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Economics of Education

A Review

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INTRODUCTION

'Education is an Industry'. It is, comparatively, a new slogan in the field of education. This comes out of the study of regular business of input in, and output from the industry. The consideration of its various aspects makes the problem of economics of education challenging because of its controversial productive efficiency of the investment of capital and/or labour. It is more so because of various claimants on the limited resources of the national economy. Education claims a considerable section of the national budget. When the human community is struggling for a better, and comfortable life for all, education has to justify its claim in terms of its productivity and contribution to national economic growth.

The subject, as such, is of recent origin. The economists had a long standing passive interest in the relationship of economics and education, but it was only in the fifties that there was a large spurt in the growth of literature. As Blaug (1966a) reports, upto 1951 there were only fiftyfive pieces of literature; the production between 1951 and 1956 was fiftythree, but during 1956-60 it was 200 and during 1961-66 it was 500. The second and third volumes (Blaug, 1966b, 1967) report another 220 such studies.

The major areas of study have been the exploration of the contribution of education to economic growth of nations, differential significance of educational specialisations in terms of individual earnings, cost-benefit analysis and relationship of schooling and on-the-job training.

There are a few studies in this field in our country also. But hardly any research tradition has been developed in the field. It is an endeavour to review the available literature, in this country, related to the field.

Although the first research report was available in 1959, it was only in the years 1966 and 1967 that two all-India seminars gave new impetus to the studies in the field. First was the seminar on 'Education as Investment' (1966) at the Economics Department of Lucknow University and the second was on the 'Measurement of Cost, Productivity and Efficiency of Education' (1967) organised by the NCERT. In both the seminars, a large number of papers based on small scale studies as well as discussion of concepts and terminologies of economics of education were presented.

Inspite of its existence for the last thirteen years, the field has not gained popularity. This is evinced from the quantity of work done in the area. The first four studies were completed in the years 1959, 1961, 1962 and 1965. The rest are distributed over the years 1967 to 1972. It is worth noting that economists have taken more interest in the field than the educationists. The nature of studies and technical treatment of the subject by economists differ sharply from the studies taken up by persons in the discipline of education.

The studies suggest a few clear-cut areas. Hansen (1969) classifies them into seven categories :

(a) Human capital approach;
(b) Education's contribution to economic growth;
(c) Impact of education on earning;
(d) Historical studies;
(e) Links between education and earning;
(f) Programme budgeting and financing of education; and
(g) Efficiency and equality of educational opportunity.

The studies in our purview show three clear groups :-

(a) Educational financing.
(b) Education and productivity.
(c) Costs of education.

EDUCATIONAL FINANCING

Educational financing has proved to be the most popular field of research in this area. Seven studies have been reported here. Out of these, four are at the doctoral level and three are projects. The contributors are Misra (1959), Nair and Pillai (1962), Karnik (1967), Shah (1969), Panchmukhi (1970), Azad (1972) and Karnik and Pandya (1972). The main trend of research has been to treat the problem from an administrative and historical standpoint. It is Shah's study (1969) that has smelt the technicality of the subject treatment. The other trend is to pose the problem of finances in education, in the prevalent practice, as revealed from the government reports. As such, these studies differ in their nature again. While Misra (1959) has studied finances of Indian education during (1898-1959), Nair and Pillai (1962) and Karnik and Pandya (1972) have dealt with problems of finances of education in their respective states, viz., Kerala and Gujarat. Karnik's (1967) study is a survey of growth of education in terms of enrolment, budget allotment and number of institutions at different levels; he has used about forty indices of economic growth and assessed the resultant change. The studies, afterwards, have tended to leave to be unwieldy and become critical and deep on particular aspects of the problem. Shah (1969) has dealt with the fund allocation and growth in expenditure in terms of constant prices. Azad (1972) has delimited his study to the area of financing in higher education only. He has also analysed it in terms of constant prices.

EDUCATION AND PRODUCTIVITY

The second group of studies, in general, are on education as a correlate of higher productivity. Of course, there are variations in the nature of studies in this group too, in the sense when Sinha (1967) dealt with the various concepts of economics of education alongwith countribution of education to growth of Bihar during the five year plans, Datta (1970) was interested in ascertaining the relative influence of inputs on 'student output' or 'college environment'; Singh (1965) and Chaudhri (1968) were interested in observing contributions of education in industrial and agricultural productivity, respectively. Regarding the conceptual aspect of the discipline, it is definitely still in the making. Standard definitions of certain economic terms are being used; some enthusiasm is also there to twist the economic concepts into an educational dice. Example can be given of Chandra's (1972) definition on saving aspect and hoarding aspect of education. From the other side, education as investment is being placed on the balance sheet to evaluate the scope of maximisation of the investment and allocation of funds. Studies by Mukherjee and Rao (1966), and Kothari (1966) are worth referring here. They have made studies on relative efficiency of different levels of education and subject groups in respect of the output or returns. Some researches on the theoretical aspects are also in the offing.

COSTS OF EDUCATION

The rest of the available work is in the field of costs of education. Shukla (1960) is actually the first to get the credit of studying some problems with technicalities of the discipline. Shukla (1960) has studied the differential cost of education of Basic and non-Basic schools. Mathur (1968) has made a similar study for a certain time period and has taken more of a generalist approach. It has been a study on the public cost of education only and it has also dealt with financing of education. The other study is by Kamat (1968) on the unit institutional cost in higher education. Here the study has taken a better turn towards a scientific approach. He has studied the institutional cost in terms of expenditure per pupil per annum. The institutional cost borne by Poona University has also been studied.

Two other works worth referring here are those of Srivastava and Sen. Srivastava (1970) studied the utilisation of money by the tribal students. It may be mentioned that it is the only study on the backward community. In the late sixties, Sen undertook a study on cross-sectional survey of Calcutta metropolitan area. He has dealt with both costs of education as well as the relative output effect of education on earning.

CONCLUDING REMARKS

The major purpose of this section is more to imagine the expected manhood of this child (economics of education) when grown than to evaluate and assess him as he is.

