

Child Labor: Lessons from the Historical Experience of Today's Industrial Economies

Jane Humphries

Child labor was more prevalent in 19th-century industrializers than it is in developing countries today. It was particularly extensive in the earliest industrializers. This pattern may be a source of optimism signaling the spread of technologies that have little use for child labor and of values that endorse the preservation and protection of childhood. Today and historically, orphaned and fatherless children and those in large families are most vulnerable. Efficient interventions to curb child labor involve fiscal transfers to these children and active policies toward street children. Changes in capitalist labor markets (including technology), family strategies, state policies, and cultural norms are examined to shed light on the causes, chronology, and consequences of child labor.

Fifty years ago it might have been assumed that just as child labor had declined in the industrial world in the late 19th and early 20th centuries, so, too, it would eventually disappear elsewhere. But child labor has not faded away (for estimates of child labor, see the International Labour Organization's LABPROJ database; for data on industrial countries, see Lavalette 1999). Endemic in today's poor countries, child labor seems to have reemerged in industrial countries as well, raising questions about its importance in national and regional economies and in family economic strategies. What have historians of today's industrial countries learned that may help answer these questions?

The first part of this article overviews the extent and settings of child labor in Western Europe and the United States in the past. Historians must rely on a quantitative record that is patchy and difficult to interpret. As a result, it may not be possible to say with confidence whether the era of proto-industry or the early factories saw the high-water mark of child labor, and the nature and time path of decline remains debated. Nonetheless, broad trends emerge that put the experience of today's poor countries into historical perspective and provide an empirical backdrop for the analysis in the second and third parts of the article, which seek to explain why child labor increased during industrialization and declined thereafter.

Jane Humphries is Reader in Economic History and Fellow of All Souls College, Oxford University. Her e-mail address is jane.humphries@all-souls.oxford.ac.uk.

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Four types of explanation are offered. The first focuses on developments within capitalist labor markets. It examines the effects of technology as well as managerial and trade union strategies on children's work. The second focuses on the parental decision to send children to work. Historical analyses discuss this decision in terms of family strategies and parent-child relations. Economic analyses focus on the possibility of divergent interests within households and the potential for agency problems with implications for underinvestment in children's human capital. Both historians and economists ask whether parents are altruistic or selfish. They seek to determine whether child labor always follows from parental egoism or whether there are conditions in which caring parents would send their children out to work. The third type of explanation relates to the legal and political stance of the state. The fourth focuses on social norms and beliefs about appropriate behavior.

I. CHILD LABOR DURING THE INDUSTRIAL REVOLUTION

How extensive was child labor in Western Europe and the United States in the past? Were children concentrated in particular jobs, or did they work in most occupations and sectors? How important were they to the industries in which they worked, and how much did they contribute to economic growth and development?

Investigating the importance of children's work involves difficult conceptual problems of defining work and determining who is a child. Measuring the extent of child labor in the past is particularly difficult because the data are often inadequate. The summary presented here supplements evidence from early censuses and industrial surveys with material from less conventional sources, such as household budgets and the memoirs and diaries of working people.

The earliest censuses in what are now industrial economies began too late to capture the extent of child labor during industrialization. They measured a phenomenon already in decline, and they undercounted child workers, especially outside child-intensive industries, such as textiles. In 1851, when the British census first recorded the occupations of young people, 97 percent of children age five to nine were without a "specified occupation"; beginning in 1881 the census no longer bothered to count working children in this age group. But by 1851 the Industrial Revolution was already more than 70 years old in Britain, and child labor had been the subject of (albeit imperfect) regulation for almost half a century. Not surprisingly, few very young workers were recorded, although children age 10–14 still often worked. The first relevant censuses in France and the United States were not conducted until the very end of the 19th century, by which point they, too, recorded few young children at work. For the era of industrialization, then, historians must rely on industrial surveys, household data, and other fragmentary evidence. What do such sources suggest?

Child labor was important in the early phases of industrialization, when large-scale production was a novelty, especially in textiles and mining. It was

particularly important to the early starters on the path of industrial progress, notably Britain, Belgium, France, the western parts of Prussia, and the United States. For these early starters the intensive use of child labor in the key sectors of the Industrial Revolution was superimposed on children's employment in proto-industry and occurred in a cultural setting predisposed to "making children useful." The reduced wage costs must have played a role in the competitiveness of the key industries in the Industrial Revolution, although no study has measured the exact contribution of child labor.

A recent survey of the evidence on industry and mining in Britain reveals astonishingly high relative employment levels of children (under age 13) and young people (age 13–18) in textiles and coal mining in the early 19th century (Tuttle 1999). Children and young people made up one- to two-thirds of all workers in many textile mills in 1833, and they regularly represented more than a quarter of the workforce in mines in 1842.

Although Britain was exceptional in the intensity of children's work, the evidence for other early industrializers shows that child labor was not uncommon. A study of French workers in 1839–43 revealed that children under the age of 16 made up 12.1 percent of the labor force (Heywood 1988). Another, albeit not necessarily comparable, inquiry for Belgium in 1843 counted 10,514 child workers, or 19.5 percent of the workforce (De Herdt 1996). Goldin and Sokoloff (1982) estimate that in the Northeastern United States, women and children made up about 40 percent of the manufacturing labor force in 1832.

Household budgets for Britain from the precensus era provide further evidence that industrialization was associated with a boom in child labor (Horrell and Humphries 1995). Though children's contributions were always important, their relative contributions and participation rates were highest in the 1820s and 1830s. According to Horrell and Humphries, more than 10 percent of 5–9-year-old children and more than 75 percent of 10–14-year-olds were in the labor force. These participation rates exceed the rates recorded in the mid-Victorian censuses (which covered all children, not just children in working class families) and those estimated for working-class mothers.

