CHAPTER 3-5: NO END TO THE BETRAYAL? PRIMARY EDUCATION IN SOCIAL CONTEXT: EVIDENCE FROM RURAL TAMIL NADU

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'Education sharpens Man's intellect, making it glitter like a diamond'

(Government of Tamil Nadu, 2001)

India's education system is top-heavy, producing more scientists than anywhere else. The Indian state also subsidises a massive brain drain. Even so, India's technologists and engineers number only half of those of South Korea. China and Indonesia have more technologists and engineers per unit of population than does India. India actually lags behind in technological and industrial learning (Lall, 2000).

If this were not enough of a developmental problem, Article 45 of the Indian Constitution states: 'the state shall endeavour to provide within a period of the years from the commencement of this Constitution (1950) for free and compulsory education for all children until they complete the age of 14'.

Education Policy

In India education has been recognised as a right ever since Independence. But it is a right that has never achieved mandatory status nor is it enforceable in law (Weiner, 1993). Under pressure from a public campaign triggered by Weiner's book, the government of Tamil Nadu was the first to commit itself to this goal (1993). A bill for the compulsory education of children aged 6 to 11 years was passed by the Tamil Nadu State Assembly in May 1994, but it still awaits

Presidential assent.[1] Compulsory primary education is the policy instrument by which the Indian states could effectively remove children from the labour market, thereby not only educating them but also protecting children against both their parents and their employers. In India, investment in primary education is much more modest in scope either than what was envisaged in the Constitution or than what has been achieved in other developing countries. [2] Primary education receives 25% of the education budget, compared with 45 to 60% in countries such as Kenya, Tanzania, Indonesia Sri Lanka and China. Yet although tertiary

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[1] 1. www.tn.gov.in/economy/eco-may.htm

[2] 2. India allocates a lower proportion of GNP to education than other developing countries (3.6% as compared with 6.7% (Kenya) 4.3% (Tanzania) or 7.8% (Malaysia)). In 1966, the Kothari Commission suggested 6% target. This has been revived most recently in the 8th Plan of 1992.

education in technology-related subjects is an integral part of *industrial* policy in the East Asian developmental states, **most of the measurable private and social benefits of education are obtained from the basic literacy and numeracy skills imparted during the first five years**. It is in the marketplace that the diamonds from primary education begin to glitter. Private benefits include measurable increases in employment, income and productivity (Psacharopoulos,1988; Datta, 1998). [3] They include rights of citizenship (Majumdar, 1999) and rights of access to the state (Lockheed and Verspoor, 1991). Social benefits in health, nutrition

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[3] 3. See Cotlear, 1990 for an agricultural context. Education is related to access to higher paid segments of the labour market, with or without a screening effect. However, the low *quality* of education in much of India may prevent a strong relationship between education and employment (see for instance Bliss et al, 1998, p265-7).

and fertility, in increasing political awareness of rights and in intergenerational mobility accrue when a large mass of a population (in particular a majority of women) complete primary education. Primary education is thus a crucial instrument for development.

When parental assets, income and education and the probability of children's completing primary education are closely related, then education restricts its private and social benefits to an elite, creates a major fault line in the labour market and reinforces social and economic stratification.

India saw a spectacular quantitative expansion in education after Independence. Primary schools expanded from 210,000 in 1950 to 520,000 in 1984 (World Bank, 1989). Yet regional variations in levels of educational deprivation are such as to suggest - as Majumdar puts it - ‘ different realities....on different planets’ (1999,

p274). Scheduled caste (SC) rural women in Rajasthan are four times as educationally deprived as urban caste men in Kerala. Poor rural women in Uttar Pradesh are six times worse off educationally than rich urban men in Kerala. In the ranking of states according to the uptake of education, Tamil Nadu is generally placed third after Kerala and Maharashtra, though it drops one further place when ranked on the educational deprivation of SC women and one more for SC men. [4] Tables 1 and 2, drawn from data in Majumdar (1999, pp 274-5;294-5) show how rural location, poverty, scheduled caste status and gender interact to structure educational advantage in Tamil Nadu. At the extreme, rural SC women had 0.22 years of schooling while rich urban men had nearly 9 years - a factor 40

[4] 4. Educational deprivation is derived from a composite index of adult literacy and mean years of schooling in which 0 is undeprived and 1.0 is completely deprived (Majumdar, 1999, pp. 270-2; 290-5)

advantage!

