

# Income and Wealth Inequality in China

YU XIE

Princeton University and Peking University  
2016 KLIPS Conference

# Part 1

## Introduction

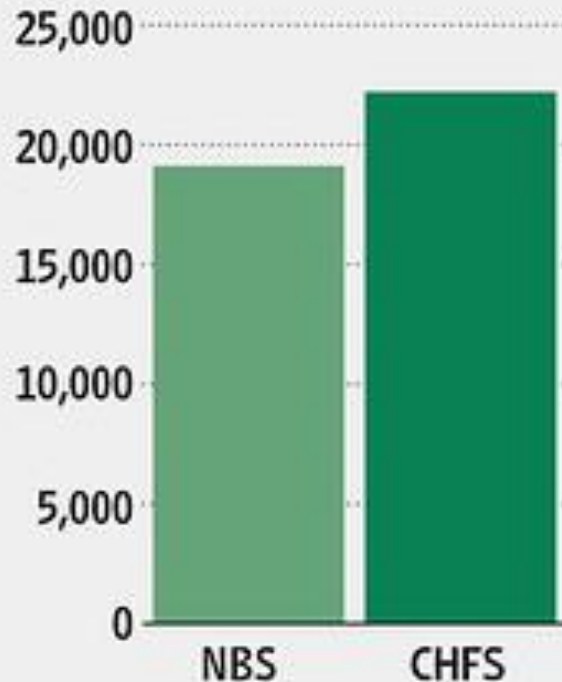
# First question I wish to address today...

- 1. How large is income inequality in today's China?

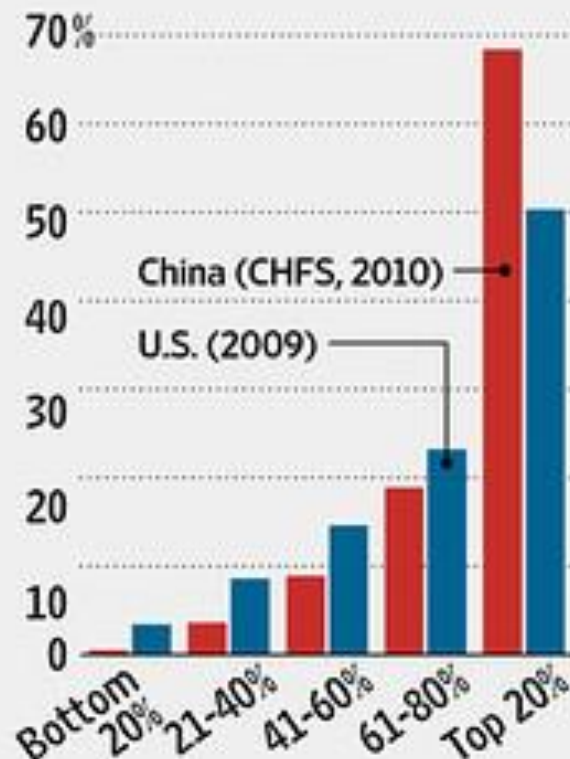
# Gini Controversy (WSJ, December 10, 2012)

## Inequality Gini Is Out of Bottle

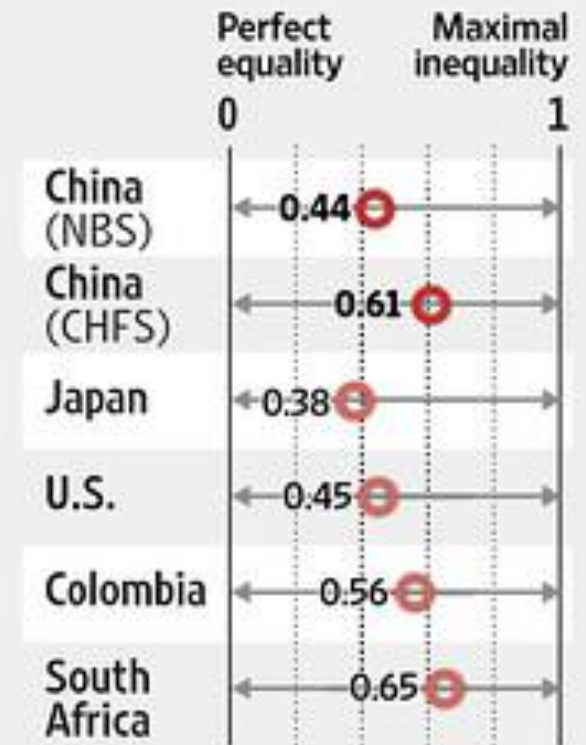
**Incomes are higher than reported**, per capita urban disposable income, in yuan, 2010