Working-class autobiographies also suggest an increase in child participation rates in Britain during industrialization (Humphries 2003b). Boys age 9–13 were more likely to work if born after 1790 than before and even more likely to work if born after 1820. In contrast, only a small proportion of five-, six-, and seven-year-olds worked in the late 18th and early 19th century. Boys age 14 and older almost always worked, both early and late in the Industrial Revolution.

Child labor was strategically crucial to the transition to factory production. Domestic industry and mining used large numbers of child workers, but it was factory jobs that witnessed the largest increase in child labor (Horrell and Humphries 1995; see also Galbi 1997).

U.S. household data for the end of the 19th century reveal the relatively high incidence of child labor among children of textile workers (Goldin and Parsons 1989). Autobiographical evidence for Britain from the precensus period also

suggests that the children of factory workers started work at relatively young ages and had relatively high participation rates (Humphries 2003a). As population and employment in the factory districts grew in the early stages of the Industrial Revolution, the absolute number of children in work and the aggregate child participation rate rose.

Child labor in the early factories in Britain was associated with the apparently large-scale and long-distance movement of pauper apprentices. These wards of the state worked in isolated water-powered mills and endured punishing work and living regimes (Dunlop and Denman 1912). The potential for abuse spurred the passing of the Health and Morals of Apprentices Act in 1802, the first legal protection afforded to child workers (Engerman 2003). Orphaned and abandoned children also figured in the early factory labor force in France (Chassagne 1986) and Japan (Saito 1996). In the United States in the 18th century, the institution of pauper apprenticeship conveyed thousands of destitute and abandoned children into the labor force, although most were destined for agriculture and trades rather than factories (Murray and Herndon 2002).

The importance of child labor in the early mills and mines should not detract from its presence in other sectors, including agriculture, miscellaneous manufacturing, and services, where it was often hidden by the familial and informal nature of employment. Europe and the United States remained primarily rural and agricultural through the 19th century, and agriculture provided most children's jobs as it did adult jobs (Sjoberg 1997). The most common first job in working-class autobiography was that of farm boy. Bird scarers, shepherds, and ploughboys were also common (Humphries 2003b; Maynes 1995). Where the family farm predominated, children's work was ubiquitous, though often hidden from census enumerators (Heywood 2001). Historians have used school attendance registers to reveal the regularity with which the sons and daughters of small farmers were withdrawn from school to help, as well as the wholesale absence of children in agricultural districts at harvest or haymaking time (Coombs and Radburn 1995). Such work was tolerated, even approved, because of its family context or seasonal duration, and a blind eye was often turned in its direction even after legal prohibition. Farm service, common across Europe, in which young people aged between 12 and 14 were sent to live and work away from home, evaded censure because of its family setting and parallels with apprenticeship. But a rosy interpretation is sometimes at odds with reported experience (Humphries 2003b). Generally, the larger, more commercial, and more capitalist the setting of children's agricultural work, the less tolerant both contemporaries and historians have been in judging it, with the gang work performed in the eastern counties of England in the mid-19th century representing the nadir (Kitteringham 1975).

In industry, too, child labor was entrenched in traditional sectors and small-scale production units as well as factories and mines. A common first job, often taken at a very young age in proto-industrial families, was winding bobbins for

hand loom weavers (Humphries 2003b). In miscellaneous manufacturing, children were important in silk, bricks, small-scale metal manufactures, garments, and footwear. In services, boys were employed running errands, delivering messages in offices, and working as monitors in schools. For girls, child-minding and domestic service remained the foremost employment in most European countries in the 19th century (Coninck-Smith, Sandin, and Schrumpf 1997). It remains unclear whether work in these more traditional jobs was less intense or harsh than work in factories or mines.

Although children's participation was not sustained at the levels characteristic of the crucible of the Industrial Revolution, child labor did not rapidly disappear, as some historians have suggested (Nardinelli 1990). Child labor was not a dinosaur, perfectly adapted to early industrial conditions but then driven rapidly to extinction when times changed.

Tuttle (1999) notes that in all British textile industries, the proportion of the workforce under age 18 was close to 50 percent for the entire period 1835–50, long after the initial phase of factory production, when rural water-driven mills relied on child paupers. Children also worked in most mines from 1800 to 1850, often representing 20–50 percent of workers. Children remained an important part of the workforce in more traditional jobs in agriculture, manufacturing, and services as well. Autobiographical evidence suggests that only the cohort born after 1850 was able to delay entry into work.

The decline of child labor began in Britain and other early starters around 1850. As with the boom in child labor, which affected young but not the youngest children disproportionately, the withdrawal of child workers was also age-specific. The youngest child workers, age five to nine, never very common in the labor force, were the first to go, disappearing from the workforce by the time modern census enumeration began. The withdrawal of children age 10–14 came later, accelerating after 1870. In 1851, 30 percent of 10–14-year-olds worked; by 1901 the figure had fallen to just 17 percent (Lavalette 1999). This withdrawal of children by age represents the first stage in the “adulthood” of the labor force, as Cunningham (2000) calls it. The systematic undercounting of child workers in the censuses of the mid-19th century means the decline may be underestimated. When the U.S. census finally counted child workers at the end of the 19th century, it found only 17 percent of 10–14-year-olds gainfully employed (Trattner 1970). The French census of 1896 found only 20 percent of children this age working (Heywood 1988). Most of the working children in this age band would have been 13 or 14. The era of extensive child labor was over.

