

THE UNIVERSITY OF MANITOBA
AN ANALYSIS OF THE EDUCATIONAL EFFORT
OF THE PROVINCE OF MANITOBA

by

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A THESIS

SUBMITTED TO THE FACULTY OF GRADUATE STUDIES
IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF EDUCATION

DEPARTMENT OF EDUCATIONAL ADMINISTRATION

WINNIPEG, MANITOBA

FALL, 1971



ACKNOWLEDGEMENTS

The writer wishes to express his thanks to Dr. P. J. Husby, his advisor and chairman of the thesis committee, for his assistance during the writing of the thesis.

Appreciation is also extended to Dr. R. C. Bellan and Dr. H. E. May, members of the thesis committee, for their help and support.

Thanks are expressed to Dr. I. W. Patterson and the graduate students working on companion studies for their assistance and encouragement.

ABSTRACT

The purpose of this study was to analyze the educational effort of the Province of Manitoba. The period selected for this study was 1961 to 1968 inclusive.

The educational effort was examined on the basis of the province's financial support for public elementary and secondary education. The measures of educational effort employed in this study were based on comparisons of educational expenditure and ability to pay. A secondary measure was based on income elasticity.

A comparison of net operating school expenditures and municipal expenditures shows that from 1966 to 1968 the net operating expenditures rose from 54.27 per cent to 69.60 per cent of municipal expenditures.

Net operating school expenditures per pupil rose gradually from 3.77 per cent of equalized assessment per pupil in 1961 to 4.38 per cent in 1965.

Net operating expenditures were 3.37 per cent of personal income in 1961, fluctuated up and down until 1965 then rose rapidly to 3.59 per cent in 1966 and 4.10 per cent in 1967.

In 1961 net operating educational expenditures per pupil were 16.13 per cent of personal income per capita. This ratio fluctuated up and down and reached 15.51 per cent in 1966 and

17.57 per cent in 1967.

The elasticity of demand for education establishes that for the period from 1961 to 1967 each 1.00 per cent increase in personal income was accompanied by a 1.69 per cent increase in total educational expenditure.

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CHAPTER I

THE DEVELOPMENT OF THE STUDY

I. INTRODUCTION

Expenditures for education have been one of the major problems in Canada in the last quarter century. The problem is that as education costs have risen, so has the public reaction against increased realty taxation. Total spending on formal education and vocational training increased nearly seventeen-fold from \$351.8 millions in 1947 to an estimated \$5,931.0 millions in 1968.¹ This represents an estimated annual gain of 14.8 per cent.

The Canadian Teachers' Federation has been studying education finance and reports as follows:

An estimated 20 per cent of the increase in school board operating costs between 1956 and 1966 was attributed to growth in enrolments, 25 per cent to rising prices and the remaining 55 per cent to a variety of factors including the upgrading of qualifications of the teaching profession, reduction in pupil-teacher ratios, the addition of auxiliary services, etc.²

The form of local support for education through property taxation was at one time considered adequate for educational expenditures. In recent years, however, property tax has not been sufficient for the ever growing educational needs of the country. This problem has forced the provinces to search for new

sources of revenue. Many provinces now use income tax, sales tax, liquor and tobacco tax to help finance the huge expenditures.

School administrators need special information on price and quantity change in providing the variety of new services in educational systems. Administrators must be aware of the effects of enrolments, inflation and educational improvements on revenues and expenditures. Administrators need a sophisticated examination of efforts that communities make for education of their young.

Educators have become concerned with index numbers as a means of analyzing more clearly the many facets of educational effort. This information will help them to cope more adequately with the many new problems that they are encountering in these times of rapid progress in all sectors of the learning environment.

It was the intention of this study to utilize indexes of wealth, ability and effort to analyze the educational expenditures in Manitoba for the years 1961 - 1968.

II. THE PROBLEM

The purpose of this study was to measure the financial educational effort in the province of Manitoba.

The research sought to present and analyze relevant provincial statistics and to evolve four general indexes that would evaluate the educational effort in the province. The

fourth index was selected for a further detailed analysis and developed into a composite index. This process consisted of the application of a series of sub-indexes selected to assess more closely the effort of the province in particular areas of educational spending.

The four general indexes employed in this study were:

1. educational expenditure as a percentage of municipal expenditure;
2. educational expenditure per pupil as a percentage of equalized assessment per pupil;
3. educational expenditure as a percentage of total personal income;
4. educational expenditure per pupil as a percentage of personal income per capita.

The composite index included sub-indexes relating to specific educational expenditure categories. These expenditure categories were:

1. instructional services (salaries),
2. instructional supplies,
3. maintenance,
4. administration.