The field, though new, is being continuously explored by a few organisations, viz., the NCERT, the Economics of Education Unit of Bombay University, the Gokhale Institute of Politics and Economics, the Department of Economics of Lucknow University, etc.

The Kothari Commission (1964-1966) considers education as an important factor in manpower planning for a planned economy. This is essential for balanced growth of the national economy. The success of a planned economy depends upon the development and proper utilisation of human potential. The Kothari Commission, again, depicts a grand structure of education which will provide the needed manpower for the growth of national economy through vocationalisation of secondary education, channelising students at different levels towards professional training, etc. But all these organisational planning and changes in curriculum witness failure because of lack of funds or its improper utilisation.

The need of research in this field is supported by the fact that the research will provide the ground for manpower planning. The studies on relative efficiency of different patterns of education and effect of differential input on relative productivity of education contribute to educational planning. The problem of investment in primary education, raised by the Commission (1964-66), is another area of study because of the fact that the productive higher education depends upon primary education which apparently appears to be mere consumption. The problems of economic implication of wastage and stagnation at various levels, and those of unemployment and underemployment create a need for research in this field.

With this national need in the background, the future research has to receive its take off. The studies on plan modelling and programme budgeting are the priority research areas which will, over and above, explore the possibilities of education as a system. These studies, alongwith manpower planning, have to be supplemented by more and more fundamental researches. The studies on cost-benefit analysis and unit costing, both at the individual and institutional level, are the fields which need to be explored. The historical studies on finance in education can be replaced by studies on contributions of various private and public investments in finances of education as a whole.

The application of mathematical and econometric models to studies in economics of education are in the offing. This methodological treatment will give a refinement to the studies and it may land in a state of affairs where the contribution of education has not to be counted by the 'Residual Approach' only.

ABSTRACTS : 664–677

664. *AZAD, J.L., A Critical Study of the Financing of Higher Education in India in the Post-Independence Period, Ph.D. Edu., Del. U., 1972.*

The study was undertaken (i) to analyse the patterns of higher education finance—aggregative as well as institutional, (ii) to study the patterns and procedures of financing of higher education adopted by the central and the state governments, and (iii) to discuss certain basic policy issues relating to the subject under reference.

The study was mainly limited to higher education during 1947 to 1966. The data were obtained from various ministries of the Government of India and other concerned organisations as well as the state governments. A questionnaire, relating to the patterns and procedures of state grant-in-aid, including certain policy issues relating to financing of higher education, was sent to the vice-chancellors, principals of affiliated colleges and experts. In all, responses of 180 persons were analysed.

The major findings are as follows. (i) The annual rate of growth of expenditure over the years under study (at constant prices) is the highest (twelve percent) in the case of higher education as compared to 9.1 percent in the case of overall education and 3.4 percent in the case of national income. (ii) Both as a percentage of national income and of the educational expenditure as a whole, the expenditure on higher education has indicated a much higher rate of growth. (iii) At constant prices, the increase in the per student expenditure is insignificant both in the case of education as well as higher education. (iv) If one considers the educational expenditure as a percentage of the national income, (converted into US dollars), India has exceeded only a few countries of Asia like Burma, Jordan, Pakistan and Vietnam. (v) In terms of per capita expenditure on education as a proportion of the per capita net national product, there have been material changes in the position of states, over the years under study. It is, however, found that the differences among the states, with regard to 'effort' (as represented by the per capita expenditure on education as a proportion of the per capita net national product), have indicated a tendency to narrow down. It is also found that educational expenditure has been a social overhead and has an element of inevitability which must be incurred regardless of the states' financial capacity. The study has also revealed that the states which spent more on education also spent more on higher education. (vi) An analysis of the inter-institutional priorities revealed that the states have been making larger outlays on higher education than on other educational programmes. Further, the disparities amongst the states, as reflected in their proportionate expenditure on higher education, have narrowed down over the years. This is revealed by the decline in the coefficient of variation in respect of different states, over the years. (vii) The universities have been planning larger outlays on 'consumption', i.e., staff salaries, scholarships, and conduct of examinations than on 'investment' like buildings, equipment and libraries. (viii) The concentration of expenditure is more on universities than on colleges; further, the UGC has unduly spread its scope far too wide, with the result that its assistance has indicated a tendency to get diffused over a large number of items. (ix) The main sources of finance for higher elucation have been the central and the state governments; the fees are the second largest source of university finance. Their appropriate contribution has however been going down. Same is the case with endowments. Considered institutionwise, the bulk of central assistance (86.13 percent) in 1963-64 was confined to universities, research institutions and professional colleges and the bulk of the state assistance was for professional colleges (41.9 percent) followed by colleges for general education (33.9 percent) and universities (21.5 percent). (x) There has been no clear-cut demarcation between the central and the state governments in the matter of financing of institutions of higher education and the systems of financing by the government have not always been based on rationally devised criteria for providing requisite financial assistance; they seem to be the result of a policy of 'ad-hocism' born mainly out of the exigencies of the financial situation prevailing at the central and the state levels. (xi) There is a multiplicity of organisations concerned with the financial and academic management of higher education; the UGC, which is the main instrument of central government for the coordination and determination of standards, has an extremely truncated responsibility. (xii) The state governments' grants for various types of institutions of higher education are based on

widely varying patterns and procedures—the system lacks specificity and dynamism and is largely attuned to a rigid institutional pattern which makes innovation and experimentation difficult, and the 'deficit' grant system, which is generally in vogue, dampens the enthusiasm of the private bodies to raise resources.

665. *CHAUDHRI, D. P., Education and Agricultural Productivity in India, Ph.D. Eco., Del. U., 1968.*

The objective of the study was to examine the relationship between education and agricultural productivity in the specific context of Indian agriculture. It was hypothesised that (i) the level of agricultural productivity is positively related to education of the farm workers; (ii) the pattern of agricultural inputs is positively related to the level of education of the farm workers; (iii) the cultural factors substantially influence the impact of education on agricultural productivity; (iv) the caste structure substantially influences the impact of education on agricultural productivity.

