy: Brazilian size

distribution of income. American Economic Review, 62(391-410).

- Gordon, Daniel. (1994). Citizens without sovereignty. Princeton, NJ: Princeton University Press.
- Harris, Marvin. (1968). The rise of anthropological theory. New York: Thomas Y. Crowell Company.
- Hauser, Seth & Xie, Yu. (2005). Temporal and Regional Variation in Earnings Inequality: Urban China in transition between 1988 and 1995. Social Science Research, 34, 44-79.
- Hobbes, Thomas. ([1651] 1996). Leviathan. Edited by J.C.A. Gaskin . Oxford: Oxford University Press.
- Hobbes, Thomas. ([1642] 1991). Man and citizen. Edited by Bernard Gert. Indianapolis: Hackett Publishing Company.
- Kuznets, Simon. (1955). Economic Growth and Income Inequality. American Economic Review, 45, 1-28.
- Lenski, Gerhard. (1984). Power and Privilege: A theory of social stratification . Chapel Hill, NC: University of North Carolina Press .
- Locke, John. ([1690] 1988). Two treatises of government; a critical edition with an introduction and apparatus criticus by Peter Laslett. Cambridge, U.K.: Cambridge University Press.
- Mandelbaum, Maurice. (1971). History, man, and reason: A study in nineteenth-century thought. Baltimore: The John Hopkins Press.
- Manuel, Frank E. (1962). The prophets of Paris. Cambridge, MA: Harvard University Press.
- Marx, Karl, and Engels, Friedrich. ([1848] 2002). The Communist Manifesto. Penguin Books.
- de Montaigne, Michel. ([1580] 1946). Essays. New York: The Heritage Press.
- Nisbet, Robert A. ([1969] 1975). Social change and history. New York: Oxford University Press.
- Pigg, Stacy L. (1992). Inventing social categories through place: Social representations and development in Nepal. Comparative Studies in Society and History, 34(3), 491-513.
- Robertson, William. ([1777] 1780). The history of America By William Robertson. Dublin : printed for Messrs. Price, Whitestone, W. Watson, Corcoran, R. Cross and 41 others in Dublin.
- Rousseau, Jean-Jacques. ([1755] 1984). A discourse on inequality. Edited by Maurice Cranston .

Harmondsworth, England: Penguin Books, Ltd.

Sanderson, Stephen K. (1990). Social evolutionism. A critical history. Oxford: Basil Blackwell.

Sheehan, Bernard W. (1980). Savagism and civility : Indians and Englishmen in Colonial Virginia. Cambridge ;, New York : Cambridge University Press.

Smith, Anthony D. (1973). The concept of social change. London: Routledge & Kegan Paul.

Stocking, George W. Jr. (1968). Race, culture, and evolution. New York: The Free Press.

Stocking, George W. Jr. (1987). Victorian anthropology. New York: The Free Press.

Sun, Liping. (2008). "Characters and Reasons for Continuing Increases in China's Economic Inequality". (In Chinese) <http://vip.bokee.com/20070228244162.html>.

Thornton, Arland. (2001). The developmental paradigm, reading history sideways, and family change. Demography, 38(4), 449-465.

Thornton, Arland. (2005). Reading History Sideways: The Fallacy and Enduring Impact of the Developmental Paradigm on Family Life. Chicago: University of Chicago Press.

Thornton, Arland, Binstock, Georgina, & Ghimire, Dirgha. (2008). International dissemination of ideas about development and family change. In R. Jayakody, A. Thornton, & W. Axinn (eds.), International Family Change: Ideational Perspectives. New York, NY: Lawrence Erlbaum Associates: Taylor & Francis Group.

Whyte, Martin. (2005). Popular Attitudes Toward Income Inequality in China.

Wong, Chack Kie, Shong, Nan & Lee, Peter. (2000). Popular Belief in State Intervention for Social Protection in China. Journal of Social Policy, 29 , 109-116.

Zeng, Xiangquan曾湘泉, and Ying Yue岳颖. (2006). "Establishing an Income Distribution System in a Society that is Scientifically Fair and Just." (Chinese) "建立科学合理公正公平的社会收入分配体系". Xinhua Net [新华网](http://news.xinhuanet.com/theory/2006-07/14/content_4831556.htm) 2006-07-14. http://news.xinhuanet.com/theory/2006-07/14/content_4831556.htm. Accessed November 24, 2007.

Zhao, Zhenyu 赵振宇. (1994). "On Several Issues of Inequality in Social Distribution ." (Chinese) "关于社会分配不公的几个问题" *Shehui Kexue Zhanxian* (Changchun) 社会科学战线 (长春) 》 1:112-121.