REPORT ON THE FINANCE OF EDUCATION IN THE STATE OF MAINE

I respectfully submit this report on the finance of education in the State of Maine to the Joint Legislative Study Committee on General Purpose Aid Subsidies. In preparing the document I have received valuable assistance from the members of the Committee itself, from officers of the State Department of Education, from representatives of local school officials and the state teachers' organization. The assistance of the Legislative Finance Officer is also gratefully acknowledged.

SCOPE AND NATURE OF THE REPORT

In this document I deal with the following topics: a description of the existing sources of finance of public elementary and secondary schools in Maine; a critical analysis of the existing educational subsidies, based on current thinking about school aid policies; the possible desired directions of change in state-local financial and administrative relations; and, finally, short-term recommendations for modifications of educational subsidies and related matters. A brief annotated bibliography in included.

The following topics are not covered in this report: public higher education; schooling of children in the unorganized territory of the State; and sources of state (as distinct from local) finance for the support of education.

I regard this report as informal in nature. It is actually a continuation of the daylong discussion I had with members of the Committee in early 1964. The amount of statistical analysis is limited, in part by the geographic distance which now separates me from sources of data. However, should any of the

proposals I make warrant serious consideration, any necessary computations could readily be carried out by the State Department of Education or by the Legislative Finance Officer.

THE PRESENT SYSTEM OF FINANCE OF EDUCATION

1. STATE SUPPORT

Most schemes of educational subsidies seek to take account of two main variables: differences among local authorities in their need to spend money on school services and differences among local authorities in their fiscal ability, i.e., in their capacity to meet their educational needs from local tax sources. In general, the intent is to use the state's revenue resources to help see that each child has approximately the same quantity of educational services laid before him. Given that there exists some significant degree of local autonomy in the state, such equality of provision cannot be achieved as long as local school tax rates are markedly higher in some places than in others, or more particularly, if the poor places would have to exert far greater effort than the rich. If, then, the districts of a state are to provide approximately equal school services for their pupils while at the same time their school tax rates are also approximately equal, it is necessary that the state distribute relatively large sums of money to those districts in which needs for educational spending are high and in which fiscal resources, e.g., assessed valuations, are low and relatively small sums to those districts in which the opposite conditions hold true. This, in general, is what state governments try to do, but no state can claim that it has attained more than a rough measure of equity.

The measurement of needs for educational spending is complicated by the fact that "necessary costs" vary between one district and another on account of such factors as size of schools, sparsity of population, grade distribution of the population of

pupils, and rate of growth in enrollment. (These costs may also vary on account of less readily measurable factors, such as the abilities and aptitudes of the student population.) Local fiscal ability is more readily measured (though there is occasionally a question of whether some index of household income should be substituted for property tax base), but the problem on the fiscal ability side is not to measure it but to adequately take account of differences in ability among districts. That is, state aid programs which would serve to equalize in rough degree local tax rates for schools are, unfortunately, programs which require the state to assume practically the entire financial burden of education. This is a point to which we shall return later.

In Maine, the computation of a district's needs for educational expenditures is a fairly complicated process. Complexity is a characteristic of state educational subsidies, and while we should certainly all try to keep state plans as simple as possible, the involved computation in Maine is really a reflection of the fact that educational need is a difficult thing to measure accurately.

Except in the case of newly formed School Administrative Districts (a minor detail), need is estimated for each administrative unit once every two years. The larger component in need is the product of resident average daily membership for the two preceding years and a dollar figure which purports to represent in some sense a minimum current operating cost per pupil. The dollar figures are drawn from Table I of Sec. 237-D, State of Maine Laws Relating to Public Schools. Table I provides a higher figure for secondary schools than for grades K-8, this in accordance with the fact that costs of teachers' services are generally greater at the secondary level than the elementary.

Specifically, for school administrative units with average daily membership of 801 plus, the dollar allowance per secondary pupil is $350, as compared with $225 per elementary pupil. For both the elementary and secondary categories of pupil, Table I allows a higher dollar figure to be used in computing need as the size of the school administrative unit becomes smaller. In case of secondary schools, for example, the dollar allowance for a school unit of 10 students would be $1,200 per student, while that in a unit of 801 plus students would be the aforementioned $350.

