

Perverse Consequences of Well-Intentioned Regulation

Evidence from India's Child Labor Ban

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Child Labor in the World

- 168 million child laborers worldwide, 85 million in hazardous conditions (*ILO*, 2013)
- Child labor not a new problem, but now concentrated in developing countries
- 28 million working children in India (*UNICEF*, 2011)
 - Average 21 hours of work per week (*Child Rights and You*, 2013)

Child Labor in the World

Some debate surrounding child labor

More school drop-outs are child workers

By Pradeep Mallik

The Times of India News Service
AHMEDABAD, November 23.-

It is past sunset and Rashmi trudges along with a heavy load on his back. The 14-year-old had carried luggage the whole day at the railway station. Now he has liquor bottles in the sack, to be delivered at the den.

It is a hazardous occupation for if he is caught by the police he will not only have to part with the bottles and his earnings but also get a sound thrashing as he often does.

Elsewhere in this city, hunched on a low table, Sajeda gently lowers a wooden block on virgin cloth, presses firmly and lifts it to repeat the operation several times without a break, robot-like, until the six-metre long cloth is bordered with pears in red. In about an hour the attractive 'saree' is ready to be marketed.

Its 13-year-old creator cannot afford it, for the girl with a daily wage of Rs 20 cannot think of buying those 'sarees' just as Ramesh, who earns a mere Rs 15 a day making incense sticks cannot think of buying them.

Sajeda's colleague, Hanif's condition is even worse. For the last three years the 15-year-old boy's day has begun at 8 a.m. and ends late at night. He begins as a 'rangat' worker and after 6 p.m. doubles

as a house servant which gives him the right to live with the employer. He gets a measly sum of Rs 150 a month but has no option as his father had taken a loan from the employer.

These are but a few of the thousands of child labourers in Ahmedabad and its suburbs who break their backs for 10 to 12 hours round the year in return for a shabby present and a bleak future. Is work worship? Not for the Rashmis, Sajedas, Rameshs and others.

CHILD LABOUR

such children of a lesser god.

Be it the sparkle of your ceramic kitchenware, the glitter of the diamond ring, the comfort of the shoes and sandals. For each of these, children are losing their innocence.

Under oppressive employers, scornful colleagues and indifferent parents, children like these become easy targets of exploitation.

Economic compulsions, social customs, and illiteracy of their parents contribute to swelling the number of child workers. Child labour is cheap. Mohammad Eshad, who employs them at his unit which makes steel trunks, says, "vacancies always exist for children at units like mine. They are docile and do not question us, can be easily moulded and give

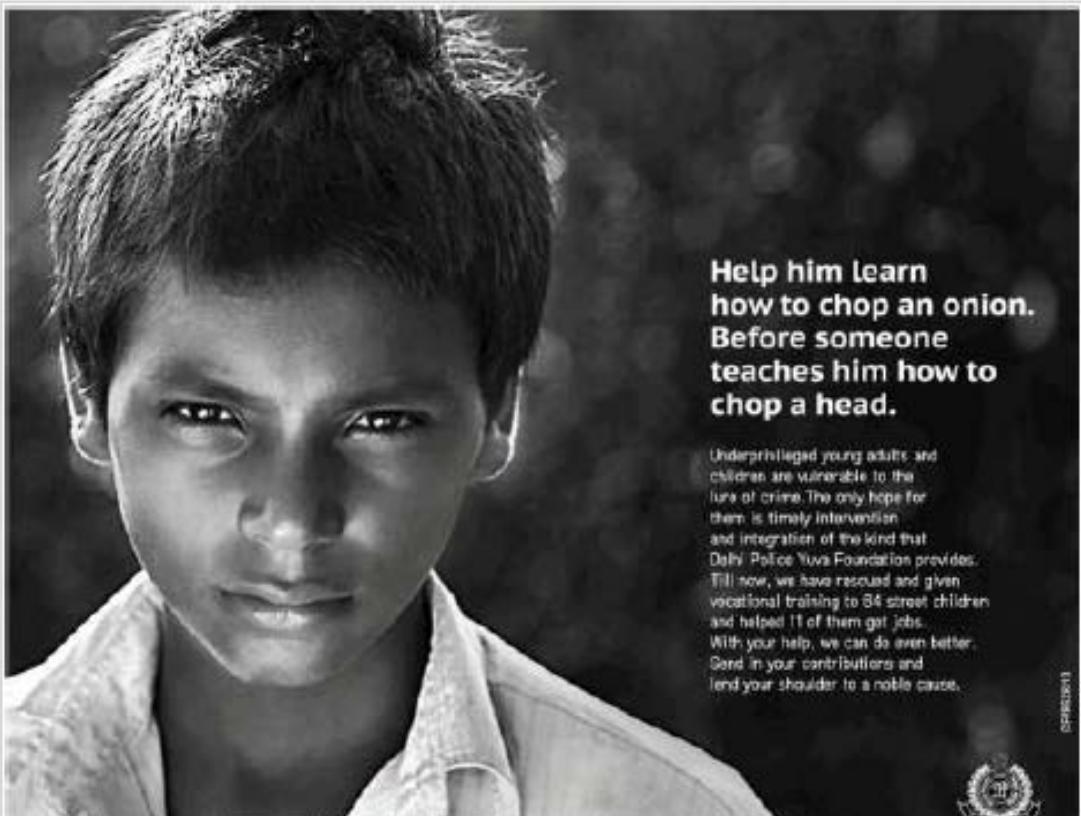
only a shade less output than adult workers. Mind you, they do so at considerably lower wages."

