TRADE, CHILD LABOR, AND SCHOOLING IN POOR COUNTRIES

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An increase in international trade affects poor children in low income economies by changing relative prices and altering living standards. The purpose of this note is to review the existing evidence on how trade influences child time allocation including child labor and schooling.

Trade's effect on the living standards of the poor is generally found to be the dominant channel through which trade influences child time allocation and schooling. Trade can influence the living standards of the poor by changing consumption prices and through altering labor and family asset income. It is this later channel, changes in labor and asset incomes, that researchers have highlighted as the primary pathway through which trade changes child time allocation.

Relative price changes could be important for the link between trade and child labor. This essay reviews the potential ways trade influences child labor through relative price changes and discusses why there is little evidence of these channels operating in empirical research. It is useful to distinguish between direct channels - trade changes child labor demand - and indirect pathways, where changes in child time allocation result as a collateral consequence of trade's impact on the overall economy. The direct effects occur when trade directly impacts production and thereby labor demand in the traded sector. Direct effects can alter the types of employment opportunities available to children or the child's potential economic contribution from working which this essay will refer to as the child's wage even though few children work for wages. Indirect effects occur when trade affects sectors beyond that in which there is trade, perhaps through inputs, or when trade has important general equilibrium effects. These indirect effects can also alter wages and employment opportunities. Other important indirect effects might come from perceptions of changes in returns to education or by influencing occupational choice. Through impacting consumer prices, trade can alter the implicit cost of leisure. Despite many possible channels, there is very little evidence supporting any connection between trade and child time allocation other than through the impact of trade on the living standards of the very poor.

This observation of the primacy of the living standard of the poor is for two reasons. First, among the poor, the standard of living is one of the most important determinants of child time allocation. Second, children are rarely engaged in work that will be easily connected to international trade. Children in poor countries mostly work in agriculture. Outside of agriculture, children are not intensively involved in traded sectors in general, and within manufacturing, firms involved in trade tend to be relatively more skill intensive. Hence, the direct effects of trade on child labor through wages paid in the traded sector, for example, will be minimal. Part of the reason for the lack of evidence of trade influencing child time

allocation through factors related to labor demand or returns to education owes to the problem of identifying the indirect and diffuse effects of trade. Most studies of the impact of trade on child labor and schooling exploit some within country heterogeneity in direct exposure to trade. The diffuse impact of trade, even if substantive, will not necessarily be correlated with direct exposure. Such studies are poorly designed to measure the collateral effects of changes in the economy from trade.

The next section discusses how children work in poor economies and reviews the evidence we have on a direct connection between trade and the employment opportunities available to children. The subsequent section considers the evidence on how and whether trade might influence child time allocation indirectly. The third section reviews the evidence on the impact of trade working through the living standards of the poor. The final section considers priorities for future research.

1. Most working children are not in jobs that are directly connected to trade other than in agriculture

There is little evidence of a direct impact of trade on child labor or schooling working through changes in the employment opportunities available to children under 15. This is because most working children in poor economies are not involved directly in international trade. Most children work outside of traded sectors or in non-traded subsectors of traded sectors. When they work in traded sectors, typically they are not engaged in enterprises that export. There are many important exceptions to these generalities, and this section concludes with a discussion of some of the most infamous exceptions.

The industrial composition of child employment does not lend itself to a direct connection between trade and child time allocation. Table One provides nine examples of the industrial composition of child employment from low income countries. All of the countries in the table have a GDP per capita in 2005 that is below $5000 (PPP, international $). The countries have been selected, because they have detailed, nationally representative surveys that allow us to examine the industrial composition of employment (economic activity) for children 5-14. The countries differ in how important trade is in their economies (from Cambodia to Brazil) and the prevalence of economically active children (from Ethiopia to Honduras). In all nine countries, the majority of working children are in agriculture. Wholesale and retail trade, a service sector, is the next most important sector for child employment in all countries but Kenya where working as a domestic in private household is more prevalent. Manufacturing draws the most academic attention in empirical trade studies and the policy debate. Less than 1 in 10 working children participate in the manufacturing sector in all nine of the listed countries.

Even within traded sectors, children are often in the non-traded parts of the sector. For example, 82 percent of employed Kenyan children are in agriculture (Table One), but the Kenyan Central Bureau of Statistics (2001) reports that 1.5 children are in subsistence agriculture for every child engaged in market oriented agriculture. Bangladesh is another interesting example because of the unique detail available about type of industry and occupation (Edmonds 2008). 55 percent of children under 18 are engaged in Agriculture (Central Bureau of Statistics 2003). 71 percent of these youths employed in agriculture work in the cereal sector. Bangladesh imports less than 5 percent of its cereal consumption

(Dorosh 2009). Among the other agriculture sectors that are important employers of Bangladeshi children are vegetable farming (5 percent of working children) and poultry farming (4 percent of working children). Neither sector is a substantive source of imports or exports for Bangladesh. Overall, child workers are typically outside of the formal cash economy. This is evident in Table One where only fewer than 1 in 5 children work for wages in every country listed except the Philippines and Brazil. Eric Edmonds and Nina Pavcnik (2005a) tabulate data from 36 poor countries representing 124 million children and observe that 2.4 percent of children 5-14 work in paid employment. 20.8 percent are unpaid, working in their family farm or business.

Most studies of who exports focus on manufacturing (where child employment is rare to begin with), but those studies typically document that exporting firms and firms that use imported imports employ more skilled workers (see Wagner 2007 for a review of 54 studies). Explanations for this phenomenon come from studies that attempt to understand why growing trade in developing countries seems to be associated with greater demand for skilled labor. Two popular explanations imply that trading firms will have relatively more educated workers. First, compositional changes within industries may favor more skilled labor intensive producers (e.g. Verhoogen 2008). For example, exports may require a more uniform, high quality product that requires skilled labor to produce. Second, imported intermediate goods and FDI may be complementary to skilled-labor (see Feenstra and Hanson 1996). Thus, at least for exports, children are not likely to be directly involved in exports even when they are involved in export sectors.

The implication of this discussion is that children should not be more likely to work in countries that trade more. This is evident in Figure One. Figure One plots economic activity rates for children 5 to 14 against the importance of trade in the economy, measured by openness (trade – exports plus imports – as a share of GDP).[1] The economic activity rates in this figure are all taken from nationally representative households surveys and reported on the Understanding Children's Work website (http://www.ucw-project.org/).[2] These surveys are conducted in different years. Each survey year has been assigned its country's openness from the World Development Indicators for that year. The modal year of the data is 2005, but survey years range from 1996 to 2007.

