Buffering Inequalities:
The Safety Net of Extended Families in Cameroon

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ABSTRACT

Extended family systems play an important role in buffering socioeconomic inequality in African societies, notably through fosterage of children across nuclear family units. Yet, there is concern that this support system would break down under the influence of globalization and recent economic crises. Whereas previous scholarship to address this concern has focused on trends in *rates* of family extension/ fosterage, we argue in this paper that a full account of trends in the buffering influence of extended families requires simultaneous attention to trends in (a) fosterage rates, (b) the distribution of fosterage opportunities, (c) the ameliorative effects of fosterage.

This study focuses on the buffering influence of fosterage on schooling inequalities. Taking Cameroon as a case study and using the retrospective fosterage and schooling histories of 2,257 children, we examine the historical trends in these three proximate determinants of the buffering influence of extended families. Findings suggest that while the ameliorative effects of fosterage (once children are fostered) have not changed over time, both the rates and the distribution of fosterage opportunities have changed in ways that raise concern for children at the bottom quintile of the resource distribution.

INTRODUCTION

In contrast to the archetypal Western family, African families and households often extend beyond nuclear boundaries. This extended system permits frequent exchanges of resources and children across nuclear family units in ways that are presumed to reduce socioeconomic inequality. The notion that extended families provide a social safety net and buffer socioeconomic inequalities has gained credence in the literature on families and inequality in Africa, in studies focused on class conflict (Courade 1994), welfare inequality across households (Mahieu 1989; Castle 1995, Ainsworth 1996), or schooling inequalities among children (Lloyd 1994).

Yet some observers increasingly worry that this family system is becoming overextended and may no longer provide an effective buffer to inequality (Lange 1993; Courade 1994; Coussy and Vallin 1996). These concerns are justified by recent and profound changes in the environment under which new generations of Africans make decisions about family formation. To begin, globalization processes have continued to bring African households into ever-closer contact with other norms of family life. More importantly, the severe economic downturns experienced by many African countries in the 1980s and 1990s further created a theoretical impetus for small families among middle classes (NAS 1993), whether such families were to be achieved by reducing fertility or by nucleating. More recently, the death toll from Africa's HIV/AIDS epidemic has expanded the pool of orphans dependent on surviving relatives. Together, Africa's economic and health crises created two contradictory pressures on extended-family support networks. While the increased hardships aggravated the poor's dependency on extended family assistance, the same pressures compromised the ability of middle-class couples to maintain assistance to needy relatives.

How African families respond to these pressures is a matter of both scientific and policy importance. The reproductive transitions currently under way in Africa offer demographers one last opportunity to understand how societies evolve from a regime of large families to one of small families. Although demographers have focused their attention on fertility (childbearing), a full account of these transformations must include changes in childrearing practices such as the education and fosterage of children. Contemporary changes in African families are also critical from a policy standpoint, at a time when African countries seek to reduce poverty and educational inequalities in the context of UN Millennium Development Goals (UN 2001). Efforts to reduce inequality will depend in large measure on continued economic redistribution within extended families.

The purpose of this paper is to examine recent changes in the buffering capacity of extended- family systems in Africa, focusing on the effects of child fosterage. The general thesis behind this research is that the buffering capacity of fosterage networks depends on three conditions, any single one of which can compromise its efficacy as a safety net. At a minimum, fosterage must be prevalent, i.e., many children must be found to live away from their biological families. Second, fosterage opportunities must be distributed on the basis of need, i.e., children must be fostered predominantly from families of low opportunity into families of high opportunity. Finally, fosterage must be beneficial, i.e., fosterage must promote better outcomes

for the children involved. A full analysis of the functional effectiveness of fosterage must therefore address questions about the prevalence, the distribution, and benefits of fosterage:

(a) Prevalence: How prevalent is child fosterage, and how has its prevalence changed historically and under the influence of changing economic conditions?

(b) Distribution: Are fosterage opportunities distributed according to need, and how has this distribution changed historically?

(c) Benefits: Does fosterage significantly improve the schooling outcomes of fostered children, and how has this ameliorative influence changed over time?