The state seems to have turned a blind eye to their miseries. The rules legalise low wages (80 per cent of the minimum wages payable to adult workers). At a meeting of the state labour ministers with the Prime Minister in February 1993, then Gujarat labour minister Ramsinh Parmar went on record that the state government did not want to abolish child labour.

He promised to pass a bill to bring about wage parity between adult and child workers. But it turned out to be one of those ministerial promises which are never implemented.

With the government taking little or no initiative for their rehabilitation, the incidence of child labour may continue for years to come. Coordinator for the Campaign Against Child Labour in the state Sukdev Patel, points out that the state government had made a budgetary provision of Rs 25,000.

"This", Prof Sanon says, "shows the parents' concern for 'securing' their children's future. Obviously, all of them have been brought to work by their parents. And then there is also the consideration of supplementing the family income".



Help him learn how to chop an onion. Before someone teaches him how to chop a head.

Underprivileged young adults and children are vulnerable to the lure of crime. The only hope for them is timely intervention and integration of the kind that Delhi Police Yuva Foundation provides. Till now, we have rescued and given vocational training to 84 street children and helped 11 of them get jobs. With your help, we can do even better. Send in your contributions and lend your shoulder to a noble cause.

Sukdev Patel



Delhi Police Yuva Foundation, Current Account No. 32825160408, State Bank of India, I.P. Estates, New Delhi.
All donations will be exempted from tax under section 80G (5IV) of the Income Tax Act.

Times of India,
November 1994

Times of India, July 2013

Child Labor Bans

Often used policy: child labor bans

- Minimum age restrictions for work in the US (and other now developed countries)
 - State and industry-specific laws from mid-1800s; national act in 1938
- Bans on child labor across the world
 - ILO Minimum Age Convention ratified by 166 countries (various age restrictions; does *not* currently include India)
- Bill to ban all forms of child labor has been before Indian Parliament since May 2012
 - Hundreds march in New Delhi to demand legislation in late August 2013

Child Labor Bans - Pros

“How has this progress over the last 12 years occurred? The decline in child labour has taken place against the backdrop of a sustained global movement against child labour involving a multiplicity of actors and efforts at a variety of levels ...

...including political commitment of governments, increasing number of ratifications of the ILO Convention No. 182 on the Worst Forms of Child Labour and the parallel surge of the ILO Convention No. 138 on the Minimum Age for Admission to Employment”



ILO 2013

Child Labor Bans - Cons

“...they work because they need to make some money to survive... Banning child labor without addressing poverty serves merely to eliminate a viable and currently necessary alternative for these children and their families.”

-Ranjani Iyer Mohanty
Financial Times, July 2013

"Hi Derek! My name's Little Cletus and I'm here to tell you a few things about child labor laws, ok? They're silly and outdated. Why back in the 30s, children as young as five could work as they pleased; from textile factories to iron smelts. Yippee! Hurray!"



Bans & Economics

Lots of debate in policy and academic circles, yet very little empirical evidence on effectiveness of child labor bans

- Long history of legal interventions (bans on racial and gender discrimination, child marriage, etc.)
- Unintended consequences of laws a central concern of economic analysis
- Particularly in the case of child labor bans, usually hard to make a *welfare* claim

Introduction: Model

- Impact of ban on child labor theoretically ambiguous (Basu and Van 1998, Basu 1999, Baland and Robinson 2000, Basu 2005)
- Show in a simple model that an imperfectly enforced ban can lead to *more* child labor
- Extend model to two sectors
 - Ban enforced in only one sector (manufacturing)
- With labor market frictions, ban can still lead to increased child work

Introduction: Empirics

- Major law change in 1986
 - All under 14 banned from working in “manufacturing”
- 1983, 1987, 1993 National Sample Surveys (NSS)
 - Observe only the extensive margin of labor
 - Employment surveys linked to consumption and expenditure survey
- Difference-in-difference strategy

Main Results

- Child wages decrease by more than adult wages
- Child labor increases in both sectors
 - Child is 0.8 pp (5.6%) more likely be pushed into work if sibling is age-eligible to be affected by ban
 - Effect increases to 4.6 pp (32%) if sibling is age-eligible *and* works in banned sector
 - Stronger effects for those likely to be poorer
- “Treated” children ages 10-13 less likely to be in school
- Small *decreases* (when significant) in consumption and expenditure after ban
- Results in line with two-sector extension with frictions

Child Labor Act of 1986

Child Labour Bill

It remains to be seen whether the government introduce the much touted Child Labour bill because of criticism of many of the basic features of the bill.