III. ASSUMPTIONS

This study is based on the following assumptions:

1. In considering educational expenditures for the province, current operating expenditures for salaries, instructional supplies, maintenance and administration bear the most direct relationship to actual financial effort communities of the province are making.
2. Enrolment figures contained in the Annual Report, Department of Youth and Education, accurately depict enrolment for the school year.
3. Population figures reported by the Dominion Bureau of Statistics, Census Division are accurate.
4. Equalized assessment figures and municipal expenditure figures in annual reports of the Department of Municipal Affairs are accurate.
5. Expenditures per pupil for instruction, instructional supplies, maintenance and administration compared with personal income per capita constitute a composite index of educational effort.

IV. IMPORTANCE OF THE STUDY

Measuring of educational effort can be an important guide to school administrators. These measurements can assist them to analyze critically the financial aspects of school systems and

can guide them to improved school programs.

If knowledge of educational effort of other communities, and of the province as a whole, is made available to division administrators, this again will help them to assess their effort.

This study is one of six companion studies of educational effort. The other five are concerned with the educational effort in single enterprise communities in Manitoba and Ontario. It is anticipated that comparisons of educational effort among these communities could be made. It is further anticipated that the composite index could be applied to other communities within the province. An important aspect of this application of the composite index is the development of provincial norms in this study, against which the educational effort of particular communities may be cast.

Data acquired in the utilization of the various indexes may also be used to advantage in studying problems related to educational effort such as pupil retention, pupil performance, teacher turnover and home environment.

When educational administrators have a clear analysis of the efforts that their communities and other related communities have been making over the years, they can inform their general public. The enlightened general public would show more interest and give more support to their schools.

V. DEFINITION OF TERMS

Educational and financial terms that are used in this study will be used in ways commonly accepted within these disciplines. Where there may be some doubt or variation, an explanation or footnote expands on the matter.

Terms, basic to the study however, and for which a search of the existing literature was made, are herein defined as the writer wishes them to be accepted for the purpose of this study.

Educational burden is the relative number of children who must be educated. The actual educational burden consists of the enrolment in the public schools in relation to the population. Potential educational burden consists of the population aged 5 to 19 in relation to the total population.

Wealth refers to total provincial resources as they may be measured by income and property valuation.

Ability refers to the economic resources or wealth the province may command in relation to its various needs. Examples of ability are: (1) the total income of the province in relation to its population; (2) equalized assessment of the province per pupil.

Effort in this study is a ratio of total provincial expenditure for public elementary and secondary education to provincial wealth.

VI. SOURCES OF DATA

The major sources of data for this study were the Dominion Bureau of Statistics, financial statements of the Department of Youth and Education, of the Department of Municipal Affairs of the Province of Manitoba.

VII. DELIMITATIONS

Statistics on population, equalized assessment, personal income, revenue and expenditures employed in the fashioning of the indexes were confined to the years 1961 through 1968.

The analysis of the educational effort in this study was restricted to the financial effort on behalf of public elementary and secondary schools of the province of Manitoba.

The research limited itself to two major investigations:

1. a study of educational expenditures in the province;
2. a study of the wealth of the province.

VIII. LIMITATIONS

Lack of certain statistics made it impossible to produce some meaningful comparisons in this study.

Expenditures in this study were not calculated for elementary and secondary pupils separately because the Department of Youth and Education does not make separate calculations for these expenditures.

Population figures, except for the census years of 1961 and 1966, are estimates only based on deaths, births, etc. As a result, calculations of burden and income per capita will not be perfectly accurate.

Any measure of educational effort has serious limitations. On the one hand, the school district or division receives provincial grants for a large portion of its school expenditures and on the other hand, it pays taxes, such as a sales tax, into the provincial treasury for provincial education expenditures. As a result it is impossible to measure accurately the effort that is made locally for all education purposes.

IX. ORGANIZATION

Chapter II gives a brief resume of research that has been done on investment in education; this includes a study of financial effort, burden, wealth and ability. This chapter concludes with a section on index numbers, stating how they have been used to measure expenditures in education.

Chapter III presents a brief description of education finance in Manitoba with particular reference to the formation of Unitary divisions and the foundation program.

Chapter IV gives a description of the data used in the study. The procedures of calculation, especially the development of the indexes, are described.

Chapter V begins with a brief statistical survey of

Manitoba, including population, assessment, income, municipal and educational expenditures. There follows the analysis of educational effort of the province by showing net operating expenditures in general and the indexes of effort specifically.

Chapter VI completes the study and includes a general summary of the study, including major findings, a discussion of conclusions and inferences, as well as recommendations and implications for further research.