Previous research has addressed the first question (McDaniel and Zulu 1996; Dow et al. 1994), but the data typically have not been available to examine the latter two questions in historical perspective. This study takes advantage of a dataset containing the schooling and fosterage histories of a large number of pupils in Cameroon in order to advance the previous literature on family change in Africa. Its main contributions are twofold: first, we empirically assess the presumed buffering influence of fosterage on schooling inequalities. Second and more importantly, we examine the historical change in this buffering, i.e., whether extended families and fosterage still serve as a mechanism of economic redistribution and how their operation depends on economic conditions.

BACKGROUND

The existence and persistence of extended-family systems can be explained by extant macroeconomic conditions. One such account is provided in Becker's *Treatise on the Family (1981),* where "the traditional family is depicted in the context of a risky but stationary world where mutual help and insurance across generations in extended families can play an important role in the lives of individuals, and where the kinship group exercises close control over their lives and marriages" (Ben-Porath 1982, p. 56). From an economic perspective, then, kinship ties and extended families tend to be especially important in economies where markets are incomplete. Other macroeconomic influences have been suggested: economic inequality and the demand for domestic labor in urban households create a demand for foster children and pull rural and poor children into the middle-class households of urban areas. Differences in community infrastructure are also an important consideration, especially in the context of educational fosterage. The concentration of secondary schools in urban areas means that rural pupils wishing to advance beyond primary school must seek residence with urban relatives.

Macro-demographic factors are critical as well. Large differences in fertility and the incidence of childlessness promote fosterage for both labor and companionship. One can apply Massey's migration network theory (Massey et al. 1993) and expect fosterage streams to persist and grow once an initial group of foster-migrants reduces the costs of information and facilitates settling at a given destination.

While macro-level influences are important, much of the discussion on fosterage has focused on micro-level decision-making, emphasizing the motivations of both sending and receiving households, as well as the constraining influence of norms (Mahieu 1989). At this

level, fosterage can be construed as a bargain between sending and receiving households. For many poor families, out-fostering children holds the promise of a better life for their children. Even if these parents must forgo the immediate labor contributions of their children, they expect to benefit in the long run when their children gain a foothold in the urban labor force. These expectations of economic mobility mean that urban families in Africa face constant pressure to take in additional relatives, especially youth seeking education and employment. The motivations of host families can be semi-altruistic, if socialization puts a cultural premium on extended-family assistance (Caldwell 1982). Motivations may also be construed as a pay-back for the selective care received in youth (Lee et al. 1994; Schultz 1995), a means to avoid ostracism, validate one's status, or access family labor (Mahieu 1989; Castle 1995; Ainsworth 1996).

Fosterage does not always result from an explicit and formal bargain, but rather from a unilateral decision and sly maneuvering from the sending party without the full awareness of all members of the receiving household (Eloundou-Enyegue and Stokes 2002). Whether a formal bargain takes place or not, however, admission is often vetted to some extent by receiving households. Decision-makers in the receiving household will consider a wide range of factors, including the nature of kinship ties with – and potential favors that can be expected from – the sending family.

As importantly, the receiving household will evaluate whether it can reasonably accommodate this addition within the household budget. Although social expectations and obligations towards close kin remain a powerful factor in the region, budgets are expected to be an important constraint. National economic circumstances become important in this light. Among the numerous changes in sub-Saharan Africa in the last decades, the 1980s economic crises have been noted for their potential demographic effects, whether in fertility and schooling (NAS 1993; NAS 1999) or in household composition (Eloundou-Enyegue and Stokes, 2002; Ngondo, 1996). Cameroon, the country studied here, experienced a particularly sharp economic crisis during the latter portion of the 1980s. An especially relevant aspect here is the extent to which this crisis was felt in rural as compared to urban areas. Eloundou-Enyegue et al. (2000) have argued that the crisis in Cameroon was more severe in urban places. This clearly has an adverse impact on the ability of urban households to receive out-fostered rural children, and thereby would inhibit opportunities for economic mobility of children from rural households.