UNCERTAINTY looms over the draft legislation on the child labour bill now referred to the cabinet as its basics are in question in several quarters. There have always been doubts on the issue. There are those who only legitimise and practise child labour.

By USHA RAI
The Times of India News Service

Controversy around child labour bill

total population. Though there are at present 12 acts which govern the employment of children, most of these apply to the organised sector. About 90 per cent of the children, however, work in the unorganised sector and are out of the protection of law.

Though the genesis of the bill can be traced to the Gurupadaswamy Committee report on child labour in 1979, it was expected to be introduced in the present session which concludes on August 14. But there is no sign of its introduction. It is a Bangalore-based voluntary organisation called ...

Problem Of Child Labour Legislation Is Not Enough

By LOTIKA SARKAR AND CHANCHAL SARKAR

THE merry month of May seems to hold a special fascination for Union ministers of labour. It was on May 4, 1983 that Mr. Veerendra Patil, then minister of labour, made a mountain-top announcement: "We are quite clear in our minds that

THE Times of India News Service

high time the Bill on child labour soon

SIVAKASI, April 20 (PTT): The street centre would soon bring a comprehensive bill on child labour, the union minister for labour Mr. P. A. Sangma, said here today.

Isapirapu, a Rs. 13.89 crore na-

tional child labour project, he said, the government was very much concerned to involve employers in their welfare

governments, through legislation.

The child labour project is for a three-year period commencing from 1986-87.

Mr. Sangma said child labour in the country existed for "economic reasons" despite Article 24 of the constitution and about a dozen laws prohibiting it.

Children were employed in factories, hotels, carpet manufac-

ture could not be abolished in various places he said.

Government had realised that child labour could be regulated.

The hour is to bring all laws on.

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Small change

Gunvanthi Balaram on why the latest legislation on child labour is unlikely to liberate children condemned to a life of drudgery

DESPITE the fact that every 18th child in the country is a labourer, only one errant employer was booked under the Child Labour (Prohibition and Regulation) Act in Maharashtra in 1992. A building contractor was prosecuted for having a little boy slave on his construction sit in Beed. And in 1993, there are yet to be any prosecutions; this is a state that, according to the 1981 census, had 1,26,000 child labourers.

Rashtra, which has a high incidence of child labour, it took the ghastly death of eight-year-old Shiva, a kitchen-hand in an eatery in Wani, to spur the labour department into action. (Shiva, it may be recalled, was beaten to death with iron rods by the hotel proprietor about three months ago.) Investigations were carried out and 15 persons in the district have been prosecuted under the Shops' Act for employing children

Child Labor Act of 1986

- Multiple child labor laws before 1986, but only for specific jobs
 - Not coordinated across occupations
- Main draw of 1986 law: uniformity in age restriction
 - Under 14 not allowed to work in certain industries, occupations and processes
 - Ban applied to many non-agricultural jobs (transportation, mines, construction, manufacturing, etc.)

Child Labor Act of 1986

- Major caveat: no ban on agricultural work or work in household businesses
 - Act did lay out regulations for legal child labor
- Penalties
 - Imprisonment for “not less than three months” or
 - Fine of “not less than 10,000 rupees” or both
 - Harsher punishment for repeat offenders

Child Labor Act of 1986

Bangle
manufacturing in
Bihar

- Public arrests of 4 employers
- Referred to as the “beginning that has to be made somewhere”

(From the *Times of India*, January 1987)

Ultimatum on U.P. child labour

The Times of India News Service

NEW DELHI, January 16.

RECOVERY of children from locked darkrooms, shame-faced denials of their presence by their employers and prosecution of culprits which are comic strip material, featured what is claimed to be the “beginning that has to be made somewhere” in ending child labour in a hazardous industry.

Four MPs and Mr. P. A. Sangma, the labour minister, made this beginning in Ferozabad, the bangle town close to Agra where an estimated 10,000 children are employed in about 250 units.

Their ‘inspection’, for which advance notice had been given, enabled the employers to give the children a holiday (wageless perhaps) resulting in the arrest of four employers who had prepared to hide child workers in locked rooms.

minimum wages.

Each child had to move from one end of the shop floor to another over 2,000 times in most of the units in the town while working.

The child labour regulation law forbids employment of children in mines, factories and hazardous units. Bangle-making falls in the last category.

Surprisingly, the state administration which is required to enforce the law seems apathetic. The MPs were told that there were less than 50 prosecutions in a year and the maximum punishment in any proven case was a fine of Rs. 200.

Under the amended law anyone from the public can file complaints and the minimum punishment for a second offence is six months in jail.

Mr. Sangma estimates that 17 million children are employed in the organised sector. “We have to make a beginning somewhere and we started it

in Ferozabad which comes in for dis-honourable mention in any forum discussing the subject at national or international level.