The study was conducted on ten agricultural economics research centres and 1037 cultivating households from nineteen villages of the Punjab, and Uttar Pradesh. Inter-state data and inter-district data were analysed for entire India; inter-district data for each state and region, and inter-village data for two states, viz., the Punjab and Uttar Pradesh (nine villages of the Punjab and ten villages of Uttar Pradesh), were also analysed. Chi-square tests of dependence of attributes were computed. A functional form with constant elasticity was chosen, i.e., $y=a.e^{b}$ where 'y' represents yield per acre and 'e' represents a measure of education. Correlation matrix between measures of education was prepared. Statistical estimations of the parameters of the Cobb-Douglas production function, on the basis of 256 district level observations for the country as a whole, were determined. These 256 districts were grouped into eleven regions based on the regional classification devised by the Planning Commission of India.

The study revealed the following. (i) The possibility that the level of agricultural productivity is positively related to the level of education of the farm workers is largely borne out by the data at the state, district, village and the household levels. (ii) The impact of education on the level of agricultural productivity is not perceptible in the inter-district data if the inter-district data variations in the level of education are very small. (iii) The socio-cultural factors may weaken the impact of education on agricultural productivity. The impact is weak in specific regions, e.g., in Uttar Pradesh, and subject to these limitations, the impact of each of the four levels of education of the farm workers on the level of agricultural productivity is significant, the relation being particularly strong with primary and secondary education. (iv) In general, inter-household data bear out the elements of externalities in educational impact. (v) The possibility that the pattern of agricultural input is positively related to the level of education of farm workers is also borne out provided the natural conditions for the use of these inputs are favourable and the socio-cultural factors do not reduce the impact of education. (vi) At the macro as well as micro levels, the impact of education on the level of agricultural productivity is fairly pronounced in the Punjab, while in Uttar Pradesh it is rather weak. (vii) The impact of caste structure on productivity is borne out, to a limited extent, in the lower income groups. (viii) The relation between education and productivity is positive among higher castes, cultivating castes and lower castes. (ix) For the country as a whole, secondary education seems to explain higher amount of variation. (x) Educational impact on the use of chemical fertilizers also seems to be positive and significant on the basis of inter-district data and inter-state data for entire India. (xi) The impact is significant in seven out of twelve states and eight out of ten regions. Education, particularly primary and secondary education (though not mere literacy), does have a significant impact on modernisation.

666. *DATTA, A., Economics of Education in West Bengal Colleges, with special reference to Size, Techniques and Location, Dept. of Eco., Cal. U., 1970.*

The purposes of the study were (i) to estimate, separately, the contribution of student input and the college environment on student output and (ii) to ascertain how far the quality of student output is determined by student input and how far by the college environment. Student output is the number of graduates of various qualifications. The number

of students admitted to various courses of study is the input. The college environment is the collective name for the non-student resources like teachers, their qualifications, student-teacher ratios, floor area in relation to the number of students, library services and other more intangible things, such as the quality of management of the college and its tradition or reputation.

On the basis of stratified random sampling procedure, twentytwo colleges under the Calcutta University were selected for the study. Necessary data were collected on the basis of appropriate questionnaires and available reports. The marks obtained at the final examinations and the required number of classes for different courses of study were considered in combination while deciding upon a system of weights for different categories of graduates. This served as a measure of student output. The data on college environment were collected on the basis of the number of students enrolled (size of the college), floor area-student ratio, book-student ratio, student-teacher ratio, institutional cost per student and the age of the colleges. A number of regression equations were fitted to the sample data to discover the extent of correlation between the quality of student output on one hand, and the quality of student input and the college environment on the other.

The study revealed that (i) the quality of student input could closely determine the quality of student output; (ii) there was no significant influence of any of the factors of the college environment on the student output; (iii) costs declined with the increase in the size of the college; (iv) students from the highest income levels had, on the whole, markedly better examination results than poorer students; (v) 42.88 percent of the sample students showed a preference for teaching research as a future career; and (vi) in most of the colleges in rural areas, majority of the students voted for teaching rather than for agriculture.

667. *KAKKAR, N.V., Workers' Education in India, Ph.D. Com., Agra U., 1967.*

The purpose of this study was to find out how far the scheme of workers' education that was started by the Central Board of Workers' Education (C.B.W.E.) contributed to the same cause.

The data were collected through a questionnaire and visits to unit level classes in fifteen regional centres—Nagpur, Hyderabad, Madras, Hubli, Poona, Bombay, Dhanbad, Calcutta, Barrackpore, Jamshedpur, Rourkela, Vishakhapatnam, Bhilai, Kanpur and Delhi. Forty education officers were interviewed and a questionnaire was administered to them, individually.

The essence of workers' education is that it should teach the workers to be dutiful and should inculcate a sense of duty and reverence. The UNESCO's collaboration with I.L.O. has made great impact on the scheme of workers' education in India. India initiated her own programme of workers' education in 1958 through C.B.W.E. The I.C.F.T.U. (International Confederation of Free Trade Unions) established the Asian Trade Union College at Calcutta in 1952. The sponsoring agents of workers' education in our country are central government, state governments, trade unions and other associations like Indian Adult Education Association, New Delhi. A broad conclusion can be drawn that other than C.B.W.E.'s scheme, all the schemes are minor attempts and cover only local areas. There is a direct relationship between the teachers and the workers in all the schemes excepting that of the C.B.W.E. where worker-teacher is a very important link between education officers and the worker-trainee at the unit level. The majority of the workers were not even matriculates. Most of the workers wanted evening classes and desired leave for the duration of the training. Nearly thirtyfour percent of the workers thought that the courses were detailed and needed more time, fortyfour percent felt it to be of average length. The aims of workers' education are (i) to develop stronger and more effective trade unions—the bond of loyalty to be strengthened through the workers' education; (ii) to develop leadership from the rank and file; (iii) to equip organised labour to take its place in the democratic society and to fulfil, effectively, its social and economic functions and responsibilities; and (iv) to promote among the workers a greater understanding of the problems of their economic environment and their privileges and obligations as union members, officials and citizens. Programmes of workers' education are at three levels, viz., (a) for education officers (b) for worker-teachers and (c) for rank and file category. There are three month courses and refresher courses of varying duration. The worker-teachers' training course is also of three months duration. There are refresher courses with incentives of salary for holidays and additional remuneration, local excursions and merit awards. But the state of affairs as it is now in workers' education is not very encouraging. For wor-

