

## **CHAPTER 2**

### **LITERATURE REVIEWS ON THE RELATIONSHIP BETWEEN EDUCATIONAL FUNDING AND INCOME INEQUALITY**

#### **2.1 Some Theoretical Linkages and Past Empirical Evidence**

The importance given to education in the process of economic development is well known. One simple indicator of its importance is the fact that the number of teachers in developing countries increased three-fold over a 25-year period, from about 7.8 million in 1960 to nearly 23.5 million in 1984 (Sivad, 1986). A similar increase appears to have taken place in the number of students. Also, since a very large fraction of direct educational expenditure is reflected in teacher salaries, real expenditure on education is likely to have increased by a similar magnitude. Despite several caveats that are obviously appropriate, especially in terms of country changes in educational structures over time and inter-country structural differences, the aforesaid overall increase, which indicates a compound annual growth rate of about 4.5-5 percent, seems impressive.

It is not surprising that much emphasis have been placed on expansion of education in most developing countries including Malaysia. While there are many issues that need to be considered in devising a socially optimal pattern of educational investment and expansion, several advantages of educational outlays may seem obvious. Besides possibly providing direct satisfaction to persons during school and later in life,

education enhances productivity and income, and thus contributes to economic growth. Schooling is also believed to be a significant force in “modernization” of the population, and an important factor in providing trained labor force for the expanding industrial-manufacturing sector in Less Developed Countries (LDCs). Education, especially female education, may make a major contribution toward reducing fertility and population growth, and raising the quantity and quality of schooling of the next generation (Cochrane, 1979). Female education may also be considered important in raising the status of women in LDCs, which could be regarded as a major dimension of economic development. Favorable effects of education on technological change, particularly in respect of adoption of new technology, have been indicated in several studies of agricultural performance in LDCs. There is also some evidence of a favorable effect of schooling on investments in health. Lastly, educational expansion may serve as an important tool in provision of basic needs, reduction of poverty, and increasing equalities of income, living standards and economic opportunities.

The centrality of education in poverty-reduction policies stems from the belief that education is a powerful equalizer. In one of the statements about the effect of schooling on income inequality, T.W. Schultz (1963. P. 65) stated, “... these changes in the investment in human capital are a basic factor reducing the inequality in the personal distribution of income”. The theoretical background, however, does not seem to provide a strong basis for this belief. Ram (1989) reviews several theoretical frameworks linking the level of schooling and its dispersion with income inequality, such as human capital or dual-economy-type models. He finds that these models do not generate any clear theoretical hypothesis about the effect of education on income inequality or absolute poverty. For instance, traditional human-capital models of

earning provide two opposing insights with regard to the relationship between education and income distribution. First, holding other things equal these model imply a partial positive correlation between the mean level of schooling and earnings inequality, such that if the mean level of schooling rises, wages of educated workers go up relative to wages earned by non-educated workers. But these models also feature a partial positive relation between schooling inequality and earnings inequality in that a more equal distribution of schooling leads to a more equal distribution of earnings.

In an early study based on cross-section data for a sample of nine countries, Chiswick (1971) used the human capital framework to assess the effect of economic development (and schooling) on earnings inequality. The investigation was conducted with a simple statistical procedure, and each of three earnings-inequality measures was regressed on (a) income per capita, (b) rate of growth of income, and (c) worker educational inequality. The study indicated that earnings inequality and educational inequality are directly related, and, therefore, lower schooling inequality may be expected to be an income-equalizer. Besides the sample size being small, the regressors used in the study did not include any measures of level of schooling.

In another early work, Chiswick and Mincer (1972) studied changes in income inequality in the United States during the period 1939-1969, and related these with several variables including level of education and schooling inequality. The main point made in the work is that although level and dispersion of schooling do affect income inequality, these effects were small over the period studied, and the stronger

influence was from the business cycle through its impact on inequality in weeks of employment.