Superimposed on the disappearance of young children from the labor force was a redistribution of older working children. By the late 19th century, children in the industrial economies no longer participated in the key industries in which they had been so important (Winstanley 1995). Children also began to withdraw from miscellaneous manufacturing industries (Schrumpf 1997). They were not involved in the newer industries developing in the early 20th century

and the interwar years. But the retreat of children from industry did not signal the death knell of child labor. For one thing, the retreat was uneven; for another children were removed to “a distinct and marginalized children’s labor market” (Cunningham 2000:409; see also Childs 1992; Solberg 1997).

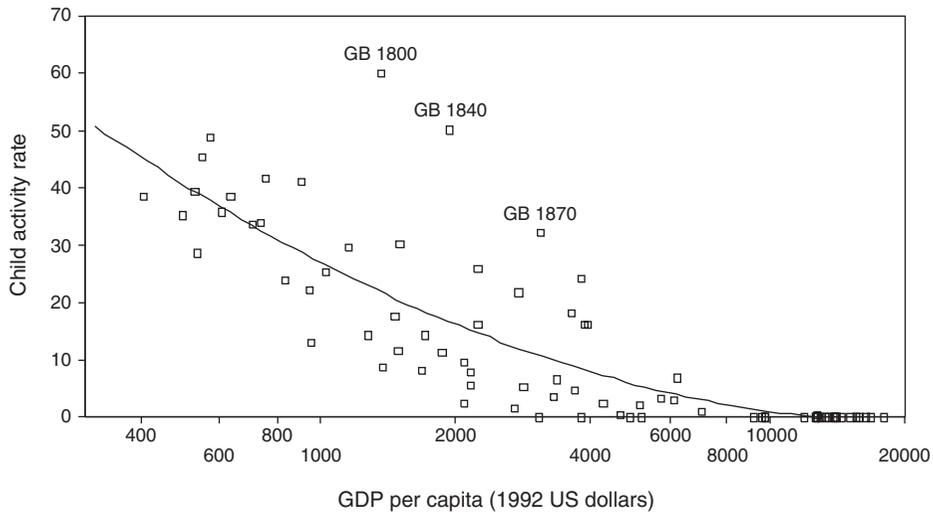
In textiles and mining in the heyday of child labor, although some children did the same work as grown-ups (as Tuttle 1999 notes), most children held distinct jobs. But they were distinct jobs within key industries. By the early 20th century, children had been excluded from such industries and were increasingly confined to the service sector and to child-only jobs. Thus by the 1911 census in Britain, more than one-quarter of employed boys under age 15 worked as messenger boys. As Cunningham (2000) notes, these jobs were not only reserved for children but also marginal to the economy (see also Childs 1992).

It is important not to overemphasize this transition. Earlier censuses had also recorded large numbers of boys in industrial service, many of whom were messengers or office boys (Booth 1886). Messenger boys were also numerous among autobiographers, representing 7 percent of an early industrial sample of 506 boys whose first job was known, the second most commonly recorded job (Humphries 2003b). But there is no doubt that this shift represents a distinct and important second stage in the adulting of the labor force and one not confined to the vanguard economies. In Norway, children worked in agriculture, tobacco, and glass manufacture in 1875; by 1912 they worked mainly as newspaper boys (Schumpf 1997). By the 20th century much of children’s work was part-time and thus not incompatible with school attendance. As half-timers in the mills, they clung on in a traditional industrial job, but most part-timers worked in the service sector, working in shops, delivering goods, and running errands.

The history of child labor illustrates the danger involved in drawing simple parallels between the industrializing economies of the 19th century and developing economies today. Once considered a paradigm case, the British Industrial Revolution now appears to be shot through with peculiarities (Crafts 1985). One such peculiarity is the extent and duration of child labor, which was greater in Britain than in any other 19th-century industrializer or indeed developing area today. Belgium, another early industrializer whose transition was also heavily based on coal and textiles, ranks a distant second (De Herdt 1996).

Historical comparisons are problematic because of the difficulties of measuring child participation and converting 19th-century income levels into 1992 U.S. dollars. Nevertheless, the gap between the level of child labor in 19th-century Britain and developing economies today is sufficiently large as to dominate the likely effects of computational errors (see figure 1, which compares historical and present-day experience). The greater use of child labor in the British case complements current reinterpretations of the Industrial Revolution as involving, at least in its early stages, an increase in labor input (“an industrious revolution”) rather than an increase in productivity (Crafts 1985; De Vries 1994). The apparent restraint shown by today’s developing economies in comparison with the first industrial nation affords grounds for guarded optimism.

FIGURE 1. Child Labor and GDP per Capita



Note: 1870 data are for boys only.

Source: Krueger (1997); historical observations based on Crafts (1985), Horrell and Humphries (1995), and Humphries (2003b).

II. EXPLAINING THE INCREASE IN CHILD LABOR

What explains the importance of child labor during the Industrial Revolution, particularly for early starters? Why was the phenomenon so widespread in Britain, the first industrial economy?