The problem, as Ms. Ela Bhatt, one of the MP’s and social worker mentioned is that commitment at Central level to any progressive reform does not percolate down the line. State administrations are lax and there is resistance at the local level. This would have to be countered.

She acknowledged that the arrest of four employers for offences under the child labour law would augur well for its implementation.

The minister and the MPs had a meeting with the employers. In the face of the two-month ultimatum, they sought reprieve for six months. But they had little to say in defence of blatant violation of law, declaring a holiday when informed of the team’s visit and trying to lock the children in the darkroom.

Child Labor Act of 1986

- From 1990-1993, over 60,000 inspections turned up more than 5,000 violations at the state level (*Human Rights Watch, 1996*)
 - Yet few prosecutions
- Weak enforcement, though widespread awareness
 - Busts make national news
 - Employers circumvent law by subcontracting, claiming false familial ties, fake identities

Model: One sector

Based on Basu and Van (1998) and Basu (2005)

Set up: Firms

- Two types of labor, adult (L^A) and child (L^C)
- $L^C = \gamma L^A$ where $\gamma < 1$
- Production: $f(L^A + \gamma L^C)$
- Wages: adult wage is w , child wage $w^C = \gamma w$

Model: One sector

Set up: Households

- N households (1 adult, m children); 1 unit of labor/person
- Each adult supplies 1 unit of L^A inelastically
- "Luxury Axiom": supply child labor only if adult wage is below subsistence level, s
- When $w < s$, supply only enough child labor to reach s

$$S^C(w) = \begin{cases} 0 & \text{if } w \geq s \text{ or } w^C \leq 0 \\ \min\left\{m, \frac{s-w}{\gamma w}\right\} & \text{otherwise} \end{cases}$$

Child labor ban

Set up: Child labor ban

- For each child found employed, fine is D
- Probability of detection p
- Child wages reduce by pD
- $w^C = \gamma w - pD$
- Child labor supply now characterized by

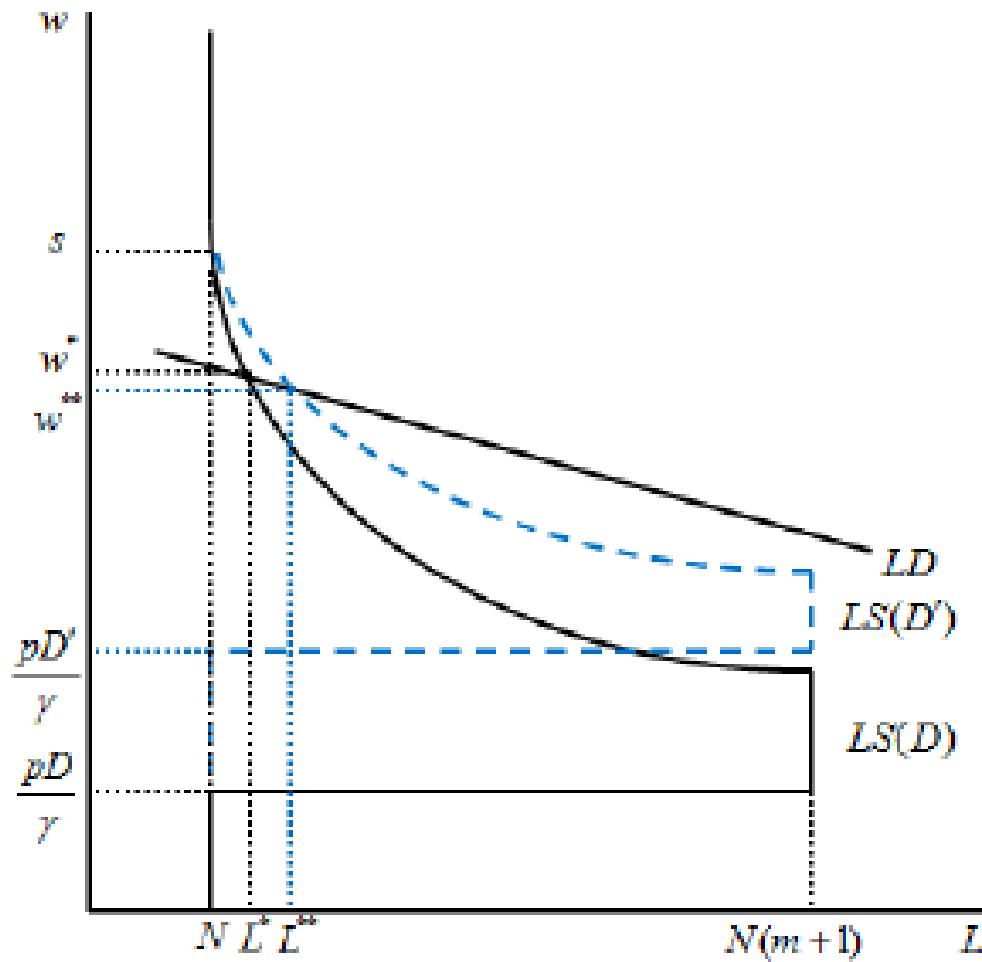
$$S^C(w) = \begin{cases} 0 & \text{if } w \geq s \text{ or } \gamma w - pD \leq 0 \\ \min\left\{m, \frac{s-w}{\gamma w - pD}\right\} & \text{otherwise} \end{cases}$$