In several widely cited works, Ahluwalia (1974, 1976) investigated the effect of schooling and other variables on income distribution. His schooling variables reflected the level of education but excluded any measure of schooling inequality. However, some of his regressions, which apparently used cross-section data for about 60 countries for the 1960s, included literacy rate as a proxy for the level of education. Ahluwalia (1976) concluded, "There is clear evidence that education is significantly positively correlated with equality".

In an important research, Psacharopoulos (1977) used cross-section data for 49 countries, to assess the effect of educational inequality on income distribution. He regressed the Gini coefficient on several variables including an index of school enrollment inequality. The regression estimates indicated a strong and direct relation between enrollment inequality and income inequality. Therefore, he concluded that relative flows of graduates by school level are important determinants of income distribution, and that a policy of more equal access to education might have the desired effect of making income distribution more equal.

Knight and Sabot (1983) show these effects in a dual-economy version of the human capital model. Educational expansion has again two different effects on the distribution of earnings and thus overall income inequality as it raises the supply of

educated labor. On the one hand, the composition effect (or Kuznets effect)<sup>5</sup> increases the relative size of the group with higher education (and higher earnings) and thus tends to increase inequality. On the other hand, the wage compression effect resulting from the relatively greater supply of educated labor reduces inequality. Which effect dominates is again unclear and will ultimately depend on the country's level of development, the relative size of the different educational groups, the degree of substitutability between workers with different levels of education, and wider social, political and economic aspects that affect the structure of relative wages different educational groups and the demand for labor.

To the extent that formal schooling is a significant component of human capital investment, the recent endogenous growth literature might provide a more conclusive theoretical framework regarding the relationship between educational expansion and income distribution. Tamura (1991) explains income convergence in the developed world by an endogenous growth model with human capital spillovers and heterogeneous agents. In his model, human capital convergence expansion and the promotion of research activity, and arises because for a given stock of existing knowledge, agents with below average human capital have a higher rate of return to human capital investment.

With a more explicit focus on the formal schooling component of human capital investment, Glomm and Ravikumar (1992) construct an overlapping generations

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<sup>5</sup> More than forty years ago, in his Presidential Address to the American Economic Association, Kuznets suggested that income inequality was generally rising in the early stages of economic development. In the latter phases of the development process, inequality declines, he argued, and this hypothesis of an inverted relationship between inequality and development has since been known as the Kuznets Curve. (Kuznets, 1955)

model with heterogeneous agents that provides similar results. The human capital possessed by each individual agent is a function of the parents' stock of human capital, the level of schooling acquired, and the quality of education provided, which is modeled as an increasing function of tax revenue and determined endogenously by majority-voting. Furthermore, they assume that the learning technology exhibits at least constant returns to the quality of school and the parents' stock of human capital. While they are mainly interested in comparing the effects of public and private investment in human capital on growth and the distribution of income, they also show that income inequality unambiguously declines over time in an economy with public education sector where the quality of schooling is homogeneous. Since the growth rate of any agent's income is inversely related to his initial level, income convergence results in their model.

By contrast, the endogenous growth model suggested by Lucas (1988) does not predict income convergence. In this model, the human capital is supposed to generate internal and external effects, where the latter means that the average level of education also contributes to the productivity of all other factors of production. Assuming that a given percentage increase in human capital requires the same effort independent of the level of human capital already attained, the model generates sustainable growth through the accumulation of human capital. Due to the presumed linearity in the production of human capital, the model is capable of predicting permanent income differences of any size. Incomes would not converge because the incentive to invest in human capital, as measured by the rate of return to education, would be the same across all level of income and human capital.

