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Education and Child Labour: A Global Perspective

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by

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Abstract

This paper reviews the global evidence on the interaction between a child's education and child labour. It compares country experiences on the child's choice of alternative combinations of schooling and labour market involvement and, in case of Vietnam, presents evidence on how that choice has altered over time. The focus of this essay is on policy measures that can alleviate the problem of child labour, especially in relation to its adverse consequences on the child's education.

Keywords: Human Capital Formation, Schooling for Age (SAGE), Mean Study Time, Food-for-Education, Working Street Children.

1. Introduction

Notwithstanding centuries of social and economic progress, child labour continues to pose a significant problem in several parts of the world. Though the ILO (1996)'s estimates on labour force participation rates for children aged 10-14 years show a declining trend, in absolute terms the size of the child labour force is still large enough to be of serious concern. Thanks largely to attempts to link child labour with the wider issue of labour standards, there has been a surge of interest in the subject with a proliferation of analytical and empirical studies.[1]

Much of the recent concern over child labour stems from the belief that it has a detrimental effect on human capital formation. Kanbargi and Kulkarni (1991), Psacharopoulos (1997), Patrinos and Psacharopoulos (1997), Jensen and Nielsen (1997), Ravallion and Wodon (2000), Ray (2000a, 2000b, 2000c, 2004), Ray and Lancaster (2005), Heady (2003), Rosati and Rossi (2006), Gunnarsson, et.al. (2006) are part of a large literature that provides evidence on the trade off between child labour and child schooling. While the evidence on the link between household poverty and child labour is, at best, a weak one,[2] the literature is near unanimous on the harmful effects of a child's employment on her/his learning outcomes.

This paper seeks to bring together the international evidence on the interaction between education and child labour. The global perspective of this paper is useful in highlighting the common features that hold universally and the distinctive characteristics that are unique to a country or a region. An appreciation of both is useful in designing effective policy interventions that promote child learning and human capital formation. The policy importance of this topic is immense since, by impeding the child's intellectual and physical development, child labour has both micro consequences for the child and her family, and macro consequences for the nation and the wider international community. While the lack of human capital formation condemns the child

[1] See Basu and Tzannatos (2003) for a recent survey of the literature.
[2] See, for example, Addison, et.al. (1997) and Ray (2000a, 2000b) who do not find a strong causal relationship, at household level, between poverty (cause) and child labour (effect).

and her/his successors to an intergenerational cycle of child labour,[3] the resulting lack of a skilled work force may lead to a state of perpetual economic backwardness and underdevelopment. The literature is near unanimous on the positive role that rising adult education levels can play in reducing child labour and enhancing child schooling. This points to the need to devise comprehensive strategies that promote the adults' educational levels and social awareness, and increase the school enrolment rates of their children.

The heterogeneous nature of child employment in Asia and Africa is discussed in Section 2, the manner in which children combine schooling with employment is compared between countries in Section 3, and the cost that child labour[4] entails on the child's learning is selectively reported in Section 4. Some international and individual country initiatives to keep the child in school and reduce her/his work involvement are mentioned in Section 5. The paper ends on the concluding note of Section 6.

2. Regional Heterogeneity in Child Employment

Though the term "child labour" is used in a regionally neutral sense, there are wider regional variations that need to be recognised for policy interventions to be effective. Table 1 presents a breakdown of the world's population of economically active children by three age groups: 5-9 years, 10-14 years, and 15-17 years. The corresponding statistics of the two worst performing regions, namely, Asia Pacific and Sub-Saharan Africa, are also presented for comparison. The increase in the child labour participation rate with age is much faster in the Asia Pacific region than in Sub-Saharan Africa. Previous commentators (see, for example, Basu (1999)), who have remarked that the child participation rates in Sub-Saharan Africa are the highest in the world, have overlooked the disaggregated picture, especially of children in the higher age group

[3] See Emerson and Souza (2003) for Brazilian evidence which suggests that children of adults who were child labourers tend to be child labourers as well.
[4] We follow the literature in using the terms "child work" and "child labour" interchangeably. Fyfe (1989) argues, however, that child labour should be defined as "work which impairs the health and development of children" (p.4).