Child labor ban

Equilibrium

- Start with an equilibrium where *both* children and adults are employed
 - ▶ $w^C = \gamma w - pD$
- Can also consider equilibria where adults and children are employed
 - ▶ $w^C > \gamma w - pD$
 - ▶ Results similar in that case, but more complicated to draw out
- What is the impact of increasing fines from D to D' ?

Impact of child labor ban



Two sectors, complete mobility

- Two sectors: manufacturing (ban), agriculture
 - Except for ban, sectors identical
- Complete wage equalization across sectors pre-ban
- Impact of ban: labor reallocation
 - Cost of hiring child labor rises in manufacturing; child wages fall
 - Children flow from manufacturing to agriculture
 - Adults flow from agriculture to manufacturing
 - No overall effect on levels of child labor (no increase or decrease)

Two sectors, no mobility

- Barriers to entry into manufacturing
 - Higher wages in manufacturing pre-ban
- Ban lowers child wages in manufacturing
- Higher levels of child labor overall
 - Though unclear in which sector or both
 - Depends on household structure, barriers to entry

Model: Summary

- Wages fall by more for children relative to adults in manufacturing
 - Wages could fall in agriculture as well, but no *relative* change
- Effects on child employment depend on the state of the labor market
 - No frictions, no effect (reallocation only)
 - Child labor could increase in both sectors if labor mobility is restricted
 - Slightly more complicated story with partial mobility

Data

- Employment surveys collected by National Sample Survey Organization (NSS)
 - Integrated by IPUMS International
- 1983, 1987, 1993 rounds
- Employment information
 - Available for ages 6+
 - Observe only the extensive margin of labor
 - Paid work observed separately from housework
 - “Agriculture” defined as agriculture, forestry and fishing
 - “Manufacturing” defined as all other industries
 - Observe linked expenditure and consumption survey

Descriptive statistics

Household characteristics	1983	1987, 1993
Family Size	6.202	5.968
HH Head is Male	0.915	0.918
HH Head Age	43.613	43.064
HH Head Completed Secondary School	0.098	0.135
HH Head is in Agriculture	0.509	0.499
HH Head is in Non-Agriculture	0.361	0.392
Urban	0.233	0.236
Number of Observations	72,276	136,510
Child characteristics	1983	1987, 1993
Age	10.934	10.985
Male	0.528	0.535
Number of Siblings Ages 7-17	1.932	1.787
Employed (1=Yes, 0=No)	0.148	0.117
In School (1=Yes, 0=No)	0.504	0.605
Weekly Real Wages (1982 Rupees, conditional)	31.34	46.34
Number of Observations	177,965	336,724

Empirical strategy: Wages

$$\begin{aligned}\log(wage)_{it} = & \gamma_0 + \gamma_1 Under14_i + \gamma_2 Post1986_t \\ & + \gamma_3 Under14_i \times Post1986_t + \gamma_X X_{it} + \delta_t + \nu_{it}\end{aligned}$$

- According to model, child wages should fall by more than adult wages in response to the ban, i.e. $\gamma_3 < 0$.
- Identifying assumption: difference in child and adult wages stable over time in absence of ban
- Caveat: wage data only available for work outside the home, so selected subsample

Results: Wages

TABLE 3. Effect of Ban on Child Wages

Dependent Variable: Log(Real Wages)				
	All Sectors Ages 6-30 (1)	All Sectors Ages 6-20 (2)	Manufacturing Ages 6-30 (3)	Agriculture Ages 6-30 (4)
Under14*Post1986	-0.100*** (0.036)	-0.038** (0.018)	-0.048** (0.023)	-0.008 (0.014)
Observations	100,394	33,038	60,257	40,137
R-squared	0.546	0.375	0.493	0.366

*** p<0.01, ** p<0.05, * p<0.1 All regressions include a dummy for Post-1986, a dummy for "Under 14" as well as controls for gender, family size, age of household head, sector dummy (agricultural or manufacturing), age fixed effects, gender of household head, urban status, survey year fixed effects, state-region fixed effects, hh type fixed effects, religion fixed effects, household head's education level fixed effects, household head's industry fixed effects. "Under 14" is a dummy variable that takes the value of 1 if the child is under 14 years of age. Sample consists of all individuals who are currently employed in paid jobs and are related to the household head. Standard errors are clustered by age-year. Real wages are nominal wages deflated by the average wholesale price index reported by the Government of India for the respective year. Sample only contains respondents with non-zero wages, trimmed at the 1% and 99% percentiles.