Given the various theoretical possibilities, it is probably not surprising that it has proved to be difficult to identify a clear empirical link between educational funding and income inequality up to now. Inter-temporal studies are rare in number and, as Ram (1989) notes; also do not appear to point to general conclusions regarding the relationship between education and inequality. Fields (1980) and Psacharopoulos and Woodhall (1985) provide extensive surveys of the empirical literature. Some older cross-section studies tend to confirm the equalizing function of education. Ram (1984) challenges these findings by pointing out that the empirical evidence appears generally inconclusive. More recently, a study by De Gregorio and Lee (1999) based on international panel data finds higher education attainment (and a more equal distribution of education) plays a significant role in making the distribution of income more equal.

The empirical evidence appears similarly inconclusive. While a number of cross-section studies about the effect of schooling on income distribution generally confirm the equalizing function of education,<sup>6</sup> other work challenges this finding.<sup>7</sup> Alternative mechanisms by which educational funding and expansion could influence the distribution of income have also been pointed out in the educational literature. For example, educational expansion may often, but not necessarily, be expected to increase female labor-force participation rates.<sup>8</sup> Also, there is some reason to believe that increased female labor-force participation may reduce income inequality.<sup>9</sup> Thus,

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<sup>6</sup> E.g. Adelman and Morris (1973), Chenery and Syrquin (1975).

<sup>7</sup> Such as Chiswick and Mincer (1972) and Chiswick (1974).

<sup>8</sup> Beside many others, Becker (1972) points this out.

<sup>9</sup> Winegarden (1987) presents some arguments and evidence suggesting that there is a "curvilinear" relation between the level of female labor force participation rate and the degree of inequalities in family income.

educational expansion might lower income inequality through the intervening variable of female labor-force participation.

Similarly, expansion of schooling, particularly female schooling, is predicted to reduce fertility and population growth.<sup>10</sup> There is reason to believe that rate of population growth is directly related to the degree of income inequality. Therefore, educational expansion could reduce income inequality by lowering fertility and population growth.

## **2.2 Past Studies on Malaysia**

Evaluation of the effect of educational funding on economic inequality in Malaysia is an important and difficult task. It is important because education probably has some major impact on economic inequality; certainly Malaysian and the government have consistently assumed that it does. But it is also difficult because education's effects on society are multiple and complex; and scholars have been unable to agree, despite extensive study and discussion in recent years, about which effects are most important. There are at least four theories of education that might be applied in the evaluation. Their major premises can be stated as follows.

Firstly, education is primarily of *political* importance; it carries great symbolic weight, hinting to society as a whole of overall modernization and to particular ethnic groups of their own importance, or lack of it, relative to other groups. As one of the



most easily established of modern institution (at least in terms of appearances) education is inevitably accorded great importance by governments, which want to be, regarded as modernizing forces.

Secondly, education is primarily of *vocational* importance. There are different levels and types of education, each designed to prepare students for different types of work. Moreover, education is the unique method—or at least one important method—of preparing people for particular vocations. Therefore, it is important to anticipate national needs for different occupational skills and to regulate educational outputs so as to avoid both shortages and surpluses.

Thirdly, education is primarily a process of *human capital formation*. Through the accumulation of economically useful learning, a resource is built up which can be used in the labor market to earn higher returns for the individual and make larger contributions to society. In contrast to vocational theory, human capital is thought of as widely usable in a variety of settings and not tied to specific vocations.

Lastly, education is primarily a *screening* device. Its role is not so much to transform people as to select those who will be assigned to different socio-economic levels. It may do this passively, as a mere transmitter of socio-economic status from one generation to another, or it may intervene more actively to select the most meritorious, somehow defined. As an adjunct to the selection function, it also

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<sup>10</sup> Cpchrane (1979) provides an excellent discussion of the linkage between education and fertility.

*socializes* students, teaching future members of elite to think like elite and future non-elite to accept compliantly their subordinate roles in society.<sup>11</sup>

Each of these theories has something to offer to an interpretation of the Malaysian experience. The importance of the political explanation is supported by the prominence of the language medium question in the running debate on educational policy. None of the other three theories of education come close to explaining this prominence.