ker-trainees, no hard and fast rule has been laid for selection and the duration of the course is thirteen weeks, having classes on five days a week including two non-working days. The syllabus for the worker-trainees does not specifically provide for the working hours; no specific subjects for talks or debates are given, but in all, fortynine topics on I.L.O. and India, diversity of India's trade, trade unions and economic development, etc., are included in the syllabus. It also provides for six local excursions to be organised, every talk to be followed by group discussion or film show; scheme of incentive award for attendance is also there. Other aspects are study circle, award of extra short study tour and refreshment. It was found that the number of workers trained upto March, 1960 was 1,800, whereas that upto 1964-65 was 88,797. But the scheme suffers from lack of follow-up programme and imperfect assessment. The main means of workers' education are (a) pamphlets, books and charts, (b) teaching manuals and guides, and (c) audio-visual aids. The general methodologies are formal lectures, discussions, lectures with questions and discussions, panel forums, symposium forums, colloquia, sub-discussions, active group work, study circle, workshop projects and case studies and correspondence courses. The present administration of workers' education is a hierarchy with C.B.W.E. at the top, and with a board of governors, director and chairman. The next in descending order are twentyseven regional boards with regional directors, government representatives, educational associations, employers and trade unions which have got two wings—selection sub-committee and syllabus sub-committee—in which all the above said four organisations are represented. The major financial sources are grants-in-aid, sale proceeds of old newspapers, sale of priced publications, boarding and lodging fees, etc. The study of progress of the scheme in northern and central zones reveals that in Chandigarh, by March 1965, fourteen worker-teachers courses gave training to 305 worker-teachers; at the unit level, 6,901 workers were trained in 306 batches and during March, 1965, 1,040 workers were under training. At the end of March, 1965, there were three sub-regional centres, one each at Faridabad, Jammu and Srinagar. At the Delhi Regional Centre, 457 worker-teachers were trained (1964-65) and by March 1969, 22,714 workers were trained and 3,049 workers were under training. The consolidated progress in central zone, i.e., Kanpur, Saharanpur, Indore and Bhilai centres, is that by March 1965. 1,178 worker-teachers were trained, 44,330 workers were trained and 8,323 workers were under training. The progress of southern zone can be recorded as by March, 1965, 1728 worker-teachers and 66,834 workers were trained and 7,753 were under training. The regional centres in southern zone are at Madras, Madurai, Bangalore, Hubli, Mangalore, Kozhikode, Vishakhapatnam, Alwaye and Goa. The progress in western zone which includes regional centres at Bombay, Poona, Thana and Nagpur reveals that 974 worker-teachers and 30,470 workers were trained in 1965 and 6,119 workers were under training. The eastern zone regional centres, at Dhanbad, Rourkela, Calcutta, Barrackpore, Jamshedpur and Tinsukia had trained 1,082 worker-teachers and 36,356 workers and 6,474 workers were under training by March 1964. It is to be noted that all the trained worker-teachers could not be appointed and quite a large number of them are still unabsorbed in the profession. Only 56.18 percent of them are appointed.

It is concluded that workers' education is helpful in bringing about a change which is the responsibility of the trade unions. This also implies finding out trade union leaders from the rank and file rather than the persistence of outside leadership. The limitation is that the classes, many a time, turn out to be stages for propaganda of trade unionism. For improving a scheme of workers' education, the need is that the C.B.W.E., the employers, the trade unions, the universities and the workers, individually, have to put in cooperative and collective effort.

668. *KAMAT, A. R., Unit Institutional costs in Higher Education, Gokhale Institute of Politics and Economics, Poona, 1968.*

The study was designed to estimate the recurring institutional expenditure per student per annum at the undergraduate and postgraduate stages in the University of Poona.

A data sheet giving the relevant information was prepared for each of the ten colleges selected from Poona, Nasik and Shrirampur. It listed the number of students in each class, the number of teachers, common expenditure classified under nine categories, and the divisible expenditure classified under three categories. The sheet also gave the division of divisible expenditure over relevant categories of students and finally recorded the

component costs as well as the total cost per student per annum for different categories of students. The institutional costs borne by the University of Poona in its postgraduate departments were also found out in a similar way.

The study has revealed that the per pupil cost for the four-year period covering the pre-degree year and the three-year degree courses in commerce, arts and science are approximately Rs. 1200.00, Rs. 1500.00 and Rs. 1800.00 respectively. The higher costs in the science courses are, of course, due to the costs of laboratories and equipment. Somewhat lower costs in the commerce as compared to those in the arts courses are on account of the fact that commerce courses constitute a much more homogeneous group allowing fewer branches of specialisation. Per pupil cost in mofussil colleges is higher than in the colleges in Poona. The per pupil per annum cost of postgraduate instruction in the university departments is four or five times as high as that for undergraduate instruction in the colleges. The costs of technical education, such as, medicine and engineering at the undergraduate level are, again, four or five times as high as those of general education in arts and science.

669. *KARNIK, M. B., Educational Development in the State of Gujarat during the Period 1951-1961 in the light of the Economic Growth of the State, Ph.D. Edu., Guj. U., 1967.*

The study aimed at investigating into the educational development in the Gujarat State during 1951-1961, in the light of the economic growth of the state.

Annual and periodical reports, magazines and yearbooks published by the central and the state governments and the NCERT were the main sources of reference. Relationship between certain variables of economic growth and indices of educational development was found out. The variables of economic growth selected for study were (i) population, (ii) density, (iii) urban area, (iv) backward population, (v) literacy, (vi) percentage of population in primary sector, (vii) percentage of population in secondary sector, (viii) percentage of population in tertiary sector, (ix) electricity, (x) factories, (xi) total district income and (xii) per capita income.