Table 1: Mean Years of Schooling, Tamil Nadu, 1981-87.

	Caste	Status	Income	
	Non SC/ST	SC/ST	Top 20% Income Distribution	Bottom 20%
Rural				
Male	8.1	1.4	4.9	2.0
Female	0.97	0.22	2.9	1.0
Urban				
Male	6.7	3.6	8.7	3.2
Female	3.5	1.2	6.9	2.2

Source: Majumdar, 1999, pp. 294-95 Tables 9A-1 and 9 A-2 from Census Reports

(1981) and NSSO (1989).

Table 2: Relative Educational Deprivation, in Tamil Nadu, 1981-7.

	Caste	Status	Income	
	Non SC/ST	SC/ST	Top 20% Income Distribution	Bottom 20%
Rural				
Male	0.52	0.73	0.37	0.57
Female	0.80	0.93	0.19	0.44
Urban				
Male	0.28	0.51	0.57	0.74
Female	0.52	0.77	0.27	0.57

Source: Majumdar, 1999, pp. 274-5, Tables 9.2 and 9.3 from Census Reports

(1981) and NSSO (1989).

Note: The index of deprivation is a composite index constructed along the adult literacy of people over 15 and mean years of schooling of people over 25. 0= undeprived; 1= completely deprived.

At an All-India level, attempts were made to 'supply' primary education and by 1986 all urban and 95 per cent of rural children were within one km of a primary school (Kingdon, 1994; 1996). Fees (already very low in the state sector) were abolished in 1990 (leaving 'only' the costs of books, uniform, travel and examination fees) to be met by parents. Even though education is not compulsory, if it had been supply-constrained then it would be reasonable to have expected equality of access and universal completion once the infrastructure of primary education had been provided and fees abolished. But this has not happened. Literacy rose from 17 per cent in 1951 to a mere 36 per cent by 1981. Despite

high and inaccurate enrolment rates, actual attendance was estimated at 55 per cent for rural boys and 35 per cent for rural girls of primary age in 1988 (World Bank 1991) and the All-India drop-out rate between years one to five was 47 per cent for boys and 50 per cent for girls. [5] In Tamil Nadu, as late as 2000, although progress appeared to have been made in primary enrolment (which had officially increased to 94.4% for girls and 98.5 % for boys) the aggregate primary completion rate was still only 44% of enrolment. [6] When buildings exist but lack teachers and equipment, education remains supply constrained. [7]

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[5] 5. Economic and Political Weekly, 30. 10. 93.

[6] 6. http://www.tn.gov.in/policy/schedu2.htm;p1

[7] 7. Dreze and Sharma (1998, p. 64, p.73) make the points i) that even with teachers and equipment education will be supply-constrained if the context and manner of delivery discriminates against castes and genders and ii)that the

It has been well established - and fully corroborated in this book - that the poor are most dependent upon public sector social expenditure. The poorer states also have the poorest records on social spending, but even the states with better rankings have experienced cuts in social sector expenditure due to structural adjustment (Ravallion and Subbarao, 1992; Prabhu and Chatterjee, 1992, Prabhu, 1994). Between 1985 and 1992 the share of total educational expenditure allocated to the elementary sector fell in 8/15 states. That in Tamil Nadu fell from 52% to 49% where it remained up to 1994 - our latest figures (Prabhu and Chatterjee, 1992, p. 50; Prabhu, 1994 p. 40). There is a general consensus among development policy analysts that it ought to be at 60% to stand a chance of coping

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defective 'supply' of education provokes no collective response from parents, perhaps not unconnected with i).

with universal primary education. There is also a consensus that the poor should be protected from cuts in sectors on which they are demonstrably most dependent. Food is one; primary education is clearly another. There is also a consensus that the states, like Tamil Nadu, with relatively high social sector spending are the most "vulnerable to adjustment related stress" (Ravallion and Subbarao, 1992, p. 30). The supply of primary education is not only of poor quality but also budget-constrained and vulnerable to cuts.

