

Inequality and Measured Growth

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Highlights

- Motivating observations: in the U.S., over the last decades . . .
 - . . . measured productivity growth has decreased
 - . . . nominal income inequality has increased
 - . . . inflation rates have been higher for the poor than the rich

⇒ Should we worry even more about rising inequality?
- Theory with two key ingredients
 - Non-homothetic preferences
 - Productivity gains directed towards goods with large market size

⇒ BGP with inflation inequality, but no inequality in welfare growth
- Key insight: Standard measures . . .
 - . . . capture gains from cost reductions of currently consumed goods
 - . . . miss gains from cost reductions for not yet consumed goods

Discussion plan

1. Context
2. Products and preferences
3. Technology and markets
4. Quantification / measurement

Context

- Model input: income / expenditure inequality
- Model ingredients / mechanisms
 - Non-homothetic preferences over infinite continuum of goods
Zweimüller (2000), Matsuyama (2002), Bohr, Mestieri, and Yavuz (2021)
 - ⇒ Key property: every consumer will demand every good
 - Market size driven productivity growth
Acemoglu and Linn (2004), Jaravel (2019)
 - ⇒ High agg. expenditure on goods preferred by high income consumers
 - ⇒ Larger productivity improvements in these markets
- Model outputs
 - BGP: Measured inflation perpetually higher for poor households
Kaplan and Schulhofer-Wohl (2017), Argente and Lee (2021), Jaravel (2021)
 - + Welfare improves at same rate for all households
 - Two otherwise equivalent BGPs with different income inequality
 - + More inequality → lower measured growth → same welfare gains

Products and preferences

- Infinite continuum of goods
 - No new goods
 - Growth: poor will consume the goods the rich consumed before
- What matters for welfare is price level, not changes
 - Late adopter consumes at low price
 - But inflation at that point in time is relatively high
 - Stark consumption segregation: price level low for poor
- Do poor ever buy same goods to benefit from earlier innovation?
 - Products quickly obsolete with competition from new products
Argente, Lee, and Moreira (2022)
 - Some support for inefficient elimination of products
Eizenberg (2014)

Technology and markets

- Learning by doing for good-specific technology

$$\frac{\dot{B}_{it}}{B_{it}} = \phi L_{it}$$

- Large productivity gains in large markets → low inflation
 - No depreciation / loss of knowledge over time
 - Poor fully benefit from previous productivity gains
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- Price changes driven by demand level or demand change?
Jaravel (2019)
 - Price changes: markups or marginal cost?
Jaravel (2019), Jaravel and Olivi (2022)
 - Different implications for persistence of price changes?
 - Higher markups for goods consumed by rich people (less shopping)
Sangani (2022)

Quantification / Measurement

- How much of the motivating facts can the model explain?
- Input: Disposable income inequality over the last decades
- Key mechanisms
 - Non-homothetic preferences: What's a good?
 - + Varying elasticity of substitution and preference weighting
 - + Estimates for elasticity and consumption segregation at different levels of aggregation
Broda and Weinstein (2006), Jaravel and Olivi (2022), Nord (2022)
 - Learning by doing intensity
 - + Response of prices to changes in market size
Jaravel (2019)
- Implied inflation inequality and productivity growth measurement?
- Relation to papers measuring welfare growth with NH preferences?
Baqaei, Burstein, and Koike-Mori (2022), Jaravel and Lashkari (2022)

Summary

- Inflation inequality does not necessarily amplify inequality concerns
- What matters is not just price changes of currently consumed goods
 - What's the price level for these goods given past changes?
 - How do prices change of goods that will be consumed in the future?
- Quantitatively ...
 - How relevant are productivity improvements for today's rich for today's poor?
 - How persistent are technology improvements / price changes?

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