To the product of resident A.D.M. and the applicable dollar figure from Table I is added the average of the two preceding years' expenditure for tuition, board, and pupil transportation in the given district. The total is defined as the total foundation program, from which is subtracted certain incidental receipts, not including tuition, to arrive at the net cost on which the state subsidy to the district for the following two years is computed. As seen by the individual district, the computation of educational need is based in part on an arbitrary estimate of expenditure per pupil, which is found in Table I of Sec. 237-D, and in part on its own expenditure under the headings of tuition, board, and transportation. (Special treatment is afforded to districts which spend above and below their net foundation program allowance, as we shall shortly consider.) However, tuition payments appear to be closely controlled by statute (Secs. 107 and 108). The same cannot be said of transportation expense, though this may be controlled, as far as I know, by department regulation.

The determination of the fair local contribution toward the support of schools is also a process involving several steps. Local valuations in the several administrative units (cities, towns, plantations, and School Administrative Districts) are

adjusted by the Board of Equalization, so that the ratio of assessed to true value is approximately the same in all the local units. These estimates are known as "state valuations." The state valuation figures for each unit are divided by enrollments of resident pupils, computed as an average of the last two April 1 enrollment reports, to yield an estimate of state valuation per resident pupil. Next, school administrative units are divided into twenty-one classifications of state valuation per pupil, with the first being "open-ended," $3,000 per pupil and under and also the twenty-first, $12,501 per pupil and over. For each classification, a percentage of the net foundation program, as described above, is stated, this being the percentage of recognized educational cost that the state will meet from state revenues. The percentages range from 66% to 18%, with the higher figure being applicable to the poorest classification of districts. In general, the subsidy to an administrative unit is the same in each of the two years of a given biennium.

As indicated, there are special provisions that apply to administrative units which spend at unusually low or high rates. If a local authority spends less in a biennium than the amount of its average net foundation program, it suffers a loss in state aid, given as the percentage of its preliminary allotment for the succeeding biennium that its deficiency in spending bore to its net foundation program allowance. The deduction applies to its subsidies for each of the years of the biennium. This provision may be viewed variously: as an inducement to local authorities to spend up to the amount of a generously-defined foundation program; as a recognition of the fact that the real costs of education in some authorities may be low enough that the authority can provide good quality schooling at less than the amount of the foundation

program; or as a concession to localism, in that the state government is unwilling to require local authorities to make a stated contribution toward the support of their school. I lean toward the last interpretation, but more of this later.

With respect to high spending authorities, the state offers a bonus in money, which is determined as a percentage of the amount by which their average net operating costs in a biennium exceeds their average net foundation program allowances. The percentage is so determined that the poorer districts receive a larger reward for the same absolute amount of "over spending" than do the rich. Given certain inequitable features of the present system of subsidies in Maine - or ones that appear so to me - this distinction in favor of the poorer districts is to be commended. However, I understand that the amount of money distributed under the bonus provision of Sec. 237-E is extremely small.

The State of Maine also contributes toward the cost of school construction in the local authorities. The percentage of aid toward disbursements for principal, interest, rent, and - under certain conditions - capital outlay financed from current revenue is that given in Table II of Sec. 237-E, which is to say that the same set of twenty-one classifications of local authorities in terms of state valuation per resident enrollment governs the relative contribution of the state toward capital outlay as well as toward current operating expenditures. All School Administrative Districts are eligible for construction aid but only the larger of the non-consolidated units qualify automatically.

It is stated as the intent of the Legislature in Sec. 237-D that the dollar amounts in Table I of that section (these being a major variable in determining the set of foundation program

allowances for any succeeding biennium) be revised each biennium consistent with changes in the educational expenditures of the local authorities. In general, the practice appears to have been to revise the dollar figures to the end that the sum of foundation program aid plus the bonus for high spending plus construction aid represent about 22.5 percent of school expenditure K-12 in the state. The necessary revisions have been upward. This is a process that the English would describe as "maintaining equity over time." The notion is that no one knows what the ideal ratio of state support to total expenditure is, but once a ratio exists the state should preserve it, rather than forcing the local unit to meet a higher percentage of a (normally) expanding volume of school spending, as would occur if the state failed to revise its distribution formula periodically. However, this view does not rule out the possibility for a revision of the basic ratio itself, once a large amount of evidence is accumulated in favor of such revision. This provision about biennial revision of Table I is a controversial one, and I shall have more to say about it later.

