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**hildren's participation
behaviour in Vietnam:
combined activities**

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Abstract

This paper examines the influence of children's own characteristics—in particular, their age—and the composition of households on their participation behaviour in different combined activities. In Vietnam, children contribute significantly to the economy and to household activities. Most children combine schooling with work and/or housework. The empirical analysis is based on the Vietnam Living Standards Survey 1992–93. The results suggest that the chance of school children being involved in more than one activity increases with their age. The analysis also shows that the composition of the household, and the sibling structure in particular, is important. The presence of young children, adult females and/or grandparents in the household affects the likelihood of children being involved in various different combinations of activities.

Introduction

Most literature assumes that children either specialise in school or specialise in work. For example, Falkus *et al.* (1997), George (1992), Grootaert and Kanbur (1995a, 1995b), Jomo (1992), Khuda (1991), Kumar (1989), Oloko (1991), Porter (1975), Sharma and Mittar (1990) focus on child labour. Others such as Burney and Irfan (1991), Gertler and Glewwe (1992), Glewwe and Jacoby (1994, 1995) study children's education. Thus, school and work are mutually exclusive. Banning child labour is one of the policy implications of taking such view.

In reality, however, children's participation in different combinations of activities is often observed. The data collected in the Vietnam Living Standards Survey 1992–93 shows that 60 per cent of children continue to participate in work and housework activities while they are in school. If education and other activities are not mutually exclusive, then a very different set of policies may be implied.

It is premature to speculate on policy prescriptions unless we can better understand how children combine schooling with work and housework. As a first step, this paper models children's participation in the context of combined activities in order to describe reality better. In addition, it contributes to the empirical literature by exploring these questions using micro-level data—the Vietnam Living Standards Survey 1992–93—the first such survey of living standards conducted in Vietnam.

Two main issues are addressed in this paper: 1) How do children transit in terms of the combination their activities as they grow older? In other words, what is the impact of children's age on their combined activities? 2) Is household composition, especially the age structure of the siblings, an important factor influencing children's behaviour?

The data

The data used in this study are drawn from the Vietnam Living Standards Survey¹ conducted by the World Bank and the State Planning Committee of Vietnam between 1992 and 1993. It is a national survey, with the aim of collecting data to measure the effects of living standards on households. A random sample of 4800 households was chosen to reflect the distribution of the population in urban and rural areas.

This paper focuses on children from 5 to 15 years of age.² They represent 28 per cent of the survey sample. Within the age group, there are 6672 children in the sample, 3391 males and 3281 females. From the North, there are 3222 children (1646 males and 1576 females). From the South, there are 3450 children (1745 males and 1705 females). Over 80 per cent of children are from rural areas. However, only 5472 children within this age range reported their participation status in different activities.

Three kinds of participation status were reported—work, housework, and schooling. They are defined as follows

- Work—children were considered to have worked if they had spent time in wage employment, or helping in household farm and non-farm household business in the past 7 days.
- Housework—children who were considered to have done housework in the past 7 days were those who answered ‘yes’ to the question: ‘During the last 7 days, have you worked in your home, for example, cleaning the house, preparing meals for your family, washing the family’s clothes, buying food or clothes, fetching water or wood for cooking, building or maintaining household’s house, livestock enclosures, making or repairing tools, vehicles, means of production, etc.’?’
- School—School children were those who answered ‘yes’ to the question: ‘Is [name] attending school this year (refer to the previous year if summer break)?’ In Vietnam, primary education is compulsory. The official school entering age is 6 years. Almost all children between 6 to 10 years were in school.

Table 1 summarises the distribution of the 5472 children who reported their participation status across different activities. Most school children combine schooling with other activities. Of the children no longer attending school, most fall into the category of ‘work and housework only’.

Due to missing values in some variables, the sample that is actually used in the empirical work only consists of 3924 observations. The means and standard errors of the variables used and their brief definitions are shown in Table 2.