There is not any obvious relationship between openness and economic activity rates of children.[3] Sudan and Vietnam have similar economic activity rates for children but differ greatly in the import of

[1] Pictured economic activity rates are 5-14 for all countries except Morocco, Bolivia, and Guatemala (all 7-14) and Kenya, India, Namibia, Peru, Columbia, and Turkey (all 6-14).

[2] All tabulations based on the Understanding Children's Work data use data for all countries available as of May 2009 that include economic activity rates for children under 10. The set of possible countries are: : Angola, Argentina, Azerbaijan, Bangladesh, Belarus, Belize, Benin, Bolivia, Brazil, Burkina Faso, Burundi, Cambodia, Chile, Colombia, Costa Rica, Cote d'Ivoire, Ecuador, El Salvador, Ethiopia, Ghana, Guatemala, Honduras, India, Indonesia, Jamaica, Kenya, Lesotho, Liberia, Macedonia FYR, Madagascar, Malawi, Mali, Moldova, Mongolia, Montenegro, Morocco, Namibia, Nepal, Nicaragua, Niger, Peru, Philippines, Romania, Rwanda, Sao Tome and Principe, Senegal, Serbia, Sierra Leone, Somalia, Sri Lanka, Sudan, Swaziland, Syrian Arab Republic, Tajikistan, Tanzania, Thailand, Togo, Trinidad and Tobago, Turkey, Uganda, Ukraine, Uzbekistan, Vietnam, Yemen Rep., Zambia, and Zimbabwe . Countries with missing openness information in the World Development Indicators for the survey year of the economic activity data are not included in Figure One.

[3] Edmonds and Pavcnik (2006a) present a similar picture using different data. They plot economic activity rates for children 10-14 from the ILO's ILOSTAT database in 2000 against openness from Penn World Tables. The ILOSTAT

trade to their economies. A regression of economic activity rates on openness leads to a coefficient that is small and not statistically significant with an R2 of 0.01.

Children participate in a variety of different activities across countries (e.g. Table 1). It is possible that this heterogeneity masks the fact that the types of economic activity differ fundamentally with trade. To examine this, Figure Two plots participation rates in wage employment (from the same Understanding Children's Work database) against the same measure of exposure to trade.

The incidence of wage employment appears uncorrelated with the importance of trade in the economy. Trade is similarly important in the Tanzanian and Indian economies, but wage work is nearly five times more prevalent in India. A regression of wage work participation rates on openness leads to a coefficient that is small and not statistically significant with an R2 of 0.01.

The lack of an association between trade and child time allocation in the aggregate is not just a feature of work. Schooling also seems unrelated to the importance of trade in the country's economy. Figure Three plots net primary school enrolment rates from the World Development Indicators against openness for the same year of data used in Figures One and Two (for comparability).

Figure Three shows the data do not reject the hypothesis that trade is uncorrelated with net primary school enrollment. In fact, a regression of enrollment rates on openness yields a regression with an R2 that is 0.0006 with a small and insignificant coefficient. While Figure 3 Is limited to countries pictured in Figures 1 and 2, the lack of an association is not just a facet of the country selection as a similar picture emerges in the full World Development Indicators country list.

This observation that the importance of trade an economy appears uncorrelated with child time allocation is consistent with the hypothesis that children work outside of export and import competing sectors. However, child time allocation is correlated with the total quantity of trade in an economy. Figure Four plots economic activity rates against the log of total trade in the country – year. This differs from Figure One in that it does not scale trade by GDP.

Children work less in countries that trade more. In fact 15 percent of the cross-country variation in economic activity rates can be explained by the volume of trade. A line fit to the data in Figure Four implies an elasticity of -0.14. A doubling of trade is associated with a 14 percent reduction in economic activity on average across countries. This observation that children work less in countries that trade more is true if one considers exports or imports alone, manufacturing trade, or agricultural trade. The reason for this robust, negative correlation between economic activity and the volume of trade is that countries that trade more are richer and richer countries have fewer working children.

While children are not involved in trade or traded sectors in general, there are exceptions. Any country with large exports of staple crops have the potential to have large scale involvement of child labor in

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database no longer publishes economic activity rates for children 10-14. . The ILOSTAT data includes many countries for which there are no known nationally representative household surveys that would permit the estimation of economic activity rates of children. Hence, the figures differ in time period covered, age range, data source, and openness measure.

exports. However, academic studies identifying large scale participation of children in export or import competing crops are rare. The public policy debate and popular discourse is filled with examples where children have been directly involved in the production of exported goods. Some of the more prominent recent examples are:

- Uzbekistan is the third largest exporter of cotton in the world in 2008, and there appears to be forced child labor in its cotton exports. News reports assert that as many as 450,000 children were forced, with the help of police and government officials including school teachers, from schools to harvest cotton with little or no compensation (e.g. BBC Two, October 10, 2007).
- West Africa (especially Cote d'Ivoire) accounts for 70 percent of world cocoa production, and there are many reports of forced child labor, trafficking, and abuse on cocoa farms (Salaam-Blyther et al 2005). Estimates of the number of children involved can be as high as 300,000 with approximately 200,000 in Cote d'Ivoire alone.
- Handmade carpets are a traditional craft in South Asia, but the boom in the 1990s of exports to the U.S. and Europe may have lead to increased child involvement in the sector. As many as 300,000 children are reported to be involved in the export sector in India, Nepal, and Pakistan, and there are accounts of trafficking of children as young as 4, bondage, and abuse.

These are a few examples. There are many others. However, these specific examples are difficult to isolate and identify in empirical work that focuses on population averages rather than specific cases. The 200,000 children in cocoa farms in Cote d'Ivoire are less than 7 percent of economically active children in Cote d'Ivoire. The 300,000 children in the carpet sector in the Indian subcontinent is small compared to the 8.4 million economically active children 10-14 in India alone. Job specific studies may be able to identify an impact of trade on some types of child employment, but the more specific the study focus, the more difficult to know what children would be doing absent their involvement in that specific export job. Hence, focusing on specific types of employment creates a whole new set of inference problems.