We can see the consequences of these 'supply' factors at work in the three villages. Two schools, one state and one catholic, provide primary education in Nesal and enable caste and scheduled caste children to be educated - and fed - quite separately. The catholic school educates between 30 and 50 scheduled caste children in each year group, with an anti female sex ratio of 0.75. The spacious state school has year-groups of between 40 and 70 caste children and a better sex

ratio of 0.88. Along with the Noon Meal infrastructure, the schools generate a significant amount of employment in the village: 15 teachers and assistants and 3 workers to organise and provide meals. During the time of our survey, these schools seemed comparatively well run. By contrast, the state school in Vinayagapuram was running half staffed and with low standards of competence and motivation. To quote from the village diary: “The standard of education is low and not much has been done by government officials about this, nor are the villagers bothered. Boys and girls of the fourth and fifth class stop their schooling to go as apprentice labour to the weavers.” Ten children, including scheduled caste children, journey to a neighbouring village to attend a Christian school. The state elementary school in Veerasambanur is also understaffed (by a third). It caters to a grand total of 80 children, with an anti female gender bias amongst them of 0.76. In 1993, it was open for 220 days. Like Oxford University but for different reasons, it had short terms. There was no drinking water, no latrines

(children dirtied the playground), no cleaner or care-taker and inadequate furniture and equipment. Between 15-20 % pupils drop out from each year of primary education. Despite the incentive of the Noon Meal, children leave school "to guard goats and cattle, help with irrigation and ploughing, carry food from farm to field, perform wage work in agriculture, care for younger children and help with water, cooking and cleaning".

Factors affecting a Child's Education

If we turn to demand for primary education, education **policy** disappears. The finger is often pointed at apathy and lack of aspiration as the causes of lack of demand. De and Noronha (1998) report: 'In its golden-jubilee analysis of India's failure to achieve universal elementary education, the *Times of India* (15th August, 1997, p. 37) confidently asserts that "illiterate and semi-literate parents see no

reason to send their children to school"' [8]. Here, however, we will examine the structural factors at work. The decision to educate a child is an economic one taken by its elders. The factors affecting that decision and the process of learning resulting from it will be of two kinds (Figure 1). One kind is proximate (set ii). In turn, there are two types: first attributes of the individual child (gender, health, ability) and second, the social and economic institutions conditioning the returns

[8]8. This kind of reasoning about the reasoning of the poor is also discussed in Majumdar, 1999, p. 282-3 and Lanjouw and Stern, 1998, p. 63-5. A strand of policy debate not covered here because not relevant to conditions in these villages is demand for private elementary education. De and Noronha (1998) reveal that **private** education in 1997 cost Rs 1,047 per year against Rs 333 per child in a government school. Even for government schooling, these costs are high entry barriers and no guarantee of significant improvements in quality.

to education and its direct and opportunity costs. The second kind is structural (set i), consisting of three types of elements: first, household characteristics (size, composition and birth order); second, economic (relating to the class position of the parents); third, social (both ascribed factors such as caste and acquired factors such as parental education).

Figure 1: Factors Affecting the Social Background to Primary Education

(i)	(ii)	(iii)	(iv)
Background	Individual		
Education/ Income/ Wealth of Parents	Gender/ Age/ Health Market - & Non-Market Returns to Education		
		Perceived Benefits of	Parental Demand

Caste/ Religion	Child Ability	Education	for Child's Education
Household Size/ Composition	Opportunity cost of Education	Perceived Costs of Education	
Birth Order of Child, Sibling Sequence	Direct cost of Education Noon Meal Incentives		

Here, we will discuss those for which we have evidence from the three villages.

Age: with a rapid rise in educational provision we expect older people to have lower achievement rates because of constraints on the supply of educational facilities in the past. The relation between age and education is complicated in Tamil Nadu by the special incentive of the Noon Meals Scheme which was set up

in 1982 and is sited in schools. The education of people up to the age of twenty may well have been affected by a nutrition intervention which at its inception was **also** justified as an intervention to enhance education, rural employment and socialisation between castes (Harriss, 1991).

Health and Disability: these may screen the access of children due to social prejudice or due to socially conditioned lower returns to the economic activity of the chronically sick or disabled (for which there is much evidence (Helander, 1992; Harriss-White, 1996; chapter 3-3 in this volume).