Table 1 Distribution of children in different activities

| Activities | No. of children | Per cent |
|--------------------------|-----------------|--------------|
| In school | | |
| School only | 1913 | 41.4 |
| School & work only | 382 | 8.3 |
| School & housework only | 1600 | 34.6 |
| School, housework & work | 723 | 15.7 |
| Total | 4618 | 100.0 |
| Not in school | | |
| Work only | 140 | 16.4 |
| Work & housework only | 499 | 58.4 |
| Housework only | 168 | 19.7 |
| Doing nothing | 47 | 5.50 |
| Total | 854 | 100.0 |

Table 2 Definitions, means and standard deviations of variables

| Variable | Definition | Mean | Standard Deviation |
|------------------|---|--------|--------------------|
| Children | | | |
| AGE | Age of the child | 10.58 | 2.56 |
| AGESQ | Square of the child's age | 118.58 | 55.56 |
| GENDER | Coded one if he is a boy | 0.51 | 0.50 |
| Father | | | |
| FOCC | Coded one if father has agricultural occupation | 0.71 | 0.45 |
| FSCH | Father's years of schooling ³ | 8.00 | 3.69 |
| Mother | | | |
| MOCC | Coded one if mother has agricultural occupation | 0.72 | 0.45 |
| MSCH | Mother's years of schooling | 6.53 | 3.46 |
| Household | | | |
| WKINPER | Weekly household income per capita ⁴ ('000 dong) | 22.35 | 14.20 |
| GRANNY | Coded one if grandparent present | 0.18 | 0.38 |
| UNDER5 | No. of children under 5 years old | 0.51 | 0.72 |
| NOCHILD(5–15) | No. of children between 5 to 15 years old | 2.77 | 1.09 |
| PROPF | No. of adult females as a proportion of household size | 0.25 | 0.10 |
| ETHNIC | Coded one if Kinh majority | 0.90 | 0.31 |
| URBAN | Coded one if residing in the urban area | 0.16 | 0.37 |
| REGION | Coded one if residing in the North ⁵ | 0.55 | 0.50 |

The econometric model

Multinomial logit model is estimated. The eight mutually exclusive categories as showed in Table 1 are indexed by j , where $j = 1, \dots, 8$ respectively.

$$Prob(y_{ij}) = b_{0i} + b_{1i}X_i + b_{2i}Y_i + b_{3i}Z_i + u_i$$

where

$y_{ij} = 1, \dots, 8$ if the child i participates in one of the activities, j .

X is a vector of children's demographic characteristics.

Y is a vector of parental characteristics.

Z is a vector of household characteristics.

Results

The pseudo R^2 indicates a reasonable fit. A comparison of the actual and the predicted probabilities is presented in Appendix 1. Re-estimation of the models with a constraint rejects the null hypothesis that there is no distinction between one option and another. The estimation results are presented in Table 3. Children who specialise in school are used as the reference group.

Table 3 Multinomial logit for type of participation of children (School only as the reference group)

| Symbol | Variable | School and work only | School and homework only | Estimated coefficients All | Work only | Housework only | Work and homework only | None |
|-----------------------------------|------------------------------------|----------------------|--------------------------|----------------------------|----------------|----------------|------------------------|----------------|
| Children's characteristics | | | | | | | | |
| AGE | Age | 1.625 | 1.693 | 2.872 | 5.369 | 5.090 | 6.704 | 4.168 |
| AGESQ | Age-squared | -0.051 | -0.059 | -0.093 | -0.159 | -0.145 | -0.233 | -0.125 |
| GENDER | Gender | 0.305 | -0.523 | -0.538 | 0.380 | -1.727 | -1.386 | -0.155 |
| Parental characteristics | | | | | | | | |
| FSCH | Father's years of schooling | -0.026 | -0.011 | -0.022 | <i>-0.074</i> | -0.131 | -0.153 | -0.178 |
| MSCH | Mother's year of schooling | -0.028 | 0.024 | 0.009 | -0.193 | -0.051 | -0.144 | -0.071 |
| FOCC | Father's agricultural occupation | 0.760 | 0.107 | 0.716 | 0.827 | 0.799 | <i>0.586</i> | 0.896 |
| MOCC | Mother's agricultural occupation | 0.749 | 0.279 | 0.876 | -0.166 | 0.509 | -0.080 | 0.272 |
| Household characteristics | | | | | | | | |
| WKINPER | Weekly household income per capita | -0.016 | -0.002 | -0.013 | <i>-0.023</i> | -0.030 | -0.031 | -0.006 |
| GRANNY | Presence of grandparents | -0.014 | -0.257 | 0.181 | -0.211 | 0.130 | -0.066 | -0.190 |
| UNDER5 | No. of children under 5 years | 0.302 | 0.385 | 0.385 | 0.408 | 0.613 | 0.525 | 0.422 |
| NOCHILD(5-15) | No. of children between 5-15 years | 0.090 | -0.163 | -0.049 | -0.040 | 0.063 | -0.083 | 0.222 |
| PROPF | Proportion of adult females | 0.655 | -2.664 | -3.417 | -4.565 | -2.926 | -3.557 | -0.759 |
| ETHNIC | Ethnic | -0.255 | 0.183 | -0.113 | -0.091 | -0.001 | -0.227 | 0.372 |
| URBAN | Urban | -0.367 | -0.530 | -0.843 | <i>-0.874</i> | -0.914 | -0.369 | 0.226 |
| REGION | Region | 1.914 | 0.582 | 1.871 | 1.500 | 2.065 | 0.389 | 1.222 |
| | Constant | -14.396 | -10.244 | -20.958 | -41.622 | -40.128 | -44.233 | -35.396 |
| | No. of observations | 3924 | | | | | | |
| | Chi ² | 3281.440 | | | | | | |
| | Degree of Freedom | 105 | | | | | | |
| | Pseudo R ² | 0.259 | | | | | | |

