Globalization and Insecurity

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Trends in Income Inequality

- Wage earnings, consumption, and total income have all become more unequal since the early 1970's
- Trend is most pronounced in US and UK, but is apparent in many countries, both rich and poor
- Returns to education have increased, despite the reduced scarcity of educated workers
- *Within group* inequality has also increased, and seems to account for "most" of the change

Trends, cont.

- Dynamic pattern: some evidence that income paths have become more volatile (even for people without much financial asset income)
- Increase in "transitory income" inequality more pronounced than the increase in "permanent income" inequality

Types of Explanations

- SBTC: technology has changed (mostly exogenously, though there is some work on endogenous change) to favor those with higher skills; at bottom this is supply and demand, with demand changing due to underlying changes in technology
- Has a hard time with within-group, and with the transitory vs. permanent distinction

Explanations, cont.

- Globalization, e.g., easing of trade restrictions
- might explain lowering of wages in rich countries (H-O)
  - Unpopular because volume of trade hasn't changed much, and most occurs between countries that are similar anyway
  - Prices of goods imported from poor countries are not observed to fall much

Riskiness and Insecurity

- Globalization might have other effects besides inducing changes in the relative prices of different kinds of labor
- Namely, as many non-economists have argued, that it makes (economic) life riskier
- But evidence that there has been increased "churning" in the US labor market is limited; a first approximation would say no change

Summary

- Many economists tend to think that improvements in the functioning of the markets (of which globalization is one aspect) can't explain the trend because
  - There hasn't been much increase in job turnover
  - Trade volume (as fraction of GNP) hasn't changed much
  - Poor countries have also experienced increased inequality

Goal of this research

- Another approach, rather than taking the institutions of the economy (competitive markets) as fixed and chalking the trends up to changes in technology, is to ask whether there might be changes in the economic institutions themselves which might account for the trends
- Focus on private risk sharing institutions, (e.g. firms smoothing workers' wages, extended families)

What we do

- analysis of economic model that captures the idea of a risk sharing institution that works via reciprocal exchange but is embedded in a larger market economy
- Ask what happens to this institution when the market improves: to riskiness of individual income, inequality, turnover, aggregate welfare

Results

- In response to increased efficacy of market trade, model predicts:
  - Greater individual riskiness of income
  - Greater inequality in cross section (interpreted as increased within group inequality
  - Increase transitory income inequality with *no* change in permanent income inequality
  - No change in turnover (out of "jobs")
  - No increased use of the market
  - Same effects in poor and rich countries *except* in welfare

Model

- Adds to a literature that is based on two strands of economic modeling:
  - (infinitely) repeated games – for the institution of reciprocal exchange
  - (costly) search and matching – for the market

Individuals

- Large number of identical, risk-averse expected utility maximizers
- Utility of income w is $u(w)$, with $u(0) = 0$
  - For example, $u(w) = \sqrt{w}$
- Individuals live an infinite number of periods and discount the future at a constant rate δ (risk sharing will only be possible if they are patient enough)
- They care about the presented discounted value of the "stream" of expected utilities

Production

- Two individuals match in order to produce; income is zero for each period unmatched
- Total output produced is π
- Risk is introduced by assuming that the pie ends up in either one partner's possession or the other, with equal probability (independent across periods)
- Risk sharing involves the lucky partner transferring a fraction θ of the π to the unlucky partner
- Ideal situation: $\theta = 1/2$ (perfect risk sharing)

The Stage Game, or A Day in the Life

- output lands in one partner's lap or the other's
- "lucky" partner pays agreed share or may renege
- "unlucky" partner agrees to continue or dumps (in which case both enter market to search for new partners)
- Assumption: only the partners know their history, including current outcomes
- Note if there were only one (or any fixed finite number of) periods, lucky partner reneges and no risk sharing is possible

Timing

- Each period, a fixed fraction β of the partnerships break up for "exogenous" reasons
- People search for new partners, and find one with probability ϕ
- Those who find one negotiate a sharing rule that will be a "self-enforcing" agreement
- Those who don't wait in the market until next period
- Matched partners produce, share, consume

Repeated Game Strategies

- If your turn to receive:
  - dump if partner reneges
  - renew if partner ponies up
- If your turn to pony up:
  - Pony up if you have always done so in the past and your partner has too
  - Renege if ever you have reneged and partner continued

Some Algebra

- Let V = present value of being in a match
- Let W = present value of being in the market
- If pony up, get $u((1-\theta)\pi)+\delta V$
- If renege, get $u(\pi)+\delta W$
- Thus, pony up if and only if

$$u(\pi)-u((1-\theta)\pi) \le \delta(V-W)$$

temptation punishment

And a Bit More…

- Define $\bar{u}(\theta) = \frac{1}{2}u((1-\theta)\pi) + \frac{1}{2}u(\theta\pi)$

- The values V and W must satisfy the equations (in steady state)

$$V = \beta W + (1-\beta)(\bar{u}(\theta) + \delta V)$$

$$W = \phi(\bar{u}(\bar{\theta}) + \delta V) + (1-\phi)\delta W,$$

which enables one to rewrite the pony-up condition as

$$u(\pi) - u((1-\theta)\pi) \leq P(\theta, \bar{\theta}, \delta, \phi)$$

Main result so far

- The "punishment" is
  - Increasing in the share in the partnership
  - Increasing in the degree of patience
  - Decreasing in the economy-wide average share
  - Decreasing in the efficacy of the market
- What this last version of the pony-up condition equation tells us is that *the share given to the unlucky partner is decreasing in the efficacy of the market*