Gender: Several aspects of the proximate factors affecting primary education are gendered (where gender is a screen): most notably lower returns and constrained access to women - in credit and product markets as well as in the labour market (see chapters 1-5 and 2-4). The exploitation of female labour operates both

through discrimination in wage rates for similar tasks and through differential returns to tasks made gender specific by the division of labour. Then the quality of education may discriminate against girls by means such as the quality of teachers' time, gendered access to materials and the content of text books. The domestic opportunity costs of a daughter's labour (in childcare, fuel and water gathering, in agricultural and non-agricultural household production) may cast the cost-benefit equation against primary education, even in cases where the activity is uncosted (Harriss, 1991). The long-term benefits to education will be experienced by the son in law's household rather than the natal one (especially where **sibling sequence and household composition** mean that the exchange of brides is not symmetrical). The practice of assortative marriage alliances and hypergamy means that female education is associated with an increase in the dowry, while male education both attracts an increased dowry and imports a person with a beneficial impact on household welfare.

The balance of costs and benefits in the education of a child will be affected by the **size and composition** of the household. Where old age is defined not by years but by the onset of disability or chronic sickness, domestic reproductive requirements may not be easy to 'plan' and may result in the dropping out of children in order to cover the costs of care, the costs of substituting for the lost work of an elder and household maintenance (see chapter 3-3).

Education also depends on **wealth and class position**. While the opportunity cost of child labour in a poor household may be lower than that of a wealthy household, it is not the absolute returns from child labour which count, it is their relative contribution to the household resource base. Not all of this is valorised. Much is directly for use and unresponsive to prices. Here, poverty is critical to the domestic 'priors' because it will assign a high implicit value to a household's

‘discount rate’. Among the rural elite, while the opportunity cost of a household's child labour is the current rate for a child substitute, a different calculation involving future income streams at lower discount rates may be made. The immediate cash costs of education will also be absolutely and relatively less of a barrier.

Parental education, class and caste status can affect the returns to education irrespective of education and ability, by means of 'socially inefficient' discrimination in access to assets and occupations.

Child ability will be positively associated with educational achievement as more able children complete any given level more easily than less able children. The relation between socio-economic status and ability has not proven to be genetically determined. It is much more likely to work through socialisation,

nutrition, health and the domestic resources supporting education;

Education in the villages

In the three villages, primary schools offering education to grade 5 appeared (well before the first survey) in the 1960s. Veerasambanur (though the most isolated village) has a Mission school close by. The nearest secondary schools are in the local town of Arni. A further education college eventually appeared, but well after our field survey. Here we examine the relation between the completion of primary education in 1993-4 and those variables for which data was obtained from the village censuses: economic status (cluster); distance (from urban labour markets proxied by village dummies), social status (caste and parental education) and individual attributes (age and gender).

It is a shocking fact that despite decades of welfarist politics and two

generations of children brought up with schools in their villages on aggregate only 33.4% of men and 15.3% of women have completed 5 years of primary education by the age of 12 and above. First, let us examine **village-specific influences** on the probability of completing primary education. Village-specific differences arising from differential returns to education may be due to relative access to secondary education as much as to differences in wage rates, employment opportunities and access to wages and employment of the nearest towns. If village accessibility and employment opportunities positively affect education, we would expect Nesal to have the highest primary completion attainment figures. This is not borne out for men above, but does appear to hold for women. The differential between male and female primary-completion rates also varies across villages,

Table 3: Completion of Primary Education, by Village

	Nesal		Vinayagapuram		Veerasambanur	
	Men	Women	Men	Women	Men	Women
Primary Completion Rate	33.3%	18.4%	31.7%	11.75%	37.4%	13.5%

Caste:

The population of the three villages consist mainly of six castes, listed as Backward or Other Backward Castes: relatively underprivileged and entitled to positive discrimination in public sector employment. In addition, one third are Scheduled Castes, entitled by the Constitution to further positive discrimination in public sector education and employment. Table 4 shows the varied distribution of village populations across castes. Nesal has the largest caste diversity, with Scheduled Castes forming one-third of the population but the higher-ranking cultivating caste of **Agamudaiyan Mulaliars** also numerous; Vinayagapuram, by

contrast, has a dominant caste of working peasant **Vanniars** (70% of population); Veerasambanur has the highest proportion of Scheduled Castes (48% of population), together with "poor, would-be seigneurial landholders" [9] (**Agamudaiyan Mudaliars**).