In Malaysia, past studies on the incidence of benefit from public expenditure including educational funding were conducted by Snodgrass (1975) and Meerman (1979). In his study, Snodgrass (1975) categorised public expenditure into four major groups, namely: (a) purchase of goods and services subdivided into (i) public consumption and (ii) public investment; these two sub-items were then subdivided further by a nature of activity. (b) transfer payment; (c) loan account payments; and (d) purchases of assets. Based on his findings, Snodgrass argued that the pattern of public expenditure has helped to improve the distribution of income and economic welfare of Malaysia:

“ . . . progressivity (of the fiscal system) has increased markedly over the years. The increase has come, by and large, not through taxation, but through expenditure. Inequities in distribution of public consumption have been reduced considerable, and the volume of transfer payment has risen. Perhaps most important of all, there has been a sharp rise in expenditure on investment projects specifically aimed at low-income groups. These changes are more evident in the racial tabulations than in (income) size-group. The reason for this is that the government during this period

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<sup>11</sup> Useful critical surveys include Mark Blaug (1972, 1973); Surjit S. Bhalla (1973); and John Simmons (1974).

had a well-developed rationale, political impetus and program for redistribution of income along racial lines, while it did not have such a basis for redistribution among regions or from rich to poor generally. The advantages which low-income groups and states derived from fiscal changes in 1958-1968 were mainly a by-product of the programs to redistribute income from non-Malays to Malays”.

Closer observation of the household distribution of the various categories of public outlay presented by Snodgrass suggests that it was still very much in favour of the rich in 1968. For example, the benefits derived from ‘Public Investment I’ (1975: 277 – Table III) by those in the \$1, 000 plus income group were about three and half times that of those in the lowest income group. While projects may have been “specifically aimed at low income groups”, as Snodgrass asserts, it appears that public expenditure generally favored those already better off.

Meerman (1979) has criticised Snodgrass’ study on several grounds, including the inferential manner in which beneficiaries were identified, and the arbitrary allocation of overhead expenditure items to explain a significant part of the allegedly redistributive effects of the overall incidence of benefit. Meerman carried out a survey to trace the distributive effects of public expenditures. It’s focused on public expenditure (including transfer payment) allocated to education, medical care, public utilities, and agriculture.

The summarised findings of the Meerman study are presented in Table 2.1. Per capita expenditure on public programs covered by his study was greatest for the highest income quintile and lowest for the lowest income quintile. The poorest quintile

received less of every service, except medical services. The distribution of public outlay tended to benefit those in the upper quintiles (especially those in the top quintile) more than the poor households. According to Meerman, the extremely high share of post secondary education enjoyed by those in the wealthiest quintile primarily explains this.

The redistributive impact of public expenditure on education, health services and public utilities was also traced separately by Meerman. He found the distribution of public outlay on education to be especially in favour of the well-to-do. Table 2.2 presents the total public expenditure (including imputed costs for capital services) in providing education at all levels in Peninsular Malaysia. If actual public expenditure is distributed as a percentage of income, a strong negative relationship between cost charged and income is obtained. This has led to the suggestion that the distribution of public educational outlay in Malaysia is in favour of the poor.