(15-17 years). In the context of the theme of this paper, Table 1 suggests that the cost that child labour entails on the child's education is felt by the younger children (5-9 years) in Sub-Saharan Africa and by the older children, especially those in the age group 15-17 years in the Asian countries. Ray (2004) provides a further discussion of the regional variation in child labour and reports that the nature, magnitude and decline in child labour over time vary sharply between Asian countries. For example, East Asia now has little child labour; however, child labour continues to have a significant presence in South Asia and in parts of South East Asia.

3. Cross Country Comparisons of the Child's Choice Between Schooling and Employment

Table 2 compares the school enrolment rates and combinations of schooling and employment of children in the age group, 12-14 years, between a select group of countries based on the SIMPOC[5] surveys conducted by the International Labour Organisation. While Sri Lanka stands out among the developing countries for its outstanding success on school enrolment, there does not appear to be much variation between the aggregate school enrolment rates of this group of countries. However, there is considerable variation between these countries on the choice a child makes between the four possible combinations of work and schooling. For example, the children in Asian countries, especially Cambodia and Sri Lanka, are more successful in combining schooling with employment than children elsewhere. However, Cambodia has the lowest percentage of children in the most preferred "in school but don't work" category. If one adopts the corresponding rates of Portuguese children in this category as a developed country benchmark for the other countries in Table 2 to emulate, then they still have a long way to go in getting their older children involved in education exclusively without the distraction of employment. Children in Cambodia and Philippines record higher participation rates in the least preferred, "not in school but work" category than children from other countries. Since children in this category are among the most

[5] SIMPOC is the acronym for "Statistical Information and Monitoring Programme on Child Labour".

disadvantaged, suffering the ill effects of child labour without enjoying any of the benefits of education, they cry out for immediate and targeted policy intervention.

Evidence on the influence of various household and child attributes on the child's choice between the four possible outcomes is provided in Table 3 which compares the multinomial logit marginal probabilities between 3 countries located in different continents. In all these countries, household poverty moves the child away from schooling to employment, while an increase in the level of adult female education in the household helps in keeping the child exclusively in the school without any involvement in employment. The magnitude of the effect of rising household poverty in pushing children to the labour market without any schooling enrolment, i.e. to the least preferred "work only" category, is much lower in Peru[6] than in Pakistan or Ghana. In all the three countries, the urban child is more likely to be in the "school but not in work" category than the rural child. In contrast, the rural child is more likely to combine schooling with employment than the urban child. This may reflect the nature of child work in the urban areas along with the greater distances, compared to the rural areas, between schools and the work places. This calls for a need to locate the schools near the work places in the urban areas. In Peru and Pakistan, but not in Ghana, a child from a female headed household is less likely to be exclusively in school with no work involvement than a child from a male headed household.

The discussion so far has revolved around the snapshot of a child's selection of a particular schooling/employment combination at a point in time. Table 4 shows how the Vietnamese child's choice between the four possible outcomes has changed over the period, 1992/93 – 1997/98. Vietnam experienced one of the largest reductions in child labour anywhere in the 1990s and has, therefore, attracted considerable attention [see, for example, Edmonds and Turk (2004)]. Table 4 shows that, for each of the three principal ethnic communities and for Vietnam as a whole, there has been a sharp increase in the percentage of children who are in school with no work

[6] See Ray (2000a, 2000b) for a more detailed comparison of the labour market participation, work hours and schooling experience between Pakistani and Peruvian children.

involvement. A closer examination of the figures shows that much of this increase has come from the categories, “in school and work”, and “neither in school nor in work”, each of which registered large declines over this period, 1992/93 – 1997/98. Note, however, that the percentage of children in the least preferred category, “not in school but work”, did not show any downward movement at the All Vietnam level. This aggregate picture hides significant ethnic differences with the minority Tay and Chinese children, especially the Tay girls, abandoning full time work involvement to move towards exclusive school enrolment, a feature that is not shared by children from the majority Kinh community.