The Market

- Fraction of people searching σ satisfies

$$\sigma = \frac{\beta}{\phi + \beta(1-\phi)},$$

  which is decreasing in ϕ: the better the market, the fewer people are in the market looking for partners
- Note: the fraction actually matched in any period will be $1-\sigma(1-\phi)$

Effects of Globalization

- When ϕ increases,

  θ decreases ("Quality Effect")

  $1-\sigma(1-\phi)$ increases ("Quantity Effect")

Implications

- Cross sectional earnings inequality increases
  (Overall inequality somewhat ambiguous: depends on size of $\sigma(1-\phi)$)
- Individual income more volatile (increase in transitory earnings inequality)
- No extra "churning" out of jobs (still β per job)
- Market is not accessed any more often per job (or increases proportionally to increase in employment, i.e. small)
- Other (poor) countries have same effects

Welfare

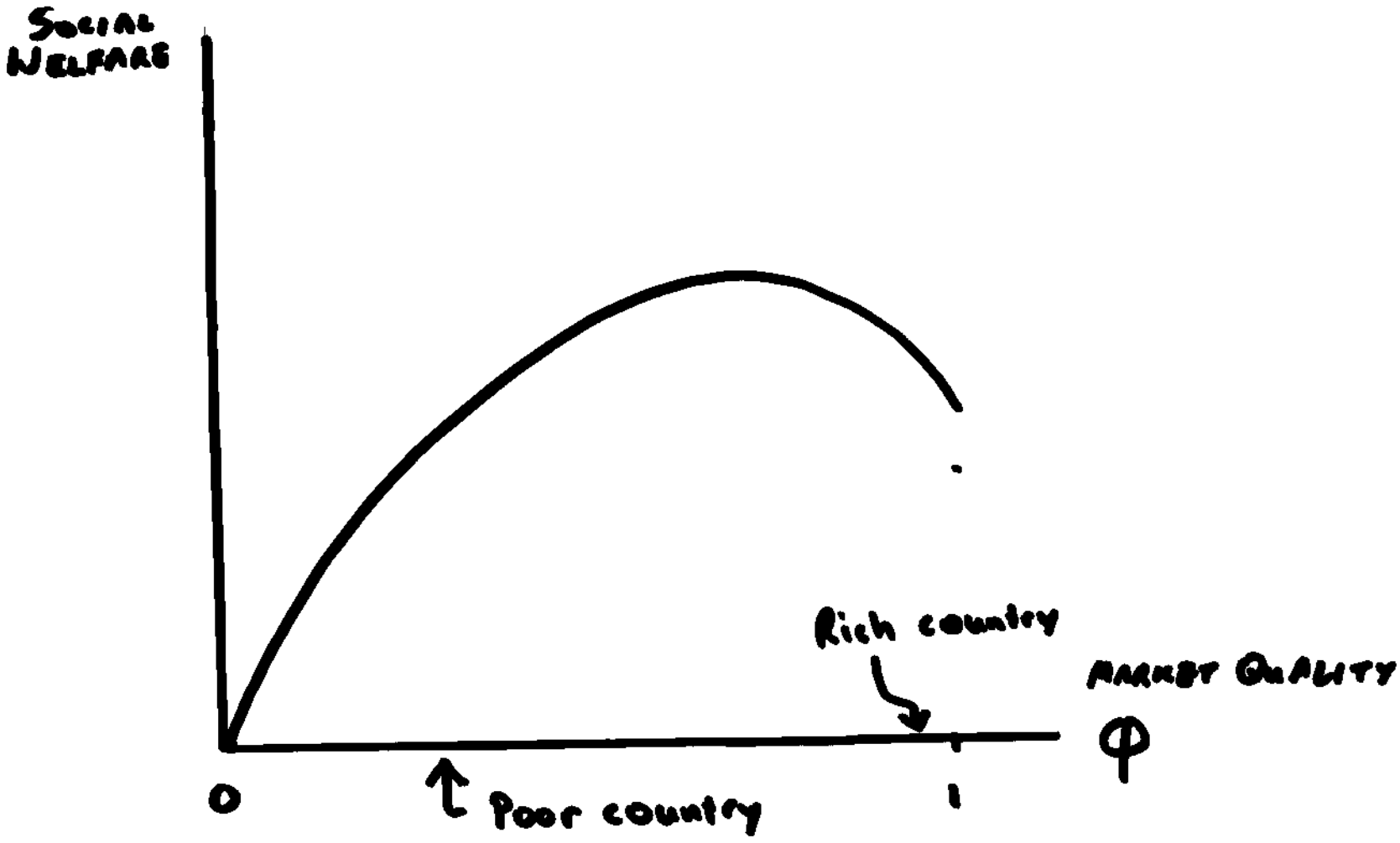
- Average expected utility can be written:

$$\sigma(1-\phi)W + (1-\sigma(1-\phi))V$$

- When market improves, W increases, V decreases, while fraction unemployed decreases
- When ϕ small, increases in ϕ result in increased welfare (quantity effect dominates); when ϕ large, increasing ϕ lowers welfare (quality effect dominates)

high φ

low φ


SOCIAL WELFARE
Rich country
MARKET QUALITY
φ
0
Poor country
1

Interpretation

- Economists interested in understanding inequality ought to pay closer attention to globalization/marketization as a source of at least some of the trends:
  - Globalization might indeed matter for inequality trends, but not for H-O reasons which in any case aren't supported by the data
  - "Evidence" against the globalization hypothesis isn't counterevidence at all. In fact it is just what one would expect from the simplest model.