

A Comparative Analysis between the Effects of Universal Basic Income and the Welfare System on Income Inequality in China

Definition

Universal Basic Income (UBI) is cash paid by a political community to all its members without means test or work requirement.

Objectives

To investigate whether keeping or replacing China's welfare system with UBI is better in terms of income inequality by simulating 2 counterfactual scenarios:

- **Scenario A:** if what citizens received (actual transfers) from the China's welfare system was used to fund a UBI scheme.
- **Scenario B:** if government expenditures (total transfers) on the welfare system were used to fund a UBI scheme;

Note: Total transfers is different from actual transfers due to corruption, administrative costs, errors in calculation, etc.

Methodology

Representing income inequality using Lorenz curves, the Gini coefficient; the family of General Entropy GE(α), including Theil's L/ GE(0), Theil's T/ GE(1) and GE(2).

· **Net transfer income:** money transferred from government to households minus money transferred from households to government.

Scenario A:

- Taking net transfer income away from household's disposable income simulates the situation of the welfare system not existing.
- Sum of net incomes transfers (**positive** 151 million Yuan) is the actual transfers.

Scenario B:

- Establish a relationship between a larger UBI (more funding) and the trend of Gini coef.
- Larger UBI: admin. expenses of China's welfare system **plus** net income transfers.
- See if the Gini coef. under this UBI will be smaller than that under China's welfare system.

Survey Data

- Survey conducted in 2013 by the China Institute for Income Distribution;
- Consists of 17244 households and 57821 individuals from rural and urban China;

Results

Scenario A (actual transfers):

Both implementing a UBI scheme (each household gets **8790.5 Yuan**) and maintaining China's welfare system are leading to lower income inequality, comparing with the situation of government not making any transfer payments.

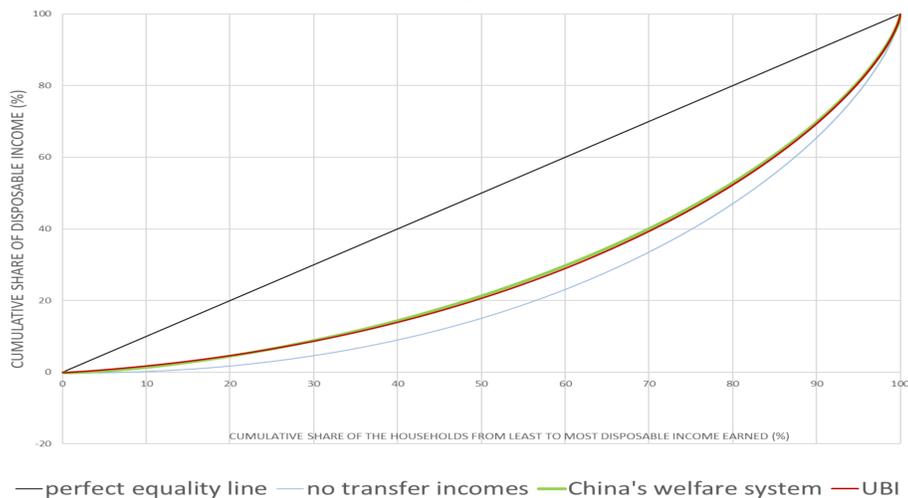
Should we substitute UBI for China's welfare system?

- ✓ **Yes.** Income inequality improves as Theil's L decreases.
- ✗ **No.** Income inequality gets worse as Gini coef., Theil's T and GE(2) increases;

	No transfer incomes	China's welfare system		UBI
Gini coef.	0.511	0.424	↑	0.430
GE(0): Theil's L	0.439	0.343	↓	0.331
GE(1): Theil's T	0.210	0.197	↑	0.199
GE(2)	0.177	0.169	↑	0.170

Table 1: Results in Gini coef. and GE measures

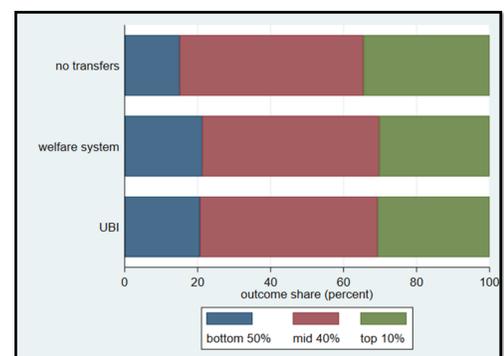
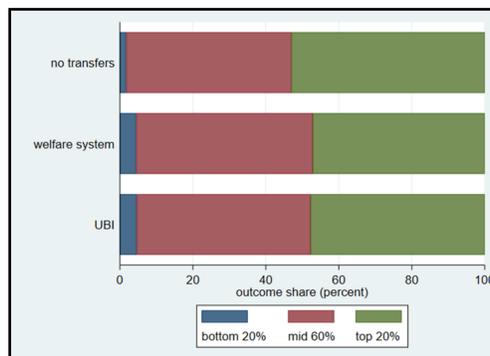
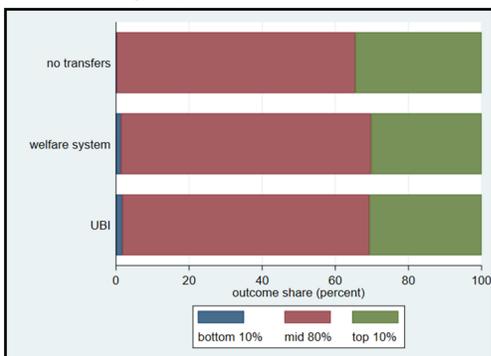
LORENZ CURVES