Development of the Capitalist Labor Market

The older literature, with its fixation on the employment of children in mills and mines, emphasized technology. Steam power and machinery allowed women and children to take over work that had previously required the strength and skill of men (Nardinelli 1990). Industrial technologies differed in terms of opportunities to employ children (Horrell and Humphries 1995; Goldin and Parsons 1989). For some of these technologies, child labor appeared essential. Early wooden textile machinery that had to be close to the ground may have dictated child-intensive employment (Tuttle 1999). The narrowness of underground passages in both British and Belgian thin-seam pits hindered the mechanization of transport and so maintained the demand for child drawers, who dragged the coal from the face to the surface (Humphries 1981). But the child intensity of technology cannot be taken as exogenous. As Bolin-Hort notes, “The relationship between technology and child labor was reciprocal rather than one-sided” (1989:17). Certainly some early machinery was specifically

constructed to be used by children to reduce labor costs, as the study of British patents reveals (MacLeod 1988).

The importance of child labor varied significantly across regions, even when the same technology was used (Bolin-Hort 1989). The Waltham system of textile production in New England in the mid-19th century employed young women rather than children, whereas high proportions of children worked in Lancashire. In a sample of 43 Manchester mills, 22.3 percent of the workforce was under age 14 and 32.4 percent under age 16; in 29 mills in Glasgow, 35.6 percent the workforce was under age 14 and 48.3 percent under age 16 (Bolin-Hort 1989). In Alsace in the 1820s, more than a third of mill workers were under age 16 (Heywood 2001).

Firms combined the same technology with different compositions of adults and children. In the Ghent cotton industry, the large firm of Voortmans recruited women and children (Scholliers 1996). In 1842 just 3.7 percent of Voortmans' labor force was under age 15; by 1859 that proportion had risen to 10 percent. But although Voortmans' use of child labor was exceptional for Ghent, it was modest in comparison with elsewhere. Technology was only one item in a list of important determinants of the proportion of child workers; the list included the availability of children, industrial organization, the employment strategy of manufacturers, and the strength of labor organizations representing men.

The organization of the labor process had both direct implications for the demand for child labor and indirect implications through its influence over technology, employment strategies, and labor relations. Goldin and Sokoloff (1982) argue that in the Northeastern United States, innovations such as a more elaborate division of labor, a more disciplined working environment, and a larger scale may have been just as important as technological change in creating the surge in the demand for female and child labor associated with industrialization. In Britain organizational change promoted the employment of women and children by breaking down customary age and gender divisions in the workplace and undermining the power of labor organizations to defend such customary barriers (Berg and Hudson 1992). The neglect of organizational initiatives in promoting child labor is consistent with researchers' overemphasis on factory production of textiles, for these innovations were particularly important in miscellaneous manufacturing, such as boot, shoe, glass, and paper manufacturing, where children's work has been underestimated.

Far from always following the substitution of machinery for muscle power, children's work was often the consequence of failed or incomplete mechanization. Thus the expansion of child labor in coal mining was the result of increasing output in the absence of changed transport technology. In a swathe of diffused and workshop-based industries outside the celebrated example of textile production, partial mechanization created new jobs for boys and girls. Lathes and presses, along with many simple machines, needed boys to feed them.

Manufacturers' strategies also increased child labor. The older literature documents the turning of British manufacturers to child labor in the context of the labor shortages of the Napoleonic wars (Hammond and Hammond 1925). The bellicose background of early industrialization in Europe may have contributed to the intensive use of child labor. In Britain one in 10 able-bodied men was in military service in 1794 (one in 6 by 1809); in France, Russia, and Austria probably about one in 14 prime-age men was under arms in the early 19th century (Cookson 1997). Military participation on this scale was totally new, and the effect on labor markets must have been substantial.

Manufacturers fended off government regulation of child labor by appealing to the need to keep labor costs low to compete internationally (Engerman 2003). Children's work was a necessary evil, essential to the competitive success of the key industries of the Industrial Revolution. Evaluation of the manufacturers' claim awaits counterfactual analysis of competitiveness without child labor.

Employers' strategies to reduce costs affected child employment levels. If employers had market power and children could be substituted for adults, their employment depressed adult wages. At the level of the household economy, this triggered a vicious circle, with lower adult wages increasing the need for children to work to maintain subsistence. The management of Voortmans pursued just such an employment strategy, making it effective even in a densely populated region, without recourse to paternalism (Scholliers 1996).

Labor relations also deserve mention. An older generation of historians emphasized the role that the emasculation of labor organization played in the boom in child labor. The Hammonds' (1925) chapter "The War on Trade Unions," which ends with the assertion that "the Combination Laws and the employment of children on a great scale are two aspects of the same system" (142), immediately precedes the chapters on child labor. Recent work has emphasized organized labor's resistance to the introduction of women workers and been less inclined to see trade unions as heroic. Perhaps the strategies of adult male workers should be reexamined in the light of the greater threat posed by competition from children and organized labor's inability to contain the surge in child employment (see also Cunningham 2000).

Family Strategies

Economic historians have studied the supply of child labor in the context of the household economy, analyzing the decision to send a child to work as part of a "family strategy." A family strategy involves a family acting as a single unit in the interests of all members. How these interests are identified and how possibly heterogeneous preferences are combined remains unclear. If parents do not care enough about the future welfare of their children, agency problems in human capital formation could occur within the household. In particular, selfish parents would prefer that their children work while the parents are alive and able to benefit from their children's labor. Children would overwork, and there

would be underinvestment in their health, education, and training. Intervention to influence the household allocation of child labor and lifetime consumption of parents and children would be justified. Options include bans on child labor, compulsory schooling, or educational subsidies that relax the tradeoff between the current consumption of parents and the current education and future consumption of children.