Examples of ethnic or other differences on child education and child labour arise in other countries as well. For example, Ray (2000c, Tables 5-7) contains Indian evidence that suggests that children from the backward classes experience substantially less schooling and record higher child employment rates than the rest of the population. In devising policies to promote child welfare, the authorities need to recognise such ethnic and class differences in the key indicators of education and child labour in order to make the interventions effective. Another significant finding of this Indian study is that child labourers exhibit substantially lower levels of general education than children who are attending school. This points to the cost that child labour entails on the child’s education, a topic to which we turn in the following section.

4. The Consequences of Child Labour for Child Education

Child labour, especially beyond an “acceptable level”, has a potentially damaging impact on the child’s intellectual and physical development. While much of the earlier literature concentrated on the determinants of child labour, several recent studies have examined the educational and health effects of child employment. This section deals only with the educational consequences of child labour though, as noted in the study by O’Donnell, et.al. (2005), the health consequences can be no less serious and deserve separate investigation.

Figures 1 and 2 from Ray and Lancaster (2005) provide evidence of the adverse impact of child labour on the child's learning opportunities. Figure 1 shows the relationship between study time (at mean) and child ages for non-working and working children in Sri Lanka. The mean study time of working children falls below that of non-working children at around the child age of 11 years. The decline in the graph of the working children accelerates over the 12-14 year age group, so that by the time children reach school leaving age a large gap has opened up between the mean study times of non-working and working children. Figure 2 shows, for Cambodia, the percentages of working and non working children in the various age groups who can read and write. The cost of child work is again evident in the lead that non working children enjoy over working children in the age group, 12-14 years, in regard to reading and writing. To put the prima facie evidence on the cost of child labour to child education beyond reasonable doubt, Figure 3 plots, for working and non working children in Vietnam, the relationship between the "Schooling for age" variable, SAGE, and child age from the 1998 Vietnam Living Standards Survey (VLSS) where

$$\text{SAGE} = \left(\frac{\text{Years of Schooling}}{\text{Age - School Entry Age}} \right) \text{x100} \qquad (1)$$

Clearly, for older children aged 11 years and above, the school performance variable, SAGE, is unambiguously lower for working than non working children. A common feature of these graphs is that, for younger children, especially those in the age group, 7-9 years, working children do not necessarily experience inferior learning opportunities to those enjoyed by non working children. The explanation possibly lies in the fact that, in the younger age groups, the nature and intensity of the work do not prove to be as harmful to the child's education as is the case in the older age groups. This feature needs to be kept in mind in devising policies that allow a limited amount of child work in recognition of the fact that in countries such as Pakistan many households are heavily reliant on child labour earnings to stay above the poverty line [see Ray (2000b, Table 4)].

Figures 1-3, while pointing to the adverse impact of child labour on the child's education, do not give any quantitative guidance on the marginal cost of the child labour hour since they do not control for the other characteristics. An attempt to do so was made in Ray and Lancaster (2005) that used SIMPOC data from a number of countries to estimate the impact of child labour hours on the child's schooling, measured by SAGE, taking account of the simultaneity of SAGE and child labour in the estimation. The exercise, which was performed on data sets involving children in the age group, 12-14 years, sought to answer the question: Is there a threshold of (weekly) hours of work for 12-14 year olds below which school attendance and performance are not adversely affected? The policy importance of this question stems from Article 7 of the ILO's Minimum Age Convention, 1973 (NO. 138) which stipulates that "light work" may be permitted for children from the age of 12 or 13 provided it does not "prejudice their attendance at school …. or their capacity to benefit from the instruction received". The central message of Ray and Lancaster (2005)'s study is that childrens' work, even in limited amount, does adversely affect child learning, when one controls for the other characteristics. The marginal impact of child work was generally found to be more detrimental to the learning experience of girls than to that of boys. A significant exception was provided by the Sri Lankan evidence which suggested that a child in the age group, 12-14 years, can work up to 12-15 hours a week without suffering a decline in her/his school attendance rate or in the overall duration of her schooling. Even in Sri Lanka, however, the child's school performance deteriorates sharply beyond the threshold.