Empirical strategy: Labor

- Who is affected by the ban?
 - Model tells us that ban impacts income through drop in child wages
 - Families with children working in manufacturing *prior* to ban are those who should increase supply of child labor
- Without panel data, cannot tell whether working children after ban also worked before ban
 - Cannot identify households whose incomes were affected by ban
 - Can identify those *likely* to be affected by ban
 - “Reduced” form results still informative

Results: Reduced form labor

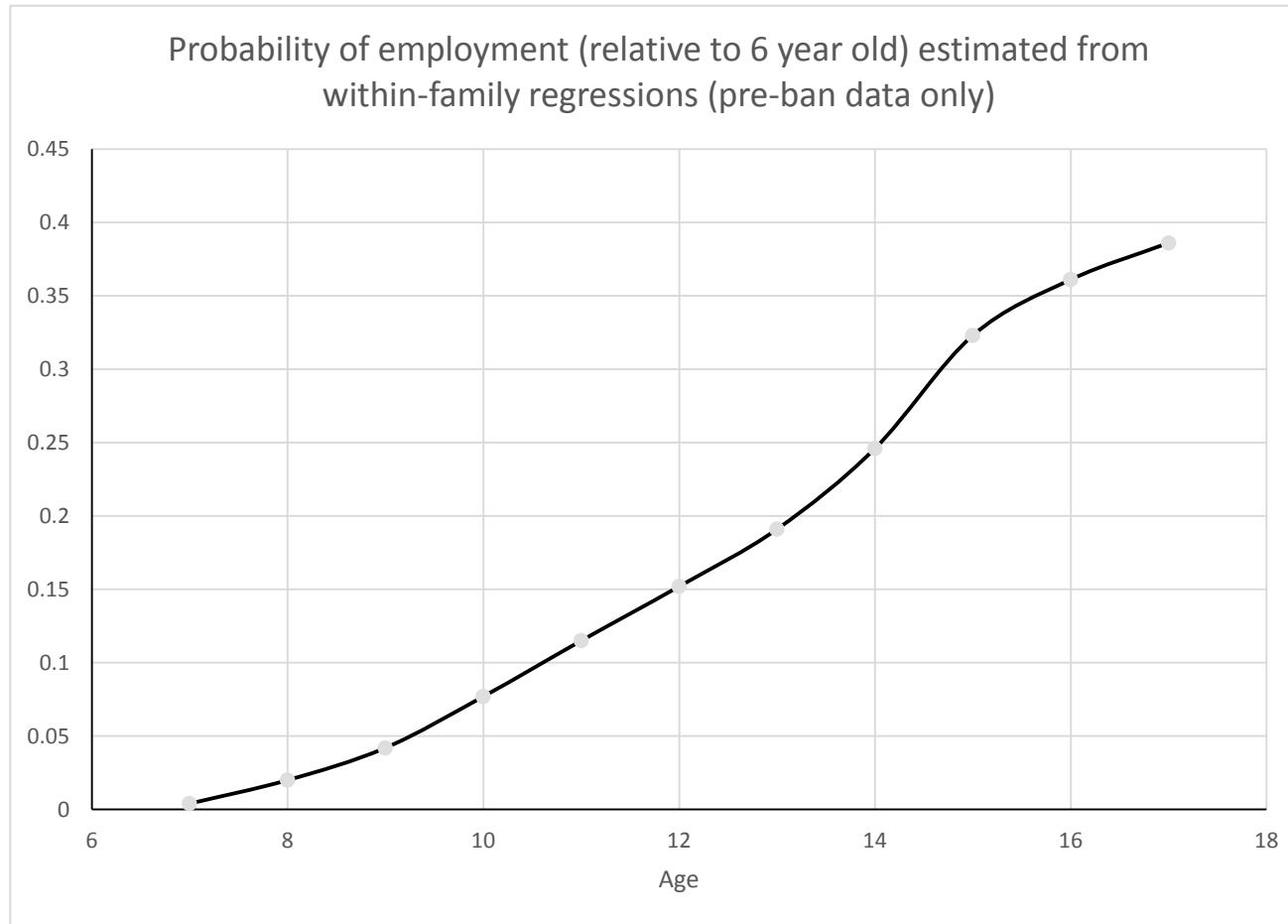
TABLE 4. Overall Effect of Child Labor Ban on Employment

	Dependent Variable: Employed					
	All Sectors		Manufacturing		Agriculture	
	Ages 6-20	Ages 10-17	Ages 6-20	Ages 10-17	Ages 6-20	Ages 10-17
	(1)	(2)	(3)	(4)	(5)	(6)
Under14*Post1986	0.019** (0.008)	0.017*** (0.005)	0.004** (0.002)	0.005*** (0.001)	0.016** (0.006)	0.013*** (0.004)
Mean of Dep. Var. (for children under 14)	0.080	0.141	0.014	0.027	0.079	0.140
Observations	644,893	332,282	643,312	331,447	0.065	0.114
R-squared	0.256	0.172	0.142	0.101	0.205	0.164