The abundant literature on fosterage in Africa has largely focused on its prevalence and determinants. Among these factors, Vandermeersch (2002) includes the marital history and marital status (polygamous versus monogamous) of the mother, her employment activity, and the number of children in the household. Out-fostering tends to be more prevalent among women who had births outside of marriage, do not live with their spouse, or experienced marital disruption. Fostering thereby enables these women to confront difficult situations such as divorce, widowhood, or non-marital births, via redistribution of their children within the extended family. Employed women are more likely to out-foster their children, presumably to alleviate conflicts between work and motherhood. And children with greater numbers of younger siblings are more likely to be out-fostered. Similar factors are noted in Eloundou-Enyegue and Stokes (2002), who further note important differences in out-fosterage rates between urban and rural areas.

On balance, much of the research on out-fostering of children reviewed by Vandermeersch suggests that extended families serve a safety-net function. To the extent that women in difficult circumstances are able to out-foster children to relatives in better circumstances, it seems likely that this safety-net function will work to reduce socioeconomic inequalities. Despite great interest in the impact and plausible arguments why fosterage would buffer inequality, few studies have actually explored the impact of fosterage and extended-family systems on inequality, let alone how these may have changed over time.

SETTING, DATA and METHODS

Cameroon provides an interesting setting for examining trends in fosterage and their impact on schooling inequalities. Not only do Cameroon's fosterage and school enrollment rates fall within the median range among African countries, but as noted above, Cameroon experienced a particularly abrupt economic downturn since the late 1980s. This downturn was expected to induce profound adaptations in demographic behavior. Coming off a decade of steady growth, Cameroon's GNP per head plummeted from $1,030 in 1987 to $650 in 1995. To the extent that crises affect child fosterage, Cameroon's abrupt reversal should induce visible responses in fosterage patterns. In 1995, while the country was still under crisis (but showing a few signs of recovery), we conducted a survey of 812 households in 17 rural and urban communities in the Central province, with the specific purpose of assessing the changes in reproductive behavior during this period. The study was designed to cover several aspects of reproductive behavior, including childbearing and childrearing practices such as the education and fosterage of children. Given the focus on fertility and childrearing practices, but also given the need for a historical view, no upper age boundary was set for the eligibility of female respondents and the lower boundary was 15. Within sampled households, we interviewed the senior female of the household and occasionally one other female if other eligible women were present.

The questionnaire included a family history module in which interviewers used life history calendars to reconstruct the family's demographic history, including the schooling and fosterage histories of individual children. These histories served to create event-history data files in which line records contain annual information about the fosterage and school enrollment status of each child as well as the child's other life and household circumstances as of the index year. A child could thus contribute multiple observations to the data set, one for each year between the time they entered school until they exited school, died, reached age 24, or until the survey year, whichever came first. The sampled women had a total of 3,082 children, of whom 2,257 had ever entered school. Together these 2,257 children contributed 17,208 years of observation.

The resulting data set presents three advantages for the purpose of this study. First, the information on children's circumstances is updated annually, making it feasible to tie a child's outcomes to his/her contemporaneous circumstances. Second, because there was no upper age boundary for respondents' eligibility women, the sample covers a range of birth cohorts that permits historical analysis of trends from the early 1960s until 1995, the survey year. Finally, the survey covered both rural and urban areas, and stratification of urban samples was designed to

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permit a wide representation of all socioeconomic groups, making it possible to examine the distribution of fosterage opportunities across socioeconomic classes.

Variables

The two dependent variables used throughout the study are the risks of out-fosterage and dropout. Both variables are measured annually and dichotomously. Out-fosterage is coded 1 if a child is currently living away from parents during a given school year and 0 otherwise. School dropout is coded 1 if a child who was enrolled during the preceding year permanently leaves school during the index year.