Through a few specific financial measures and other measures related to financial ones, the Legislature seeks to exert some influence over educational policy and provision. Thus, Table I of Sec. 237-D includes "seconday school footnotes," to the point that administrative units which operate small high schools within 15 miles of a school operated by a neighboring administrative unit are given a lower dollar value per pupil to use in computing their foundation program allowance. This is a penalty provision levied against local authorities who resist consolidation. Along the same line, Sec. 237-G provides that School Administrative Districts shall receive a ten percent bonus, i.e., ten percent of state subsidy determined under Sec. 237-E, provided that the District offer a program K-12 and provided that the District has a single secondary school serving all its students in grades 9 through 12.

The penalty and the bonus are measures to encourage consolidation of local units, and I believe the goal is an urgent one, educationally speaking. However, in any full biennium in which a newly-formed S A D receives aid, there can be a financial loss involved for the unit or units included within it. For example, suppose three poor towns join with one very rich town to establish a S,A,D. (In terms of educational programs, geographic proximity, etc., there may be no other sensible choice but that three poor and one rich town so combine.) The state valuation per resident pupil in the S,A.D.may be raised to the point where the volume of state subsidy, as computed under Tables I and II, is less than the total of what the four towns would have received separately. This happens, of course, because the valuation of the rich town is now placed behind the pupils of all four towns in the S.A,D. On the other hand, Sec. 77-III provides that when school unions are combined into larger supervisory unions, the Commission of Education has authority to adjust disbursements for supervision so that there will be no loss in state support because of the reorganization. I shall suggest below that a similar kind of provision may be desirable to encourage further the rational development of School Administrative Districts.

Under Sec. 237-A, it is provided that local authorities shall pay teachers at least as much as the set of figures included in that section indicate, starting with a figure of $3000 for a certified teacher with zero years of experience. Should an authority fail to pay teachers in accordance with the minimum salary schedule, it will suffer a deduction in state subsidy equal to the amount by which it is failing to provide the required salaries. Sec. 237-C.III requires that the local authorities employ one teacher for each 30 elementary pupils (except kindergarten) and one teacher for each 25 high school pupils. No penalty for failure to do so is stated, but Sec. 31 gives power to the Governor and

Council to withhold the entire education subsidy from an offending local unit, should that action be necessary. I judge it is chiefly in connection with these stipulations on minimum salaries and minimum standards of staffing that the Legislature seeks to attain some measure of equality of provision, one district to another.

Finally, the Legislature seeks to encourage the professional development of teachers by reimbursing the local units under a 100% grant (up to $50 per teacher not more than once every two years) for extra stipends that the local authorities may award to their teachers for completing additional profession work.

2. LOCAL SUPPORT

Local support is derived chiefly from taxation of property. The assessment of property and the administration of the tax is performed mainly by local officials. These same statements could be made about most states in our 50. There appears to be little that is especially unique or disturbing about the administration of the property tax in Maine, and I have nothing to say about the subject that has not already been covered in the report by Dr. John F. Sly, The General Property Tax in Maine, November, 1960.

I would like to point out, though, that it is the general practice of legislatures to require a minimum local levy for the support of schools as a condition for a district's receiving subsidies from the state. Maine does not stand alone in failing to require a minimum uniform effort, but it is in the clear minority on this score. A certain rate of local taxation becomes, in effect, mandatory and as Prof. H. Thomas James of Stanford University has pointed out, the " . . . mandated levy has all the effects of a state tax except the equalization of benefits." (School Revenue Systems in Five States, 1961, p. 104)

This concludes my brief summary of Maine's present system of school finance. Before I attempt to offer comments in critical appraisal of the program, I would like to sketch the general view of educational subsidies as it has developed over the years.

EDUCATIONAL SUBSIDIES BROADLY CONSIDERED

There are really only three main approaches to the problem of how to distribute "general-purpose" subsidies to school districts. These I shall describe below, but first it is necessary to draw a distinction between "general" and "special purpose" aids. All educational grants are special purpose in the sense that the funds are designated for the support of school services, and education is only one of many services that local governments provide. Hence, the term, "general-purpose education grants" is self-contradictory. Nonetheless, it is the practice in describing education grants to indicate whether the proceeds are to be spent by the local authorities under relatively few instructions from the state as to their uses or whether the proceeds may be spent only on designated objects, such as rehabilitation of school buildings, textbooks, etc. The first category is general purpose and the second is special. The states have caused many special-purpose grants to be created - something over 300 at my last count - but most state school monies (something over 80 percent in the 50 states) are paid out under general-purpose aids. Accordingly, the following discussion will be focused on general-purpose grants. One final note on this point: while the states show a preference for distributing funds under general-purpose aid, the federal government has eschewed them and has relied (and apparently will continue to rely) on special purpose (or earmarked) grants.