Table 4: Distribution of village Populations across Castes

Caste	Code	Nesal	Vinaya	Veeras	Total
Agamudaya Mudaliar	AM	362	0	212	574
Naidu	NAI	49	0	0	49
Vanniar	VAN	4	806	69	879
Yadava	YAD	285	0	0	285
Scheduled Caste Harijan	SC-H	513	232	4	749

[9] 9. Hazell and Ramasamy (1991).

Scheduled Caste Christian	SC-C	113	6	272	391
Other	OTH	223	101	21	345
Total	TOT	1549	1145	578	3272

Although caste is a fundamental social attribute, it determines and restricts economic or educational status in complex ways which cross cut wealth and income and which cannot be read off from one another. Tables 5 and 6 show the variation in household income [10] and landholding values [11] and in educational

[10]10. 1992 household income data is available for 98.2% of the population due to missing values in the data.

[11]11. Data on value of land owned is available for the 63.3% of the population which owns land.

attainment levels [12] respectively [13] for the seven caste categories. Analysis for each separate village finds similar levels of intra-caste variation.

Table 5: Caste and Household Income and Landholding

	Household Income (Rs)		Landholding Value (Rs)	
		Standard		Standard

[12]12. Educational attainment data is given for the over-12s only, as this is a better representation of final education level obtained.

[13]13. Income and land data are continuous, educational attainment data is discrete and not numerically ordered, such that it could meaningfully be given in mean/standard deviation format.

	Mean	Devin	Mean	Deviation
AM	18,580	18,901	60,863	113,648
NAI	12,582	14,428	10,915	4,738
VAN	13,438	13,303	76,849	92,488
YAD	16,242	21,366	64,449	62,711
SC-H	6,655	4,986	20,170	19,936
SC-C	8,327	10,796	9,147	20,935
OTH	10,590	9,087	74,606	174,186

Classifying the population into relatively homogenous socio-economic classes is increasingly difficult as the economy diversifies. In the 1993 re-survey, cluster analysis was used[14] to indentify households of similar socio-economic status. If

[14] 14. Chapter 1-4 here.

socio-economic status is related to educational attainment we should see a strong link between class/cluster and the probability of completing primary education. The proportion of each class not completing primary education is shown in Table 7. There are systematic class differences in the population completing primary education with **as small a minority completing primary education among the poor as those failing to complete it among the elite**.

Table 6: Caste and Educational Achievement among Workers

	Illiterate		Literate and Completed Prim		Completed Middl		Completed Secondary		Higher Secondary Pre-Univ		Total Numbers	

			ary Education		e School		School		and above			
	M	F	M	F	M	F	M	F	M	F	M	F
Caste												
Azamduya Mudaliar	14	51	43	31	24	13	11	4	8	1	182	127
Naidu	30	62	38	15	23	23	8	-	8	-	13	13
Vanniar	33	80	38	15	15	5	8	0.03	5	-	291	257
Yadava	37	82	38	12	14	6	10	-	1	-	94	66
Scheduled Caste	46	79	34	13	11	6	7	0.5	1.5	-	197	189
Scheduled	38	78	30	12	22	6	2	1.2	7	2	86	83

Caste Christian												
Other	24	60	39	25	25	12	8	3	4	1.5	100	69
Total	32	73	38	17	17	7	8	1	5	0.06	964	804

Source: D. Jayaraj, 1996, from Tables 6 to 10, based on 1993-4 village survey data

Table 7: Agrarian Class and Educational Achievement in the over-12 Population (% **not** completing 5 years)

	Nesal	Vinayagapuram	Veerasambanur
Number	1,101	816	390
Poor, agricultural	77%	82%	80%
Poor, non-agricultural	-	95%	-
Elite	20%	55%	78%

Parental Education

The impact of parental education can be studied only for a more restricted sample consisting of those individuals over the age of twelve where data is available for at least one parent. From a total population of 3,272, and an over-twelve population of 2,307, there are 656 individuals for whom we have some information and 529 persons for whom we have data on both parents' education : Table 8. Numbers in parenthesis represent the observations on which the percentages are based and illustrate the problem of small sample size, due especially to the low variation in the educational attainment of mothers.