When we start to focus on older youths and young adults, employment in formal sector work and export oriented manufacture becomes more prevalent. Hence, the possibility of finding an impact of trade on the time allocation of older youths is plausible. David Atkin (2009) notes that export sector jobs payer higher wages than non-export sector jobs in Mexico. He shows that the growth in export sector jobs between 1986 and 2000 induced youths to leave school earlier than they would had if the jobs never existed. These export jobs pay more initially but offer a flatter growth profile than these youths would have had if the export jobs had not come, if the students then stayed in school , accumulated more education, and entered other formal jobs His magnitudes are large. For every 10 new jobs created, he finds that one student drops out of school at grade 9 rather than grade 12..

In general, children under 15 are not working directly in trade or traded sectors. Hence, there is little evidence of a direct effect of changes in employment opportunities associated with trade on child labor or schooling, although there is some recent evidence of an impact of trade on youths over 14 in Mexico. There are certainly some sectors where children are involved in export or import competing tasks, these sectors are sufficiently narrow that they are difficult to capture with nationally representative or

aggregate data. More narrow studies are feasible, but are largely absent from existing research because of the problem of drawing inference on extremely unique populations.

2. Indirect effects of trade on child employment opportunities can be important

The indirect effects of trade on relative prices can be very important. A large literature in trade debates the relative important of trade's influence on firm size, market structure, firm productivity, input choice, technology, and factor, especially skill, intensity and thereby inequality and returns to education. Diffuse and general equilibrium effects are notoriously difficult to identify in the data. However, there are several papers that point to a role for indirect effects of trade on child labor and schooling.

One study in Brazil suggests an important role for indirect effect of trade even though it does not identify how the indirect effect is working. Diana Kruger (2007) compares changes in child labor and schooling in Northeast Brazil during a coffee boom to areas that do not export coffee. Her study is intruiging, because children are not generally involved in coffee cultivation in Brazil. Thus, her study is comparing the localized, indirect effects of changes in the value of Brazil's coffee exports to changes that occur elsewhere in Brazil.

Krueger finds that children work more and go to school less when the value of coffee exports is temporarily high. Her interpretation is that the transitory positive shock to the value of labor's output induces families to take advantage of higher wages in the local labor market while they are high. In fact, she supposes, it is precisely the transitory nature of the price effects that are important for her results. Permanent income is largely unchanged by a transitory rise in coffee prices, so families seek to take advantage of the transitory opportunity while it can.

There is also some evidence that trade might affect child time allocation through increase opportunities for specialization. Edmonds and Pavcnik (2005b) look at how child labor in Vietnam was impacted by its liberalization of rice trade. Edmonds and Pavcnik (2006b) show that part of the effect of growing rice trade in Vietnam was increased household specialization. Increased rice exports from rural Vietnam brought cheaper consumption goods in return that could substitute for goods previously produced by the household. Edmonds and Pavcnik (2006b) speculate that this increased household specialization is important in understanding the parts of the decline in child labor in Vietnam that cannot be explained by rising income.

Marcel Fafchamps and Jacqueline Wahba (2006) show that children work less and attend school more with proximity to urban centers in Nepal. Their interpretation of this correlation is that in rural areas, subsistence household cannot specialize so they rely on family labor for much of their consumption basket. Cities bring trade and opportunities for specialization. Hence, household production becomes less important and as proximity increases, households can buy substitutes for goods previously produced at home. They also note that specialization can also mean that children tend to specialize more. While overall children work less and attend school more with proximity to urban centers (and hence more trade opportunities), they also observe more children that work without attending school

as well as school without work. While the Fafchamps and Wahba study is about internal trade, the same types of channels may be facilitated by international trade as well.

While this specialization channel has received considerable attention, there are many studies that link education to returns to education. Trade appears to increase returns to education. Much of the literature discussed above on why exporting firms are more skill intensive has this implication. Children go to school more when the returns to education are higher (Strauss and Thomas 1995 is a survey).

Few studies directly link trade, returns to education, and schooling. Kartini Shastry's (2008) study of education responses to rising returns to speaking English in India is one exception. Trade in services in India has lead to a rise in the return to speaking English. She shows that the parts of India where it is easier to learn English (measured by the similarity of the indigenous language to Hindi and nationalist pressure about speaking Hindi) experience faster growth in information technology jobs and school enrollment. She also notes that there is a falling skill premium associated with this rise in schooling in areas where it is less costly to learn English.

There does not appear to be any evidence linking trade and child labor through trade's effects on returns to education. In fact, evidence of a link between child work and returns to education is relatively rare (see Edmonds 2008). This is one of the many indirect channels meriting further study. Despite the many possible mechanisms through which trade can indirectly affect child time allocation, it is surprising how little evidence there is of an impact of trade working through anything other than specialization or family incomes

3. Trade principally affects children through its impact on poverty

Most studies that map a connection directly between trade and child time allocation find the effect of trade on living standards to be of critical importance. This is probably because most studies are not designed to capture indirect effects, the potential for direct effects is minimal given how children spend their time, and poverty is one of the strongest correlates of child labor.

Figure 5 plots the economic activity rates from Figure One against GDP per capita (expressed in PPP adjusted 2005 international dollars). It is not a representation of what except to happen to poor countries as they grow richer. Nonetheless, Figure 5 makes it clear why child labor is so often closely connected to poverty.

62 percent of the cross-country variation in economic activity rates can be explained by GDP per capita alone.[4] If one were willing to impose a constant elasticity to the figure, Figure 5 implies an elasticity of economic activity with respect to GDP per capita of -0.72. That is, the data pictured in Figure 5 implies

[4] Edmonds and Pavcnik (2005) present a similar picture using different data. Using the ILOSTAT's estimates of economic activity rates of children 10-14 from 2000 and GDP per capita from the Penn World Tables, they find that that three-quarters of the cross-country variation in economic activity rates of children 10-14 can be explained by GDP per capita

that a doubling of GDP per capita should be associated with a 72 percent reduction in the economic activity rate of children.

The schooling – GDP per capita relationship is similarly strong. Figure 6 plots net primary school enrollments (see figure 3) against GDP per capita. The picture is not the reciprocal of Figure 5, because it is a different data source and because many out of school children are not economically active. In fact, Edmonds and Pavcnik (2005a) document that in the 36 countries they study, most out of school children are not economically active although they are involved in domestic work.