Note: The estimated coefficients in bold are significant at 5 per cent level and those in italics are significant at 10 per cent level.

The results show that children's age is important in determining their activities. Various studies show that as children grow older the probability of being involved in some kind of work increases (Cain 1980; Khuda 1991; Nag, White, and Peet 1980). We also find similar results. The model allows the relationship between an activity and age to be non-linear, and we find that both the linear and quadratic term are statistically significant.

Figure 1 shows the relationship between age and the predicted probability of undertaking different combinations of activities. The predicted probability of being in 'school only' falls rapidly from almost 100 per cent at a young age to less than 10 per cent at 15 years. The downward trend at early age suggests that although compulsory primary education ensures that children are in school, they are increasingly taking up other responsibilities as they grow older.

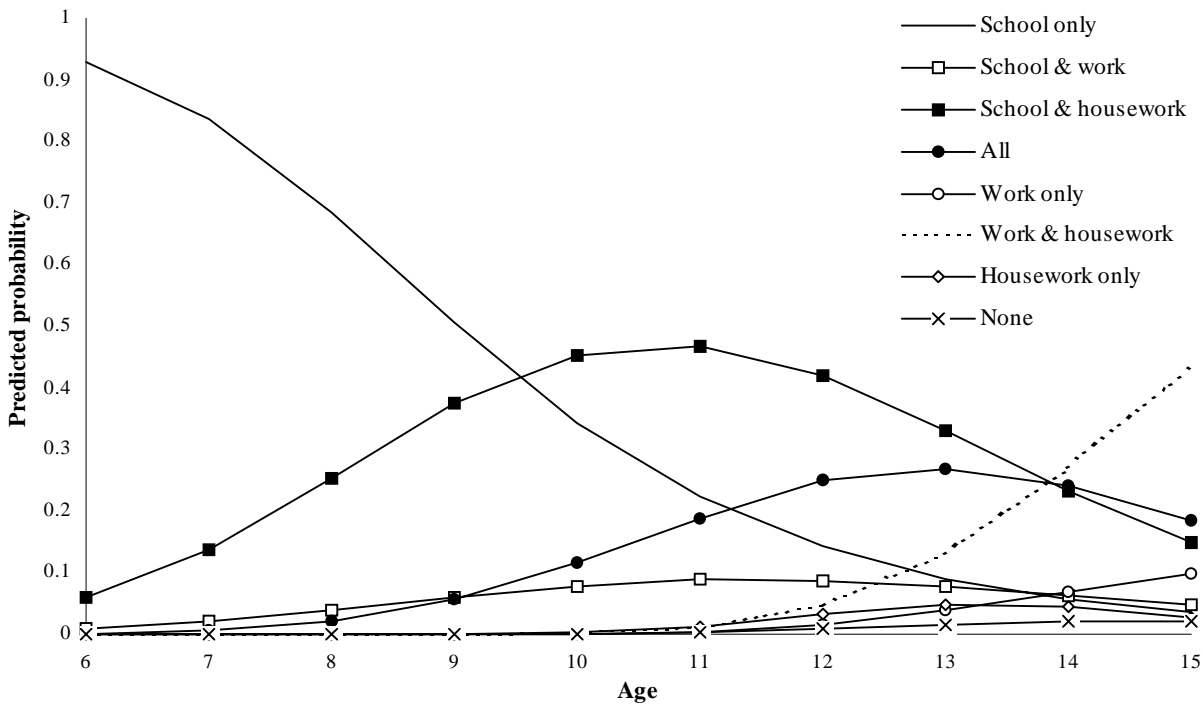
The probabilities of children falling into the categories of 'school and housework only' and 'school and work only' rise then fall beyond 11 years. The latter rises at a slower pace than the former. The decline in the probabilities of these two types of combinations reflects, on one hand, the fact that more school children are moving into the 'all' category as illustrated in Figure 1 and, on the other hand, that more children stop going to school as they grow older. The latter translates into a rise in the predicted probability of the categories relating to children no longer in school. In particular, the predicted probability of falling in the 'work and housework only' category increases sharply beyond 11 years—over 40 per cent of children are in this category at 15 years of age. The predicted probability of 'work only' also increases throughout the older ages, but at a slower rate.