**But distribution is skewed**, share of total household income

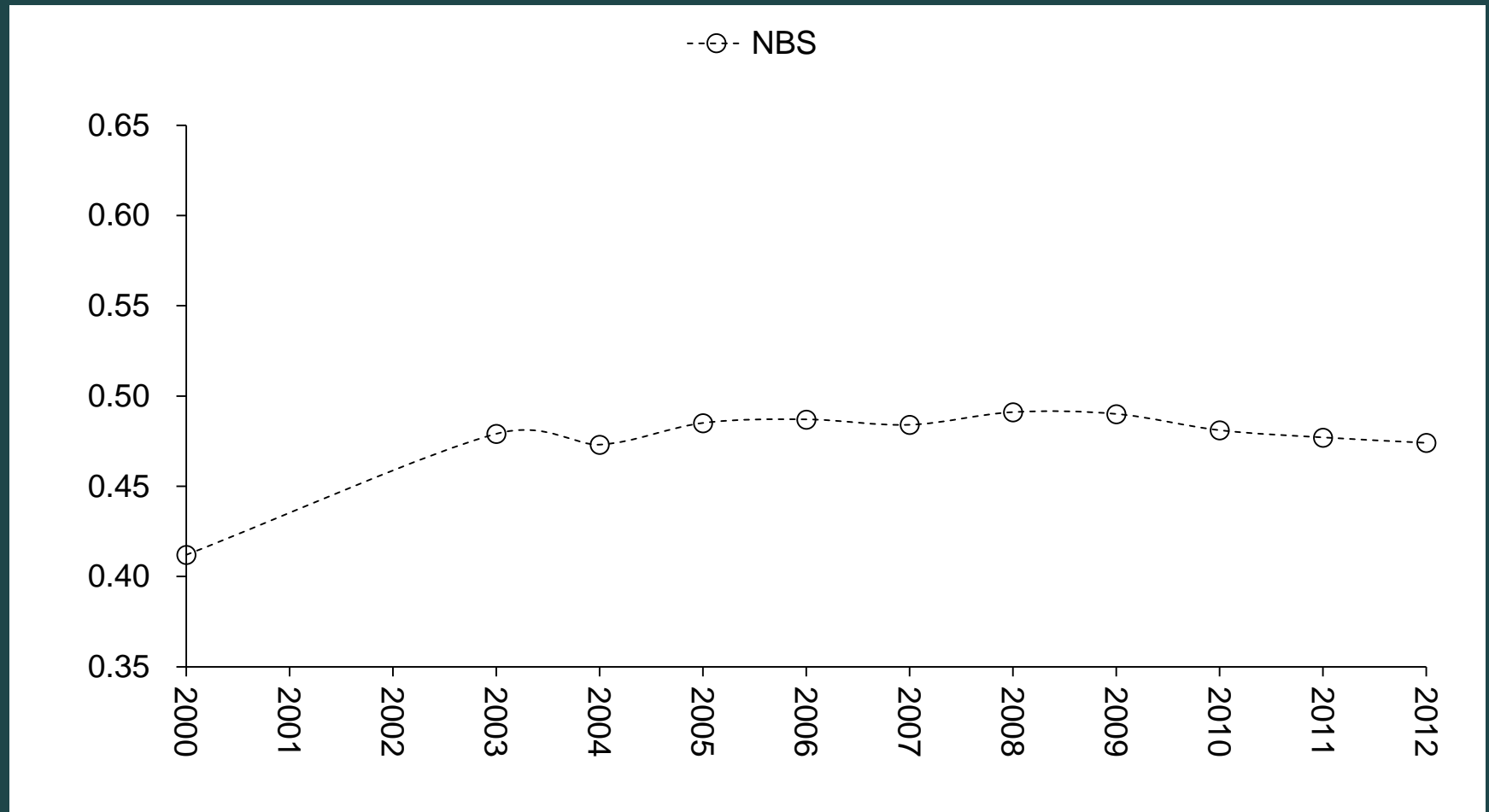


**Resulting in extreme inequality**, Gini coefficient



Sources: China Household Finance Survey; National Bureau of Statistics; U.S. Census Bureau; CIA  
The Wall Street Journal

# National Bureau of Statistics Responded



# Science article (May 30, 2013)

## The Numbers Game

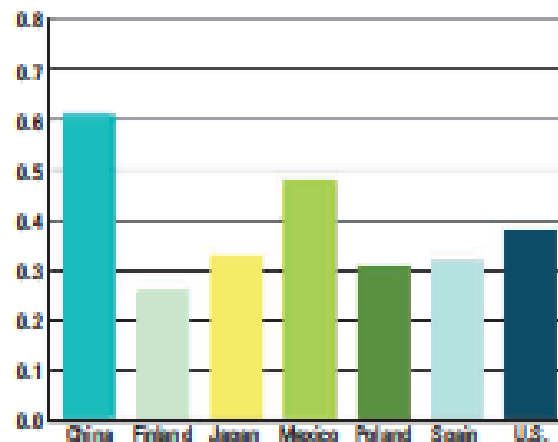
In China, statistics have long been skewed by their use in rewarding performance; social scientists say they are beginning to remove those distortions

**SHANGHAI, CHINA**—When economist Gan Li set out in 2009 to survey thousands of Chinese households on income and assets, he had a modest goal: Expand the nation's scant information about its economic life. No detailed household survey data were available that could offer a fair picture of the situation nationwide. Everything from household wealth to the percentage of Chinese owning multiple homes was unknown. China had—and still has—"very little knowledge about its baseline," says Gan, who splits his time between Texas A&M University, College Station, and Southwestern University of Finance and Economics in Chengdu. His project, called the China Household Finance Survey, got little direct support from China's National Bureau of Statistics (NBS), effectively the only source of household income information then, Gan says. But the bureau didn't try to block his work.

Gan's ability to quietly research vanished, however, when he and colleagues used their data to estimate China's Gini coefficient, a common index of income inequality. It runs

on a scale from 0 to 1, with 1 being severe inequality. Accepted wisdom held that a Gini coefficient above 0.4 yields societal instability, and Gan had assumed that anything above 0.6 would be "maybe revolutionary." NBS had last released a Gini value in 2000, when it was 0.41. In findings released last December, Gan and colleagues calculated it at 0.61.

Income Inequality as Rated on the Gini Index



**High on disparity.** A 2012 study placed China among the nations with the largest income differences.

# What's the True Level?

## The Numbers Game

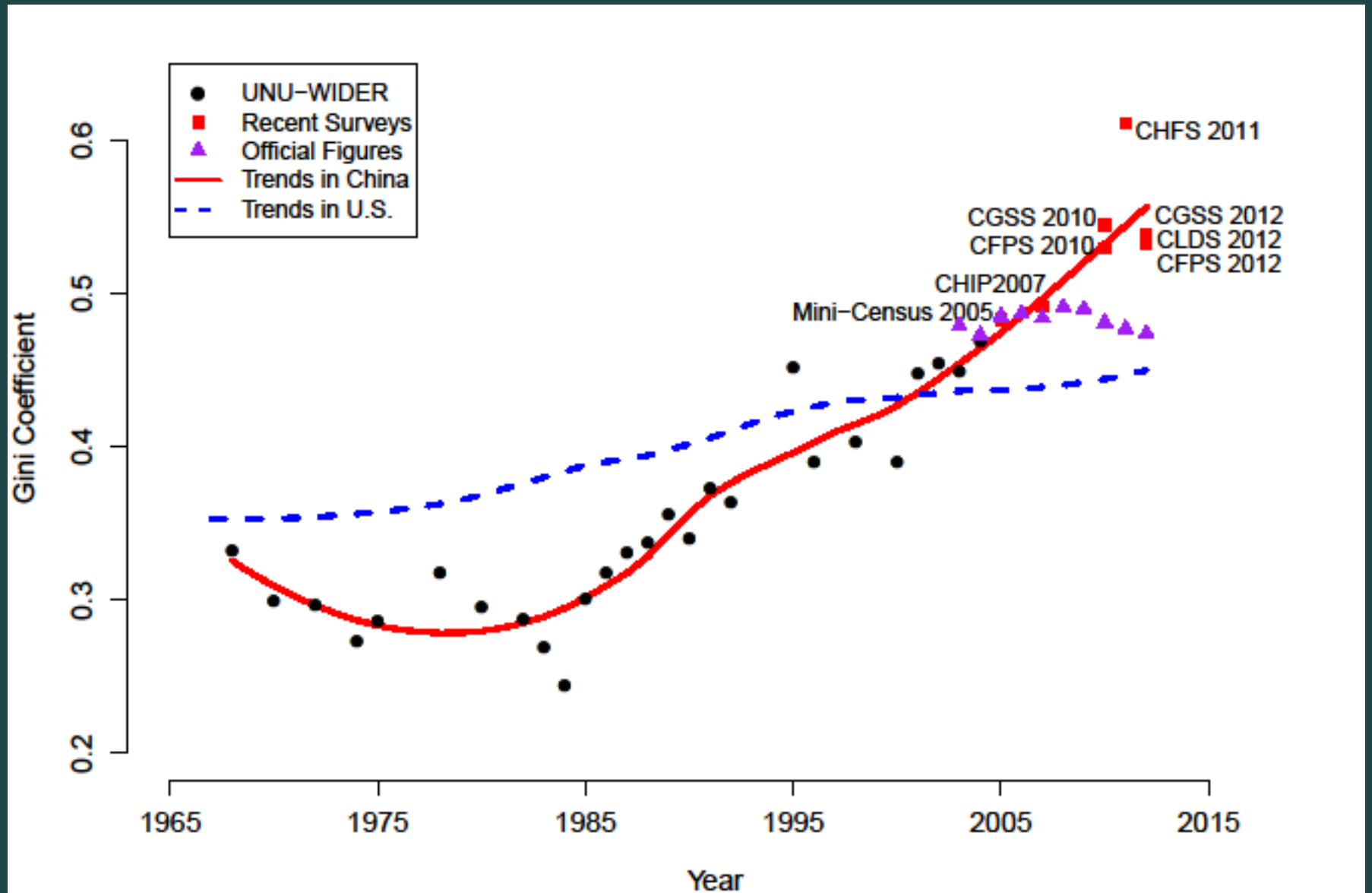
In China, statistics have long been skewed by their use in rewarding performance; social scientists say they are beginning to remove those distortions