Empirical strategy: Labor

- “Treated”: at least one sibling whose age makes them *likely* to see a decrease in wages due to the ban (sibling age < 14)
 - Sample of children with siblings 0-25
- Narrow definition: at least one age-eligible sibling working in manufacturing
 - Restricted sample of children with at least one sibling in manufacturing

Employment probabilities within families



Results: Labor

TABLE 5. Sibling-based Effects of the Ban on Child Employment

	Dependent Variable: Employed (1=Yes, 0=No)				
	All Sectors			Manufacturing	Agriculture
	Ages 6-9 (1)	Ages 10-13 (2)	Ages 14-17 (3)	Ages 10-13 (4)	Ages 10-13 (5)
Treatment*Post1986	0.003*** (0.001)	0.008*** (0.003)	-0.002 (0.005)	0.006** (0.002)	0.002 (0.008)
Pre-Ban Mean of Dep. Var.	0.020	0.142	0.336	0.115	0.027
Observations	187,126	182,005	145,562	181,712	181,712
R-squared	0.025	0.098	0.180	0.104	0.045

Results: Labor by poverty

TABLE 6A. Effects of Child Labor Ban on Child Employment by Education of HH Head

	Overall Effects		Sibling-based Effects	
	HH Head Has Less Than Sec. Ed.	HH Head Has At Least Sec. Ed.	HH Head Has Less Than Sec. Ed.	HH Head Has At Least Sec. Ed.
	Ages 10-17 (1)	Ages 10-17 (2)	Ages 10-13 (3)	Ages 10-13 (4)
Treatment*Post1986	0.008 (0.006)	-0.001 (0.003)	0.008** (0.003)	-0.002 (0.003)
Pre-Ban Mean	0.154	0.017	0.155	0.017
Observations	277,663	54,619	153,145	28,860
R-squared	0.169	0.048	0.096	0.016

Results: Labor by poverty

TABLE 6B. Effects of Child Labor Ban on Child Employment by HH staple share of calories

	Overall Effects		Sibling-based Effects	
	HH Has High staple share	HH Has Low staple share	HH Has High staple share	HH Has Low staple share
	Ages 10-17 (1)	Ages 10-17 (2)	Ages 10-13 (3)	Ages 10-13 (4)
Treatment	0.016*** (0.006)	0.009 (0.006)	0.018** (0.008)	0.006* (0.003)
*Post1986				
Pre-Ban Mean	0.321	0.207	0.208	0.128
Observations	54,299	256,906	30,339	136,154
R-squared	0.211	0.167	0.137	0.092

Results: Schooling status

TABLE 7. Effect of Ban on Child Enrollment in School

	Overall Effect		Sibling-based Effect	
	Ages 10-17 (1)	Ages 6-9 (2)	Ages 10-13 (3)	Ages 14-17 (4)
Treatment*Post1986	0.004 (0.006)	-0.004 (0.005)	-0.008* (0.005)	0.010* (0.005)
Pre-Ban Mean of Dep. Var.	0.559	0.545	0.557	0.375
Observations	331,692	186,722	181,667	145,327
R-squared	0.290	0.255	0.248	0.284

Household welfare

- Employment response not necessarily indicative of household welfare decreases
- Do not observe wages of everyone
- Other ways of dealing with lower child wages – could decrease savings, assets etc
- Overall household expenditure and consumption could increase with more children working

Welfare effects

TABLE 8. Welfare Effects: Intent-to-treat effects

Dep. Var.	Treatment=At least one child aged 10-13				
	Log exp. pc (1)	Log food exp. pc (2)	Log cal. pc (3)	(1-staple share) (4)	Asset index (5)
Treatment*Post1986	-0.006* (0.003)	-0.007** (0.003)	0.004 (0.003)	-0.005*** (0.001)	-0.025** (0.012)
Pre-ban Mean of Dep. Var.	4.662	5.058	7.640	0.290	-0.986
Pre-ban S.D. of Dep. Var.	0.537	0.484	0.422	0.164	1.975
Observations	299,423	298,313	299,545	299,555	301,262
R-Squared	0.483	0.396	0.167	0.526	0.604

Robustness checks

- Falsification tests
- Economic growth/skill biased change
- Other national/state policies

Falsification: Other ages

Treatment = At least 1 HH member ages 10-14
Dependent Variable: Employed (1=Yes, 0=No)

	Ages 18-25 (1)	Ages 26-55 (2)	Ages 55+ (3)
Treatment*Post1986	-0.003 (0.004)	-0.001 (0.002)	-0.001 (0.005)
Pre-Ban Mean of Dep.			
Var.	0.530	0.650	0.380
Observations	216,922	611,785	141,331
R-squared	0.307	0.448	0.356

*** p<0.01, ** p<0.05, * p<0.1 Standard errors clustered by household.

[Return](#)