5. Policy Initiatives to Reduce Child Labour and Promote Child Schooling

Widespread appreciation of the potentially harmful consequences of child labour, both for the child and for society at large, has triggered concerted international actions to eliminate child labour. The ILO, through its Conventions 138 and 182, the United Nations through its Convention in 1989 on the Rights of the Child, and UNICEF have been at the forefront of international efforts

to combat this phenomenon. As part of broader efforts to develop long-term solutions to child labour, the ILO, UNICEF and the World Bank initiated an inter-agency research program, Understanding Children's Work and its Impact (the UCW Project) in December, 2000. The World Bank has also been individually active in international efforts to combat child labour. For example, the World Bank has been responsible for starting several child labour initiatives in India. These include the District Primary Education Projects, the Integrated Child Development Scheme, and the Rural Women's Development and Empowerment Project.

There have also been policy interventions by individual Asian countries to tackle the problem of child labour. A central theme in such interventions has been an attempt, via legislation such as compulsory schooling or incentives such as school enrolment subsidies, to keep children in school and away from work. For example, the Food-for-Education program in rural Bangladesh aims to keep the children of poor rural families in school by providing households with free food rations so long as they send their children to primary schools. The midday school meal program in India, which dates back to 1925, was formally relaunched as the National Programme for Nutritional Support to Primary Education (NPNSE) on 15 August, 1995 by the Government of India to enhance the nutritional status of children and boost the universalisation of primary education by encouraging economically disadvantaged families to send their children to school and ensure that they attend regularly.

Mention should also be made of statistical initiatives by international agencies such as the ILO, through its IPEC programme, and by individual countries or country groupings such as the Latin American Laboratory of Quality of Education (LLEQE) to improve the quality of the data by tracking children, rather than their household that the World Bank's LSMS data sets do and on which much of the earlier literature was based. However, there is scope for further improvement to make the data amenable to policy analysis. For example, as pointed out in a recent study by Kidolezi, et.al. (2006), street children rarely figure in the typical surveys of child labour which are

conducted during visits to households. This study provided evidence from the Tanzanian city of Mwanza that points to significant sample selection and reporting bias due to the omission of working street children from the government-sponsored household surveys.

6. Concluding Remarks

This brief and partial review, from an economist's viewpoint, shows that there is a two way relationship between child education and child labour. The evidence presented here suggests that child labour impedes the child's learning, thereby, constraining her/his intellectual development. The resulting lack of human capital formation condemns the child and the child's family to an intergenerational cycle of child labour and poverty and impedes social and economic progress of the country. Compulsory schooling and incentives to attend school help in reducing the child's work involvement. The role of incentives in promoting schooling cannot be overstated, though their effect in reducing child labour is less clear. For example, in a study of the effects of the Food-for-Education program in rural Bangladesh, Ravallion and Wodon (2000) found that the program had a greater effect in increasing schooling than in reducing child labour. This may, however, be a reflection of a statistical flaw since a lot of the rural children who were encouraged by the program to attend school were previously involved in domestic duties that, on the ILO definition, do not count as "child labour". The recognition that schooling is an effective strategy to combat child labour has prompted the Europe-based campaign, "Stop child labour: school is the best place to work".[7] Another example of a NGO activity that gives primacy to schooling in efforts to combat child labour is that of the MV Foundation that is based in the South Indian state of Andhra Pradesh. This Foundation has been working with community groups, parents, employees and government officials in an effort to remove children from work and enrol them in schooling. The success of the MV Foundation's efforts is evident from the fact that nearly 420,000 children have been enrolled

[7] See their website, www.schoolisthebestplacetowork.org for details on worldwide efforts to propagate and implement the view that "school is the best place to work".

and retained in schools, more than 4000 bonded labourers have been released and 168 villages in Andhra Pradesh are now child labour free in the space of the last 10 years.