The proportion of children not engaging in any activity is fairly low throughout the age range. This highlights the notion that children contribute towards households and the economy as a whole by engaging in economic activities in one way or the other.

Which is the most common combination among children? The 'school and housework only' category is the most popular among young school children. Nevertheless, the proportion of school children in the 'all' category increases to become a more important time use pattern for children between 11 and 13 years of age. The category of 'work and housework only' is increasingly common among older children, and accounts for over 40 per cent of children at 15 years.

If participation in all three activities is the most common mode among school children over 14 years old, and participation in 'work and housework only' becomes the most common combination beyond that age for children no longer in school, what are the implications of the participation patterns of children in Vietnam? One implication is that housework requires children's efforts even when they take up work responsibilities as they become older. For instance, those who start with 'school and housework only' at a young age are likely to divert their effort into work while remaining continuously involved in housework. Equally, school children involved in 'school and work only' initially are likely to pick up household chores as they become older. The role of children as producers of home goods is highlighted.

Figure 1 Predicted probability of children undertaking different combined activities, by age



Family size is also often cited as an important factor in determining the kind of activities in which children participate. Some argue that larger families dilute the resources available per child given the resources constraint, therefore reducing the probability of a child being in school (Knodel and Wongsith 1991; Blake 1989; Blau and Duncan 1967; Leibowitz 1974; Steelman and Powell 1991; Paqueo 1985; Baucer and Racelis 1991). Others, such as Chernichovsky (1985), argue that larger families allow children to specialise in different activities due to diminishing returns to own-household labour. Therefore, some children specialise in school while others work and do housework. The empirical evidence has been inconclusive. While there is no doubt that family size influences children's behaviour, it is hypothesised that it is the composition of the household, including the presence of grandparents, the proportion of adult females in the household, and the age structure of the siblings, that is important.

Grandparents in Vietnam often play an important role in the house, especially in home production. They can substitute for children in doing household chores. With grandparents doing housework, the likelihood of children participating in other activities may increase. The results are in line with these expectations and the variable is statistically significant. The presence of grandparents reduces the probability of children combining school and housework relative to the reference group. This highlights the role of grandparents in home production. Their home production time may be substitutable for that of children.

The insignificance of this variable in the categories relating to children no longer in school underscores the role of grandparents in easing the time constraint of school children in household chores.

Other dimensions of household composition are likely to be important in affecting children's participation choices. This might be especially so in the area of housework where the number of female household members may matter. More female members in the household may be associated with more sharing of household and work-related responsibilities, thus reducing the probability of a child being involved in housework-related and work-related categories.

As the theory predicts, an additional adult female in the household increases the likelihood of children specialising in school relative to the reference group. This finding highlights the complex nature of intra-family relationships in terms of cross substitution among household members in different activities.

Furthermore, it is hypothesised that the age of the siblings is important. It might be expected that households with children under 5 years of age will have higher demands for hours in home production, particularly in the area of childcare services. With children under 5 years old, older children may have to substitute for their mother in doing some tasks. This theory is supported by Levison's (1991) study in urban Brazil.

The results here suggest that with an extra young child, the probability of older children engaging in housework increases, either alone or combined with other activities, relative to that of the reference group. In other words, an additional young child reduces older children's chance of being in school, highlighting the trade-off between quality and quantity in having children.