But even altruistic parents may send their children to work. If the payoff to child labor in terms of the return to the physical investment of their earnings exceeds the return to human capital, the optimal strategy would involve child labor. If parents are too poor to meet the necessary expenditures of the household and cannot borrow against the future earnings of their children, dissavings in the form of child labor may be necessary for survival. Even if the family is not so impoverished, borrowing rates that are higher than lending rates shift the tradeoff between the value of schooling and child labor in favor of work, because the family receives the income flows earlier.

Which of these scenarios holds matters, because the optimal policy intervention differs in each case. If the family is so poor that children have to work, legislation would be difficult to enforce and could reduce children's well-being. In contrast, if parents are selfish, the case for intervention must rest on there being greater private than public returns to education, and subsidies to education would be the preferred policy. The same would be true in the third scenario, in which subsidies could offset capital market imperfection.

Economists infer the altruism or selfishness of family members from outcomes in consumer goods markets. If parents are unhappy about children working, then controlling for prices, child labor should be associated with lower parental consumption. The intuition is that parents will equate the marginal utility of consumption to the marginal utility of child leisure, which is higher if children work.

Historians lack the household and consumption data needed for econometric investigation of the relationships between parents and children. A few studies have explored the links between child labor and household poverty, but the construction put on the findings depends on the assumptions. Goldin and Parsons (1989) use household data to investigate whether poor parents were altruistic toward their children in the United States in the late 19th century. They assume perfect capital markets, allowing resources to move freely across time and generations, and perfect labor markets, allowing families to move freely from one industrial center to another in response to labor and capital market conditions and parental preferences. Altruism (or costlessly enforceable intergenerational contracts) is combined with the capital and labor market assumptions in the rejected model. The negative correlation found between adult and child earnings can then be interpreted as indicating that parents were willing to accept large reductions in their own wages to secure employment in areas having abundant opportunities for child labor. The high savings out of children's earnings are held to be inconsistent with parents using child

labor to offset borrowing difficulties alone. Goldin and Parsons conclude that parents did not have strong altruistic concerns for their children.

The presence of industries with a high demand for child labor reduced the future wealth position of the offspring. Child labor had the obvious, almost definitional, negative effect on schooling attainment. At the same time the family provided little in the way of offsetting physical asset transfers (in the form of gifts and bequests) to compensate children for their lost schooling and future earnings. The increased family income was apparently absorbed in higher current family consumption. (Goldin and Parsons 1989:657).

Horrell and Humphries (1995) do not explicitly consider the issue of altruism, though their findings are suggestive. They obtained expenditure data for a subset of families in the budget data set. These families were not saving—indeed, some ran deficits, which they financed by pawning or borrowing. Several received poor relief. Spending on food and rent dominated the budgets (Horrell 1996). These families were closer to subsistence than those in the sample investigated by Goldin and Parsons, and assumptions of perfect capital markets and household mobility are implausible. Thus the finding that fathers' earnings were negatively correlated with the likelihood of participation suggests that poverty was driving child labor. However, the high participation rates of children in the relatively prosperous factory districts suggests that in some situations the desire for consumer goods played a role (Horrell and Humphries 1995).

Traditionally, historians have explored parental altruism by examining evidence on the nature of the parent–child relationship. Parents have received bad press in much of the historical literature. “The further back in history one goes, the lower the level of child care, and the more likely children are to be killed, abandoned, beaten, terrorized and sexually abused,” according to Lloyd deMause (1974:1); deMause may have been extreme in his denunciation of child-rearing in the past, but he was not alone in the 1970s and 1980s, when many historians perceived children as badly treated and parental love as fickle (Shorter 1977; Stone 1977; Badinter 1981). These historians considered the 18th century to have been an important turning point in the way in which children were perceived and treated.

Recently, historians have been less hasty to condemn parents and more careful to distinguish between practices that can be unambiguously condemned and those that are considered cruel or harmful today but were considered appropriate in the past. Pollock (1983) uses diaries and autobiographical material on parent–child relations to argue strenuously against any cultural shift or indeed the systematic ill treatment of children in the past. On the basis of working-class evidence given to various public inquiries, she concludes that parents largely did not send children to work for selfish reasons. In her view, poverty lay behind child labor.

In contrast, many observers during industrialization suggested that selfish and greedy parents sent their children to work, often instead of working themselves, using the children's earnings to buy goods such as alcohol and tobacco (for a summary of such views see Pinchbeck and Hewitt 1973; Pollock 1983; Nardinelli 1990). Of course, many of these commentators themselves

employed children or shared the background and interests of employers who used child labor. In projecting these views, they sought to exculpate themselves and their peers by shifting the blame for what was increasingly seen as a reprehensible practice.

Working-class autobiographies of the period provide rare evidence from the child's perspective. Few children supported the charge of parental exploitation, instead seeing their parents as kind and caring. What, then, did these children think forced their entry into work?

Custom and practice undoubtedly played a role. Historians have condemned parents for expecting nothing better for their children than they experienced themselves (see Pinchbeck and Hewitt 1973), thereby locking the working class into a low-skill and early work intergenerational equilibrium. But investigation of the autobiographical evidence suggests that the main determinant of children's age at starting work was the family's economic circumstances, with father's earnings crucial (Humphries 2003b). Men in trades and clerical and service occupations constituted an aristocracy of labor, earning more than unskilled workers and enjoying greater regularity of earnings. Predictably, their children were withheld from the labor market longer than those of other workers (Humphries 2003b). Other workers could not always earn enough to ensure their family's subsistence without help from their children. Recent definitive estimates of real earnings show that solid increases did not occur until after 1850 (Feinstein 1998), a finding that is consistent with the apparent maintenance of high levels of child participation well into the 19th century.