Figures 5 and 6 do not depict a causal relationship, but the causal evidence generally depicts a similarly strong relationship.[5] For example, Edmonds and Schady (2009) consider the response of poor Ecuador families to receipt of a lottery award that was delivered in the context of a social marketing campaign promoting human capital (although lottery receipt was not conditional on taking any particular actions). They find that the lottery appears to be spent largely on education when families have children at the age of the transition from (free) primary school to (costly) secondary school. The result is an increase in education with the lottery and a decline in child participation in paid employment such that total household income declines with the lottery award because of the decline in child labor.

There are many plausible reasons why poverty and child time allocation are so closely linked. One class of causal channels is associated with preferences. Child labor may be a bad, schooling a good, in preferences. Poverty may lead households to choose to consume low quality household produced items over market produced goods. Another class of reasons for a poverty – time allocation connection owes to liquidity constraints. Liquidity constraints may force families to under-invest in schooling because of schooling costs or a high marginal utility of income today. They may also cause households to under-invest in labor saving technologies or other types of human capital, such as nutrition, which in turn lowers the relative return to schooling.

Edmonds, Pavcnik, and Petia Topalova (2007) shed some light on the question of why children work by examining how children in rural India were impacted by India's tariff reforms in the early 1990s. Since the 1950s, India imposed large, distortionary tariffs on imported goods. These tariffs protected some jobs and employment opportunities at the expense of other workers and higher prices. Concurrent with the phased in reduction in tariffs and other reforms that started in 1991, India's economy boomed. While much of India grew, rural areas with concentrations of pre-reform employment in industries that lost protection experienced smaller declines in poverty than the rest of India. Children living in these areas did not experience as large of an increase in school attendance or decline in work without school as children residing in areas with lower pre-reform employment in heavily protected industries.

The attenuation in schooling improvements and child labour declines in these rural areas appears attributable to smaller reductions in poverty than elsewhere in India. There is little evidence that trade

[5] Several studies that explore the correlation between household asset wealth and child time allocation do not find a strong link. Basu et al (2009) point out that this probably owes to the fact the mixed role assets play when labor markets are incomplete. Assets proxy for wealth, but they also raise the shadow value of child time by making child time in the household more productive.

liberalization affected child labor demand or returns to education in rural areas, although this does not appear to be the case for urban India (Edmonds, Pavcnik, and Topalova 2009). The study looks at how children work in order to understand why there is such a close trade-poverty-child labor and schooling connection. Children are working more in areas that have lost protection relative to the national trend, but most of this work involves girls working around their family. Moreover, relatively more children are neither working as a principal activity nor attending school. For these children, their primary economic contribution to their family appears to be the avoidance of schooling costs, which can be considerable for a poor family. In fact, the study finds that the attenuation of schooling improvements associated with the loss of protection is smaller in parts of rural India where schooling is less costly.

These findings from India mirror the findings from another recent study by Edmonds and Pavcnik (2005b) in Vietnam. For a number of years, Vietnam used an export quota to suppress rice exports out of a concern for domestic food security. In the 1990s, Vietnam liberalized its rice trade and allowed rice farmers to take advantage of higher international prices. The rice sector boomed and living standards of rice producing households improved substantively. Edmonds and Pavcnik (2005b) document that despite greater employment opportunities, children in households that benefited from higher rice prices became much less likely to work. Altogether, it appears that roughly 1 million fewer children worked as a result of rising rice prices in Vietnam despite potentially more lucrative employment opportunities.

The primacy of living standards in the child labor – trade relationship has also been documented by other authors. Ana Dammert (2008) shows that child labor increased in Peru in coca growing areas when eradication efforts and other attempts to limit coca trade lowered family incomes. Denis Cogneau and Remi Jedwab (2008) also find support for the primacy of income in the child labor – trade relationship. A permanent reduction in cocoa prices appears to have lowered family incomes in Cote d'Ivoire. As a result, children in cocoa growing households are attending school less and working more relative to households without suitable land for cocoa cultivation in the same areas.

Interestingly, both the Vietnam and Cote d'Ivoire studies are ones where there is considerable possibility of a direct effect of trade on child labor working through labor demand that would be identifiable in the data. However, in both cases, despite the changes in the value of crop's produced by the child's labor, the main channel for influencing time allocation appears to be child income. At this point in the literature, it seems reasonable to suppose that the dominant channel through which trade will affect child labor depends on how trade changes the living standards or the poor, even in cases where children work in the sector where trade is changing.

4. Priorities for Future Research

Overall, the literature on trade and child time allocation is relatively small. From the perspective of the trade literature, part of the reason for this is that the relationship between trade and schooling or child labor is typically a collateral effect of trade's impact on some other part of the economy (like adult income). Still, anything that alters educational decisions or occupational choice has the potential to have long-term consequences in settings where poverty traps are possible. For example, a transitory shock on the income of an adult associated with the loss of protection may be much less substantive for

the adult than for the affected child whose education is permanently disrupted. Better understanding the nature of the collateral effects of trade adjustment, especially in agriculture, and how to ameliorate their effects on children merits further research.

There is considerable scope for expanding our understanding of the circumstances under which trade can have a direct effect on child time allocation by altering the demand for child labor. Why do children participate in some jobs and not others? Is child participation in a trade related job simply an alternative to some other job that is revealed to be worse by the child's job choice? What is the child's own wage elasticity of labor supply? When do children work no matter how low the wage? When might labor demand (relative price) effects be more important than income effects? These basic questions have not been answered conclusively in the child time allocation literature and are critical for improving our understanding of the relationship between trade, schooling, and child labor.

In fact, one of the appeals of studying issues related to trade, schooling, and child labor is that one can potentially observe all of these dynamics simultaneously. This creates interesting reduced forms where researchers can attempt to disentangle the underlying model driving the reduced forms. When this has been done (Edmonds and Pavcnik 2005b, Edmonds, Pavcnik, and Topalova 2007, Dammert 2008, Cogneau and Jedweb 2008), researchers have found changes in living standards to be the driving force between the change in trade or prices and time allocation, even in circumstances like Vietnam's rice sector or Cote d'Ivoire's cocoa sector where it would be reasonable to expect substantive changes in child wages. The next step in this line of research is to begin to impose some economic structure on this research in order to recover parameters that have a clearer policy interpretation and that can be compared across environments. Variation owing to a trade reform, while appealing in the reduced form is somewhat problematic for a more structured approach because of the challenge having one source of variation for so many different possible parameters.