1. NON-EQUALIZING ("FLAT") GRANTS

The more widely-used early form of general grant was the distribution of X dollars per pupil enrolled in public schools. The amount per pupil was the same for all - or practically all - towns or school districts in a given state; hence, it came to be called a flat grant to distinguish it from those kinds of distributions where the amounts of grant per pupil increase as the wealth or fiscal capacity of the receiving towns diminish. The flat grant rested essentially on two propositions: (a) that the differences in local fiscal capacity of the towns of a state are (or are conveniently assumed to be) small and (b) that the responsibility of the state is properly limited to assisting local government provide a kind of elementary education for children of the lower classes, with it being expected that upper-class parents would make their own arrangements for the more extended education of their own children. Not uncommonly, flat grants were supplemented by a small amount of equalization aid, distributed along these lines: when a local authority was unable to finance a low cost education program by taxing itself at a stated high rate, the state would meet the deficiency in revenue.

This is a laissez-faire approach to education, and it has some of the appeal, as well as the social deficiences, of that general philosophy. Flat grants are still accorded pride of place in some states, e.g., Connecticut among the New England ones, and unfortunately some fairly high blown equalization grants yield the same results as would be had under an out-and-out flat grant, e.g., Massachusetts. By and large, however, there is little present support for employing general purpose flat grants at this time, though I feel there may be a place for them under a radically-revised set of state-local relationships (as mentioned in a later section).

2. THE FOUNDATION PROGRAM PLAN

The most widely used scheme of state support of local education services - and the one which has the most support among students of public education - is that which is commonly described as the "foundation program plan." This plan has two main objectives: (a) to provide a good degree of taxpayers' equity by taking account of differences among local authorities in local fiscal ability and (b) to assure a minimum level of support for all the school children of the state. The amount of subsidy received by a town or school district is the difference between a dollar estimate of needs and a dollar estimate of a reasonable local contribution for schools. Both estimates consist of two parts. The needs figure is a product of a measure of attendance, e.g., average daily membership, and a state-mandated expenditure per pupil. If a district has 2000 pupils in average daily membership and if the state determines that expenditures per pupil shall not be less than $400, then the needs estimate for that district is $800,000. In symbols the number of pupils in the $_i$th district is N_i and the mandated expenditure level is u; thus, the needs estimate is $N_i u$.

The estimate of local contribution is the product of a tax rate, say r, times the (equalized) tax base in the town or district, Y_i. Suppose that the town has a base of $24 million and suppose further that the state decides a reasonable rate of local contribution for schools is 10 mills. The school grant for the town, assuming its needs are $800,000 as estimated above, will be

(2000 pupils x $400) - (.01 x $24,000,000) = $800,000 - $240,000 = $560,000.

The first product, again, represents an estimate of needs and the second an estimate of a reasonable local contribution toward meeting those needs. The formula can be written $G_i = N_i u - r Y_i$ where G_i = grant to the $_i$th district.

The "net grant" to a district will be the difference between the state subsidy and the amount of state taxes levied in the district to finance the program. In general, the net grant will be positive in districts where the local resources per pupil are meager and negative in districts where they are high. More detailed discussion of this point can be found in J. Burkhead, Public School Finance, 1964, pp.212-213.

One particular type of foundation program plan has received by far the largest amount of attention in the U.S., namely, the type proposed by George D. Strayer and Robert M. Haig, in the Report of the Edycational Finance Inquiry Commission (New York) in 1923. In the Strayer-Haig form, $r = N_1 u / Y_1$, when N_1 and Y_1 refer to the number of pupils and taxable resources in the richest district in the state. That is, one determines the reasonable rate of local contribution, r, by a process of examining what rate of tax would just exactly meet the cost of the foundation program in the richest district in the state. It follows that the richest district receives no school grant while all the other poorer ones do, in proportion to their relative degree of impoverishment.

A second feature of the Strayer-Haig form of grant is that all towns or districts must levy a local tax at rate r (or above) as a condition for receiving any general purpose aid from the state. Thus, the dollar figure for which u stands is referred to as the "foundation program," i.e., the expenditure per pupil that is deemed minimally acceptable in all districts of the state.

Certain features of the Strayer-Haig form of subsidy should be noted. (a) The value of u (the mandated expenditure level) becomes the minimum expenditure per pupil in all districts. (b) All districts provide the minimum expenditure per pupil at

the same rate of local taxation. (c) If state taxes are assumed to be proportional, e.e., to represent the same percentage of household income regardless of how rich or poor the household is, then the burden of state and local taxes, taken together, to provide the mandated expenditure per pupil is approximately proportional among the districts.