The main independent variables in the study include the historical trend, economic conditions, a child's resource endowment, and fosterage status. Historical trends were assessed by considering the logarithm of number of years since 1959. Analyses include a linear and quadratic term for trends. Economic conditions were measured by an index combining the change in GNP per capita in a year relative to the average during the last three years and the number of previous consecutive years during which the same trend in GNP (increase or decrease had been observed). The larger the increase and longer GNP had been rising, the better the economic conditions. Conversely, years of poor economic conditions were those showing a decline in GNP per capita and followed several other years of GNP declines. A third independent variable was a pupil's resource endowment. This measure was operationalized as a function of a child's family SES and size. First, family SES was measured on a scale ranging from 1 to 12, based on ownership of various consumer durables. Then this SES index was divided by the child's sibship size at the time of survey. The lower the SES and the larger the number of siblings, the fewer resources a child was presumed to have available. Conversely, the higher the family SES and the lower the number of siblings, the higher the child's score on the resource endowment scale. Based on their scores, children were classified into quintiles reflecting their position in the distribution of resource endowments. A fourth independent variable, fosterage, was used in the models of schooling.

Both fosterage and schooling are expected to depend heavily on a child's age and stage in the school cycle. Analyses thus control for these primary factors, as well as other factors that have been identified as relevant in the previous literature, including their school performance, their mother's education and marital status, and their sibling's employment status. A brief definition and summary statistics for these variables are given in each of the tables.

Analyses

The main analyses were based on logistic regression models for the effects of selected variables on fosterage and schooling. Several models were constructed for fosterage and schooling, and each was designed to address a specific study question. There were two sets of fosterage models, the first designed to evaluate the prevalence of fosterage and the second designed to examine the distribution of fosterage opportunities. Schooling models were all designed to assess the ameliorative influence of fosterage, whether for the entire population, for different subgroups (based on sex and child's resource endowment), or how this ameliorative influence had changed over time. The results of the logistic regression analyses are presented in both logit units and

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odds ratios. However, most of the discussions are based on odds ratio values, which represent the multiplicative effects of the corresponding independent variable on the odds of out-fosterage or school dropout, respectively. Consistent with the study objectives, findings are presented in three sections focusing on the prevalence of fosterage, the distribution of fosterage opportunities, and the ameliorative influence of fosterage on schooling. Within each section, the discussion covers the main effects and how these have changed over time.

RESULTS

The prevalence of fosterage

The study results on the prevalence of fosterage are found in Models I and II in Table 1. The left-most column contains the means and shows that about 10 percent of all the children's schooling years are spent in fosterage. While this estimate is lower than the DHS estimates of fosterage rates in Cameroon (DHS 2003), much of the difference is attributable to definition and design. Because sampling was based on mothers rather than children, the analyses exclude orphan children who would have raised fosterage rates. Equally important is the composition of our sample, which includes many pre-teen and primary school pupil-years (48 percent and 78 percent of all pupil-years, respectively), when pupils are much less likely to be out-fostered. As the analyses show, pupils in high school are over three times (OR=3.19; p<.001) more likely to be out-fostered than those in primary school. Fosterage also appears to increase with age, although the increase is not linear.

In addition to being higher among high-school and older pupils, the risks of fosterage also depend on a pupil's sex and school performance, as well as the siblings' employment status and the mother's marital status. Families are significantly less likely (OR =0.89, p<.05) to out-foster girls than boys, and they are also less likely to out-foster children who are doing well in school. Presumably because they have better fosterage opportunities, children who have at least one formally-employed sibling are more likely (OR=1.44; p<.001) to be out-fostered than those who do not. Finally, children whose mother is currently married are significantly less likely (OR=0.55; p<.001) to be out-fostered compared to children whose mother is not. Altogether, the data suggest that the educational fosterage of these children varies substantially, depending on the stage in the child's schooling and life cycle, as well as family circumstances.

Model I in Table 1 examines the historical changes in fosterage rates. Rates have significantly changed over time, but the trend has been curvilinear. The linear logit term for time (-1.06) and the quadratic term (0.22) suggest that rates were declining at first but that they have been rising since the early 1970s. This historical increase is not only statistically significant, but substantively important as well. As of 1995, for instance, the odds of out-fosterage were expected to be about 24 percent higher than they were in 1980, i.e., roughly an annual increase of 1.6 percent.