The main question of interest to consumers in high income countries with regards to trade and child labor is: "To what extent does my consumption of goods from poor countries perpetuate child labor and low rates of schooling attendance in poor countries?" The literature to date largely can say that anything that raises income in poor countries will likely reduce child labor and increase schooling there. However, this sort of generality is likely unsatisfactory to a consumer asking this about a specific product. Future research that looks more at specific sectors, combined with an effort to develop estimates of parameters of clear economic interpretation, can help researchers provide a more precise answer to the consumer's question in the future.

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Table 1: Industrial Composition of Economically Active Children 5 to 14, selected countries

	Cambodia	Honduras	Philippines	Nicaragua	Senegal	Kenya	Ethiopia	Burkina Faso	Brazil
Trade (as a % of GDP) in 2005	137	136	99	87	69	64	51	36	27
Year of data	2001	2004	2001	2005	2005	1999	2005	2003	2004
Economic Activity Rate	44.8	5.4	11	8.4	15.6	6.1	50.1	47	5.7
% in Paid Employment	4.6	19.9	22.8	13.6	4.2	11.9	2.1	0.4	21.2
Industrial Composition of Economically Active Children (as a % of total Economically Active Children)									
Agriculture	76.5	63.3	64.1	70.7	80.6	82.3	95.2	97.4	61.2
Mining	0.3	0.2	0.5	0.0	*	0.5	*	0.1	0.0
Manufacturing	4.9	8.3	4.0	9.6	4.7	1.6	1.3	0.4	6.5
Construction	0.5	1.7	0.5	0.5	1.2	0.2	0.2	0.1	1.4
Wholesale and Retail Trade	15.1	15.6	22.2	15.5	7.6	1.6	1.7	1.1	16.5
Hotel & Restaurant	0.3	3.5	1.8	1.8	0.6	0.5	0.7	0.1	3.7
Transportation and Communication	0.3	1.1	1.5	0.4	0.6	0.2	0.1	*	1.9
Domestic Services	0.9	4.7	3.6	0.5	4.3	6.2	0.3	0.8	5.0
Other	1.2	1.6	1.9	1.0	0.4	6.9	0.5	0.1	3.8

*Not available as separate category – included within "other". Trade from World Development Indicators on-line, May 2009. All other data from Understanding Children's Work Child Labor Statistics by Country: http://www.ucw-project.org, May 2009. Countries selected from UCW country data by following criteria: GDP per capita below $5,000 (2005 PPP International $), available trade data, available data for children 5 to 14, and industrial composition of child employment available at level of detail above.

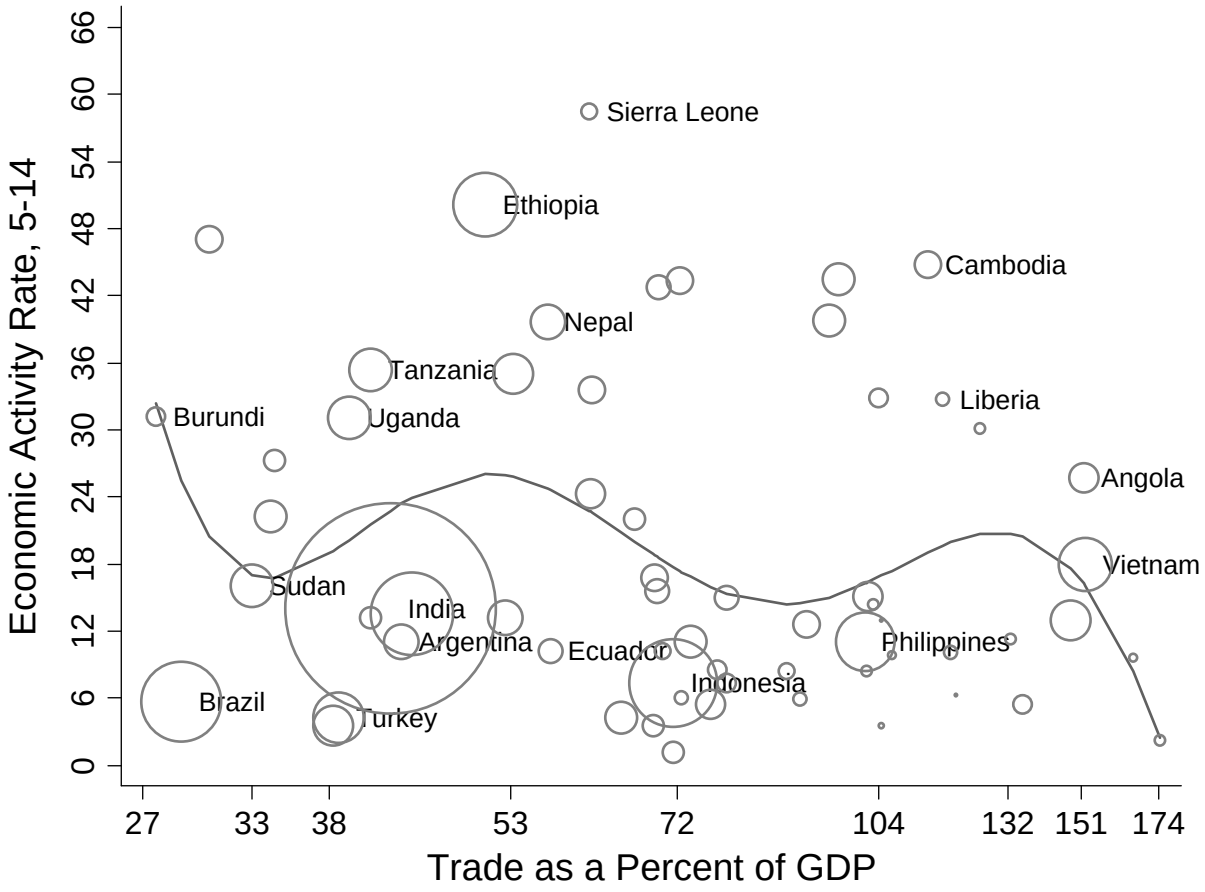

Figure One: Economic Activity and Trade

Trade as a fraction of GDP is from the World Development Indicators (series NE.TRD.GNFS.ZS) on-line in May 2009. Economic Activity rates are computed from nationally representative household survey data by the Understanding Children's Work project as reported on their website in May 2009. When multiple years of data were available, the most recent data is pictured. Trade is taken from the same year as the household survey used to compute economic activity rates