Some of the salient findings were as follows. (i) The growth of primary schools was ninetythree percent in Gujarat State during 1951-1961. (ii) The number of villages without schools decreased from 12000 to 1200. (iii) The area of compulsory primary education expanded and the distance between schools and homes lessened. (iv) In 1950-51, about seven percent of population of Gujarat State was in primary schools. It increased to eleven percent at the end of 1960-61. (v) The enrolment in primary schools increased by eightyfive percent during 1950-1960. (vi) In 1950-51, sixtyfour percent of the children in age group six to eleven years were in primary schools. It increased to seventytwo percent in 1960-1961. (vii) The increase in primary teachers was sixty percent, and the percentage of trained teachers which was fortyfour became fortyeight in 1960-1961. (viii) The expenditure in the field of primary education increased by 116 percent, but the total direct expenditure on primary education reduced from 52.76 to 48 percent. (ix) The population per school was reduced from 1956 to 1114. (x) The average area per school also reduced. (xi) The number of secondary schools increased by ninetysix percent during 1951-1960. (xii) During the entire decade, the ratio between primary schools and secondary schools did not change. (xiii) In 1950-51, the population per secondary school was 29092. At the end of the decade it reduced to 18755. (xiv) The enrolment in secondary education increased by ninetyseven percent during the span of ten years. (xv) The growth of expenditure in the field of secondary education was to the tune of ninetyeight percent. But the proportion of this expenditure to the total direct expenditure changed from twentyseven percent to twentythree percent and therefore, the proportion of expenditure of primary to secondary changed in favour of primary education. (xvi) In 1950-51, there were only two universities in the state, while by the end of 1960-61 one more university came up. (xvii) The increase in higher education was 158 percent. (xviii) With the increase of colleges, number of faculties also increased. (xix) The enrolment in higher education increased by 364 percent, while at the university stage it increased by 215 percent. (xx) There was no significant change in the enrolment in different faculties. The enrolment in general education changed from sixtyeight percent to sixtythree percent and in colleges of professional education it changed from thirtyone percent to thirtyfour percent. (xxi) The expenditure in the field of higher education increased by 385 percent. The expenditure on non-recurring items also increased substantially.

670. MATHUR, M. V., A Study in Costs of Education in India during the Period 1951-61, Raj. U., 1968. (NCERT financed)

The aims of the project were: (i) to study the growth and variations in educational expenditure during 1951-61 with respect to objects|institutions, states|union territories, sources and managements; (ii) to examine the pattern of expenditure from different sources of educational finance during the decade; and (iii) to study the relative performance of the different states, in education.

The growth in expenditure was studied by taking the annual expenditure figures from 1951 to 1961. The different sources of educational finance included central government funds, state government funds, local bodies resources, fees, and endowments and other resources. For the study of the performance of the different states in education, a comparative status of educational development on the basis of the following six point criteria was formulated : (i) accomplishment in education; (ii) ability to support education; (iii) the degree to which accomplishment is commensurate with the state's ability to support education; (iv) efforts of the states in education; (v) efficiency of the educational effort, and (vi) growth of literacy in the state.

It was found that the educational expenditure rose from Rs. 1144 million to Rs. 3444 million during the decade 1951-61 (201 percent), giving an average rate of growth of 11.7 percent per annum. The expenditure on education per head rose from Rs. 3.2 to Rs. 7.8 (144 percent). The expenditure per pupil increased from Rs. 44.2 to Rs. 71.8. Though there were wide inter-state variations in respect of rate of growth of total educational expenditure, all the states seemed to have shared the general per capita increase in expenditure; Kerala, Rajasthan, Jammu and Kashmir, Assam, Maharashtra, Bihar, Mysore, and Orissa were above overall average annual rate, i.e., 12.7 percent per annum, while Andhra Pradesh, Madras, the Punjab, West Bengal, Uttar Pradesh, and Gujarat were below it. Of the total increase of Rs. 2300 million, Rs. 1664 million (72.2 percent) was 'direct expenditure' and Rs. 637 million (27.7 percent) was 'indirect expenditure'. The greater part of the increase of 'direct expenditure' (72.1 percent) was spent on schools, followed by expenditure on university and higher education (15.1 percent), and a small proportion on special education (.9 percent). Among institutions, the following percentages, distributed in respect of annual rates of growth of direct expenditure, were computed : teacher training colleges 19.8, middle schools 8.8, pre-primary schools 17.2, research institutes 15.2, colleges for special education 15.2, professional schools 13.9, professional colleges 13.5, high|higher secondary schools 11.6, colleges for general education 11.3, universities 11.2, teacher training schools 8.6, primary schools 7.2, secondary schools 7.2, and school for special education 3.2. The growth of 'indirect expenditure' was accounted for by : buildings 51.9 percent, scholarships 26.1 percent, miscellaneous 11.8 percent, direction and inspection 6.8 percent and hostels 0.9 percent. The direct expenditure on education, when looked at from the management point of view, showed phenomenal growth in respect of each management. Length pattern of expenditure under different management did not change significantly during the decade. The government institutions recorded the highest rate of growth in expenditure, the lowest being the municipal board institutions. Expenditure on education incurred by the central government funds was of three types—(i) expenditure for institutions managed by the central government and on stipends, (ii) grants-in-aid to voluntary organisations, including the University Grants Commission, for disbursement to universities and (iii) grants to state governments on centrally sponsored and centrally aided schemes under the plans, and central assistance to supplement state revenue through quinquennial awards of the fiinance commission. One-fifth of the total expenditure of state government funds was spent on government institutions, one-fourth by way of grant-in-aid to local bodies, another one-fifth as grants to non-government institutions and the remaining thirtyfive percent was accounted for by expenditure on direction, scholarships, etc. Most of the expenditure from local body funds was spent on middle and secondary school buildings and equipments. During 1960-61, fees accounted for about one-fifth of the total expenditure on education and the relative contribution of fees to total expenditure declined during the decade. When the distribution of expenditure from fees to institutions|objects was viewed, it was pointed out that almost the entire expenditure on boards of secondary|intermediate education and nearly half of the total expenditure on colleges for general education were met from fees. Fees played an important part in financing high|higher secondary schools, universities, and higher education and to a

lesser extent in colleges for professional education, schools for vocational education and colleges for special education. About two-thirds of the expenditure from endowments and other sources on education was considered 'direct expenditure' and the remaining one-third 'indirect expenditure'. Regarding the relative performance of all the states, on the six criteria, it was found that Kerala topped the list followed, in order, by the Punjab, West Bengal, Maharashtra, Gujarat, Uttar Pradesh, Mysore, Madras, Bihar, Rajasthan, Assam, Andhra Pradesh, Jammu and Kashmir, Madhya Pradesh and Orissa.

