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Child labor and the minimum wage: Evidence from India☆

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ABSTRACT

This study examines how changes in the minimum wage affect child labor in India. The analysis uses repeated cross sections of India's NSSO employment data from 1983 to 2008 merged with data on state-level minimum wage rates. Theoretically, the impact of the minimum wage on child work could go either way, so empirical evidence from a country with high rates of child labor and a myriad of minimum wage laws across states and industries helps to lessen the ambiguity. Results indicate that regardless of gender, in urban areas, a higher minimum wage reduces child labor in household work. In rural areas a similar result applies for girls while household labor does rise for boys. The minimum wage has virtually no impact on child work outside of the home across urban and rural areas.

1. Introduction

The past quarter century has seen a surge in scholarly interest in the impact of minimum wage legislation on employment and wages across countries. Results across these studies have varied, with some reporting large negative employment effects at one end of the spectrum and others finding small positive effects on employment.[1] In an effort to synthesize this large body of work, Belman and Wolfson (2014) conducted a meta-analysis of numerous industrialized country studies and concluded that minimum wage increases may lead to a very small disemployment effect: raising the minimum wage by 10% can cause employment to fall by about 0.03 to 0.6%, with the majority of the underlying estimates being statistically insignificant and close to zero in magnitude. In developing countries the conclusions are similar: employment effects are usually close to zero or slightly negative. Minimum wage impacts in less developed countries vary considerably not only because of labor market dynamics, but also because of inadequate enforcement and the presence of large informal sectors.

Virtually all of the previous work on the minimum wage has focused on individuals of prime working age, usually defined as ages 15 to 65. However, to the best of our knowledge, no previous empirical study has estimated the impact of minimum wages on child labor.[2] Theoretically, the implementation of minimum wage policies is likely to affect child labor but the direction of this change can go either way, especially if unpaid domestic work is added to the definition of employment. This classification of child work is

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[1] This literature is carefully reviewed in Card and Krueger (1995) and Neumark *et al.* (2014).

[2] As discussed in Dessing (2004), data constraints are the main reason behind this lack of empirical work on the minimum wage and child labor.

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consistent with the convention in a number of child labor studies distinguishing between "work" and "home care" (Basu, 1999). In the theoretical model developed in Basu (2000), parents are assumed to be altruistic and want their children to attend school.[3] Parents are motivated to send their children to work if they are poverty-stricken and cannot afford to provide their family with a necessary level of consumption. When adult wages rise from very low levels, parents have more funds to support the household and can afford to let their children attend school. Hence in regions marked by poverty and low wages, an increase in the adult minimum wage can cause a decline in child work. However, it is possible that a minimum wage increase could draw more adults into the labor market, resulting in the substitution of child work for adult labor, especially in domestic work within the home (Basu, 1999). Hence a priori, raising adult wages through minimum wage legislation has an ambiguous effect on child labor. New evidence from a country with a relatively high incidence of child labor helps to lessen this ambiguity.

Within this broad context, our objective is to study the association between India's minimum wages and the employment of children. India has the unenviable distinction of having the largest number of child workers in South Asia, a region of the world which includes Bangladesh, Nepal, Sri Lanka, and Pakistan, where child labor levels are already very high. Statistics from 2011 indicate that about 28 million children ages 5–14 are employed in India (UNICEF 2011). Further estimates suggest that the incidence of child labor is higher for girls than boys in rural areas. Poverty, restricted access to credit, lack of education and skills, low rates of return to education, negative shocks to household income and earnings, and widespread adult unemployment are the various reasons for why child labor persists in India and other developing countries (Grootaert and Kanbur, 1995; Basu and Tzannatos, 2003). Understanding how the minimum wage for adults contributes to or helps to lessen these problems thus has policy relevance within and beyond India, especially for other countries in Asia such as China and South Asian neighbors such as Pakistan and Nepal. Although economic development has mitigated some of the important factors that drive child work in China, continued economic vulnerability and young populations continue to fuel children's labor in Pakistan and Nepal.

India is an interesting country for this study as there is wide variation in minimum wages – India has more than 1000 different minimum wage rates across the country in any given year. This large number of rates arises from a legal framework in which India's state governments have historically enacted their own labor legislation, including minimum wage rates that vary by age (adolescents and adults), skill level, and by detailed job categories in both the formal and informal sectors. India's restrictive labor market regulations have had adverse impacts on productivity, investment and employment in both the manufacturing and retail sectors (Besley and Burgess, 2004; Amin, 2009). Although the wide degree of variation in minimum wage rates is a goldmine in terms of research opportunities, the variation and complexity have hindered compliance relative to a simpler system with a single minimum wage set at the national or state level (Rani et al., 2013; Belser and Rani, 2011).

This paper contributes to a growing body of empirical work on the relationship between child labor and measures of human capital, household wealth, household income, and economic shocks. As noted above, the theoretical implications of increasing the minimum wage (and thereby securing household income) on measures of child work are ambiguous. This ambiguity is reflected in the empirical papers that consider the determinants of child labor. For example, Bacolod and Ranjan (2008) found that children are less likely to work if they have higher measures of ability and cognitive development and live in households with greater wealth; and several studies have found that a higher market wage for low-earning, low-skilled adults is associated with a decreased likelihood that children will work (e.g. Ray, 2000; Wahba, 2006). Changes in the macroeconomic environment can also affect child labor. For example, positive income effects for the poor generated by Indonesia's trade liberalization are associated with a decline in child labor, as are increases in household expenditures during Vietnam's rapid economic growth during the 1990s (Kis-Katos and Sparrow, 2011; Edmonds, 2005). Closely related, Edmonds (2006) demonstrated that in South Africa, hours worked by children decline when the elderly become eligible for pension income transfers. Moreover Dimova et al. (2015) found that households are less likely to send their children to work if they experience out-migration, own a business, or receive income transfers in the form of remittances. A rise in income through a cash transfer program was also shown to delay the labor-force entry of young children enrolled in school among low-income households in Ecuador (Edmonds and Schady, 2012).

However, reflecting the uncertainty predicted by theory, income transfers have not consistently been shown to reduce child labor. In the case of Brazil, the well-known conditional cash transfer program *Bolsa Escola* appears to have improved school attendance but did not reduce child labor supply, most likely because the cash transfers were too small for children to forego work so children combined schooling with paid work (Cardoso and Souza, 2004). There is evidence that working at the same time as attending school has negative impacts on proficiency test scores used as a benchmark of learning (Emerson et al., 2017). Further, not all types of assets and economic shocks are necessarily conducive to reducing the incidence of child labor. Children in land-rich households may be more likely to work than children in land-poor households, especially in the face of credit market imperfections (Bhalotra and Heady, 2003; Basu et al., 2010). Moreover, Beegle et al. (2006) showed that transitory negative shocks to household income in the form of disruptions to farm production contribute to an increase in child labor, but households with assets can offset most of the shock. A similar result is found in Soares et al. (2012) where transitory increases in local economic activity in Brazil's coffee producing regions raise the opportunity cost of children's time, while child labor declines with greater permanent household income and wealth. Relatedly, Bharadwaj et al. (2013) estimated the effectiveness of India's 1986 national ban on child labor and found that this act had the perverse effect of increasing child labor because children's wages fell and poor households needed to use more of their children's labor to meet subsistence needs. Hence the empirical literature on child labor and household income is in keeping with the inconclusive nature of the predictions from theory.

[3] The model in Basu (2000), which emphasizes how child labor responds in equilibrium to the minimum wage for adults, follows closely from the model in Basu and Van (1998), which focuses on the equilibrium effects of banning child labor.