# We use new data sources

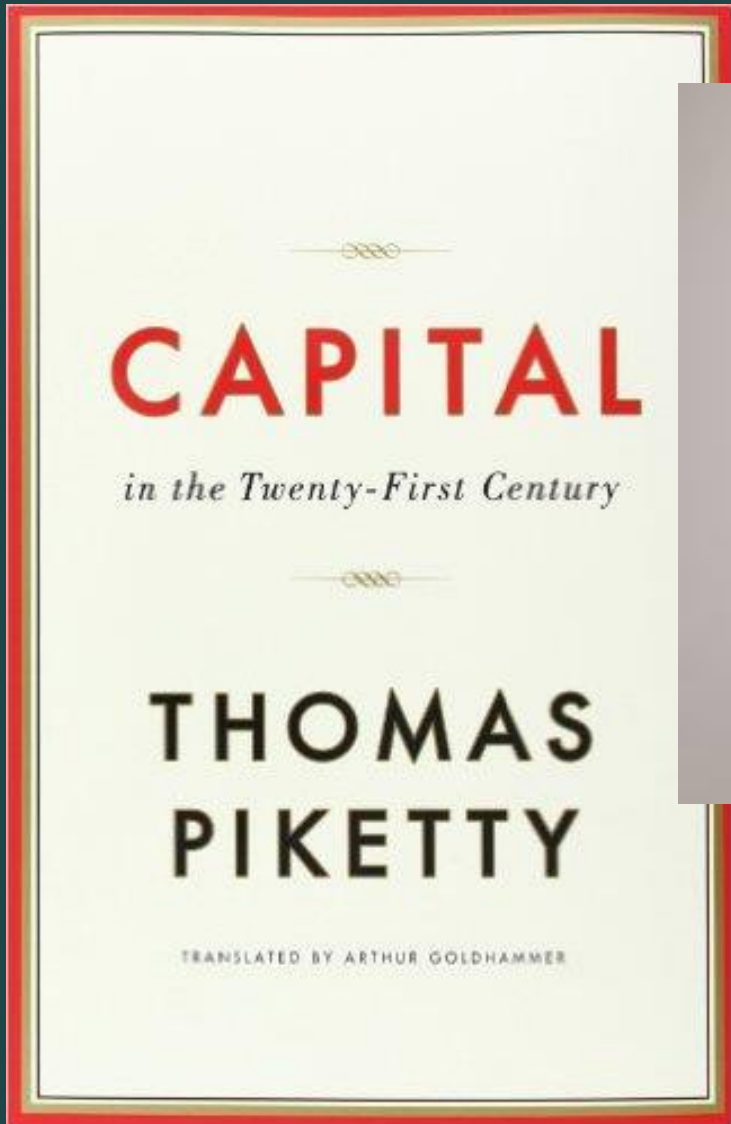
| Data Source             | Name of Organization   | Coverage of Provinces   | Sample Size<br>(# Families) | # Families with<br>Positive Income |
|-------------------------|--|---|-----------------------------|------------------------------------|
| <b>Mini-Census 2005</b> | National Bureau of<br>Statistics of China  | All 31 Provinces of<br>Mainland China   | 973,159                     | 779,849                            |
| <b>CGSS 2010</b>        | Renmin University of<br>China and the Hong<br>Kong University of<br>Science and Technology | All 31 Provinces of<br>Mainland China   | 11,785                      | 10,260                             |
| <b>CGSS 2012</b>        | Same as above  | 29 Provinces of Mainland<br>China (excluding Tibet<br>and Hainan)   | 11,765                      | 10,326                             |
| <b>CFPS 2010</b>        | Peking University  | 25 Provinces of Mainland<br>China (excluding Inner<br>Mongolia, Xinjiang, Tibet,<br>Hainan, Ningxia, Qinghai) | 14,798                      | 13,837                             |
| <b>CFPS 2012</b>        | Same as above  | Same as above   | 13,316                      | 11,785                             |
| <b>CHFS 2011</b>        | Southwestern University<br>of Finance and<br>Economics                                     | 25 Provinces of Mainland<br>China (excluding Inner<br>Mongolia, Xinjiang, Tibet,<br>Hainan, Ningxia, Fujian)  | 8,438                       | 8,092                              |
| <b>CLDS 2012</b>        | Sun Yat-sen University   | 28 Provinces of Mainland<br>China (excluding Tibet,<br>Chongqing and Hainan)                                  | 10,612                      | 9,735                              |