Ultimately, the most effective strategy for dealing with child labour has to concentrate on the household itself. There is near unanimity in the literature on the positive role that increasing education levels of the adults in the household can play in promoting child schooling and reducing child labour. The decisions on the child's schooling and work involvement are taken by the adults, not by the children themselves. As Basu and Ray (2002) observed in their empirical study on Nepalese child labour, the nature of intra household decision making has a significant influence on the extent of involvement of children from that household in child labour. The Basu and Ray (2002) study draws attention to the need to educate both the adult male and the adult female, not just one or the other, since a household where both the spouses have an equal say in decision making shows the least involvement in child labour. More generally, the link between adult education levels and intra household decision making on one hand, and the outcomes on child education and child labour, on the other hand, has opened up a variety of possible strategies for combating child labour. Such strategies are likely to be more effective than simple legislation such as the recent decision of India to ban domestic child labour with effect from 10 October, 2006.

Table 1: Estimates of economically active children aged 5-17 years, in Asia Pacific and Sub-Saharan Africa, 2000 (by age group)[(a)]

Age group and region	Number of children (millions)	Participation rate (per cent)	Regional share of child workers (per cent)	Regional share of child population (per cent)
5-9 years				
Asia Pacific	40.9	12.3	54.64	54.99
Sub-Saharan Africa	20.9	23.6	28.55	14.55
Total (World)	73.2	12.0	n.a.	n.a.
10-14 years				
Asia Pacific	87.3	26.5	63.35	55.01
Sub-Saharan Africa	27.1	21.5	19.67	13.03
Total (World)	137.8	23.0	n.a.	n.a.
15-17 years				
Asia-Pacific	86.9	48.4	61.94	54.07
Sub-Saharan Africa	18.1	35.0	12.90	12.14
Total (World)	140.3	42.3	n.a.	n.a.

(a) **Source**: International Labour Organization (ILO), 2002. *Every Child Counts: new global estimates on child labour*, International Labour Organization, Geneva.

Table 2: Cross Country Comparison of Children's Choice between Schooling and Work[(a)]

Variable	Belize		Cambodia		Namibia		Panama		Philippines		Portugal		Sri Lanka	
	Boys	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**	**Boys**	**Girls**
School Enrolment Rate	91%	88%	89%	85%	83%	89%	88%	90%	89%	92%	98%	98%	94%	95%
% age of children who are:														
(i) In School, but don't work	72.0%	79.7%	30.9%	28.5%	73.3%	79.6%	81.0%	87.9%	70.4%	79.6%	95.2%	96.1%	65.5%	77.3%
(ii) In School and work	18.6%	7.7%	57.7%	56.6%	9.8%	9.4%	6.8%	1.7%	18.4%	12.0%	3.2%	1.9%	28.5%	18.1%
(iii) Neither in School nor in work	3.8%	9.5%	2.4%	2.6%	11.5%	8.8%	5.5%	9.1%	4.3%	5.4%	1.0%	1.4%	2.6%	2.9%
(iv) Not in School but work	5.1%	2.6%	9.0%	12.3%	5.5%	2.3%	6.7%	1.4%	7.0%	2.9%	0.6%	0.6%	3.4%	1.7%

(a) Source: Ray and Lancaster (2005).

Table 3: Multinomial Logit Marginal Probabilities for a Selection of Variables[(a)]

Variable[(b)]	Peru				Pakistan				Ghana			
	School only	Both school and work	Neither School nor work	Work only	School only	Both school and work	Neither School nor work	Work only	School only	Both school and work	Neither School nor work	Work only
AGE	0.0212	0.0735	-0.0887	-0.0060	0.0275	0.0412	-0.1173	0.0486	0.0518	0.1137	-0.2168	0.0513
GIRL	0.0797	-0.1029	0.0321	-0.0089	-0.2363	-0.0754	0.2858	0.0259	-0.1159	-0.0449	0.1344	0.0264
URBAN	0.2733	-0.2587	-0.0028	-0.0118	0.2029	-0.0412	-0.1055	-0.0562	0.0493	-0.0026	-0.0102	-0.0364
NCHILD	-0.0100	0.0060	0.0040	0.0000	-0.0061	0.0002	0.0035	0.0024	-0.0033	0.0037	-0.0003	-0.0001
NADULT	0.0105	-0.0148	0.0041	0.0002	0.0246	-0.0019	-0.0036	-0.0190	-0.0178	-0.0065	0.0206	0.0037
FHH	-0.0007	-0.0050	-0.0055	0.0112	-0.0468	0.0207	0.0154	0.0107	0.0652	-0.0206	-0.0071	-0.0375
HEADAGE	-0.0010	-0.0001	0.0009	0.0002	-0.0012	-0.0001	0.0007	0.0006	-0.0002	0.0006	-0.0006	0.0001
MAXFEMED	0.0064	-0.0045	-0.0002	-0.0017	0.0283	-0.0009	-0.0104	-0.0169	0.0373	0.0062	-0.0333	-0.0103
POV	-0.0385	-0.0006	0.0364	0.0027	-0.1144	-0.0225	0.0890	0.0479	-0.1494	0.0224	0.0790	0.0481