Given the widespread interest in the consequences of economic downturns on reproductive behavior, an important question is how economic fluctuations affect fosterage. Model II in Table 1 shows the relationship between prevailing economic conditions and fosterage rates. Again, the index of economic conditions combines both the economic trend

during the index year (whether an increase or decrease in GNP per capita) and also the duration of this trend, i.e., the number of consecutive years in which this trend had been observed. Consistent with theoretical expectations, periods of favorable economic conditions were associated with above-trend rates in fosterage (OR=1.04; p<.05). Therefore, while rates of fosterage have tended to increase historically, they were expected to fall below trends during periods of economic difficulty.

Distribution of fosterage and historical trends

Fosterage can effectively reduce schooling inequality only if pupils are predominantly transferred from vulnerable to less vulnerable households. This study does not contain information on destination households, and analyses are thus confined to out-fosterage and to the characteristics of origin households. Model III in Table 1 examines how the risks of out-fosterage depend on the pupil's resource endowment. Pupils are grouped by quintile, with the bottom quintile used as the reference group. Results show a striking curvilinear pattern in which pupils in the second quintile are the most likely to be out-fostered. These pupils are more prone to be out-fostered (OR=1.4; p<.001) than pupils in the bottom quintile, who are themselves more likely to be out-fostered than pupils in the third quintile (O.R=.975; n.s.), the fourth quintile (OR=0.77; p<.01), and the top quintile (OR=0.42; p<.001). These results suggest that fosterage is driven by both need and opportunity. The fact that the top three quintiles are less likely to be out-fostered than either of the bottom two quintiles indicates that fosterage is distributed according to need. If need were the sole criterion, however, the bottom quintile should also be more likely to be out-fostered than the second quintile. Instead, the reverse is true. Perhaps the poorest children (who presumably need fosterage most) do not have good access to fosterage networks or their families may be less able to exert pressure on relatives.

Model IV examines whether the distribution of fosterage opportunities has changed over the years, i.e., whether fosterage has become increasingly directed to meet the needs of the poorest. Results for the top three quintiles show no significant change over the period studied. On the other hand, significant changes occurred among pupils in the second quintile (the group with the highest rates of out-fosterage), as this group became even more likely to out-foster children. Logistic regression estimates associated with the linear and quadratic interaction terms are both significant (OR= 0.009; p<.05; and OR=2.62, p<.01, respectively) and suggested a curvilinear pattern similar to what was observed for the overall rates of fosterage. Even as the total rates of out-fosterage increased, this group has increasingly received a larger share of fosterage opportunities, i.e. the buffering effect has increased for this group.

Ameliorative effect of fosterage and historical trends

Granted that children with low resource endowment are likely to be out-fostered, does this transfer ultimately ameliorate their schooling outcomes? Estimates for these ameliorative effects are presented in Table 2. Model I estimates the overall effects, while Models II and III examine possible differences in impacts, based on pupil's gender (model II) or initial resource endowment (Model III). Finally, model IV examines the historical changes in these effects to see if they have changed over time.

In estimating the effects of fosterage, Model 1 controls for several correlates of schooling. Focusing first on these control variables, the analyses show that the odds of dropping out depend significantly on the child's resource endowment, gender, birth order, level of schooling, repeat status, and mother's education. The risk of dropout declines steadily with a child's resources. Compared to pupils at the bottom quintile of the distribution in resource endowments, children in the third quintile (OR= 0.52; $p < .001$), the fourth quintile (0.46; $p< .001$) and the top quintile (OR=0.38; $p < .001$) are significantly less likely to drop out of school. Although pupils in the second quintile are also slightly less likely to dropout, the difference is not significant (OR=.99; p=.91). Girls are much more likely to drop out of school than boys (OR=1.52; $p <.001$). Later-born children are also more likely to drop out than first-born children (OR=0.68; $p<.01$), presumably either because of a trailblazing effect or because sibling chains of assistance imply that younger children have access to the resources of their older siblings. Dropout rates are significantly higher among pupils who repeat grades, whether they repeat for the first time (OR=2.70; $p<.001$) or a higher-order time (OR=8.59; $p<.001$). Having a mother who has completed primary school also reduces the child's odds of school dropout (OR=0.62; $p<.001$).