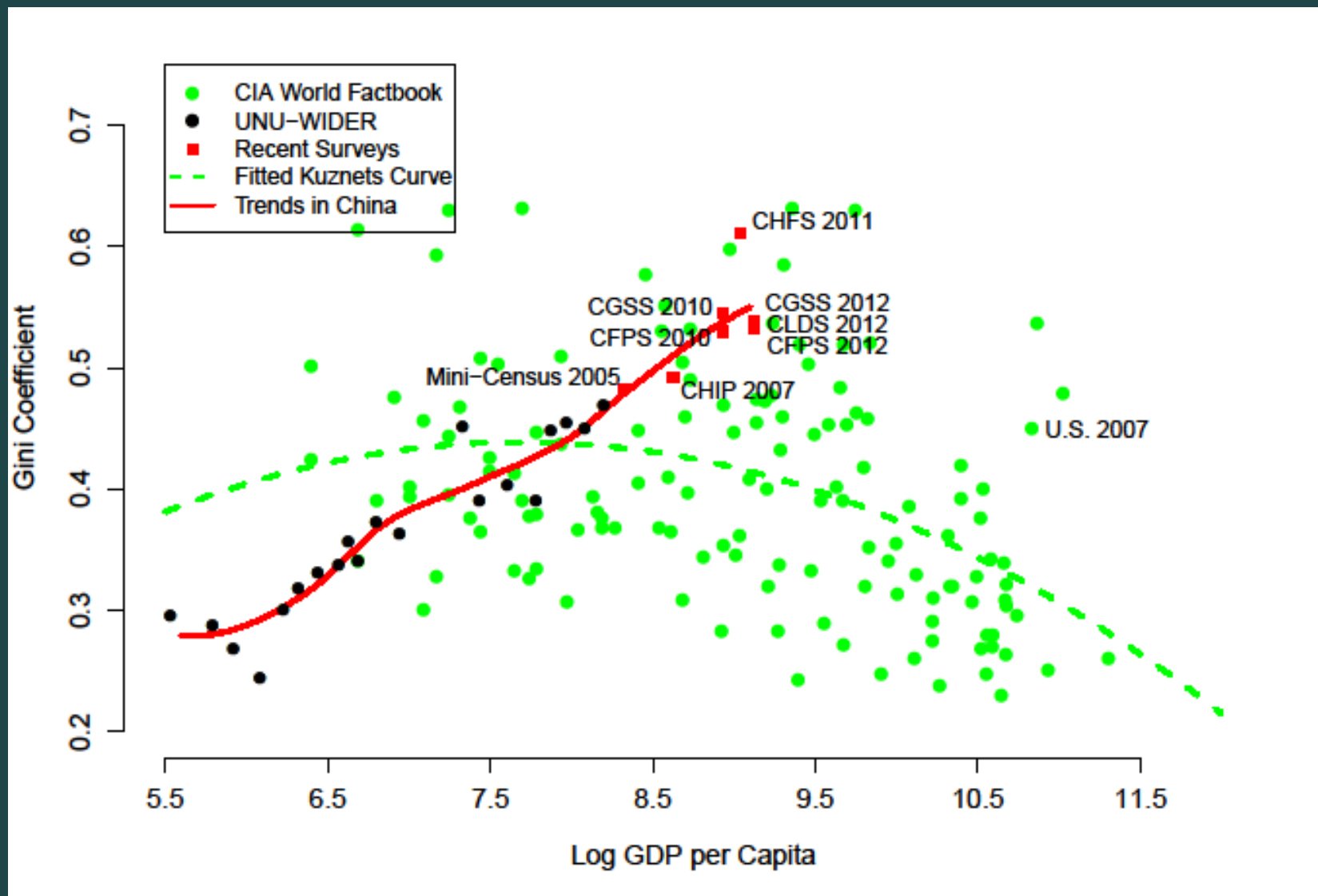
# Trends in Inequality, China and US Compared



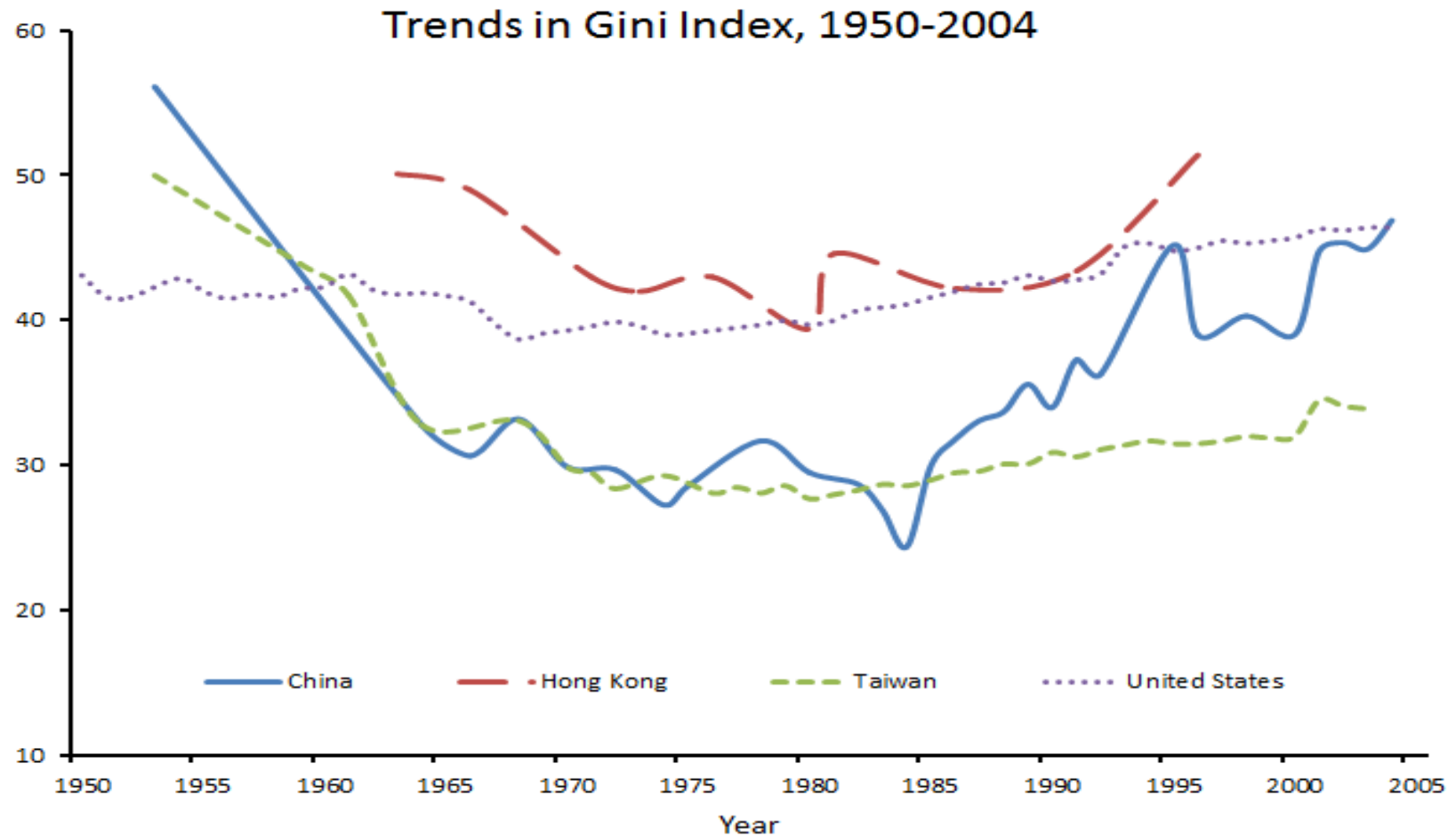
# A Best Seller in 2014



# International Comparison: Inverted-U Kuznet Curve



# Trends in Gini Index in China, Hong Kong, Taiwan, and the U.S., 1950-2004



Source: World Institute for Development Economics Research of the United Nations University(UNU-WIDER) database.([http://www.wider.unu.edu/research/Database/en\\_GB/wiid/](http://www.wider.unu.edu/research/Database/en_GB/wiid/))

# Chinese Citizens Are Concerned about Inequality.

Ranking of Social Issues according to Severity Perceived by Chinese Citizens in 2012 (0-10)

|                        |     |
|------------------------|-----|
| Economic inequality    | 6.8 |
| Government corruption  | 6.0 |
| Employment             | 5.9 |
| Environment protection | 5.7 |
| Health                 | 5.5 |
| Housing                | 5.5 |
| Education              | 5.3 |
| Social security        | 5.3 |

# Conclusion 1

- China's income inequality has reached very high levels in recent years.
- This is true both from the perspective of China's past and in comparison to other countries at similar stages of economic development.