A variant of the foundation program plan is the scheme wherein the amount of grant that a town receives is determined in part by its own particular staffing pattern. I have called this plan a "variable unit equalizing grant." It is quite similar to the Strayer-Haig plan; the difference between them lies in the fact that u is essentially fixed (except for taking account of sparsity conditions, secondary school population, etc.) for all districts (or is beyond their power to manipulate) under Strayer-Haig, while under the variable unit plan a town will receive an extra allowance of money as it raises the quality of educational resources it makes available to the children in its schools. The basis of variability is most commonly related to the characteristics of teachers. If a district has only inexperienced teachers, it may be credited with, say, $4800 per teacher, while if it has only teachers with an M.A. and 10 or more years of experience, it may receive the maximum credit per teacher allowed by the state, e.g., $6000. Most districts would have some of both kinds. The value of u is computed for each district, i.e., it becomes u_i, and the major figures that go into the computation are those drawn from the state minimum salary schedule and those from the staffing pattern of the particular district. This plan is discussed fully in Johns and Morphet, Financing the Public Schools, 1960.

What are the merits of the foundation program plan? Unlike flat grants the plan has the advantage of taking account of local differences in fiscal capacity. Unlike most flat grant

schemes. foundation program plans specify a minimum level of local contribution to be a condition for receiving any general purpose aid from the state, and this in turn establishes a floor on expenditure per pupil. These to my mind are two important advantages of the foundation program plan as it is generally used in the U.S.

But there are also serious drawbacks. First, the plan calls for only rudimentary estimates of educational needs. It is now recognized that children of the disadvantaged homes enter school with educational handicaps. These children are clustered in certain cities or towns - and in certain parts of these cities and towns, while other cities and towns have practically none of them. Further, it is now recognized that vocational and technical secondary education is very costly, so costly in fact, that even the special aid given under federal and state statutues fails to remove the onerous burden on the locality that provides extensive programs of these kinds. Students for whom vocational and technical education is desirable may also be clustered in certain cities and towns. As presently administered, foundation program plans do not take account of the cost implication of these fundamental differences in the characteristics of the pupil population being served.

Second, the foundation program plan appears to assume that a dollar buys the same volume of educational resources in one town as in another. This is contrary to common sense and the falsity of the assumption can be documented, though I have not the time to provide such documentation in this report. Let us put it this way. Suppose a pleasant, suburban community establishes a salary schedule for teachers which is identical with the salary schedule of an old grimy, industrial town. It is practically a certainty that the suburban place will attract

in general, teachers who are better educated, and, if it wishes, more experienced than the industrial town will be able to do. I shall not belabor the point further but the Strayer-Haig formula in its usual application takes no account of differences in costs of obtaining a given quality of educational resources (or inputs). In sum, the foundation program plan aims at providing children with equal educational opportunities, in accordance with their age, ability, and aptitude, which is more than can be said of a flat grant type of distribution, but the foundation program plan appears to assume that different types of children are more or less randomly distributed among the local authorities of a state and that these local authorities compete on approximately equal terms in the market for educational resources. Neither of these two assumptions seems to hold true.

Third, and finally, there is an important difficulty in attempting to apply the Strayer-Haig formula. Let us recall that the rate of local contribution, r, is to be set at that level which would raise the cost of the foundation program in the richest district. If this is done, all districts finance their foundation programs at equal local rates of taxation and all but the richest district receive some state aid. However, it often happens that some districts in a state are very much richer than others. The effect is that r becomes minuscule and as can be seen by glancing at the Strayer-Haig formula above, the state comes to bear practically all the cost of the educational services. To forestall such an eventuality, the rate r is set at a higher value than is necessary to finance the foundation program in the richest district. This means that if all districts tax themselves at the rate r, the rich places will have surplus revenue which theoretically they should turn over to the state for redistribution to the poorer authorities.

At the least, the rich districts as a group (not just the richest !) should receive zero state aid. Neither course has proved politically feasible. Usually these affluent places that are excluded from the operation of the equalization plan are given a flat grant per pupil. An alternative is to reduce the dollar value of the foundation program. This can keep the magnitude of the state contribution within bounds, but it, like the practice of over-stating the value of the rate r, reduces the equalizing effects of the foundation program plan.