671. *MISRA, A., Educational Finance in India, a Critical Survey of Educational Finance from 1698 to 1959 dealing with the Financing of all branches of Education at all Levels of Administration, D. Litt. Edu., Sag. U., 1959.*

The objectives of the study were: (i) to survey the evolution of educational finance in India during the modern period, (ii) to evaluate existing trends and administrative practices in financing education; and (iii) to make suggestions to place educational finance on an adequate and sound footing to develop education, rapidly.

The historical research method was used. The data were collected from reports, reviews and documents of the central and state governments of India and other primary and secondary sources dealing with education. The historical survey of educational finance in the country was divided into six parts dealing with finances under the East India Company (1698-1833), Centralised Government (1833-70), Decentralised Administration (1871-1921), Diarchy (1921-37), Provincial Autonomy (1937-47) and in Independent India (1947-56). Financial policy in education was examined and the extent of the government contribution to education, its relation to total expenditure, the country's budget and the population, and its allocation to various objects of expenditure were assessed and evaluated. The educational balance sheet provided interesting criteria for comparing the efforts of different provinces or states. The evaluation of existing trends and practices in financing education was made by examining the roles of the central and state governments, local bodies and private agencies, during this long period.

The results have revealed some problems due to the increase in population, peasant society, sparsely populated and tribal areas, the needs of the country, education for the masses and the handicapped and the demand for technical personnel. On the basis of the findings, it has been made out that the education departments in the states need to be reorganised to decentralise administration and coordinate various efforts for education. Each state should survey its educational needs and allocate twenty percent or more of its revenue to education. The local bodies should be reorganised and given more powers and resources by levying an educational cess and they should spend at least forty percent of their revenue on education. The grant-in-aid rules should be periodically revised to suit changing conditions, and buildings and furniture should be provided with the help of the local community. Universities should meet their expenditure mainly from fee receipts and endowments. Incentive grants should be given to private agencies which should be encouraged to shoulder the greater part of the responsibility in secondary education. In order to achieve the constitutional directive for free and compulsory education, measures to shorten school hours, revive the indigenous system, reduced insistence on Basic education, increased community cooperation and a larger allotment of finances for primary education should be undertaken. The requirements of buildings, furniture and equipment should be surveyed and loans be advanced to schools, by the state by borrowing money from the Life Insurance Corporation of India and encouraging local aid. The miscellaneous expenditure should be checked by eliminating unimportant items. The heavy wastage and ineffectiveness in educational expenditure should be eliminated. Priorities should be carefully decided and quality should not be sacrificed for quantity.

672. *NAIR, P.R., and PILLAI, N.P., A Study of the History and Problems of Educational Finance in Kerala, Dept. of Edu., Ker. U., 1962.*

The purpose of the study was to throw light on problems like (i) the increase in expenditure on items on which it can be cut and items on which it can be increased; (ii) procedures of educational finance; (iii) state's role in educational finance; (iv) sources from which finances can be tapped; and (v) responsibilities of different administrations—central, state, local, and private agencies.

The study was based on records in state manuals, administration records, educational codes and

budgets. Comparative studies of several countries and of some Indian states with respect to sharing responsibility for educational finance by different agencies were done. A questonnaire was administered to collect opinions on questions like contribution from state revenue. The questionnaire was administered to 400 people including M.L.A.s, members of local bodies, municipal commissioners, advocates, political leaders, press representatives, government officers, headmasters, college lecturers, school teachers and managers.

The study revealed that (i) expenditure on education in Kerala has been growing very rapidly in recent years because of the rise in salaries of teachers due to the increased cost of living and also because of increase in population and increase in cost of school material; (ii) the low standard attained by pupils at the end of school points to colossal wastage caused by the poor quality of educational services, namely, overcrowding in classes, absence of satisfactory working conditions, lack of sincerity, and lack of proper supervision and guidance; and (iii) tremendous increase in expenditure on school buildings, equipment, salaries of teachers, teacher training, refresher courses, health inspection, and extension was considered necessary. To reduce overall expenditure, it was suggested that (i) unaided, fee-taking schools be allowed on condition that they maintain the standard and follow the rules; (ii) the shift system be introduced with two sets of teachers; (iii) start more schools with cheap buildings and minimum necessary equipment; (iv) centre and state should contribute more; (v) local educational tax be levied; and (vi) states should raise public loans for education.

673. *PANCHMUKHI, P. R., Fee Financing of Education in India, Dept. of Eco., Bom. U., 1970.*

The purpose of the study was to examine the importance of the total education finances in India in the context of different types and levels of education.

