

industry and plant level. (In early 1967, the Council published a set of principles to guide labour and management in their efforts to cope with the manpower implication of technological and other changes in industry [see below].)

The annual autumn meetings between federal and provincial finance ministers and treasurers should be developed into a major vehicle for the improvement of longer-term planning and the better co-ordination of expenditure programs and other fiscal matters by the three levels of government. A number of basic economic documents should be published prior to such meetings to serve not only as background for them but also as a basis for stimulating broader public debate about economic developments, problems and potentialities in advance of the formulation of annual budget policies. A standing committee on economic affairs from the Senate and the House of Commons should be established, one of whose functions would be to hold annual hearings on economic issues arising out of the above-mentioned documentation and discussion.

Education and Economic Growth

The basic role of education as a factor contributing to economic growth and rising living standards was stressed in the Council's *First Annual Review*, especially in the discussion of Canada's vital need for creating and maintaining an adequate supply of professional, technical, managerial and other highly skilled manpower as a basis for future growth. The *Second Annual Review* attempted a closer examination of education as a factor in growth. The Council recognized that its work in this difficult area was in the nature of a pioneering venture, but considered it useful to make some initial findings and conclusions:—

Average years of education per person in the male labour force rose rapidly and fairly steadily from 1910 to 1960 in the United States, with gains of 9 to 10 p.c. in each decade over that half century. The Canadian increases were somewhat more uneven and were also consistently below those in the United States. Consequently, it is estimated that although average years of schooling increased by less than 40 p.c. in Canada, the comparable increase in the United States was about 60 p.c. There has thus been a widening educational gap between the two countries. This gap appears to have widened particularly at the secondary school level in the inter-war years, and particularly at the university level in the postwar period. For example, in 1960 about 45 p.c. of the United States male labour force had four years of high school or more education, compared with only 24 p.c. in Canada in 1961.

The Council estimated that the Canada-U.S. differences in the average educational attainments of their respective labour forces account for approximately one third of the difference in productivity between the two countries. The Council's analysis also suggested a strong relationship between individual income levels and educational attainments. For example, in Canada the average income of those who have completed four to five years high school is more than one and a half times the average of those who have only elementary school education; and those who have university degrees have an average income which is more than two and a half times the average of those with only elementary school education, and more than twice the average of those who have only one to three years of high school.

A rough estimate of the 'profitability' of education can be made by calculating the extra income which on average is associated with a higher level of education, against the extra outlays and costs involved in obtaining such an education. On the basis of such calculations, it was estimated that returns on the 'human investment' in high school and university education in Canada are in the range of 15 to 20 p.c. a year. This is a somewhat higher rate of return than has been calculated for the United States.

The benefits from increased education, according to certain calculations and assumptions, are estimated to have accounted for a share in the general order of one quarter of the increase both in the average standard of living and in the productivity of Canadians from 1911 to 1961. Although this is a large contribution, it is apparently substantially lower than that indicated in comparable estimates for the United States.

Canada now faces a general shortage of manpower with higher educational attainments. The shortages extend from the high school level on up, and are most severe at the professional and university level. These deficiencies in the supply of skills constitute one of the major obstacles to be overcome in achieving a satisfactory rate of improvement in productivity and of economic growth in Canada.

The future benefits from increased efforts in education are very large, and the economic returns to the nation from increased investment in education are likely to exceed by a considerable margin those from most other types of expenditure. This economic gain is complementary to the contribution of education to the human, social and cultural development of individuals.