Focusing now on the ameliorative effects of fosterage, Model I indicates that fosterage does indeed reduce the risk of dropout by about a third (OR=0.66; $p<.01$) compared to children with similar characteristics who are not fostered out. Of course, an important question is whether these ameliorative influences depend on the level of schooling and on the child's initial level of resource endowment. The analyses presented under Model II examine possible gender differences in the impact of fosterage on schooling. Contrary to expectations from some of the anthropological literature on fosterage, girls do not appear to reap significantly fewer benefits from fosterage, at least as far as enrollment is concerned (OR=1.09; n.s.). Similarly, Model III, which examines differences in the payoffs of fosterage by resource endowment, shows no significant differences except for a weak effect for quintile 5. Regression to the mean alone would lead one to expect the gains from fosterage to be higher among the most vulnerable groups. Although the direction of findings is consistent with theoretical predictions, these differences are not statistically significant at the .05 level. In sum, while the results in Table 1 showed that fosterage rates may vary across groups, the schooling returns to fosterage appear to be similar across groups.

The final question, addressed in Model IV, is whether these ameliorative effects of fosterage have changed over time. It appears that while fosterage rates themselves were increasing historically (Table 1) and while the education levels were rising historically in the study setting, the ameliorative effects of fosterage have not changed significantly (OR=2914; p=.382 and OR=0.251; p=.341 for the linear and quadratic effects of time, respectively). There is therefore little evidence that fosterage (once a child is out-fostered) has become less effective in improving schooling opportunity.

DISCUSSION AND CONCLUSION

In this study, we argue that how much extended families and fosterage buffer schooling inequalities depends on three factors: (1) fosterage must be prevalent, i.e., a large number of

pupils must be found to reside away from their biological parents; (2) fosterage opportunities must be distributed according to need; (3) fosterage events must be empirically associated with improved schooling outcomes. A historical analysis of the role of extended-family systems in reducing inequalities therefore requires understanding how these three conditions are met and how they change over time.

Using the schooling and fosterage histories of a sample of pupils from Cameroon, we find the following. The prevalence of fosterage has tended to increase historically, but given this trend, periods of sustained economic declines are associated with declines in out-fosterage rates. The distribution of fosterage opportunity also appears to be driven in part by need: pupils in the second quintile of the distribution of resource endowments are much more likely to be out-fostered than those in the upper quintiles. Furthermore, the fosterage rates among this heavily-assisted group have increased significantly faster than those among other groups. At the same time, it is notable that pupils in the second quintile are out-fostered at significantly higher rates that pupils in the bottom quintile who have even fewer resources. Such findings suggest that fosterage opportunities are not driven solely by need but also by one's networks and ability to bargain entry into networks. The study confirms the ameliorative effects of fosterage on school continuation. Fosterage reduces the odds of school dropout by about a third and this mitigating influence does not appear to depend on the pupil's gender or resources. There appears to have been no major historical change in the palliative effects of fosterage. In other words, once children are fostered, the schooling benefits received have tended to be similar across sub-groups and over time. The prevalence and distribution of fosterage thus appear to be the most critical aspects in determining changes in the buffering influence of fosterage in this setting. We find support for the concern raised about family support networks becoming overextended. Although the general trend has been an increase in fosterage, poor economic conditions do strain the support that African families can provide to educate the children of needy relatives.

The study has several limitations. First, the data do not permit analysis of destination households, and the inferences are only based on the characteristics of families of origin. We do not examine the possible effects of other socioeconomic changes that occurred during this long period, notably the effects of fertility change as well as those of more recent health crises. Nor do we provide a cumulative estimate of the impact of fosterage on schooling inequalities. With a much larger sample size, one could examine the effects of fosterage at each grade level and ultimately assess how much fosterage reduces differences in educational attainment, say between pupils in the bottom and the top quintile in the resource distribution.