Industrialization involved the rise and fall of sectors, technological change, shifts in the location of work, and an intensification of the business cycle. Even for skilled workers, earnings did not go up without interruption, as Feinstein's (1998) data show. Many fathers experienced short-term unemployment and stagnant wages. But it was hard to distinguish a temporary situation from something more permanent and to decide on an accommodation. Responding appropriately to fluctuations was often expensive, involving migration or retraining, and it was hampered by imperfect capital markets and lack of information. A holding strategy involved putting more family members to work, finding jobs for children. When hard times persisted, stopgaps became permanent. Sending children to work became normal and widely adopted by other desperate families. The generation of children sent to work early in response to shifts in the demand for labor had less opportunity to accumulate human capital, therefore becoming less productive and so less able to support its own children. In this way, demand shocks in the labor market echoed through the generations to hold the economy at low levels of productivity and high rates of child labor. Such added-worker effects characterized the prolonged competition between hand trades and factory production, promoting and intensifying child labor (Lyons 1989; Humphries forthcoming).

Mothers were described as caring for their children, though the extent to which their love was manifest in working to help support their children varied

across Europe. Child labor may have been more extensive where married women pursued exclusively domestic roles, though children's child care responsibilities surely offset this pattern (Horrell and Humphries 1995; Cunningham 2000). Compared with French and German mothers, few British mothers appear to have contributed to family income by participating in the labor market—in contrast to their children (Horrell and Humphries 1995; Maynes 1995). This substitution of children's labor for that of their mothers was embedded in a family strategy that both responded to local economic and demographic conditions and reflected cultural values. Its potential importance in the modern world makes it deserving of more careful study.

Whether or not they worked outside the home, mothers, unlike fathers, were almost never depicted as consuming the fruits of their children's labor. The custom for children to surrender their earnings to their mothers ensured that children's earnings were recycled through the household accounts, to be spent in children's interests. How mothers weighed the claims of older and younger children and of working and dependent children remains unclear.

In a few cases, children did blame parents, in particular fathers, for contributing to their families' poverty and so to early working. Drinking was a cause of misery for many working families, and alcoholic fathers were often associated with children's early working. But children did not always see their fathers' drinking as selfish. Fathers were driven to drink by their inability to provide, the physical demands of their hard jobs, and the grimness of their working lives. Drinking was also a response to bereavement (Humphries 2003b). Alcohol has addictive and stimulant characteristics, which may explain its overpowering of fathers' altruistic intentions. These links between selfishness and drinking are consistent with evidence associating lack of altruism with stimulant and addictive goods consumed mainly by men.

Abandonment destined families for poverty (Humphries 1998; Horrell, Humphries, and Voth 2001). In contrast to drinking, it was rarely condoned. Being without a father (perhaps even a nonaltruistic father) appears to have had a large and significant effect on the age at which children started working, according to British autobiographies, advancing children's entry into the labor market by more than 15 months (Humphries 2003b).

Family size also affected family poverty and therefore child labor. Large families increased the need for children to supplement fathers' earnings. In Britain industrialization proceeded against a backdrop of historically rapid population growth and increased average family size. In 1821 children under the age of 9 made up 28 percent of the population, and young people 10–19 represented another 21 percent (Wrigley and Schofield 1981). This proportion probably increased throughout the 18th century. The pressure created by the rising dependency rate has been somewhat neglected by economic historians, but its potential as an explanation of the pattern and extent of child labor in Britain is considerable. Many boys cite the presence of large numbers of dependent siblings as having pushed them into the labor force; their impressions

appear borne out in the autobiographical evidence on age at starting work (Humphries 2003b). Britain's unusual demographic experience may well have contributed to the exceptional reliance on child labor.

The Role of the State

The state usually enters the story of child labor only as an agent in its decline. But in Britain the state by both action and inaction facilitated the boom in child labor. This is not to suggest that the state adopted a conscious strategy in support of child labor, although several apocryphal stories repeated in the classic British accounts suggest as much (Hammond and Hammond 1925; Mantoux 1927). More likely the boom in child labor was the unintended consequence of policies such as legislation weakening labor organization (the Combination Acts, the repeal of the Statute of Artificers) and the miserly treatment of the wives and children of soldiers. Most important in this context was the operation of poor relief. The Old Poor Law arguably inhibited the indiscriminate growth of child labor by occasionally subsidizing poor families with many children and channeling children into more acceptable forms of work through pauper apprenticeship. It also treated single mothers relatively generously (Snell and Millar 1987). The retreat of the Old Poor Law in the face of rising expenditures in the late 18th century and the transition to the New Poor Law, although not eliminating fiscal transfers, emphasized the conditionality of assistance on children's working with negative implications for human capital formation (Horrell, Humphries, and Voth 2001). In a world in which orphaned and fatherless children are legion, perhaps this is the most pertinent finding from the past.

Cultural Context

The idea of a change in parent-child relations in the 18th century is firmly established in the literature, with harshness in the medieval and early modern periods giving way to kinder treatment later on. Such a shift in values has intriguing implications for the historian of child labor. It suggests that countries that industrialized early, before this transition was completed, might be expected to have used child labor more intensively than countries that industrialized later.

III. EXPLAINING THE DECREASE IN CHILD LABOR

Motivated by the need to discourage child labor in the developing world, economists have looked mainly to the past to understand what caused child labor to decline.