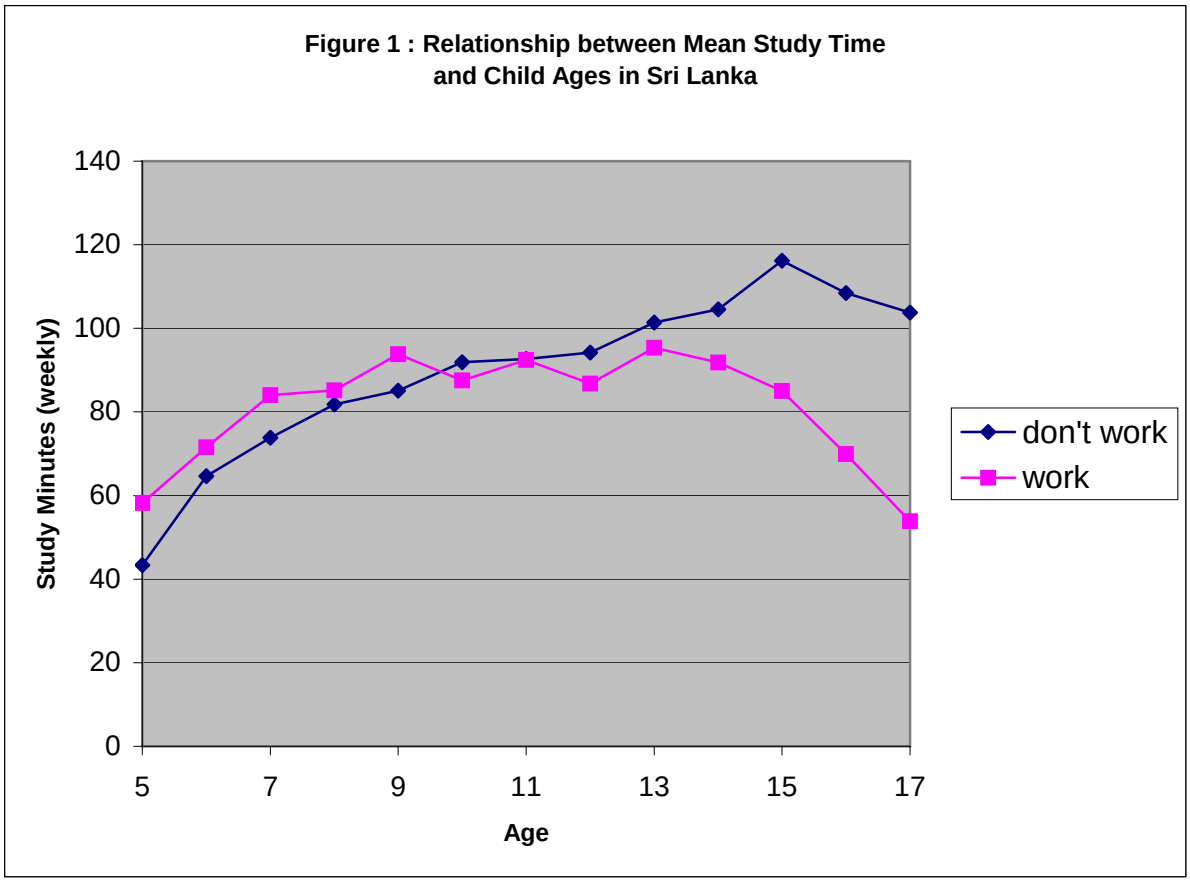
(a) Source: Maitra and Ray (2002)