Table 8: Probability (%) of Completing Primary Education, Parents' Education

Mother's		Father's Education			

Education					
		Illiterate	Literate	Primary	> Primary
	Illiterate	45 (296)	53 (49)	71 (69)	82 (38)
	Literate	40 (296)	83 (6)	86 (7)	70 (10)
	Primary	71 (7)	100 (8)	67 (9)	100 (13)
	> Primary	-	-	-	86 (7)

Note: numbers are bracketed

One consequence of restricting the sample is that proportionate educational attainment levels are now higher than those seen before. This is because a sample with information on people with living parents must be a young sample in relation to the population as a whole, and younger age-groups have higher primary-completion rates. In addition, as women tend to leave the natal household on marriage, the older part of our restricted sample is dominated by

men (as no data is available on wives' parents). Requiring information on parents restricts us to a sample in which 62.65% of observations are of men, as compared to 49.7% in the whole population, 49.2% in the over-12 population and 49.4% in the twelve-to-thirty population as a whole. There appears to be a systematic relationship between parental and child education.

However the problem with looking at single-factor distributions is that excluded factors are not accounted for. Location, caste, class and parental education may capture some important social and economic influences on educational attainment, but individual attributes are factors which have even clearer effects. Figure 2 gives an age-sex distribution of the total population [15] and shows the numbers completing less than, or at least, primary education. Male advantage in the

[15] 15. Village-specific distributions are very similar so are not shown here.

probability of primary completion compounds the age effects seen here.

Other Factors

Both **age and gender** have strong influences on the probability of a person having at least primary-level education. **The Noon Meals Scheme may be associated with the age effect. Meals at school have accompanied an increase in the schooling of children of all backgrounds since 1982** (i.e. those aged up to 20 now). Girls are half as likely than boys to complete primary education and working women are twice as likely than men to be illiterate (Tables 3 and 6).

So, the relationships described here confirm the theoretical arguments. Primary completion rates are higher for younger age-groups, for males, and for children of higher socio-economic/more educated backgrounds; location also appears influential especially for females. However, to be able to draw conclusions on the

relative power of various influences on educational attainment, we examine these relationships in the holistic setting of an econometric model.

A Model of Primary Completion

We are interested in the importance of completing primary education for the capture of private and social educational benefits. Educational data in the 1993-4 re-survey is discrete, so completed primary education is modelled as a discrete dependent variable. The classical regression model has problems with such variables, so maximum likelihood estimation is used for a non-linear probit model. [16]

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[16] 16. The probit model is based on the standard normal distribution:

E(CPi) =

The discrete outcome of primary completion reflects the unobserved continuous process of parental demand for child's education. Demand for education, D_i, is the latent variable underlying the probit model, determined by some process:

$$D_i = \delta X_i + \varepsilon$$

If educational demand is above some critical level, κ, the child will complete primary education:

$$CP_i = 1 \text{ if } D_i > \kappa$$

$$CP_i = 0 \text{ if } D_i \leq \kappa$$

So: $$Pr(CP_i = 1) = Pr (D_i > \kappa)$$

and: $$Pr(CP_i = 1) = F (\beta X_i)$$

We cannot observe D_i, only CP = 1 or CP = 0. However, we know which independent variables (X_i) are likely to affect educational demand, and we can observe many of these.

We have investigated links between some of these explanatory variables and educational attainment in the study area, and can guess the sign and magnitude of the effects of several variables from this as well as from theory. However, in some cases the characteristics of our restricted sample of 529 children for which data are available for both parents and 656 children for which data on the educational achievement of one parent is available will be different from those of the full or over-twelve population. One difference already seen is in the proportion completing primary education. Another change is in the completion rate differentials, shown in Table 9, especially the lack of differential between the sexes in the pooled restricted sample.

Table 9: Primary Completion Rates across the Three Villages (Restricted sample plus total population over 12 years)

	% Completing Primary Education					
	Sample			Over 12 Population		
	Men	Women	All	Men	Women	All
Nesal	55.8	61.7	58	33.2	18.4	25.7
Vinayagapuram	46.2	42.3	44.9	31.7	11.75	21.9
Veerasambanur	55.4	44.7	50.5	37.4	13.5	24.6
Total	52.1	52.2	52.2	33.4	15.3	24.2

Data

The data from the 1993-4 re-survey provide the explanatory variables. Age is used both in its normal continuous form and in interaction with a Noon Meals Scheme dummy for people under twenty. Gender is given by a dummy variable for males, which in turn allows us to differentiate other explanatory variables by gender. Another dummy variable represents the small number of disabled. In the pooled full sample, location is given by village dummies for Vinayagapuram and Veerasambanur, given separately for men and women; Table 9 suggests the magnitude and direction of effects here. Household size and the number of younger siblings are continuous variables, with dummy variables for being the first-born child and for the presence of grandparents also used for household composition. Household variables were used both differentiated by gender and non-differentiated by gender.