Study is divided into seven sections. Section (i) discusses the importance of fee income in overall educational finances in the country. In section (ii), an analysis of the role of fees with different levels of disaggregation is made. Section (iii) discusses the importance of fees in meeting indirect expenditure. Section (iv) presents an analytical picture of the system of fees in different states of the country. In section (v), an attempt is made to assess the significance of different factors in determining the fee rate and fee income. Section (vi) discusses some major policy issues in fee financing of education. In the final section, the conclusions of the study are given. Data collected for the study included information from Report of the Education Commission, Vol. II, Government of India, replies received from the state governments to the questionnaire issued, and the replies to the questionnaire sent to fiftyfive colleges throughout the country to collect information on fee rates, income of the parents of the students, scholarships granted, etc. The data about the parents' income were collected for 224 students in different higher educational courses in Maharashtra from their application forms for different scholarships. Fees, as the source of income for educational institutions, were classified according to management, the sex of students, types and levels of education offered. The incidence of fees on students was analysed as the income effect of fees and the substitution effect of fees. Since personal income and enrolment are considered as two important determinants of fee rate, the enrolment elasticities of fee income and the extent of regressivity in the fee rate structure in different types of education were assessed. Two regression models were tried—(i) $Y=a+bX$ and (ii) $\text{Log } Y=\text{Log } a+b \text{ Log } X$—considering the proportion of enrolment in general education to professional education (Y) as a function of the proportion of average rate of fees in general education to professional education (X). According to model (i) b is the marginal effect of fee rate on enrolment ratio with a variable elasticity of substitution. In model (ii), b is the coefficient of elasticity of substitution with a variable marginal effect coefficient.

Some of the important findings are: (i) fees are declining in importance as a source of income for the educational system; (ii) fees function as an effective device for allocating enrolments between different types of education; (iii) the effectiveness of the rate increases with the fee rate divergence between different types of higher education determined in relation to the private benefit and supply costs of education; and (iv) a case for abolition of fee at all levels of education appears to be weak. The study recommended that all states in India should bring special educational cess as a surcharge on property tax or land revenue.

674. *SHAH, K. R., Outlay on Education and its Financing in India, 1950-51 to 1960-61, Ph.D. Eco., MSU, 1969.*

The main issues examined in this study were: (i) financial resources entering education in India, (ii) the allocation of funds between various levels and types of education, (iii) the performance of various levels and types of education, (iv) the financing of education by the public and private sectors, (v) the growth of educational expenditure over the period 1950-51 to 1960-61, and (vi) the role of the private sector and the government in the financing of education according to level and type of education as well as according to institutions, by management.

The indices selected for the purpose were: (i) growth of educational expenditure in constant prices; (ii) increase in expenditure per pupil, in real terms; (iii) proportion of school going population and children actually enrolled; and (iv) teacher-pupil ratio. Data were collected from government publications and from a small survey undertaken by the investigator.

The following are the main findings of the study. (i) The public sector has spent 2.9 percent of the national income on education in 1965-66 and including private personal expenditure, the proportion comes upto 4.5 percent. (ii) Total recorded educational expenditure in India increased by 204 percent in current prices, over the decade 1950-60. This gives an average annual growth rate of 11.8 percent. In terms of composite index which includes constant salary per teacher, constant wholesale prices, constant consumer prices and the constant cost of building, the increase in the educational expenditure works out to 116.3 percent or around eight percent on an average per annum. (iii) The share of elementary education in the total direct expenditure on education declined, whereas that of secondary and higher education increased over the decade and a half. On the basis of international comparison, it appears that the allocation of the direct expenditure in India has been more in favour of higher levels of education. (iv) The direct expenditure, per pupil, of elementary schools declined by about eight percent in real terms, whereas that of secondary schools remained more or less unchanged and that of the college level showed an increase of 7.3 percent. (v) Both the distribution of students between two types of schools and the allocation of direct expenditure between general and professional education show that the educational system in India is heavily biased in favour of general education. (vi) In 1965-66, the government share in the recorded educational expenditure was as high as 77.5 percent. Government financed fiftythree percent of the recorded direct expenditure incurred on general education schools in 1960-61, whereas it financed eighty percent of the recorded direct expenditure incurred on professional education schools in 1960-61. The same holds true for the third level also. (vii) The recorded direct expenditure per pupil in government schools, general and professional, and in government professional colleges, is higher than similar private aided institutions, though the average number of pupils per institution is larger in government institutions. (viii) There appears to be a large scope for the increase in enrolment capacity without providing for additional resources at the second and third stages of education and for vocationalising education by shifting the emphasis from general education to professional education. (ix) Of the two broad types of private costs—tuition and non-tuition, the latter seems to be responsible for the non-egalitarian trends we observe today in our education system. Tuition fees are mostly covered by aid received from various sources and its contribution comes almost to zero.

675. *SHUKLA, J. K., Study on the Cost of Education in Basic and Non-Basic Schools of Delhi, National Institute of Basic Education, New Delhi, 1960.*

The study intends to analyse the exact cost involved in running Basic and non-Basic schools, to identify the various factors contributing to the cost, to determine the relative importance of these factors and to find out if either of the school systems was more costly.

The study was conducted on a representative sample of twentyfive Junior Basic Schools and an equal number of traditional primary schools. The requisite data were collected through a detailed proforma covering all the relevant aspects and by personal visits to the schools. The per capita cost of education during 1957-58 was calculated in respect of each of the schools and average figures were worked out for the two systems of education. The difference in cost of the two systems was worked out. Further analysis was carried out to study how much the different items of expenditure accounted

for the total expenditure and to what extent they contributed towards the apparent difference in the cost of education between the two systems.

It was observed that: (i) for comparable Basic and traditional schools, there was no significant difference in the per capita cost of education. The average per capita cost of education per annum was slightly higher in respect of the Junior Basic Schools as compared to the traditional primary schools. (ii) The main factor for this disparity was the pupil-teacher ratio; the pupil-teacher ratio in Junior Basic Schools was 30:1 while in the traditional primary schools it was 37:1. (iii) The expenditure on teachers' salaries accounted for a major proportion, i.e. about eighty to ninety percent of the school budget per capita cost. This item was higher in Junior Basic Schools, even though the actual emoluments of a teacher of the Junior Basic Schools were lower than those of a teacher of the traditional primary schools. (iv) There were no significant differences in the average figures in respect of the two systems due to other items of expenditure. (v) Craft work accounted for only a negligible proportion of the total cost of such schools, contrary to generally held views. Annual per capita cost on craft work was less than half a rupee out of a total average per capita cost of about Rs. 68.00 (vi) Out of this little expenditure also, about Rs. 0.26 per annum was recovered in the form of final craft products. There is no doubt that if craft work runs efficiently it would not at all be any burden to the Basic School budget in the long run. Thus, there is sufficient convincing evidence to refute the position that the Basic system of education is costlier than the traditional system or vice-versa. The apparent differences of the per capita cost of education in the two systems are only rural-urban differences and these would have been there even if the traditional system had been followed in the rural schools.