Despite these limitations, the study provides evidence on both the salience and resilience of extended-family systems in sub-Saharan Africa, as well as on their imperfections and responsiveness to difficult economic conditions. While fosterage certainly benefits some of the poor, access to fosterage networks may be limited for many children at the very bottom of the resource distribution. At a time of rising schooling costs and growing competition for schooling, findings that fosterage opportunities contract during periods of sustained economic difficulty raise concern about the very poor and their chances for economic mobility.

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Table 1. Summary statistics and logistic regression results for the effects of selected variables on the fosterage status of children

| | Prevalence of fosterage | | | | | | | Distribution of fosterage | | | | | |
| | Overall | Historical change (Model I) | | | Economic conditions (Model II) | | | Overall (Model III) | | | Historical change (Model IV) | | |
	Means	B	Exp(B)	p	B	Exp(B)	P	B	Exp(B)	p	B	Exp(B)	p
Child is out-fostered	0.100												
Main independent variables													
Historical trends													
Log years since 1959	3.220	-1.061	[0.346]	#	-1.685	.186	**	-1.299	[0.273]	*	-.569	[0.566]	
(Log years since 1959) squared	10.514	0.223	[1.250]	*	.350	1.420	**	.273	[1.314]	**	.138	[1.148]	
Economic conditions													
Increase in GNP per capita(a)					.036	1.036	*						
Child's ranking in resource endowment													
Bottom quintile								ref.	ref.	.	ref.	ref.	.
Second quintile	0.191							.336	[1.400]	***	5.443	[231.]	
Third quintile	0.207							-.025	[0.975]		-8.60	[0.000]	
Fourth quintile	0.199							-.261	[0.770]	**	-4.82	[0.008]	
Top quintile	0.217							-.862	[0.422]	***	-.623	[0.536]	
Resource endowment * time													
Quintile1 * Log years											ref	ref	
Quintile1 * log years squared											ref	ref	
Quintile2 * Log years	0.617										-4.75	[0.009]	*
Quintile2 * log years squared	2.012										.962	[2.617]	**
Quintile3* Log years	0.665										5.319	[204.2]	
Quintile3 * log years squared	2.160										-.818	[0.441]	
Quintile4 * Log years	0.635										3.134	[22.96]	
Quintile4 * log years squared	2.059										-.527	[0.590]	
Quintile5 * Log years	0.699										.979	[2.662]	
Quintile5 * log years squared	2.290										-.324	[0.723]	
Control variables													
Child is female	.507	-0.112	[0.894]	*	-.112	.894	*	-.133	[0.875]	**	-.127	[0.881]	*
Age													
Less than 5	0.057	ref	ref		ref	ref	ref	ref	ref		ref	ref	
5-9	0.424	0.328	[1.388]	*	.337	1.401	*	.111	[1.117]		.107	[1.113]	
10-14	0.321	0.299	[1.348]		.306	1.358	#	.064	[1.066]		.087	[1.091]	
15-19	0.155	0.385	[1.469]	#	.390	1.476	#	.141	[1.151]		.162	[1.175]	
20-24	0.037	0.580	[1.786]	*	.583	1.791	**	.343	[1.408]		.351	[1.420]	
Birth order													
First	.240	ref	ref		ref	ref	ref	ref	ref		ref	ref	
2nd to 4th child	.470	-0.456	[0.634]	***	-.456	.634	***	-.641	[0.527]	***	-.623	[0.536]	***
Higher order	.290	-1.110	[0.329]	***	-1.109	.330	***	-1.466	[0.231]	***	-1.48	[0.227]	***