**Table 2.1**  
**The Distribution of Basic Public Services, by Basic Partition, Peninsular Malaysia. 1974**

	Annual household per capita income	School enrollment rates (2)				Households using public clinics	Households with in-patients in public hospitals	Households with pure or piped water	Households with electricity	Distribution of costs of federal agriculture progress	Distribution of costs of all public expenditures charged in the study
		Rate			RM per capita						
		Primary	Secondary	Post-Secondary							
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)			
RM											
Mean	969	90	40	3.1	76	15	57	56	33	138	
Quintile income											
1	234	85	33	0.7	89	14	23	24	12	109	
2	428	86	33	1.2	85	18	47	47	45	133	
3	621	93	40	2.3	78	11	52	49	38	131	
4	958	99	44	2.6	78	20	68	65	27	126	
5	2,620	90	48	5.5	62	12	83	84	34	142	
School enrollments per household (3)											
Mean		94	40	2.1							
Race											
Malay	775	89	41	3.9	77	13	41	38	51	156	
Chinese	1,244	97	38	2.4	71	14	83	84	11	90	
Indian	911	87	36	*	82	30	68	74	10	109	
Region											
Selangor	1,714	92	37	3.4	59	10	76	81	7	110	
Other	844	94	40	5.7	82	17	65	62	43	137	
North	689	84	40	0.7	74	13	30	31	36	123	
Kuala Lumpur	n. a	n. a	n. a	n. a	n. a	n. a	n. a	n. a	n. a	131	
Town site											
Metropolitan	2,028	95	45	9.0	62	15	89	90	6	126	
Large urban	967	92	46	2.3	77	18	58	69	142	108	
Small urban	876	96	41	3.8	77	11	63	72	11	115	
Rural	969	88	36	1.4	79	15	46	39	51	138	

Note: \* sample too small to estimate, n. a -- not available

Source: Meerman (1979 - Table 9.6)

**Table 2.2**  
**Outlays per Household for Education, by Component (M\$)**

Quintile of househol d per capita income	<i>Current public subsidy</i>			Total public costs	Househol d out-of- pocket costs	Total	Public costs as percentage of household income
	Student places (1)	Aid for out-of- pocket costs (2)	Capital service costs (3)				
1	450	21	112	583	221	804	38
2	396	23	108	527	215	742	20
3	454	29	102	585	295	880	15
4	384	35	92	511	288	799	9
5	370	52	91	513	291	804	4
Mean	411	33	100	544	265	809	13

*Source: Meerman (1979 - Table 4.14)*

Although conclusions here are greatly dependent on the relevant assumptions, Meerman rejects this conclusion as misleading since it assumes that benefits should be distributed according to household income and not, for instance, according to household need, which would take into consideration the proportion of school-aged children in a household actually attending school. For this reason, Meerman sees the need for defining the average enrollment rate at each level of public schooling as the norm. The household needs of the poor for schooling are generally higher than average because the poor have more children than the rich. Table 2.3 presents the results based on the refined need-oriented measurement. The findings shows that for the poorest quintile, the mean shortfall was \$111 per household, or 84 percentage of the norm, while the excess benefit for the richest quintile was \$139, or 37 percentage of the norm.

**Table 2.3**  
**Public Outlays per Household for Education,**  
**Actual and Norm, by Quintile of Household per Capita Income (M\$)**

Quintile	Current and Capital	Norm		Actual	Discrepancy
		Aid against out-of-pocket costs	Total		
1	652	42	694	583	-111
2	579	37	616	527	-89
3	581	37	618	585	-33
4	456	29	485	511	26
5	351	23	374	513	139
Mean	511	33	544	544	--

Note: -- not applicable

*Source: Meerman (1979 - Table 4.15.)*

Meerman also found that the current public subsidy per student at post-secondary level far exceeded the subsidies at secondary and primary levels, and that the major beneficiaries of this particular pattern of educational expenditure were the rich. This finding is especially important because public expenditure of education is the most significant social outlay widely believed to be progressively redistributive in effect.

As related to income inequality, he found the distribution of benefits from public expenditure by ethnic group to be in favour of Malays. On average, the benefit derived by the Malays was estimated to be one and three-quarter times that gained by Chinese, and about one and a half times that enjoyed by Indians. Taken together with other findings, the results support the contention that Malaysian government is more committed to inter-racial redistributive policies, rather than inter-personal or inter-household income differences regardless of race. Snodgrass (1975) found, for instance, that:

“On balance, Malays are estimated to have gained RM167 millions through federal government current fiscal operations in 1958, while non-Malays gave up about RM24 millions . . . The volume of redistribution had increased considerably by 1968, when more than RM300 millions was in effect transferred from non-Malays to the Malays. This in terms of Malaysian magnitudes, is income redistribution on a significant scale”.