FOOTNOTES FOR CHAPTER I

¹Canadian Teachers' Federation, Educational Finance in Canada (Ottawa: Canadian Teachers' Federation, 1969), p. 2.

²Ibid., p. xiii.

CHAPTER II

REVIEW OF THE LITERATURE

I. INTRODUCTION

In Canada education finance has been one of the major problems confronting citizens, particularly since World War II. Canada, in the past quarter-century, has experienced an increase in the birth rate, a rapid upsurge in the flow of immigrants, an emphasis upon the retention of pupils in high school, and several other factors that have placed severe strains upon the financial abilities of local administrative units to meet their share of the ever-increasing educational costs. In addition spiralling inflation and the increasing demand for more services will continue to increase the costs of education.

Many economists and educators have considered the importance of education to the development of the nation; but as Coombs points out:

It is perhaps not unfair to say that political leaders and the general public almost everywhere are somewhat schizophrenic on the subject of education. They have high praise for the virtues of education; they rely heavily upon it to help the new generation solve great problems to which the older generation has found no solution; but when it comes to spending more money their deeds fail to match their words.¹

In spite of the fact that education spending has been rising dramatically, there may be some truth to Coombs' statement. The public does, indeed, have high praise for the virtues of

education but public protest against rising taxation is increasing.

Because education is so important to the nation, educators must be able to make quantitative and qualitative measures of it; they must be able to analyze the efforts that school divisions, provinces and the nation are making for this investment.

Educators should know the percentage of the budget that each expenditure category assumes. They must know where the greatest needs are; where the deficiencies are, and where the increases in costs are.

II. WEALTH AND ABILITY

The concepts of wealth and ability are both important in assessing the education effort of a community. A community needs some base of wealth from which to draw if it is to educate its young citizens. A wealthy community should be able to provide quite easily for the basic needs of education, whereas a less wealthy community could face definite hardship in attempting to provide these basic needs. Wealth is an indicator of ability but there is no accepted single way of measuring it. Salisbury has studied ability-to-pay theory and points out:

In the early days of ability-to-pay theory, property was the yardstick of ability. With the industrialization of society and a more complex economy, a successive shift occurred, emphasizing income rather than property as the

index of ability. The personal income tax came to be considered as the most equitable tax . . .²

Variations in ability among communities has led to variations in expenditure but, as Mort and Reusser point out, there are also "variations in vigor of local support"³ that have led to variations in expenditures. That is, communities with a given ability vary in effort. These differences

. . . make it possible for communities having better than average ability and better than average vigor for support to create laboratories for shaping better education. They provide the pilot plants, the lighthouses.⁴

Miner⁵ suggests many ways of determining ability.

Personal income per capita, equalized value of property per capita and size of grants-in-aid would merely head a long list of criteria. If it could be determined, net production value might be used. Retail sales could be analyzed to determine the percentage that luxury items constitute in relation to total sales.

He found:

The most appropriate measure of ability to pay for education is probably the total income of the community in relation to its population. The distribution of income and wealth is also important, as is the amount and form of wealth.⁶

The Canadian Teachers' Federation sponsored national conferences on education finance in 1965 and in 1967, and in connection with these conferences produced several monographs and papers. These monographs concern themselves with "effort" as part of their economic studies and state that "educational effort can be calculated by using either Gross National Product or

Personal Income as measures of wealth."⁷

Gross National Product is an important base upon which to calculate ability. In the absence of a Gross Provincial Product it is usual to use personal income as the base for calculating ability. When the total personal income of the residents of an area is known, along with the number of residents, it is possible to determine the per capita income.

Disposable income is a concept advocated by some to determine ability, but a difficult figure to obtain for the individuals who make up a community. Bellan describes disposable income as, "the aggregate of money income which people have left after paying their personal income tax."⁸

The Canadian Teachers' Federation points out that all measures of effort make what may not be a valid assumption, namely "that it takes no greater effort of sacrifice to spend a given amount for education out of the first dollar of income than out of the last dollar."⁹

In his book, Investment in Canadian Youth, J. E. Cheal employs net personal disposable income per "weighted" school age child as his index of ability.¹⁰ That is, the relationship between the need and the financial resources available to meet it constitutes the variable of ability. Cheal chooses to employ a weighting factor in his study. By multiplying the number of high school children by a factor of 1.3 he makes allowance for the higher cost of educating secondary students as compared with

elementary students.