Development of the Capitalist Labor Market

Chief among the usual suspects is technology: the demand for child labor allegedly faded as more advanced industrial technologies replaced the need for

unskilled labor of children (Goldin and Parsons 1989; Nardinelli 1990). As Cunningham observes, “It is assumed that technology has its own in built rationale and that it always acts in favor of adult and in opposition to child labor” (2000:417). But earlier technology had developed to facilitate the substitution of child for adult labor. Why should it suddenly have changed direction unless reversed by a shift in the interests of management or labor? There has to be a motive for its development and introduction.

In France in the 1840s and in some industries in Britain in the mid-19th century, employers campaigned for a reduction in child labor (Humphries 1981; Weissbach 1989; Dupree 1995). Their motives were both strategic and philanthropic. By promoting protective labor legislation, employers who had already dispensed with child labor or who had technology that obviated the need for child labor sought to gain a competitive advantage over other employers for whom child labor remained essential (Marvel 1977; Humphries 1981). Others were convinced that child labor was morally wrong (see Hammond and Hammond 1925, ch. 8) or that it was in the collective interest to develop a healthier and more educated workforce.

But an account of changes in the capitalist labor market, which deals only with employers’ strategies, is unbalanced. Managerial strategies may also have shifted toward an intensive labor process in which the strength and power of adults was needed (Cunningham 2000). Moreover, by the mid-19th century male labor had also begun to reorganize defensively within revamped institutions. An extensive literature suggests how strong trade unions, protective labor legislation, and campaigns for family wages led to the rise of the male-breadwinner family. This phenomenon is traditionally presented from a feminist perspective that focuses on the exclusion of female labor. But the timing of women’s retreat from the labor market does not coincide with the growing strength of organized labor (Creighton 1996). Reoriented to provide a political-economic explanation of the decline of child labor, male unionists’ campaign for family wages slots neatly into the chronology of adulting.

Family Strategies

Clark Nardinelli’s influential book (1990) gave family strategies a neoclassical twist. Heavily influenced by the New Household Economics, Nardinelli argued that because working families in the early 19th century had the opportunity not to send their children out to work but chose to do so, child labor must have been the best option. Ignoring the possibility of heterogeneous preferences and agency problems by assuming a unitary household, Nardinelli explained the decline of child labor in terms of families’ rational responses to changes in relative prices and incomes. Technology rendered child labor unproductive, and economic growth eventually trickled down to raise adult male earnings. Thus the boom in child labor hinged on a fortuitous coincidence of a transient technology and low adult wages. It declined when technology advanced and adult wages rose, allowing children to attend school instead of work.

The policy implications of this hypothesis are profound. According to Nardinelli, low adult wages cause child labor. There is no remedy to the problem, except to wait for economic growth, which, with Chicago School optimism, Nardinelli believes inevitable provided it is not stymied by well-meaning but inappropriate government intervention.

Nardinelli's analysis of the causes of the decline of child labor is consistent with his chronology of events, which describes a rapid decline in child labor starting before the Factory Acts and coinciding with strong growth in the real earnings of adult males. The decline in child labor, however, is disputed by evidence that children's involvement in productive activities was more extensive and more enduring than Nardinelli suggests. Moreover, Feinstein's (1998) definitive series delays sustained growth in real earnings until the mid-19th century, which is out of sync with Nardinelli's account.

A newer view fits neatly with a later and more gradual decline in children's work and with an explanation that draws on the socioeconomic construction of the male-breadwinner family in the second half of the 19th century. The growth in adult earnings in the later 19th century was not independent of the ongoing struggle—not only in capitalist labor markets but also within Parliament and the press—between opponents and proponents of child labor. This struggle was but one aspect of a campaign to defend the integrity of the working class family.

One variable that emerged as an important determinant of age at starting work that is often forgotten in stories about the decline of child labor is family size. Fertility peaked in Britain in the 1820s, but large families remained standard among some occupational groups and very common among the working class at large.

The Role of the State

An older generation of historians explained the decline of child labor almost solely in terms of the Factory Acts (Hutchins and Harrison 1903). Neoclassical economics is predisposed to deem intervention unnecessary if not mischievous. Is legislation possible only when the majority of powerful employers has already dispensed with child labor? Does it harm children by pushing them into more hazardous but less visible work and reducing family incomes?

Moehling (1999) uses a “difference-in-differences-in-differences” procedure to isolate the effects of child labor laws on children's participation by state in the United States between 1880 and 1930. Child labor fell precipitously during this period, but the decline was not driven by the legislative success of the child labor movement. The occupation rate of 13-year-olds did decline in states that enacted a minimum working age of 14, but so did the occupation rates of children not covered by the restrictions (Moehling 1999). Legal prohibitions emerge as consequences rather than causes of the decline in children's work.

In contrast, other legislation is widely agreed to have had some effect. The classic case is the 1833 Factory Act, whose impact even Nardinelli acknowledges. Cunningham (2000) provides a list of child labor laws that historians

have deemed effective, including the 1864 act that reduced children's participation in potteries (Dupree 1995), the 1872 Mines Regulation Act (Church 1986), the 1874 act in France (Weissbach 1989), and the measures taken by the National Recovery Administration in the United States in 1933 (Trattner 1970). Data from the 1960 census suggest that child labor laws and compulsory schooling increased educational attainments of children in the United States between 1915 and 1939 (Lleras-Muney 2002).

Chang (2002) scrutinized the historical record to establish the time it took for legislation to have an effect. He argues that the child labor standards demanded of the developing world require a swifter eradication of children's work than was achieved by today's industrial countries. Chang takes the industrial countries' stance on child labor as an example of his more general argument that today's wealthy countries industrialized and became rich using policies and institutions that were often the opposite of those they now thrust on developing economies. Industrial countries are attempting to kick away the ladder by which they rose to prosperity, denying poor countries the same route to the top.