An additional child between 5 and 15 increases the probability of a particular child being in the 'school only' category relative to the 'school and housework only'. In other words, one more child between 5 and 15 increases the chances of a particular child specialising in schooling, because other siblings may take up household responsibilities. No clear evidence has been found to support the theory of 'specialisation' but the result here highlights the cross substitution among school age siblings.

While one extra young sibling has a negative effect on an older child's chance of specialising in his or her studies, an additional older sibling has a positive impact. It appears that the quality and quantity trade-off of having children better explains the impact of a younger child on older ones, whereas cross substitution better describes the effect of children of school entering age on each other. Evidence documented in the literature has not been conclusive. These findings, however, may not be contradictory. The analysis of this study indicates that cross substitution or the quality and quantity trade-off are not inconsistent. Both are correct in explaining different factors relating to the age of the siblings. This underscores the importance of the age structure of siblings in influencing children's participation behaviour.

Conclusion

This paper has investigated the participation behaviour of children in Vietnam. Instead of focusing on single activities as in the existing literature, this paper has extended the scope to their participation in different combinations of activities. This allows a more realistic description of the state of children in Vietnam.

The analysis shows that among young children, combining schooling and housework is most popular. However, once children reach 14 years or so, combining all activities becomes most common. Most children older than 13 years are no longer in school. For these children, combining work and housework becomes the most popular activity.

The analysis also demonstrates the importance of the composition of the household, especially the age structure of siblings and the proportion of adult females, in influencing the probability of children being in various categories.

This paper demonstrates that the relationship between children's work and schooling is far more complex than has been suggested in the existing literature. While they are in school, children contribute by combining schooling with work and/or housework. Work may have a negative impact on schooling, but some children may earn their way to school by participating in other activities. Before considering the impact of work on children's schooling, more empirical research is needed which takes into consideration the combined nature of children's participation.

Appendix 1: a comparison between the actual and predicted probabilities

Table 4 Comparison of actual and predicted probabilities

| Activities In school | Actual probability | Predicted probability |
|--------------------------|--------------------|-----------------------|
| School only | 0.414 | 0.438 |
| School & work only | 0.083 | 0.082 |
| School & housework only | 0.346 | 0.309 |
| School, housework & work | 0.157 | 0.172 |

Notes

1 The Vietnam Living Standards Survey is part of a series of living standards surveys being conducted in a number of developing countries by the World Bank and the central statistical agencies. This was the first time such a survey has been conducted in Vietnam, but not the last. The World Bank plans to carry out follow-up surveys on an ongoing basis, one of which is to be conducted in 1997–98.

2 We decided to limit the analysis to children between 5 to 15 years of age. Arguably, children in upper secondary school should be included in our sample, that is, by extending the upper age limit of our target group to 17 years old. However, given that the proportion of children not in school is quite large at ages greater than 15 years (around 60 per cent of children of 15 years of age were not in school), we decided to exclude all those over 15 years old.

3 Instead of calculating the year of schooling by the traditional method—subtracting the years of experience and the school entering age from age—I derive the year of schooling by combining the data on the highest degree/diploma attained, the highest grade completed, and the year of high school, vocational school, university/college finished. For example, a person reported that his highest degree/diploma was technical worker. His highest grade completed was grade 9 and the year of vocational school he completed was first year. Then his year of schooling is 10. If a person answered none to all questions on the highest degree attained, the highest grade completed and the year of high school finished, then this person has zero years of schooling. The reason for not using the traditional method is due to the possible interruptions of schooling because of the war and political instability in the 1970s.

4 Household expenditures are used as a proxy for the household income. Household expenditures in the 12 months preceding the interview include the following components: 1) food expenditures—values of annual market purchases, value of home produce consumed during the year; and 2) nonfood expenditures—frequently purchased nonfood items (such as cigarettes, tobacco, areca nut, cooking fuel, soap and detergents, parking fees and so forth), the use value of consumer durables, utilities (for example, expenditures on electricity, drinking water, laundry and bathing water), rent, education, health, in-kind wages. The total household expenditures variable is then divided by 52 weeks a year to derive the weekly figure.

5 The north includes the northern mountainous area, the Red River Delta, and the north central area. The south includes the central coast, the central highlands, and the Mekong Delta.

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Acknowledgments

Abstract

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