# Part 2

## Income Inequality

# Three “Claims”

- (1) Inequality in China has been largely mediated by collective agencies, such as locales and work units;
- (2) Traditional Chinese political discourse promoted merit-based inequality, with merit being defined as improving the collective welfare for the masses;
- (3) Many Chinese people today regard inequality as an inevitable consequence of economic development.



## Claim 1: Mediation by Collective Agencies

- Region (including rural/urban divide) is perhaps the most important social determinant of income in contemporary China (Xie and Hannum 1996; Hauser and Xie 2005; Wu and Treiman 2004).
- Work unit (*danwei*, 单位) remains one of the most important determinants of income and benefits (Xie and Wu 2008; Xie, Lai, and Wu 2009).
- In general, much of China's inequality is generated across collective entities.

## “Unique” Features of Chinese Context

- Very strong government's role.
- Alliance between corporate interest and government interest.
- A long tradition of “layered paternalism”: local government, family, network, *danwei*.
- Thus, it is not necessarily true that Chinese economy is moving towards the free-market (say American) model.

## Focus on *Danwei* (单位)

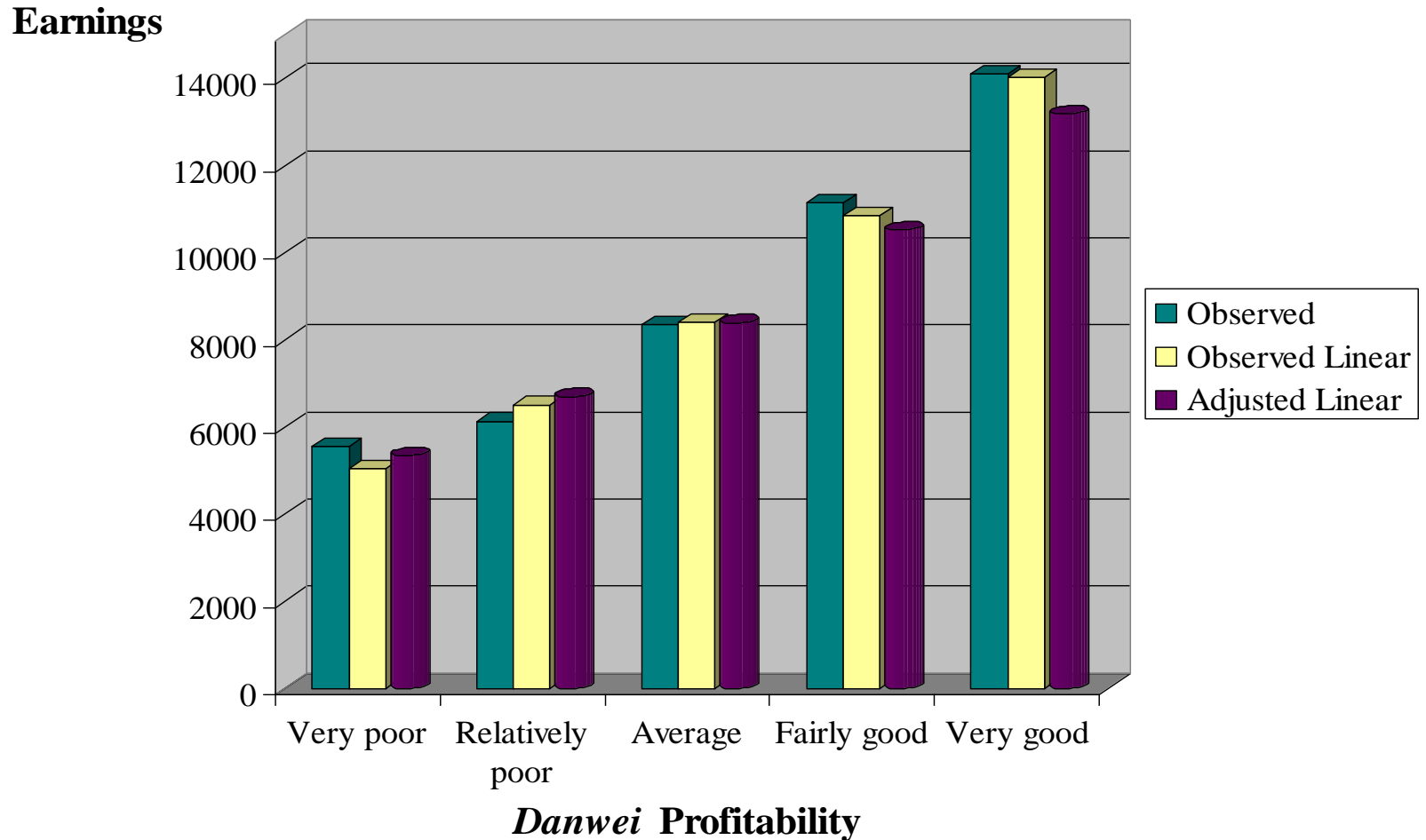
- Encompassing roles of *danwei* before economic reform (which began in 1978):
  - It defined one's work life, political life, economic well-being, and ultimately membership in society.
  - Individuals depended on *danwei* for almost everything.
- In reform-era China, *danwei* continues to play important.

# Percent Variance Explained in Logged Earnings

(From Xie and Wu 2008, based on a 1999 survey in Shanghai, Wuhan, and Xi'an)

| Variables                             | DF | R <sup>2</sup> |     | DR <sup>2</sup> (1) |     |
|---------------------------------------|----|----------------|-----|---------------------|-----|
| City                                  | 2  | 17.47          | *** | 19.12               | *** |
| Education Level                       | 5  | 7.82           | *** | 4.46                | *** |
| Experience+Experience <sup>2</sup>    | 2  | 0.23           |     | 0.05                |     |
| Gender                                | 1  | 4.78           | *** | 3.05                | *** |
| Cadre Status                          | 1  | 3.08           | *** | 0.63                | *** |
| Sector                                | 3  | 3.54           | *** | 1.80                | *** |
| <i>Danwei Profitability (linear)</i>  | 1  | 12.52          | *** | 9.30                | *** |
| <i>Danwei Profitability (dummies)</i> | 4  | 12.89          | *** |                     |     |