Thillainathan (1976) provides further information on the redistributive effect of some programs undertaken by the Malaysian government to reduce the economic gap between Malays and non-Malays in the country. His study of government programs reveals that differential support and subsidies have been given to these different economic activities and hence, to different groups of beneficiaries. The average annual incomes obtained by beneficiaries of these programs are shown in Table 2.4. Although Felda land settlers of both oil palm and rubber schemes receive about the same amount of capital subsidy, Thillainathan estimates the income of the former to be almost twice that of the latter. Hence, he argues, an equal rate of subsidy for these two groups cannot be rationalized on grounds of equity. Comparing the subsidies and expected incomes of post secondary students with farmers, he finds that though students are potentially high income earners likely to earn much more than rice farmers and Felda settlers, on average, subsidies for students, are more than double the subsidies enjoyed by Felda settler and irrigation scheme farm families.



**Table 2.4**  
**Estimated Incomes and Subsidies by Activities**  
**(RM)**

	Average Annual Income	Total Subsidies
1. Oil Palm Scheme	4,094	3,016
2. Rubber Scheme	2,895	3,572
3. Irrigation Scheme	1,204	3,913
4. Higher Education*	15,211	8,340

Note: \* Income and subsidy per student

Source: *Thillainathan (1976)*

Tan (1980) in his thesis shows that education much lauded role and potential as the great equalizer as rationalized particularly by the human capital theory is very much constraint by the diverse state's economy activities.

Toh (1982) expanded Tan's work and examined the role of the state in education. He utilized data obtained by Meerman and other researchers who have carried out surveys in either rural villages or urban centers found that

"The role of the state in education which is regarded as an important tool for the attainment of the objectives of the NEP, is more a mechanism for the transfer of social-economic status across generations rather than being an avenue for social advancement."

"The utilization of education as a vehicle for the restructuring of Malaysian society has been impressive, state intervention here has tended to benefit more Malay students from the upper income brackets in the urban areas." Confirming Meerman's finding.

"...the egalitarian educational structure within a peripheral capitalist society cannot be relied upon to eliminate poverty." He further argued that "...the cause of inequality in the distribution of income is not to be found in the

hierarchical educational structure but rather is to be located in the capitalist social relations of production.”

In sum, Toh states that the power of educational returns to reduce the degree of inequality and poverty reduction is yet to be confirmed.

Anand (1982) in his study explores the empirical relations among age, education and income of urban employees. This was done through a detailed regression analysis of earnings functions based on human capital model. In a hypothesis to examine the relation between education and income, and between educational inequality and income inequality, the following earnings functions was formed, based on the Mincer's human capital model. The summarized findings of Anand's estimates of the earnings function for a sample restricted to urban male employees is presented in Table 2.5.

**Table 2.5**  
**Earnings Functions for Urban Male Employees Occupations and Race**

	Estimated regression equation	$R^2$ of estimate	Mean and variance of log y, S, T, and Y			
log ym	= 5.42 + 0.14S + 0.09T - 0.001T <sup>2</sup>	0.451	log y = 7.738	S = 7.890	T = 19.834	y = 3,241
			var(log y) = 0.684	var(S) = 17.044	var(T) = 153.70	var(y) = 19.10*
log yc	= 5.32 + 0.14S + 0.11T - 0.001T <sup>2</sup>	0.521	log y = 7.606	S = 6.853	T = 19.768	y = 2,979
			var(log y) = 0.780	var(S) = 18.779	Var(T) = 205.5	var(y) = 12.46*
log yi	= 5.69 + 0.13S + 0.07T - 0.001T <sup>2</sup>	0.476	log y = 7.704	S = 7.457	T = 23.339	y = 3,287
			var(log y) = 0.712	var(S) = 22.413	var(T) = 228.45	var(y) = 17.46*
log yo	= 4.68 + 0.23S + 0.10T - 0.001T <sup>2</sup>	0.520	log y = 8.590	S = 11.744	T = 16.819	y = 11,804
			var(log y) = 1.961	var(S) = 20.525	var(T) = 150.12	var(y) = 266.11*
log yt	= 5.42 + 0.14S + 0.09T - 0.001T <sup>2</sup>	0.492	log y = 7.669	S = 7.282	T = 20.339	y = 3,217
			var(log y) = 0.775	var(S) = 19.437	var(T) = 197.33	var(y) = 19.44*