(b) The variables are: *AGE* (Age of child), *GIRL* (Girl/Boy dummy), *URBAN* (Urban/Rural dummy), *NCHILD* (No. of children in the household), *NADULT* (No. of adults in the household), *FHH* (female headed household dummy), *HEADAGE* (the age of the household head), *MAXFEMED* (the education level of the most educated adult female in the household), *POV* (household poverty dummy: 1, if poor, 0, otherwise)

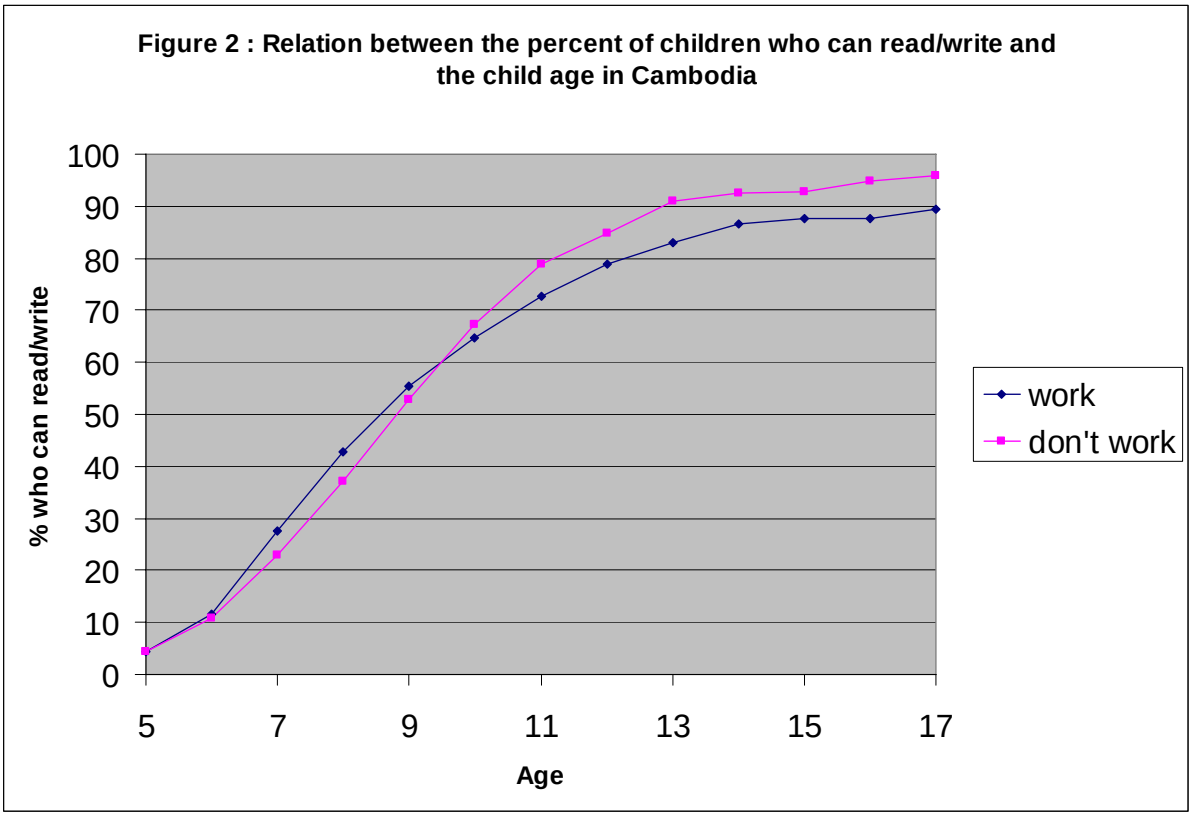
Table 4: Vietnamese Children's Choice between Schooling and Work[(a)]