- ✓ **Yes.** Poor households, especially those living in extreme poverty gain a larger share of total income:

Share of the bottom 10% and 20% increases from 1.36% to 1.75%.
Share of total income of the bottom 20% increases from 4.49% to 4.63%.

- ✗ **No.** It also benefits rich households:
Share of the top 10% increases from 30.24% to 30.66%.
Share of the top 20% increases from 47.14% to 47.72%.
- ✗ **No.** The middle-income group loses.

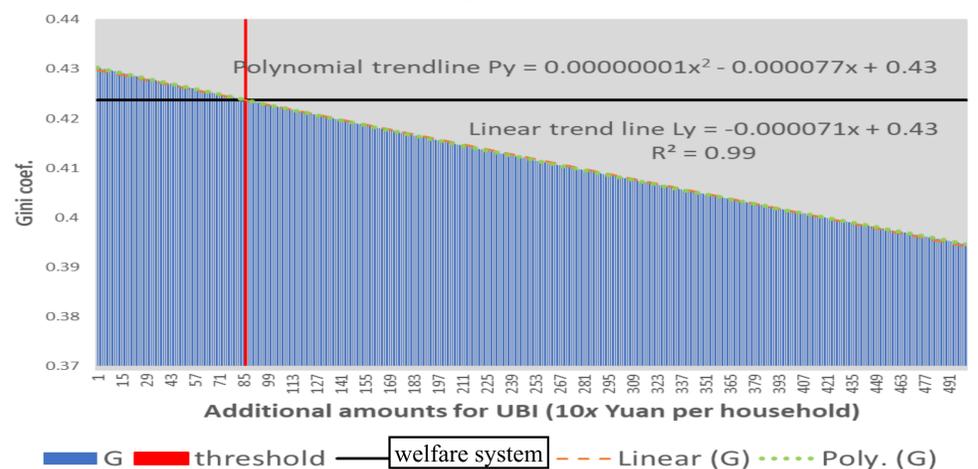


Scenario B (total transfers):

What if funding for the UBI scheme increased?

- Negative slope of Ly: Gini coefficient decreases.
- Py being Slightly concave: additional amounts devoted to UBI are increasingly inefficient in reducing income inequality.
- If each household received an additional amount of approximately **850 Yuan**, the Gini coef. under UBI would be same as that under China's welfare system.

The effect of a larger UBI on Gini coef.



Will the magnitude of the administrative cost of China's welfare system lead to a UBI program surpassing the threshold (around 850 Yuan) implying that the Gini coef. under UBI is lower than that under China's welfare system?

- Only data for Dibao, a minimum livelihood guarantee scheme is available.
- Administrative cost of Urban Dibao and that of Rural Dibao is around **14%** and **13%** of total transfers according to official statistics.
- Estimation: the administrative cost of UBI is **not exceeding 5%** of total transfers.
- ✗ **(No)** After computation, each household will receive an additional amount of **36 Yuan**.
- However, some scholars argued that the administrative cost of Rural Dibao is **84.6%** of total transfers in 2013.
- ✓ **(No)** Assuming this is true, each household will gain an additional amount of **140 Yuan**.
- This is just **a tip of the iceberg** since only Dibao, one of the many welfare benefits in China is taken into consideration here.

Limitations and further research

- 1) Sampling weights for households are not taken into account.
 - 2) The abovementioned analyses are related to households, not individuals. Not studying inequality among individuals and intra-household inequality.
 - 3) This is a static analysis which ignores long-run impacts such as the extent of UBI affecting work incentives which influences the income distribution and inequality, or how UBI affects social mobility. All of these are potential topics for further research.
- Etc.

Conclusion

- 1) The effect on income inequality depends on the measure we use to interpret income inequality.
- 2) It also depends on what policy makers care about. If more attention is paid to the poor, UBI should be adopted.
- 3) Scenario B tells us that if we consider about the differences in administrative costs between UBI and China's welfare system, the former might be better than the latter.
- 4) This also shed light to whether **universal benefits (UBI) or a targeting welfare system (in China) is better**. Both sides are arguable.