Note: m, c, i, o and t refer to Malay, Chinese, Indian, other and total, respectively. The variables S and T are measured in years, and the variable y in Malaysian dollars per year. \* Coefficients is multiplied by 10<sup>6</sup>. The mean of log y is the logarithm of geometric mean income, and the variance of log y is a familiar measure of inequality (the variance of log-income. Note also that the square root of variance, divided by the mean, of S and T furnishes measures of inequality (the coefficient of variation) for schooling S and experience T.

Source: Anand (1982 - Table 7.1)

Anand found that almost all the equations and almost all the coefficients of independent variables are significant at 1- percent level. With a goodness-of-fit of 0.492, he concludes that about half of the observed inequality in earnings as measured by the variance of log-income are explained by age and education. The private rate of return to education is 14.01 percent for all urban male employees. His results also show that of the three major racial groups in Malaysia, the Malays obtain the highest return to education. Each additional year of schooling (holding experience constant) raises annual income of a Malay by 14.24 percent, of a Chinese by 13.87 percent, and of an Indian by 13.50 percent. The reason of higher coefficient for Malays, according to Anand, is consistent with education's giving them a better entry into occupations with high incomes, such as government jobs. The ranking of communities according to average schooling levels are Malay with 7.89 years, followed by the Indians (7.46 years), and then the Chinese (6.85 years).

Anand's findings on inequality in earnings as measured by the variance of log-income, shows that Malays have a smallest inequality at 0.684; the Indian are next with an inequality level of 0.712, and the Chinese have the highest inequality of earnings at 0.780. This inequality in earnings is associated exactly with inequality in education and experience for the races. The Malays have the smallest inequality in years of schooling as measured by the coefficient of variation,  $(\text{var}S)^{1/2}/\sqrt{S}$ ; the coefficients of variation of schooling for Malays, Indians and Chinese are 0.52, 0.63 and 0.63, respectively. Inequality in years of experience displays the same ranking indicated by a coefficient of variation of 0.63 for Malays, 0.65 for Indians, and 0.73 for Chinese.

Anand findings bear two policy implications. First, on the preferential government policy towards the Malays in employment, promotions, and university quotas, and second, on the inequality between Malays and non-Malays. He asserts that certain occupations, in which the application of pro-Malay policies is most intense, do display higher returns and average incomes for the Malays (for example, government administrators and legislative officials). In regard to incomes between the races, he asserts that differences in educational attainment do account for much of the difference in earnings. He concluded that labor income differences are associated with differences in education received. His findings also suggest that education could be an instrument of mobility for Malays in the category of employees.

However, on the role of education in reducing income inequality, Anand's studies was inconclusive as many others factors have been ignored in his model. For example, the omission of many important income-determining variables such as the number of weeks in the year actually worked, ability differences, and the quality of schooling received<sup>12</sup> and the validity of the cross-sectional estimates for time-series inferences.

In view of the above, this paper will elucidate the impact of basic educational funding on income inequality in Malaysia. In order to do, we shall first examine how investments in basic education affect income of the poor, and second, the extent to which government involvement in the financing of education services contributes to achieve a more equitable distribution of income.

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<sup>12</sup> The omitted variables are on the so-called supply side; variables on the demand side have been ignored altogether.