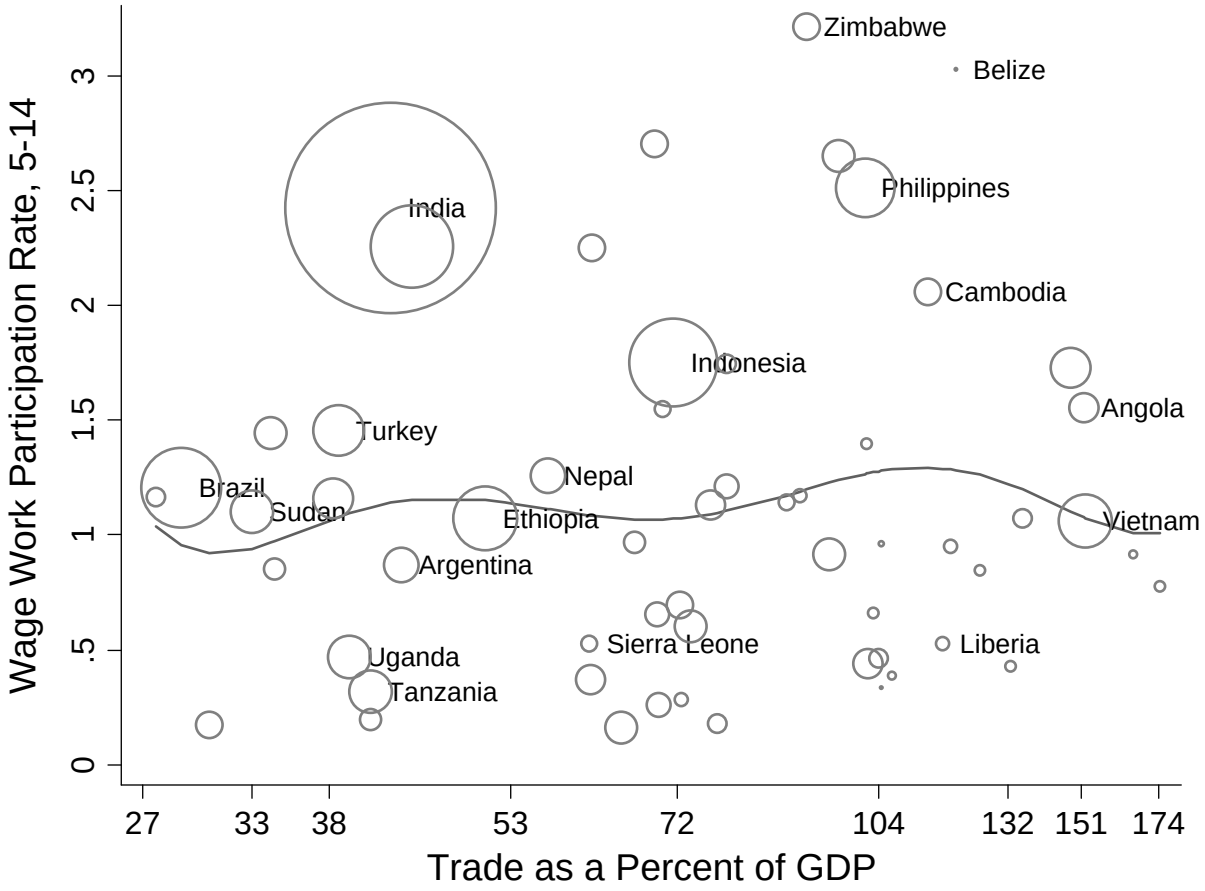

Figure Two: Wage Work Involvement of Children and Trade

Wage work participation rate is fraction of children 5-14 (except as described in footnote 1 of text) participating in work for pay. See notes from Figure One. Not every country in Figure One appears in this figure because of missing information on the incidence of wage employment.

