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:
1) Setting a line from household to government.
2) 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(n), 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.
- Limitations and further research:
  - 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.

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 6790.5 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 coeff. Theil’s T and GE(2) increases.

<table>
<thead>
<tr>
<th></th>
<th>No transfer incomes</th>
<th>China’s welfare system</th>
<th>UBI</th>
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</thead>
<tbody>
<tr>
<td>Gini coeff</td>
<td>0.511</td>
<td>0.424</td>
<td>0.430</td>
</tr>
<tr>
<td>GE(0)</td>
<td>0.439</td>
<td>0.343</td>
<td>0.351</td>
</tr>
<tr>
<td>GE(1)</td>
<td>0.210</td>
<td>0.197</td>
<td>0.199</td>
</tr>
<tr>
<td>GE(2)</td>
<td>0.177</td>
<td>0.169</td>
<td>0.170</td>
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</tbody>
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Table 1: Results in Gini coeff. and GE measures

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 coeff. 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.
- 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.

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.

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.
4) etc.