0

	Mean	Coef	[OR]	Sig	Coef	OR	Sig	Coef	[OR]	Sig	Coef	[OR]	Sig
Child is currently in high school	.224	1.162	[3.195]	***	1.161	3.194	***	1.189	[3.284]	***	1.186	[3.273]	***
Child's school progress relative to age													
Far behind schedule	.300	ref	ref		ref	ref	ref	ref	ref		ref	ref	
Behind schedule	.248	-0.212	[0.809]	**	-.212	.809	**	-.148	[0.862]	*	-.130	[0.878]	#
On track	.358	-0.540	[0.583]	***	-.540	.583	***	-.349	[0.705]	***	-.321	[0.726]	***
Ahead of schedule	.093	-0.280	[0.755]	**	-.279	.756	*	.046	[1.047]		.113	[1.120]	
Child has formally-employed sibling	.0931	0.368	[1.445]	***	.370	1.447	***	.307	[1.359]	***	.283	[1.327]	**
Mother is currently married	.7663	-0.593	[0.553]	***	-.592	.553	***	-.588	[0.556]	***	-.559	[0.572]	***

Notes: (a) GNP change is relative change in GNP per capita compared to average over the last three years. Then value is weighed by the number of consecutive years during which trend has been observed

Notes: #, *, **, and *** indicate statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.

Table 2. Summary statistics and logistic regression results for the effects of selected variables on the risk of school dropout

	Means	Ameliorative effects of fosterage on child schooling											
		Overall [Model I]			By sex of pupil [Model II]			By pupil's resources [Model III]			Historical change [Model IV]		
		B	Exp[b]	p	B	Exp[b]	P	B	Exp[b]	p	B	Exp[b]	p
Risk of dropout	0.03												
Main independent variables													
Child is fostered	0.100	-0.419	[.658]	**	-.473	.623	**	-.676	.509	**	-11.63	[0.000]	
Fosterage*gender interaction													
Fosterage status*sex (female)					.084	1.088							
Fosterage*endowment interaction													
Fosterage * quintile 2								.125	1.133				
Fosterage * quintile 3								.485	1.623				
Fosterage * quintile 4								.242	1.273				
Fosterage * quintile 5								.896	2.450	#			
Historical change in fosterage effect													
Fosterage status* Log years	.330										7.977	[2914]	
Fosterage status* log years sq.	1.099										-1.380	[0.251]	
Control variables													
Child is female	.508	0.418	[1.519]	***	.408	1.503	***	.419	1.521	***	.420	[1.521]	***
Child's ranking in resource endowment													
Quintile 1 (bottom)		Ref	Ref	ref	ref	ref	**ref**	ref	ref	ref	ref	ref	ref
Quintile 2	0.191	-0.013	[.987]		-.014	.986		-.022	.979		-.049	[0.953]	
Quintile 3	0.207	-0.653	[.520]	***	-.649	.523	***	-.706	.494	***	-.668	[0.513]	***
Quintile 4	0.199	-0.770	[.463]	***	-.747	.474	***	-.777	.460	***	-.782	[0.458]	***
Quintile 5 (top)	0.218	-0.976	[.377]	***	-.845	.430	***	-.942	.390	***	-.997	[0.369]	***
Historical trends													
Log years since 1959	3.219										4.770	[117.9]	**
(Log years since 1959)squared	10.50										-.821	[0.440]	**
Birth order													
First	0.240	ref	Ref	ref	ref	ref	**ref**	ref	ref	ref	ref	ref	ref
2nd to 4th child	0.471	0.012	[1.012]		.016	1.017		.022	1.022		.017	[1.017]	
Higher order	0.290	-0.387	[0.679]	**	-.387	.679	**	-.394	.674	**	-.350	[0.705]	**
Child is in high school	0.221	1.668	[5.301]	***	1.672	5.325	***	1.680	5.366	***	1.677	[5.351]	***
Child repeats for first time	.2569	0.995	[2.704]	***	.991	2.693	***	.987	2.684	***	1.004	[2.728]	***
Child repeats from nth time (n>1)	.0466	2.151	[8.594]	***	2.142	8.520	***	2.133	8.439	***	2.183	[8.873]	***
Mother has completed primary school	0.365	-0.475	[0.622]	***	-.457	.633	***	-.443	.642	***	-.437	[0.646]	***
Constant		-4.220	[0.015]	***	-3.754	.023	***	-3.753	.023	***	-10.97	[0.000]	***

Notes: #, *, **, and *** indicate statistical significance at the 0.10, 0.05, 0.01, and 0.001 levels, respectively.