676. *SINGH, J. N., Workers' Education and Industrial Productivity in India, Ph.D. Eco., Agra U., 1965.*

The study attempted to assess the working of the workers' education scheme in India with a view to finding out how far this education has been able to create a healthy climate in the industries for fuller utilisation of available resources for higher productivity and to study its impact on attitude formation for creating healthy psychological climate for rapid industrial development in the country.

The history, scope, organisation, progress and development of workers' education in India and abroad, and workers' trade-unions and productivity were critically discussed. An intensive survey of workers' education at Kanpur (Uttar Pradesh) was done and three attitude surveys were conducted separately for worker trainees under the scheme including the worker-teachers, the employers and the trade unionists with the aid of three suitably framed questionnaires covering various factors considered to be significant. For drawing out the sample of workers from different strata, simple random sampling method was adopted. The design of the survey was single stage stratified simple random sampling, primary units being workers at the two levels. The survey was confined to 409 trained workers and 110 worker-teachers of Kanpur. So far as trade unionists and employers were concerned, they were all brought under it. The responses were analysed in terms of simple percentage.

The study has revealed that the Central Board of Workers' Education is working under many limitations like a typical government organisation. It has an additional disadvantage of being located at a place other than the seat of the chairman. It suffers from initiative and dynamism. The regional boards in their respective areas are also not very creative and enthusiastic about the programmes and activities organised by the regional workers' education centres under their guidance. Similar is the condition of local boards, wherever they exist. The attitude survey of the sample workers, trained under the scheme at both levels, viz., the regional and the primary units, has clearly indicated that, in general, the scheme of workers' education is liked and considered useful. Workers are favourably inclined towards the scheme, but have depicted that the implementation of the scheme is not very satisfactory which affects the working adversely. Selection of worker-teachers depended on favouritism and nepotism. Teaching at both the levels was ineffective due to lack of temperament and aptitude of training staff, improper financial motivation and absence of missionary zeal in the staff, theory-oriented instead of practice-oriented teaching, attempt to reach targets usually fixed high, least consideration made to the difficulties of participants regarding their long distance, low income and other disturbing environmental conditions. Similiar feelings

have also been expressed by the employers and the trade unionists. The study has indicated that the scheme is capable of creating favourable atmosphere for inculcation of psychological climate through right attitude and proper motivation towards work which will ultimately lead to higher productivity, provided the implementation is effective and whole-hearted cooperation of all concerned is secured. All those interested have pointed out the short-comings and weaknesses in the working of the scheme, while majority of them have opined very favourably towards the scheme regarding its objectivity, utility and necessity to the working class. Workers' education does play a very significant part in shaping one's attitude towards work and creating efficiency and an urge to become useful and productive member to yield better returns to industry and ultimately, to himself, through earning more wages. Education, then, directly contributes qualitatively and finally leads to quantitative increase in his output. A number of important suggestions have been given to improve the workers' education scheme and hence to build up a productive worker.

677. *SINHA, R., The Economics of Education (with reference to the Five Year Plans of Bihar), Ph.D. Eco., Bih. U., 1967.*

The purposes of the study were: (i) to bring varied aspects of the economics of education in a closely knit theoretical framework, (ii) to study its implcations in relation to developing countries in order to fill the gap in knowledge in this aspect, (iii) to analyse educational development in Bihar during three Five Year Plans in terms of economics of education, and (iv) to draw policy conclusions from the analysis.

The methodology of the study was both deductive and inductive. The data were collected from published and unpublished sources. The author put forward various concepts of economics of education, viz., education as investment or consumption, cost and returns of education, finance, productivity of education, education and economic growth and impact of economic growth on education and also, the implication of the concepts on the developing economics. A categorical study was made of the outlays in education during the plan periods, and the amount and nature of expenditure incurred in each area of education in each of the plan periods were also studied.

It was found that (i) the outlay on education during the four plans, in India, increased by about seven times in absolute terms, but it remained almost static and low in relative terms; (ii) in the First Five Year Plan, outlay of Bihar which was 8.6 percent of the total state plan outlay was given to education, and the actual expenditure was Rs. 763 lakhs of which more than four-fifths was incurred on general education and one-fifth on technical education; (iii) the cost of education, including both the direct and indirect costs, rose from Rs. 7.05 crores in 1950-51 to Rs. 12.16 crores in 1955-56; (iv) the outlay on education in Second Five Year Plan was twelve percent of the total plan outlay; (v) elementary, university, cultural and miscellaneous education consumed 71.6 percent of the total plan expenditure in the Second Five Year Plan period and the rest was spent on secondary, social and technical education, and more emphasis was given to general education than technical education; (vi) government share in the total finance of education increased to three-fourths of the total expenditure; (vii) the productivity of primary education, measured in terms of input and output, was slightly negative during the second plan period; (viii) the productivity of the secondary education and college education was positive; (ix) the unemployment of educated persons during second plan period increased substantially; (x) the outlay on elementary education during the third plan period doubled as compared to that of second plan; (xi) the per capita expenditure on education increased from Rs. 4.89 in 1960-61 to Rs. 5.61 in 1963-64; (xii) during the third plan period, the productivity of elementary, middle, secondary and university education was negative; (xiii) the progress of social education in the third plan was also negligible from the point of economic returns; (xiv) there had been no manpower planning in the state; (xv) the state income increased by sixtyfour percent, total cost of education by 288 percent, per capita cost by 208 percent and enrolment by 163 percent during the three plans; and (xvi) greater outlay, in terms of percentage, had been made in the sectors of elementary and university education, in the fourth plan period.