# Earnings Differentials by *Danwei* Profitability



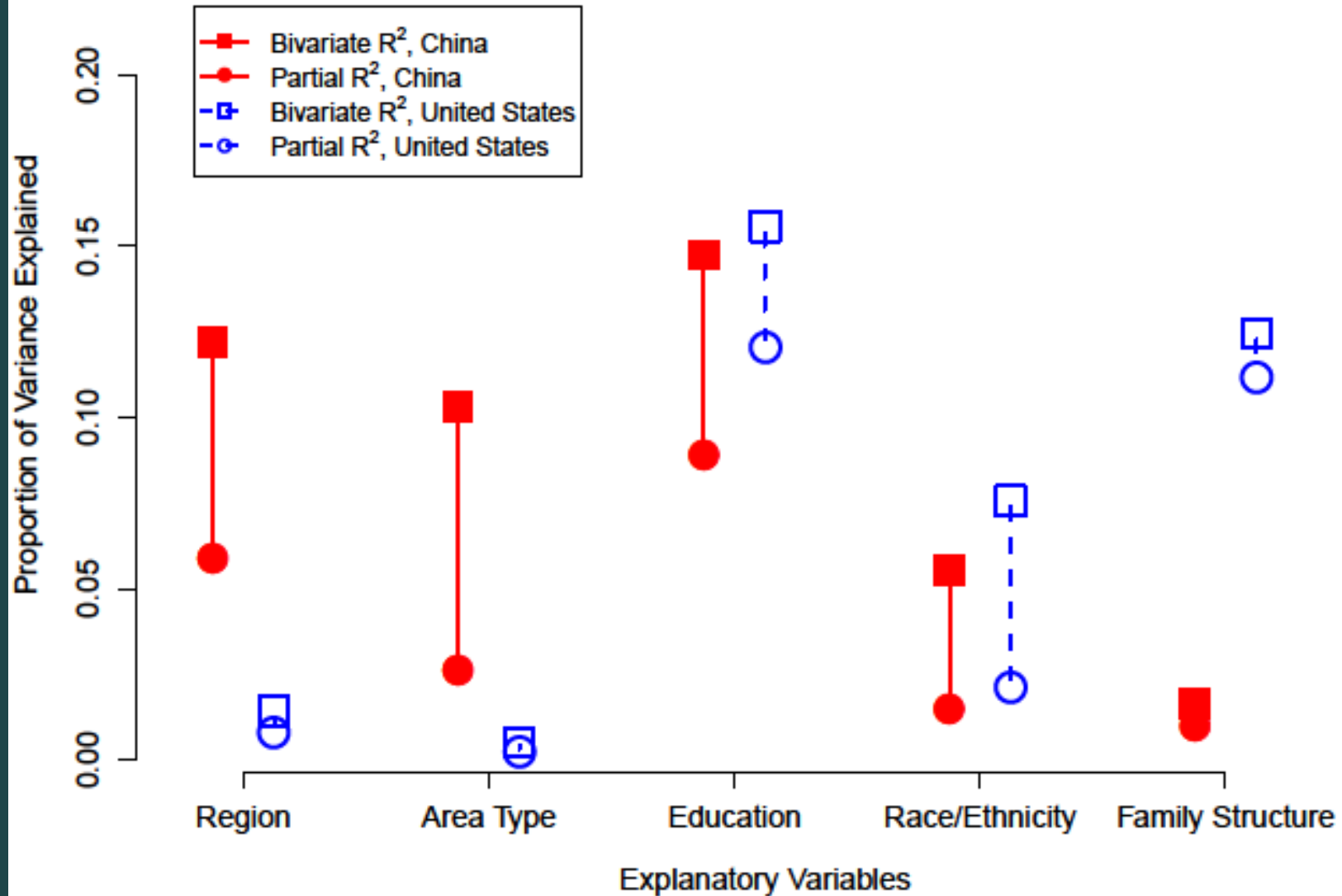
# Research Strategy of Xie and Zhou (*PNAS*, 2014)

- Decomposing total income inequality into components due to income determinants.
- Comparing contributions of components between China and U.S.
- Focusing on 2010 data.

# Data Sources

| Year | Country | Data Source |
|------|---------|-------------|
| 2010 | China   | CFPS        |
|      | US      | March CPS   |

# Decomposition Result 1





## Conclusion 2

- A lion's share of China's high income inequality is due to structural forces at work: a large income gap between rural and urban residents, a large regional variation in income, and other collective forces such as *danwei*. (They play a small to nil role in generating the overall income inequality level in the U.S.)
- The roles of Individual-level income determinants, such as education, are similar between China the U.S.

## Claim 2: Tradition in Merit-Based Inequality

- Evidence for this claim is mainly historical.
- Drawn from a collaborative project with Miranda Brown.

# Some Stylized “Facts” of China from a Historical Perspective

- The Chinese empire was ideally “unified” with one emperor.
- The Chinese empire was vast. (Enormous administrative burden)
- The Chinese empire was run mostly by civilians—bureaucrats. (Contrast to Romans)
- With the exception of the Emperor, virtually no political office was inherited. (Contrast to Europe)

## Some Stylized “Facts” of China from a Historical Perspective (continued)

- Key features of Western Han (206 BCE – 24CE ) imperial ideology and structure persist to the present.
- Officials cannot be appointed in their places of origin – The Law of Avoidance. (Contrast to locally elected officials).

# Size of China: Han China and Contemporary China Compared



# Ideological Justification by Confucius (孔子 551 BCE - 479 BCE) and Mencius (孟子, 372 – 289 BCE )

- **Excerpt 1** (Mencius, 孟子):

“The people are of supreme importance; the altars to the gods of earth and grain come next; last comes the ruler.”
- **Excerpt 2** (Mencius, 孟子):

“ If everyone must make everything he uses, the Empire will be led along the path of incessant toil. Hence it is said, ‘There are those who use their minds and there are those who use their muscles. The former rule; the latter are ruled. Those who rule are supported by those who are ruled.’ This is a principle accepted by the whole Empire.”

# Ideological Justification by Confucius (孔子 551 BCE - 479 BCE) and Mencius (孟子, 372 – 289 BCE )

- **Excerpt 1** (Mencius, 孟子):

“The people are of supreme importance; the altars to the gods of earth and grain come next; last comes the ruler.”
- **Excerpt 2** (Mencius, 孟子):

“ If everyone must make everything he uses, the Empire will be led along the path of incessant toil. Hence it is said, ‘There are those who use their minds and there are those who use their muscles. The former rule; the latter are ruled. Those who rule are supported by those who are ruled.’ This is a principle accepted by the whole Empire.”

