1  The Facts

- In 2002, 210 million did child labor, half of them full time.

- 10% of the world’s children work full time. In central Africa, 33% of children work.

- Child labor definition = employed in the production of a good that will be sold on the market

- Examples:

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- Reaction in the industrialized countries = Ban child labor

- No international action yet

- Harkin’s Bill in the U.S.: ban the import of goods produced using child labor.

- Should child labor be banned?

  - Arguments for a ban:

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    -
- Arguments against a ban:
  - Consumer’s boycott: Nike (1991) Poll in Britain revealed that 33% had already boycotted a store because of concern for ethical standards. 60% said they were prepared to boycott in the future.
  - Company’s action Levi Strauss (1993), Wal-Mart, Sears, Reebok, Gap, Nike, Macy’s, IKEA
  - The critical elements
    - Why are children working?
    - What is the alternative to work?
    - What are the effects of a ban on the labor market equilibrium? Do a partial ban and a total ban have the same impact?

2 Model of child labor foundations (Basu and Van)

Two “axioms”

1. Luxury axiom: A family will send the children to the labor market only if the family resources from non-child labor drops very low.

2. Substitution Axiom: From a firm’s point of view, adult and child labor are substitutes. More specifically, child labor can be substituted by adult labor.

Not always true (e.g., child prostitution). Tells you when this argument is not likely to work.

Intuition of the model:
  - Suppose, to start with, that children work.
- Suppose we ban child labor, what happens to the supply of labor?
- What happens to the adult wage?
- What happens to family income?
- Do parents still need to send their children to work?

3 A simple model of child labor: analysis

Assume there are N families.
Each family has 1 adult and 1 child.
The adult always works.
Household chooses a pair \((c,e)\) where

- \(c\) is the consumption of each household member
- \(e = 1\) if child works, 0 otherwise

Preferences: parents send child to work if \(c\) drops below a certain level

- \((c,0)\) is preferred to \((c + \delta, 1)\) if \(c > s\), for any \(\delta > 0\)
- \((c + \delta, 1)\) is preferred to \((c,0)\) if \(c < s\), for any \(\delta > 0\)

- Interpretation:

Budget constraint

\[ 2c < ew_c + w_a \]

Where \(w_c\) is child wage and \(w_a\) is adult wage

Solution to household maximization problem:

- consumption if child works =
- consumption if child does not work =
- child work if \(w_A\)...
- child does not work if \(w_A\)...

3
-adult always works

This determines the labor supply of adults and children as a function of adult’s wage.

Technology:
1 child = $\gamma$ adult, with $\gamma < 1$

Effective labor supply =

-N if $w_A$....

- .... if $w_A$....

What is the children’s wage if both adults and children work?

-if $w_c > \gamma w_a$ firms employ only ....

-if $w_c < \gamma w_a$ firms employ only....

-therefore, if both children and adults work:

Draw the effective labor supply in the X axis, and adult wage on the Y axis. Show that there can be either one equilibrium where children do not work, or two equilibria, depending on the labor demand.

4 Policy analysis

-What is the role of a ban if there is only one equilibrium?

-What is the role of a ban if there are two equilibria and the economy is in the bad one?

-What would be the role of a redistribution scheme (distributing income from rich households to poor households)?

-the consequence of a partial ban = children may all move to the sector which is not banned, and thus child labor would not be eradicated.
5 Empirical analysis

- Effect of a ban: Factories Acts (1833 and 1844)
  Placed curbs on child labor. However, in the 1851 census:
  - 36% of boys aged 10-14 were working.
  - 19% of girls aged 10-14 were working.

- The effect of income redistribution: Evidence from Brazil
  - Child labor in Brazil: 16% of children age 10-14 work, including about 60% in agriculture, despite the fact that child labor is banned for children below 14 years.
  - In 1991, the government doubled the benefit of an old age pension for women above 55, and men above 60, and reduced the eligibility age from 60 to 55 for women, 65 to 60 for men in rural areas.
  - Many children (17%) live in three generation households, with their grandparents.

- Set up the difference in difference estimator
  - What is before and after?
  - Who is treated/nontreated?
  - Descriptive statistics in Table 1, for boys, Table 2 for girls.
  - What are the results?

- First stage regression: What is the dependent variable? Write down the regression-equivalent of the difference in difference.

- Second stage regression: what are the possible dependent variables? Write down the regression-equivalent of the difference in difference.

- Two stage least square regressions:
  - Instruments: Interactions male eligible*after, female eligible*after
  - Results: Table 9: 100 dollars in total benefits leads to:
    - For Boys:
    - For Girls:
-100 dollars increase in male benefits leads to:
  - For Boys:
  - For Girls:

-100 dollars increase in female benefits leads to:
  - For Boys:
  - For Girls


- Consider a good produced by children and adults (e.g., footballs)

- Imagine the demand drops.

- Effect on child and adult wage? Effect on child labor in Basu and Van model?

- Would the story be a bit more complicated if child labor was not entirely substituted with adult labor? Could the effect be ambiguous?
  
  - Income effect:
  - Price effect:

Price of Rice in Vietnam. For net rice producing household:

  Income effect:
  Price effect:

For net rice consuming households:

  Income effect:
  Price effect:

Empirically, they use one survey from 1993, one survey from 1998. Rice prices increased by 30% on average but there was variation over the region in how much it increased. Essence of the empirical approach is in figure 1. How do you interpret it?

Regressions: Effect of rice price on child labor:
$y_{ijt} = \beta_1 RP_{ijt} + CONTROLS + \lambda_j + \mu_t + \epsilon_{ijt}$

- $y_{ijt}$ is dummy equal to 1 if child $i$ in region $j$ in year $t$
- $RP_{jt}$ is rice price in region $j$ in year $t$.
- $\lambda_j$ is region fixed effects (set of region dummies).
- $\mu_t$ is time effect (dummy for 1998 survey).
- $\epsilon_{ijt}$ is the error term.

If you run this regression, you obtain the coefficient of the regression line that passes through the cloud of points in figure 1. What would be another way to obtain this number (another, equivalent regression)?

Effect of rice price on child labor, for rice producing households

$y_{ijt} = \beta_1 RP_{ijt} + \beta_2 RP_{ijt} * M_i + CONTROLS + \lambda_j + \mu_t + \epsilon_{ijt}$

$M_i$ is a dummy for whether or not the household produces rice. How should I interpret $\beta_1$? $\beta_2$?

Results: What do we find? Comments?