Educators have made a virtue of necessity with regard to this feature of the foundation program plan and claimed that giving rich districts more than they "deserve," relative to poorer districts, is beneficial to the cause of public education, because the rich districts will have "financial leeway" to establish superior educational programs and to demonstrate what good education is and what it costs (to them, at least). They become "lighthouse districts" whose spending practices other districts will desire to emulate. This process is stimulative of school spending: it establishes pressure on both the local taxpayer and on the state legislature to provide more generous financing of the educational services. But it is not egalitarian. As new monies are provided, one moves simply to inequality of provision at a higher level.

3. PERCENTAGE EQUALIZING GRANTS

The third main type of subvention is a grant under which the state pays some share of locally determined school expenditure in the given district. Ordinarily, the state share is larger in poor districts than in rich.

Theoretically, the state share for a particular town is

determined in the following way. The ratio of the tax base per pupil in the $_i$th district, y_i, to the state tax base per pupil, y, is computed. Thus, the relative economic standing of the $_i$th district is established in the form y_i/y. Next, this ratio is multiplied by an arbitary constant, call it x, which normally has a value between 0 and 1. (The value of x can be taken to represent approximately the local share of educational spending in the state, all districts taken together.) Finally, the product of x times the relative economic standing of the district, $x \cdot y_i/y$, is subtracted from the numeral 1. The resulting fraction, or state share in the given district, is multiplied by the volume of local spending to determine the dollar value of state subsidy, ordinarily paid on a reimbursement basis. Accordingly, the formula is

$G_i = \left[1 - (x \cdot y_i/y)\right] \cdot E_i$, where E_i = educational spending in the $_i$th district in some recent (but not the current) year.

To see how the formula works, let us consider the case of a district of average resources. Assume that the district has an equalized valuation of $12,000 per pupil that it has 2000 pupils, and that it has spent $400 per pupil on their schooling. Assume further that the state wished to meet approximately 50 percent of school costs in the state, leaving 50 percent on the local property bases; thus x = .50.
From the formula,

$$G_i = \left[1 - (.5 \cdot \frac{\$12,000}{\$12,000})\right] \cdot \$800,000 = \$400,000.$$

This is a district of average resources, which is to say that the sum of all local property valuation in the state divided by pupil A.D.M. is the sum $12,000. This district receives a 50 percent reimbursement. Now, let us consider the case of a poorer district, one, say, with

valuation per pupil of $6,000. The formula would read

$$G_i = \left[1 - \left(.5 \cdot \frac{\$\ 6,000}{\$12,000} \right)\right] \cdot \$800,000 = \$600,000.$$

Both places finance a $400 program at the same local tax rate: 16.7 mills. The result has generality: under a fully-operative percentage-equalizing grant, any two places that spend the same dollar amount per pupil have equal local school tax rates (on equalized valuations, of course).

Unlike the Strayer-Haig plan, the percentage-equalizing scheme has a flexibility which allows a district to adjust its spending upward, either to provide special services for its relatively high proportion of educationally-needy children or to take account of the relatively high prices it must pay for a specified quality of educational resources, or both, and to do this while suffering no local tax disadvantage, compared with all other places that spend the same amount per pupil. It is an egalitarian plan which allows districts, if they wish, to try to compensate for inherited disadvantages of class.

The percentage equalizing plan has not found ready acceptance in the United States. Wisconsin adopted it in 1949 and Rhode Island followed in 1959. Maine has it in small degree. In 1961 with much fanfare New York adopted what was essentially the Maine plan. Other states have shown no particular interest yet. The problem is that legislators feel the plan gives local school boards a "blank check." Not only is the state budget affected directly by the spending decisions of several hundred local authorities, but the state's tax base is placed in support of the spending policies of individual districts, not all of which districts can be said to spend money wisely. The natural consequence of the adoption of a percentage equalizing plan is

the increase in state control of local spending decisions. This prospect is known and does not find favor with most educators.

4. A COMBINATION PLAN

If there is consensus among school finance authorities on what a good form of education subsidy is (and I believe there is now a fairly high level of consensus), it is in support of a "combination plan," i.e., a Strayer-Haig formula with a percentage equalizing scheme "on top." The idea is that a state would be well advised to employ a foundation program plan. Ideally, this would include practically all school authorities, or as many as could be included with sacrificing too much in the dollar value of the foundation program. That is, flat grants to rich districts should be kept to a minimum. Then, in addition to the Strayer-Haig formula, there would be a commitment from the state to meet a share of extraordinary expenditures, i.e., those in excess of the foundation program. The state share of extraordinary expenditures would be higher in poor districts than in rich. This can be written in one formula, cumbersome though it is. Assume a foundation program of $400, a local contribution rate of 10 mills, a state average valuation of $12,000 and the formula would be

$$G_i = (N_i \cdot \$400 - .01 \cdot Y_i) + \left[1 - (x \cdot y_i/\$12{,}000)\right] \cdot (E_i - N_i \cdot \$400).$$

The problem with this scheme is that a town may receive state aid at one ratio on its expenditures below the foundation program and at another for expenditures above the program with the two

ratios bearing no necessary logical relation to each other.