1992/93												
	Kinh			**Tay**			**Chinese**			**All Vietnam**		
% age of children who are:	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**
(i) In School, but don't work	40.16	28.35	34.30	38.71	25.42	32.23	66.10	43.48	56.19	38.53	26.73	32.70
(ii) In School and work	45.14	57.45	51.25	41.94	49.15	45.45	16.95	41.30	27.62	42.81	55.03	48.85
(iii) Neither in School nor in work	11.02	10.12	10.57	16.13	15.25	15.70	11.86	8.70	10.48	13.46	11.52	12.50
(iv) Not in School but work	3.69	4.08	3.88	3.23	10.17	6.61	5.08	6.52	5.71	5.20	6.71	5.95
1997/98												
% age of children who are:	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**	**Boys**	**Girls**	**Overall**
(i) In School, but don't work	72.41	70.75	71.60	54.55	64.06	59.23	83.33	85.29	84.29	68.93	68.09	68.52
(ii) In School and work	16.29	14.88	15.60	34.85	28.13	31.54	2.78	5.88	4.29	18.36	15.47	16.95
(iii) Neither in School nor in work	6.21	8.38	7.27	9.09	6.25	7.69	11.11	5.88	8.57	7.19	9.02	8.08
(iv) Not in School but work	5.09	5.99	5.53	1.52	1.56	1.54	2.78	2.94	2.86	5.53	7.42	6.45

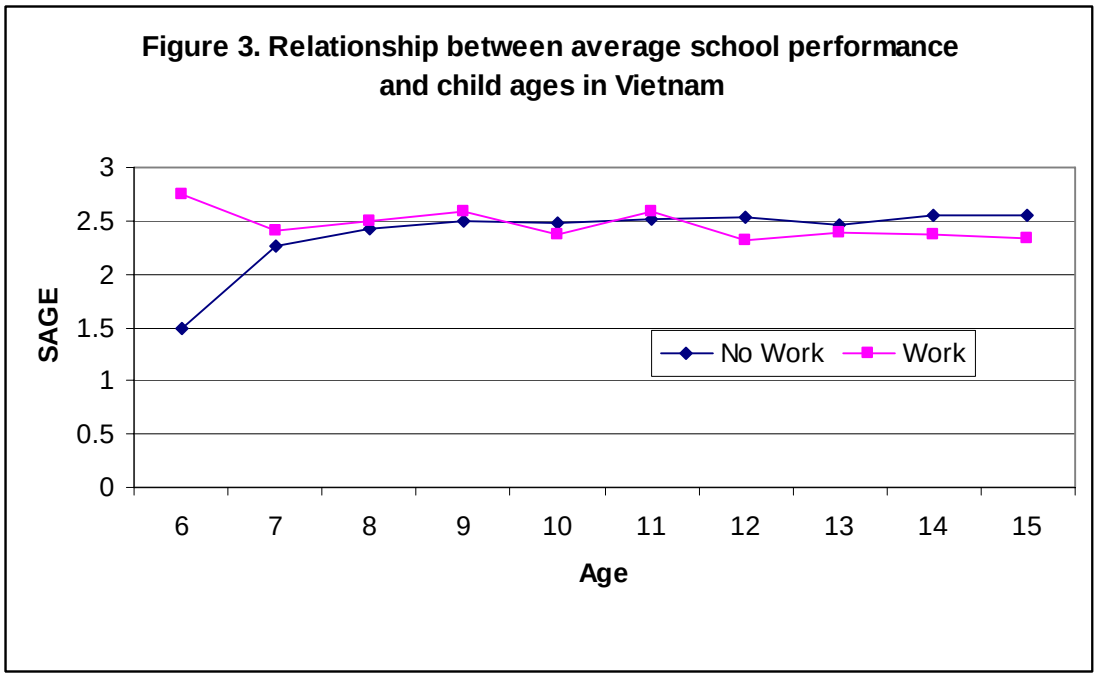
(a) Author's calculations from the VLSS, 1992/93 and VLSS, 1997/98 data sets.



Source: Ray and Lancaster (2005)



Source: Ray and Lancaster (2005)



Source: Author's calculations based on the VLSS, 1997/98 data set

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