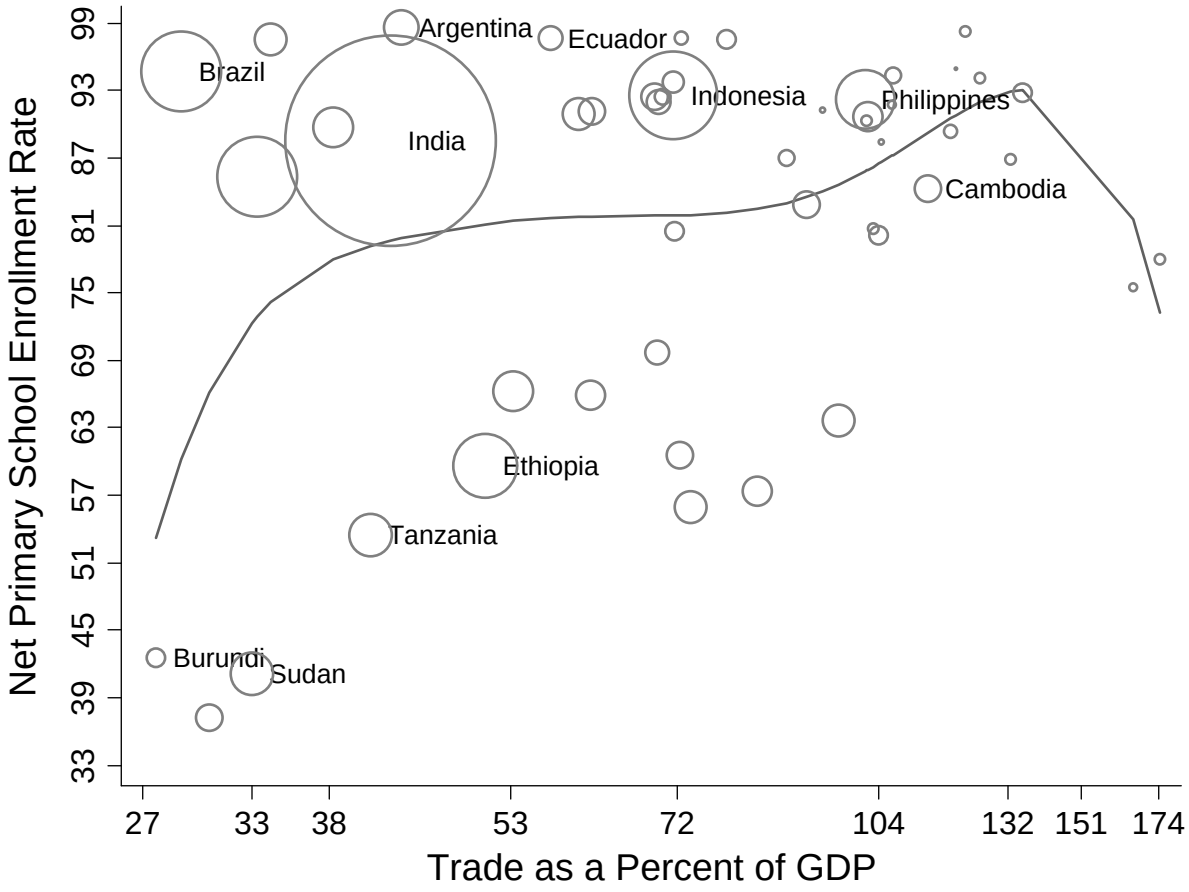

Figure Three: Net Primary School Enrollment and Trade

Net Primary School Enrollment from World development Indicators. See Figure One for country list and the trade measure. Some countries from Figure One are missing because of missing net primary school enrollment rates in the World Development Indicators. Only countries included in Figure One are included here for comparability.

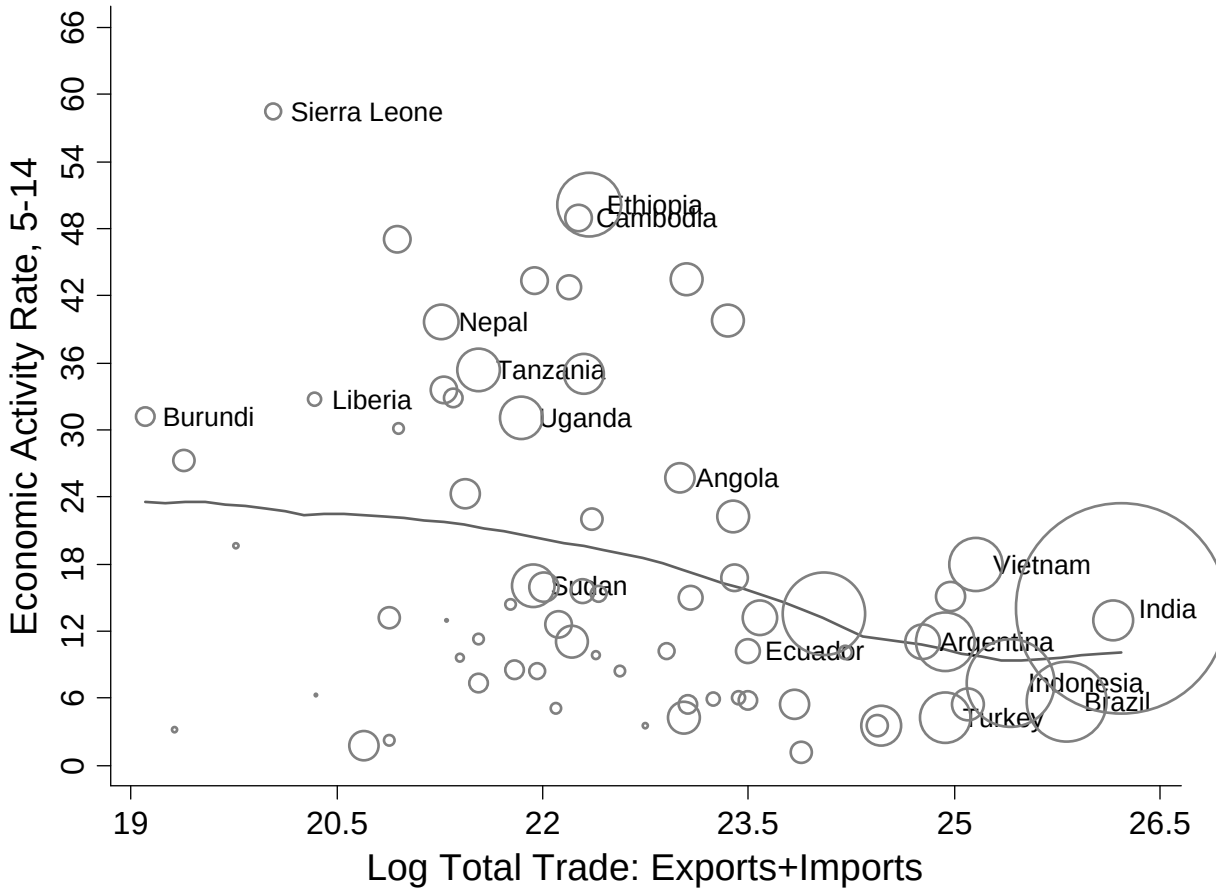

Figure Four: Economic Activity and the Volume of Trade

The volume of trade is the log of the sum of total merchandise imports and exports from the World Development Indicators. See Figure One for a description of economic activity rates.