5. A FUTURE MARGINAL PRODUCTIVITY APPROACH

If the present movement toward centralization of power in the state governments continue, then future conditions may call for a markedly different approach to educational subsidies. Should the state governments really take the initiative in determining the broad lines of educational policy, while leaving it to local authorities to carry out the month-to-month administration of schools, the state might seek to use its control of subsidies to maximize returns on a set of educational goals it itself had specified. For example, suppose the state adopted a goal of obtaining the largest possible annual increase in the state-wide average of achievement test scores. Theoretically, the state would seek to obtain that distribution of school spending - as between geographic areas and as between alternative school programs - under which no shift of an education dollar from one place to another - or from one program to another - would yield a gain in achievement. This is to say that the marginal productivities of school spending from one place to another have been made equal; such an equality of marginal productivities is equivalent to the optimum distribution of school funds for the stated objective.

SOME CRITICAL COMMENT ABOUT MAINE EDUCATIONAL SUBSIDIES

Before I embark on this section, I would like to indicate certain positions I hold, since these positions have a bearing on what I shall say in the rest of this report. First, I believe the level of school spending in Maine is too low. This is a position I have come to reluctantly and slowly, because I am inclined to the general view that our country suffers less from a shortage of educational expenditures than from a certain lack of wisdom in their use. Here is why I have reached my conclusion. The rate of economic growth in Maine has not been high. In recent years economic activity in Maine has become strongly tied to the federal government's spending programs, especially defense programs. It is not impossible that defense activity will be stabilized at approximately its present level. So Maine might well look to the state of its private industry. Old industries do fade away, and if Maine is not to become predominantly a region for tourists, new kinds of plants are needed. I think there is a close connection between education and economic growth in Maine, and it centers on the question of whether Maine's secondary schools are seen by junior executives as being satisfactory for their children. "Will my son have a chance to get into Harvard if he goes to school in Kville, Maine?" This is the question such men (or their wives) ask themselves. If the answer is less than clearly affirmative, the senior executives of the firm may well choose to locate a new plant in another state, where executive amenities, among which the quality of local schools ranks high, are greater. How do the junior executives judge the quality of schools? In part by evidence that graduates have been successful in good colleges; in part by a general kind of hearsay; but also in part by

personal assessment of the local teachers. It is expected that the teachers be well trained, experienced, and, further, that they show some knowledge of the world of higher education, not just as it exists in Maine but in other states as well, and, finally, that this knowledge include an awareness of the extreme competitiveness that characterizes college entrance today. In short, the executives want a capable and cosmopolitan teaching force. Toward this end, it behooves Maine to try to attract numbers of competent teachers from other states. However, published reports indicate that teaching salaries in Maine are low. (In this connection it must be borne in mind that out-of-state teachers who consider employment in Maine want their children to have a chance at prestige colleges, too.) The National Education Association states that in 1963-64 the average pay of teachers in Maine was $5,100, as compared with a $6,340 average for the six New England states. Of these six states, the average pay in Maine was the lowest of all. Only 1.5 percent of Maine teachers were reported as having a salary in excess of $6,500. The corresponding figures for the other New England states are as follows: Connecticut, 48 percent; Massachusetts, 33 percent; New Hampshire, 4.0 percent; Rhode Island, 45 percent; and Vermont, 11.5 percent. If such comparisons give a distorted view of salary conditions in Maine, the N.E.A should be so informed. Otherwise, I feel the state has let itself fall into an unfavorable competitive position with regard to bidding for teachers' services.

My second position can be stated more quickly. It is my earnest hope that state legislatures across the land will give more serious consideration than they have been yet able to give to the problem of inequality of educational opportunity. Though I am no expert in pedagogy, it seems to me that at least three things are involved: the reduction of geographic

expenditure differences, i.e., differences in spending from one district to another; the improvement of elementary education, particularly in those attendance areas that serve lower income groups; and, lastly, the improvement of secondary programs for non-college bound youth (a position recently taken by the American Council on Education in their volume Man, Education and Work, 1964).