Household income estimates for 1993-4 are available for all but 14 individuals in the sample and are used as a continuous variable indicating economic status. Caste is included as numerically-ordered variable (from 1 (**Agamudaiya Mudaliar)** to 7 (other)), and in dummy-variable formulation. [17] Cluster (class) is included as dummies for elite and poor clusters. Family educational background is presented in levels split as in Table 6, with dummy variables used to show the influence of parental literacy, primary-completion and above-primary-completion

[17]17. However, caste will not perform well since due to the inclusion in 'OTH' (other castes) of highest-ranked Brahmins along with lower-ranking minor castes and Muslims, it is not an accurate scale ordering of 'high-caste' to 'low-caste'.

(relative to illiteracy) [18] on child educational attainment. [19]

To estimate a model of completion of primary education in the study area as a

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[18]18. Parental education was also defined to measure the marginal contributions of each higher education level, but the results proved very similar.

[19]19. Obviously there are several variables suggested by theory on which we have no satisfactory available data. These include non-income components of household wealth, measures of parental attitudes and child ability, and inter-village differences in a range of variables from wages and employment opportunities to school quality. For this study we can only acknowledge the possible shortcomings of the model and assume that the variables we have used (of household income, village dummies, etc.) will capture much of the influences of the omitted variables.

whole we use the pooled sample of 656 individuals, with village dummies. A summary of the main variables is given in the Appendix.

Discussion

The preferred model combines a subset of significant variables operating at a variety of levels on the probability of a young person's completing primary education: Table 10. [20]

[20] 20. Note that m3 is rejected as a variable because there are too few non-zero variables. The fit is much improved from the first model, but is still very low. Although goodness of fit measures are generally weak for probit models, having a low goodness-of-fit is a widespread problem in cross-sectional econometric studies (i.e. in studies using linear (OLS, etc.) and non-linear (logit/probit models).

Table 10: Significant Individual, Family and Structural Factors affecting Primary Completion [21]

Variable	Coefficient	z	P(z)
age	-0.0411	-3.430	0.001
veef	-0.5648	-2.695	0.007
dis	-1.4719	-2.462	0.014
scc	0.4953	2.485	0.013
van	-0.3505	-2.863	0.004
hinc	0.0000093	2.687	0.007

[21]21. All models are of probit estimation of ED on variables shown using STATA programme. z and P (z) show the individual significance of explanatory variables.

f1	0.2788	1.668	0.096
f2	0.72407	4.471	0.000
f3	0.7625	3.464	0.001
m2	0.8712	3.039	0.002
constant	0.8488	2.242	0.023

642 Observations

Log-Likelihood = -388.526

Chi-sq (10) = 112.64

Pseudo-Rsq = 0.1266

Notes: age: aeg; veef: dummy for females in Veerasambanur village; dis: dummy for disabled people; scc: scheduled caste Christian; van: vanniar caste; hinc: household income; f1: father literate; f2: father had primary education; f3: father had some secondary education; m2: mother had some secondary education.

Turning first to variables found to be insignificant in trial models, [22] gender proved not to be a significant determinant of primary completion. *Agenm* was negative but insignificant :- the Noon Meals Scheme had a positive but insignificant impact on primary education. The addition of social characteristics to the model rendered all but one village dummy insignificant suggesting that 'villages' connote differentials in the distribution of castes. Dummies for class had expected signs but were also insignificant and so were dropped from the final specification to avoid the statistical effects of multicollinearity.