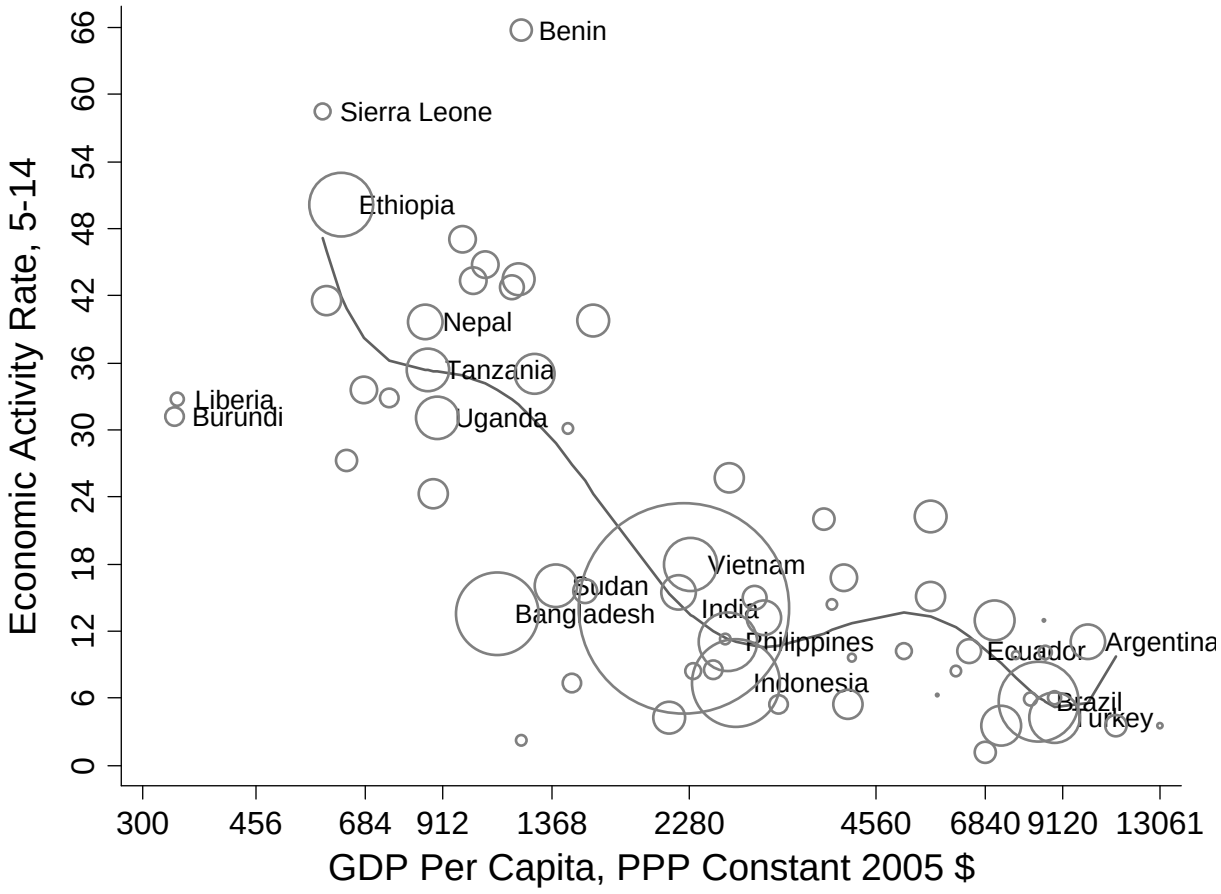

Figure Five: Economic Activity and Gross Domestic Product

GDP per capita is in constant PPP 2005 International Dollars. It is taken from the World Development Indicators (series NY.GDP.PCAP.PP.KD) on-line in May 2009. See notes to Figure One for list of countries and definition of economic activity rate.

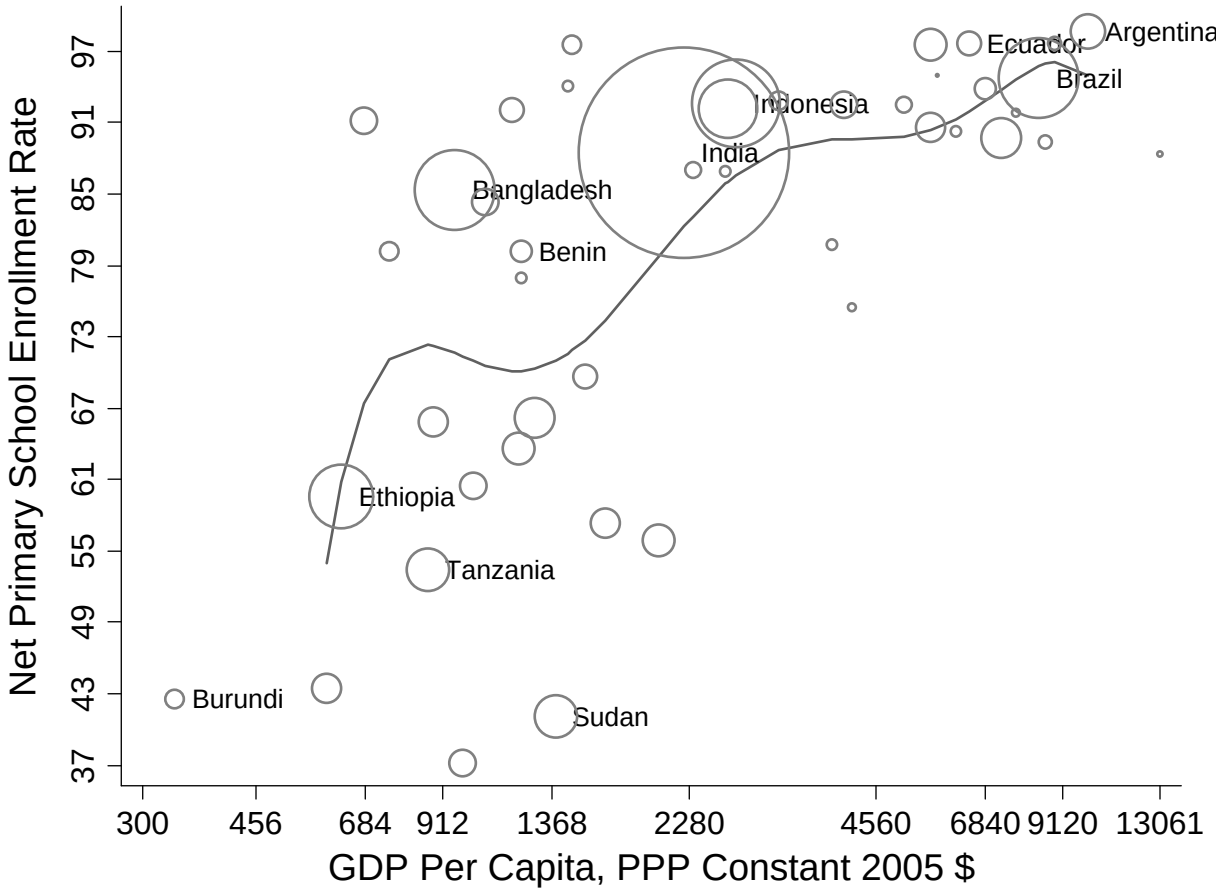

Figure 6: Net Primary School Enrollment and Gross Domestic Product

See notes to Figure 3 and Figure 4 for variable definitions and country information.