# Results of a 2007 Survey in Gansu (n=633)

- Now, think about your own economic well-being in general. Many factors account for one's economic well-being. In your opinion, please rank the following five factors in terms of their relative importance (Which group of factors you would rate as “the most important,” which group you would rate as “the second most important,” etc.)

|                                    | 1st   | 2nd   |
|------------------------------------|-------|-------|
| The central government             | 41.61 | 12.03 |
| The local (county/city) government | 8.54  | 31.33 |
| The work unit or village committee | 8.23  | 12.82 |
| Family's attributes                | 21.33 | 18.8  |
| Personal attributes                | 20.38 | 25.28 |



## Claim 3: Inequality as a Byproduct of Development

- Drawn from a collaborative project with Arland Thornton and other colleagues.

# “Societal Projection” Hypothesis

- Ordinary Chinese do not have much direct knowledge about other societies.
- Chinese are able to accurately rate the level of development in most countries.
- Their ratings of inequality in other countries are inaccurate, and derivative of their developmental ratings.
- They project their own understanding between development and inequality onto other societies.

# Data

- A 2006 social survey in six provinces: Beijing, Hebei, Qinghai, Hubei, Sichuan, and Guangdong (n = 4,892).

# Development Scale

- Rating of 0-10 on development for
  - China
  - Japan
  - Brazil
  - United States
  - Pakistan

# Inequality Scale

- Rating of 0-10 on inequality for
  - China
  - Japan
  - Brazil
  - United States
  - Pakistan

## Respondents' Ratings of Five Countries on Levels of Development and Inequality, in Comparison to UN Ratings.

| Country         | Average Rating of Development | UN Rating of Development | Average Rating of Inequality | UN Rating of Inequality |
|-----------------|-------------------------------|--------------------------|------------------------------|-------------------------|
|                 | (0-10)                        | (0-1)                    | (0-10)                       | (Gini, 0-1)             |
| <b>China</b>    | 5.56                          | 0.768                    | 6.25                         | 0.447                   |
| <b>Japan</b>    | 7.79                          | 0.949                    | 5.92                         | 0.249                   |
| <b>Brazil</b>   | 5.49                          | 0.792                    | 5.47                         | 0.58                    |
| <b>U.S.</b>     | 9.19                          | 0.948                    | 6.81                         | 0.408                   |
| <b>Pakistan</b> | 3.8                           | 0.539                    | 5.07                         | 0.306                   |

# Main Response Patterns of Development Rating

| Pattern No. | Description of Ranking Order                               | Percentage | Cumulative Percent |
|-------------|--|------------|--------------------|
| 1           | US $\geq$ Japan $\geq$ Brazil $\geq$ China $\geq$ Pakistan | 34.11      | 34.11              |
| 2           | US $\geq$ Japan $\geq$ China $\geq$ Brazil $\geq$ Pakistan | 33.96      | 68.07              |
| 3           | Japan $\geq$ US $\geq$ Brazil $\geq$ China $\geq$ Pakistan | 2.18       | 70.25              |
| 4           | Japan $\geq$ US $\geq$ China $\geq$ Brazil $\geq$ Pakistan | 1.37       | 71.62              |
| 5           | All 116 Remaining Other Combinations                       | 28.38      | 100.00             |

# Main Response Patterns of Inequality Rating by Response Patterns to Development Rating

| No. | <u>Inequality</u>  | <u>Response Pattern to Development Rating</u> |       |       |       |       |              |
|-----|--|---|-------|-------|-------|-------|--------------|
|     | <u>Response Pattern</u>                                    |   |       |       |       |       |              |
|     | Description  | 1   | 2     | 3     | 4     | 5     | <u>Total</u> |
| 1   | US $\geq$ Japan $\geq$ Brazil $\geq$ China $\geq$ Pakistan | 25.58   | 8.32  | 6.67  | 3.03  | 8.42  | 14.13        |
| 2   | US $\geq$ Japan $\geq$ China $\geq$ Brazil $\geq$ Pakistan | 7.43  | 31.31 | 4.76  | 16.67 | 9.96  | 16.33        |
| 3   | Japan $\geq$ US $\geq$ Brazil $\geq$ China $\geq$ Pakistan | 0.43  | 0.67  | 8.57  | 3.03  | 0.29  | 0.69         |
| 4   | Japan $\geq$ US $\geq$ Brazil $\geq$ China $\geq$ Pakistan | 0.3   | 0.61  | 11.43 | 4.55  | 0.44  | 0.5          |
| 6   | Reverse of Pattern 1                                       | 12.61   | 3.55  | 0     | 0     | 3.51  | 6.75         |
| 7   | Reverse of Pattern 2                                       | 3.59  | 10.28 | 5.71  | 4.55  | 2.2   | 5.53         |
| 8   | Reverse of Pattern 3                                       | 1.64  | 0.49  | 12.38 | 3.03  | 0.44  | 1.16         |
| 9   | Reverse of Pattern 4                                       | 0.61  | 0.61  | 0     | 9.09  | 0.37  | 0.64         |
| 10  | All 112 Remaining Combinations                             | 47.81   | 44.16 | 50.48 | 56.06 | 74.38 | 54.28        |



## Conclusion 3

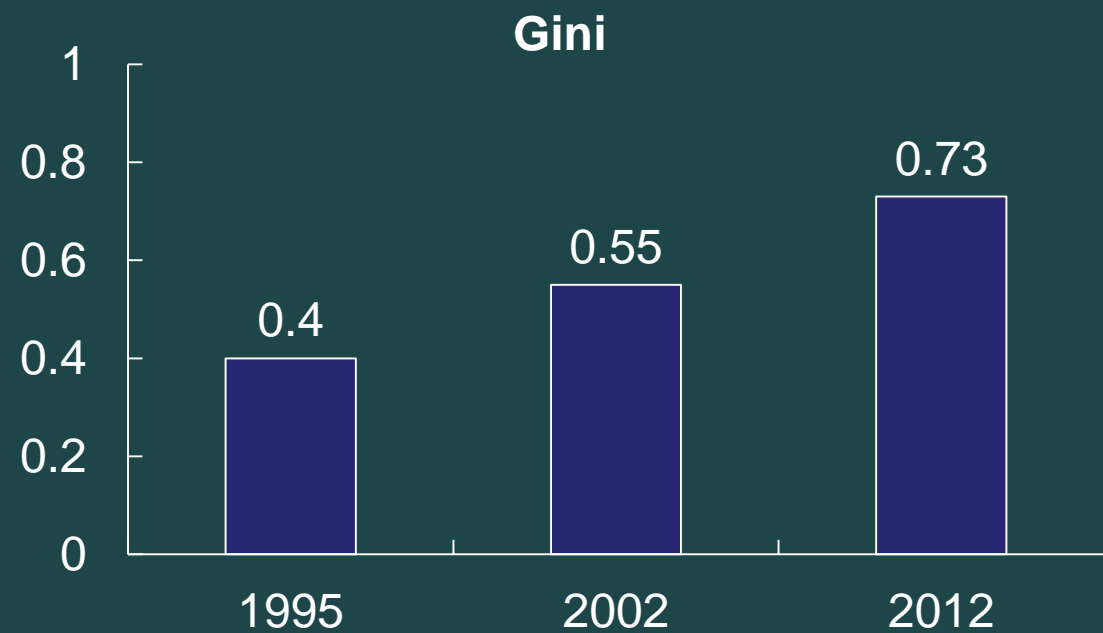
- Chinese people have a high tolerance of inequality because (1) traditional political ideology promotes merit-based inequality and (2) inequality is viewed as a byproduct of economic development.