Falsification: Imposing fake age restrictions

Dep. Var.: Employment Ages 10-13				
	Baseline (1)	Underage Sibling = Under 4 (2)	Underage Sibling = Sibling Aged 15-19 (3)	Underage Sibling = Sibling Aged 20-25 (4)
Treatment	0.008*** (0.003)	-0.003 (0.004)	0.005 (0.004)	0.002 (0.004)
*Post1986				
Observations	182,005	96,325	96,325	96,325
R-squared	0.098	0.101	0.100	0.100

*** p<0.01, ** p<0.05, * p<0.1 Standard errors clustered by household.

Falsification: Post trends

TABLE 6. Post-trends in wages and employment (1987, 1993 data only)

	Overall Effects		Sibling-based Effects
	Ages 6-20 (1)	Ages 10-17 (2)	Ages 10-13 (3)
Under14*Post1987	0.024 (0.029)	-0.007 (0.005)	0.000 (0.003)
Observations	16,918	218,044	118,244
R-squared	0.242	0.164	0.087

Economic growth

TABLE A.4. Adding state-by-year fixed effects

	Overall Effects	Sibling-based Effects
	Ages 10-17 (1)	Ages 10-13 (2)
Treatment*Post1986	0.018*** (0.005)	0.007** (0.003)
State-Year FE	Yes	Yes
Observations	332,282	182,005
R-squared	0.167	0.092

Economic growth

TABLE A.5. Allowing for differential effects of state-level economic growth for children under- and over-14

	Overall Effects		Sibling-based Effects
	Wages	Employed	Employed
	Ages 6-20	Ages 10-17	Ages 10-13
Under14*Post1986	-0.059*	0.024***	0.009**
	(0.034)	(0.005)	(0.004)
Observations	33,278	330,059	180,840
R-squared	0.296	0.172	0.098

Skill biased change

TABLE A.2. Adding age by time interactions

Dependent Variable: Employed			
	Overall Effects	Sibling-based Effects	
Age*Post,	Age*Year FE	Age FE*Year FE	
Age ² *Post	Age ² *Year FE		
Ages 10-17	Ages 10-17	Ages 10-13	
(1)	(2)	(3)	
Treatment*Post1986	0.015** (0.006)	0.015*** (0.003)	0.008*** (0.003)
Observations	332,282	332,282	182,005
R-squared	0.173	0.173	0.099

Other policies

- Pertinent labor laws were passed before 1983
- Using Besley and Burgess labor classifications, only 3 states change classification during this period
- National Policy on Education, 1986

Other policies

TABLE 7. Effect of Ban on Child Employment in States with Low Operation Blackboard Intensity

	States that rank in the bottom half of states according to Operation Blackboard intensity			
	Overall Effects		Sibling-based Effects	
	Ages 10-17 (1)	Ages 6-9 (2)	Ages 10-13 (3)	Ages 14-17 (4)
Treatment*Post1986	0.014*** (0.005)	0.001 (0.001)	0.010** (0.004)	-0.010 (0.007)
Pre-Ban Mean of Dep. Var.	0.195	0.011	0.111	0.302
Observations	150,837	81,775	81,233	67,662
R-squared	0.166	0.011	0.072	0.180

Other checks

- Narrower samples
- Adding sample weights
- Flexible demographic controls
- Family level analysis
- Narrow definition of “treatment”

Summary

- Impacts of the ban
 - Child wages fall by more than adult wages
 - Child labor increases
 - Increases mainly in agriculture
 - Stronger effects for poorer households
 - Affected children also less likely to be in school
 - Consumption does not increase along any margin, if anything slight *decreases* in consumption/assets
 - Clear negative welfare implication
 - Results in line with two-sector extension with labor market frictions

Discussion

- Why didn't the 1986 ban work?
 - Policy did not address underlying cause of child labor
 - Broader theme of optimal policy in a world with weak enforcement
 - Behavior at the margin of subsistence can be qualitatively different
- Results important, considering debate on new child labor law in India
 - Many amendments to the Act over the years (mostly banning work in more occupations, raising punishments)
 - Current bill before Parliament to ban child labor in *all* sectors
 - Rights based activism
- Alternatives to bans
 - Cash transfers, increase returns to and investments in education

Robustness: family-level specifications

		Dependent Variable: Proportion of Children Working					
		Treatment = At least 1 child under 14 working in manufacturing					
		Ages 6-9	Ages 10-13	Ages 14-17	Ages 6-9	Ages 10-13	Ages 14-17
		(1)	(2)	(3)	(4)	(5)	(6)
Treatment		0.004***	0.008***	-0.010**	0.029**	0.013	0.047**
*Post1986		(0.001)	(0.003)	(0.005)	(0.012)	(0.009)	(0.021)
Mean of							
Dep. Var.		0.020	0.150	0.351	0.031	0.240	0.482
Obs.		140,725	139,301	117,700	16,903	21,953	27,513
R-squared		0.021	0.098	0.149	0.125	0.730	0.172

*** p<0.01, ** p<0.05, * p<0.1 Standard errors clustered by household.

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