There are some writers who tend to agree that the derivation of a valid index for taxpaying ability is not for amateurs. However, some attempts at simplifying procedures have been made. For those who prefer to use the method of equalized property tax, Sorenson reports the use of a "sales ratio" on assessments in Colorado.¹¹ The assessed value of a piece of property is always set at a standard percentage of the current sale price or market value. The assessment then rises or falls immediately, and proportionally, with the market value of the property.

Roe L. Johns prefers income tax to property tax for a measure of fiscal capacity, because the National Income from taxes on property in the United States dropped from twenty per cent in 1929, to ten per cent in 1963.¹²

Marvin C. Alkin suggests:

An illuminating index of capacity of a state to support education is the income left to its people after payments for personal taxes and for the basic necessities for food, clothing and shelter. This residual income may be divided by the number of school-age children in the state in order to find the total personal income available per child for all additional expenditures of every kind, public and private.¹³

The National Educational Association suggests subtracting \$800 per person for food, clothing and shelter.

J. P. Francis, writing in School Progress, emphasizes that:

The major factor in the country's ability to meet the financial needs of education in the 1970's is the rate of

economic growth achieved, priority given to educational expenditures by various levels of government and the willingness of individuals and business to forego other expenditures.¹⁴

This is another example of the concern for the costs of education and the ability of the country to pay.

H. P. Moffatt concluded his study, Educational Finance in Canada, with these remarks:

. . . The task in educational finance is not to find the money, or to devise methods of distributing and spending it. The task is to develop in people attitudes and opinions that will lead to effective support for our schools.

To do this we must first of all have more reliable and complete information on the financing of our schools and on public finance in general. Much of this information must come from research, conducted in Canada and applied to Canadian conditions.¹⁵

III. BURDEN AND EFFORT

According to the Canadian Teachers' Federation, "the educational burden is the relative number of children who are being educated at any given time."¹⁶

As an indicator of the national burden the Economic Council of Canada reports:

Canada now (1967) has, in relation to its total population, one of the largest school populations in the world. The great post-war baby boom in Canada, which was relatively larger than that in the United States or elsewhere, has been a very rapidly rising proportion, over the past decade and a half, of those of secondary school and post secondary school age who are in school. Although these enrolment ratios are still significantly lower than in the United States, they have been rising faster in Canada since the mid 1950's and particularly since the beginning of the 1960's.¹⁷

Here we see that both the need and the burden are large and

increasing rapidly.

The general consensus among several leading researchers is that tax burdens are high and political resistance to applying increased local resources to education is on the rise. It is also felt that the Federal Government should compensate for provinces with lower income and higher educational burdens. This would help such a province as Newfoundland which, in 1966, had nearly twice as many children per 1,000 of its labour force (1,133) as did Manitoba (581), British Columbia (587) or Ontario (589).¹⁸

Knowing the educational effort and having an effective means by which it can be measured, are vital to an understanding of a community's commitments to education. There are several definitions of effort, but they all seem to suggest a ratio of some measure of expenditure compared with some measure of ability to spend. Perhaps the most commonly used measures of effort, as suggested by Johns and Morphet, is the percentage of income of the people represented by gross expenditures for schools.¹⁹ It is possible that communities with the least ability have been making as great an effort to support schools as communities with the greatest ability.

The method of measuring effort to be employed is dependent on the availability of data. Cheal shows three measures which can be used to advantage:

1. The total school board revenues as a percentage of personal disposable income minus a basic \$500 for necessities;
2. The total provincial and local expenditures per pupil in average daily attendance as a percentage of personal disposable income per pupil in average daily attendance;
3. Total school board expenditures on a weighted-school-age child basis as a percentage of personal disposable income per weighted-school-age-child. ²⁰

Commonly used measuring guides according to P. L. Maltby

are:

1. Educational expenditures per pupil or per capita;
2. Educational expenditure as a percentage of gross national product, total personal income or personal disposable income;
3. Educational expenditure as a percentage of total government expenditure;
4. Income elasticity of demand for education;
5. Other measures using the time factor. ²¹

H. P. Moffatt states:

A more significant index of effort has been devised to include both the number of pupils enrolled and the total wealth available. This index is the number of cents per enrolled pupil for each million dollars of gross national product. In 1931 we spent \$1.40 of each million dollars of the gross national product for each child educated. In 1954, the corresponding figure was 81 cents. ²²

The Canadian Teachers' Federation reasons as follows:

The principal measure of effort . . . is the percent that expenditure for education is of personal income. This relationship is equivalent to the per cent that per capita expenditure is of personal income per pupil. By this method ability to support education is taken into account and effort alone is compared. Personal income has been used most frequently because it is the only available measure of wealth which is distributed by provinces. The preferable base, gross national product, has been used for comparisons at the