# Part 3

## Wealth Inequality

# Wealth Inequality in China, 2012

|                   | 0-25%      | 0-50% | 75-100% | 90-100% | 95-100% | 99-100%     | Gini        | 90/10<br>Ratio |
|-------------------|------------|-------|---------|---------|---------|-------------|-------------|----------------|
|                   | ( % )      | ( % ) | ( % )   | ( % )   | ( % )   | ( % )       |             |                |
| Before Adjustment | 1.6        | 9.9   | 72.3    | 50.5    | 37.0    | 16.1        | 0.64        | 32.69          |
| After Adjustment  | <u>1.2</u> | 7.5   | 78.8    | 62.1    | 51.7    | <u>35.3</u> | <u>0.73</u> | 32.94          |



**Trends in Wealth  
Inequality**

# US-China Comparison in Wealth Inequality

| Country | Year | Gini  | 0-40% | 0-60% | 60-100% | 80-100% | 90-100% | 95-100% | 99-100% |
|---------|------|-------|-------|-------|---------|---------|---------|---------|---------|
|         |      |       | ( % ) | ( % ) | ( % )   | ( % )   | ( % )   | ( % )   | ( % )   |
| US      | 1983 | 0.799 | 0.9   | 6.1   | 93.9    | 81.3    | 68.2    | 56.1    | 33.8    |
|         | 1989 | 0.832 | -0.7  | 4.1   | 95.9    | 83.6    | 70.6    | 59.0    | 37.4    |
|         | 1992 | 0.823 | 0.4   | 4.8   | 95.3    | 83.8    | 71.8    | 60.0    | 37.2    |
|         | 1995 | 0.828 | 0.2   | 4.7   | 95.3    | 83.9    | 71.8    | 60.3    | 38.5    |
|         | 1998 | 0.822 | 0.2   | 4.7   | 95.3    | 83.4    | 70.9    | 59.4    | 38.1    |
|         | 2001 | 0.826 | 0.3   | 4.2   | 95.7    | 84.4    | 71.5    | 59.2    | 33.4    |
| China   | 2012 | 0.727 | 4.2   | 11.6  | 88.4    | 74.7    | 62.0    | 51.2    | 34.6    |

# Chinese Wealth Inequality

- New inequality phenomenon ;
- Influence on intergenerational mobility;
  - Three stages of contemporary Chinese inequality (Xie and Jin 2015):
    1. Access to state Bureaucracy (1949-1978),
    2. Income (1979-1998),
    3. Wealth (1999-present)
- Housing assets and financial assets, which are the main sources of wealth accumulation, determine the level of wealth inequality.

# Low correlation between income and wealth

- Correlation is 0.37 in CFPS.

|                 |         | Wealth Position |        |        |         |       |
|-----------------|---------|-----------------|--------|--------|---------|-------|
|                 |         | 0—25%           | 25—50% | 50—75% | 75—100% | 合计    |
| Income Position | 0—25%   | 46.5            | 29.2   | 15.7   | 8.6     | 100.0 |
|                 | 25—50%  | 25.7            | 29.3   | 27.6   | 17.5    | 100.0 |
|                 | 50—75%  | 17.6            | 26.2   | 30.7   | 25.5    | 100.0 |
|                 | 75—100% | 10.2            | 15.3   | 26.0   | 48.5    | 100.0 |

# Human Capital versus Political Capital, Wealth and Income Compared

|   | Wealth      |       | Income      |       | Cross-equation difference |
|---|-------------|-------|-------------|-------|---------------------------|
|   | Coefficient | S.E   | Coefficient | S.E   | Chi-Squared               |
| Migration status  |             |       |             |       |                           |
| Yes   | -0.731***   | 0.191 | 0.159**     | 0.050 | —                         |
| Education   | 0.090***    | 0.015 | 0.071***    | 0.005 | 2.11                      |
| State-owned sector  |             |       |             |       |                           |
| Yes   | 0.309**     | 0.114 | 0.238***    | 0.029 | 0.42                      |
| Administrative position   |             |       |             |       |                           |
| Yes   | 0.665***    | 0.107 | 0.376***    | 0.032 | 8.64**                    |
| CPC member  |             |       |             |       |                           |
| Yes   | 0.264**     | 0.082 | 0.115***    | 0.031 | 3.6+                      |
| Self-employed   |             |       |             |       |                           |
| Yes   | 0.309**     | 0.094 | 0.245***    | 0.033 | 0.51                      |
| Sample Size   | 6,320       |       | 6,320       |       |                           |
| Other variables: age, age^2, family structure, county (per capita GDP). |             |       |             |       |                           |

# Determinants of Housing and Non-Housing Assets

|   | Housing Assets |       | Non-Housing Assets |       | Cross-equation difference |
|---|----------------|-------|--------------------|-------|---------------------------|
|   | Coefficient    | S.E   | Coefficient        | S.E   | Chi-Squared               |
| Migration status  |                |       |                    |       |                           |
| Yes   | -2.685***      | 0.419 | 0.292              | 0.232 | —                         |
| Education   | 0.108***       | 0.028 | 0.183***           | 0.022 | 5.05*                     |
| State-owned sector  |                |       |                    |       |                           |
| Yes   | 0.402+         | 0.228 | 0.373*             | 0.184 | 0.01                      |
| Administrative position   |                |       |                    |       |                           |
| Yes   | 0.836***       | 0.171 | 0.919***           | 0.155 | 0.12                      |
| CPC member  |                |       |                    |       |                           |
| Yes   | 0.658**        | 0.206 | 0.407**            | 0.156 | 0.87                      |
| Self-employed   |                |       |                    |       |                           |
| Yes   | 0.332+         | 0.177 | 0.842***           | 0.161 | 4.47*                     |
| Ln (Family Income)  | 0.060+         | 0.032 | 0.100***           | 0.021 | 1.19                      |
| Sample Size   | 6,320          |       | 6,320              |       |                           |
| Other variables: age, age <sup>2</sup> , family structure, county (per capita GDP). |                |       |                    |       |                           |



# Conclusion 4

- Political capital has a larger effect on the accumulation of housing assets, while market factors are more influential in the accumulation of non-housing assets.
- Explanations:
  - 1. households with political capital have benefitted greatly from the privatization of public welfare housing, which constitutes an overwhelming proportion of household wealth;
  - 2. households with political capital benefit much more from associated allowance for such expenses as food, accommodation, and transportation and thereby have lower household expenses and a greater share of income for accumulation as household wealth;
  - 3. households with political capital gain higher investment returns , thus converting household savings into wealth.

Thank You!