Although Chang has a point, his description of historical events should not go unchallenged. First, regulation became comprehensive over a shorter time period than Chang suggests, certainly less than the centuries he cites. Second, wealthy countries industrialized at different times and made different demands on child workers, with implications for legislative progression. Third, the early starters made more extensive use of child labor, suggesting that even among the now rich countries, later entry into the race for prosperity involved different standards of acceptable conduct. Yet this did not kick away the ladder to development for Europe's late industrializers. Fourth, though some of the policies and institutions that rich countries now condemn can be linked to economic development (tariffs, for example, may have helped infant industries develop), the contribution of child workers to economic growth has not been established.

An alternative way of curbing child labor is by requiring school attendance. Unlike child labor laws, compulsory schooling does not encourage a move into unregulated and perhaps less desirable work. Case studies suggest that the desire to limit child labor was sometimes a motive for compulsory schooling (Hogan 1985). For several European and non-European countries, the decline in child labor appears correlated with the introduction of compulsory education (Weiner 1991). In Britain, for example, the decline in the participation rate of 10–14-year-olds gathered momentum after the introduction of compulsory schooling in 1870. But the importance of compulsory education has not yet been demonstrated in a study that controls for changes in other possible explanatory variables. Given the important policy implications that ride on the validity of this link, more research is needed.

School subsidies, in principle an attractive option, have not been studied historically. The popularity of charity schools is suggestive, but working-class parents' apparent preference for schools whose curriculum and setting were

under their jurisdiction over free state schools implies that they valued the right to control children's schooling (Gardner 1984). Sunday schools, an enormously important deliverer of 19th century education, pose a recurrent dilemma: how to evaluate an educational institution designed to accommodate child labor. Perhaps the considerable achievements of Sunday Schools, part-time and seasonal education, reading rooms and mutual improvement societies, ragged schools (free schools for poor children), and apprenticeships have been undervalued because of a distaste for institutions that remained wedded to children's ongoing involvement in productive activities (Silver 1977; Snell 1999).

Cultural Context

A cultural account of the decline of child labor could be built around the diffusion to the working class of the transition in parent-child relations that historians have documented for the elite (for a dissenting view, see Nardinelli 1990). More specifically, the political-economic campaigns of the later 19th century for protective labor legislation, the integrity of the family, and the family wage could themselves have influenced values and attitudes. The theory of cognitive dissonance suggests that the routine expression of ideas and beliefs is intolerable unless they are adopted. Victorian working men embraced the schooled child along with a nonworking wife as hallmarks of a desirable and respectable family life that went with (indeed required) higher adult male pay. Their wage demands became inseparable from a package of ideas about proper family structure that went to the heart of contemporary views of enlightened and civilized society. Their claim was eventually supported by groups of men from other ranks of society—employers, politicians, journalists, philanthropists—prepared to sacrifice some immediate self-interest to accommodate the diffusion of a family structure that had powerful appeal (Creighton 1999).

IV. CONCLUSIONS

Countries in which child labor is common today bear a greater resemblance to industrial countries on the eve of industrialization than to those same countries 50–100 years later, when child labor began to decline. Among 19th-century industrializers, child labor was more prevalent in early starters, and it appears to have been more prevalent in both early and late industrializers than it is in developing economies today. This difference may be a source of optimism signaling the spread of technologies that have little use for child labor and values that endorse the preservation and protection of childhood. But the historical record warns that technological and cultural developments are not independent of underlying economic conditions. Whether such technology and values can survive the impact of the AIDS epidemic, famines, and civil and regional conflicts on family structures and the supply of child labor remains to be seen.

Child labor is hard to document, let alone measure, particularly in the very sectors and jobs in which it is likely to be prevalent, namely, family farms and businesses, the informal sector, and part-time and seasonal work. Historical experience warns against focusing only on public forms of employment and assuming that as children are removed from the visible sectors they will also withdraw from the darker corners of the economy. On the other hand, historians have been too ready to assume that familial or informal employment is intrinsically more benign than work in factories. What are needed are comparative analyses of forms of child labor, which might provide criteria for a normative ranking of jobs for use in a world in which some kind of economic contribution from children is tolerated. The ways in which learning and work were combined in the past are also worth more attention.

Historians' finding that poverty was the main determinant of child labor should not be cause for resignation. Welfare-improving intervention appears possible at low incomes. Moreover, all poor children are not equally at risk. Orphaned and fatherless children and those in large families are the most vulnerable. Efficient interventions to curb child labor involve fiscal transfers to fatherless children and large families and active policies toward street children.

Historians disagree about whether it is possible to regulate the demand for child labor without harming the very children whose protection was intended. Perhaps the lesson here is that interventions must be customized to suit particular circumstances. Compulsory schooling and legislation banning child labor were successful and apparently welfare improving in some times and places but not others. The discrediting of technological determinism by historians and its replacement with more nuanced accounts of the decline in child labor also suggests the importance of close scrutiny of circumstances and context.

The documentation of the interplay of interests that over time led to the adulating of the labor force has resonance with Basu's theoretical account of a labor market with multiple equilibria, some involving child labor (Basu 1999). Policymakers can try to encourage a movement from equilibria that involve child labor to those that do not. The effectiveness of such policies depends on understanding the institutional configuration of the labor market, including how child labor fits into family strategies—that are themselves embedded in historically and culturally determined ideas about mothers' and fathers' roles—and evolving relations among employers, workers, and the state.

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