A mix of individual and structural factors are at work in stigmatising access to education. The age variable reveals that younger people are significantly more likely to have completed primary school. The location variable shows girls at a

[22] 22. Fully described in Gold et al, 1996.

significant educational disavantage in the remotest village despite a Catholic mission school sited on its boundary. Being disabled significantly lowers the chance of primary completion. The **Vanniar** caste appears significantly not to value primary education. The caste specific access to silk weaving in which **Vanniars** are concentrated may explain early withdrawal of children from school (see chapter 1.6 here). By contrast Scheduled Caste Christians are significantly likely to complete primary education. Last but not least, household income and the educational background of parents have a powerful impact on the primary educational achievements of their children.

CONCLUSIONS

There are shamefully few glittering diamonds and far too many rough ones in these villages. Despite some recent improvements in early schooling, socio-economic status has a substantial influence on educational attainment.

Household income and parental education are the structural factors positively and significantly related to the primary-completion of children. This means that children of economically - and educationally - poorer households are still restricted from acquiring the private benefits of education, and that the social benefits of education, far from being maximised are instead stratified. These socially inefficient and inequitable outcomes perpetuate an educational elite (though hardly one that challenges those of the East Asian Tigers) and reinforce social and economic exclusion. [23] The preferential access to handloom weaving of the **Vanniar** caste has had a significant negative impact on the probability of their

[23]23. The unexpected result that gender is not a significant determinant of the probability of children completing primary education comes clearly from the particular characteristics of our restricted sample, and would not be likely to hold if we could include data on the parents of females.

children's completing primary education.

The implications for policy are significant and wideranging. Our evidence for 'supply side' variables revealed understaffing and opportunistic behaviour by teachers. If the quality of schooling were improved - for instance by more motivated teachers, more classroom materials, a content for literacy and numeracy that is relevant to social contexts and the appropriate timing of classes, then education would become accessible in ways other than purely georgaphical and its benefits might become more obvious. [24] The latter need to exceed the social costs of education. To increase primary completion rates, the Noon Meal scheme, though important, is not enough of an incentive.

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[24]24. See the discussion of the social uses of literacy and oral culture in Kumar (1993).

The state also needs to direct its efforts towards the factors restraining children's access to education: first and foremost low income levels which compel parents to force children to work (see chapters 1-1 and 1-6 for discussion of child labour). Day-care facilities for young children might liberate girls for school. But government primary schooling is not without direct costs. One estimate for North Indian conditions in 1996 was Rs 18 per child per year in fees and Rs 315 in non-fee costs (including the uniform) (De and Noronha, 1998, p. 8). These entry barriers need to be lowered. A wide variety of ***non***-educational policies affect the opportunity cost of education and therefore of educational achievement. These range from policies banning child labour to those focusing on improving access to (and rates of return from) work especially for women and for lower-ranking castes. Poor parental education is likely to be reproducing the effects of poverty where education and income levels are positively related. But insofar as the

educational poverty of parents implies differences in parental **attitudes** to the education of children, our results add weight to the argument that adult literacy campaigns would generate important multiplier effects on poor children (Athreya, 1995, 1999).

In the current political economy, how a state might respond to caste discrimination, or to prejudice against disabled children, to intervillage variation in access to (gendered) employment and occupations and to the intergenerational reinforcement of low parental education (identified in the model of individual and structural influences on primary completion developed here) is hard to see. **Making primary education mandatory would of course cut through the bewildering indeterminacy of "policy choice" at a stroke.** [25] The point is the

[25] 25. And be as radical as credit for land purchase!

more important in the context of economic reforms when experience elsewhere has shown that those already vulnerable - rural people, women and girls and the poor - are those most likely to lose out. Despite India's poor comparative record in the production of the highly skilled technologists required for successful late industrialisation, **the retrogressive subsidies to secondary and tertiary education** (exposed by Kingdon, forthcoming) **need reallocating to free primary education**. [26] If necessary user-fees for secondary and tertiary education need introducing.

As Manabi Majumdar commented on the draft of this paper, " what is required in

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[26]26. This is not exactly an original conclusion. It supports that of Prabhu and Chatterjee (1992, p. 42), and Ravallion and Subbarao (1992) among other analysts of structural adjustment and social expenditure.

the education sector is to bring the state back in with a big bang and big bucks. By big bang I mean mandatory primary education and big bucks to substantially increase public expenditure on the non-salary sectors of elementary education". We could not agree more. Tamil Nadu is an educationally advanced state, and one in which the political nettle could be most easily seized.

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Endnotes