Third, it is also my hope that those persons who are responsible for state educational policy will continue to be concerned about the quality of instruction in our public schools. In my view the most strategic type of action at the present time is that which is directed toward the retraining of teachers, about which more will be said below.

Now, let me express a few reservations about the present system of school finance in Maine. The first reservation is that the program allows quite wide differences in expenditure per pupil to exist, with the poorer places being in the unfortunate position of having the combination of meagerly supported schools and high tax rates. In short, the program is failing to achieve the objective of equalization, either with respect to provision of services or with respect to local tax rates.

As I stated in my introductory comments, I am not able to provide extensive statistical analysis in this report, but the few figures shown below are consistent with my statement that the state subsidies in Maine are failing to achieve equalization. For the year 1962-63 the table shows some estimates of school spending, etc., for 10 places. All of the 10 have elementary enrollments between 501 and 800 pupils. Within the group of 10, the unweighted average of total operational costs

1962 - 1963

HIGH EXPENDITURE

Town or District	Elementary Expenditures on Instruction Per Pupil	Elementary Per Pupil Total Operational Costs	State Valuation Per Pupil	School Tax Rate on State Valuation	State Subsidy as % of local Appropriation for Schools
Bar Harbor	220	279	14,276	.0265	11.6
Camden	205	271	14,565	.0212	12.9
E. Millinocket	234	298	32,858	.0125	8.1
Freeport	225	301	9,267	.0371	22.8
Yarmouth	254	327	18,410	.0252	9.5
AVERAGE	228	295	12,075	.0245	13.0

LOW EXPENDITURE

Berwick	164	192	5,755	.0304	49.3
Calais	150	179	7,953	.0246	32.0
Milo	116	144	5,535	.0309	62.4
Oakland	162	189	7,817	.0223	46.7
S.A.D. #25	156	200	4,532	.0328	-
AVERAGE	150	181	6,318	.0282	47.6

N.B. All averages are unweighted

per pupil for the high spending places is 63 percent greater than for the low spending ones. The range in operating cost per pupil among the 10 places is $183, which is more than some of the low spending places provide for their students. The high spending places are richer than the low spending ones; indeed, there is no overlap in the state valuations per pupil of the two groups. School tax rates on state valuation are lower in the high spending group than in the low spending one, in general. Only Freeport in the high expenditure group has a rate above .030, but 3 of 5 places in the low expenditure group do. (The point about tax rates has generality: the January, 1964, edition of Maine School Statistics shows that the average of local tax rate on assessed valuation for Class 1 places is .0443 while for Class 21 places it is .0186.) The situation among our 10 places exists in spite of the fact that the State is providing relatively more school monies to the poorer districts than the rich, as indicated by the last column of figures.

What features of school subsidies lead to the situation sketched above. I believe there are several.

(a) There is no stated minimum expenditure per pupil. Approximately two-thirds of Maine's school units spend less than the foundation program, even though the foundation program is itself low [illegible] national standards.

(b) Class 21 includes about a quarter of the state's enrollment, but the range of state valuation per pupil is quite wide within this class. It runs from less than $13,000 to over $600,000, but all towns and districts receive aid at the same ratio: 18 percent.

(c) Table II of Sec. 237-E is itself not equalizing, even when we ignore the two open-ended classes, 1 and 21. Assume two places each have 1000 elementary pupils but no secondary and that both have no expenditures for transportation, tuition, and board. Putting aside incidental receipts, etc., the net foundation program in each place is $225,000. Let the first have a state valuation of $4,500 per pupil or a total valuation of $4,500,000. Let the second have a valuation of $10,500 per pupil or a total of $10,500,000. Let each spend exactly at the Table I figure of $225 per elementary pupil. Total operating costs in both places are $225,000. The first place receives $135,000 in state subsidy (60 percent), leaving $90,000 on the local tax base. This $90,000 requires a local rate of 20 mills. The second place receives $67,500 (30 percent) in subsidy, leaving $157,500 to be raised locally. The $157,500 calls for a local rate of 15 mills on state valuation. Thus, the richer place under Table II is expected to make the smaller effort.

(d) A number of poor towns are small. When a small poor town runs a secondary school e.g., Harmony, the diseconomies of scale at the secondary level (high cost per pupil because of small size) can put an extreme burden on the local tax base.

The second reservation I have is that Maine appears to give no consideration to the cost aspect of growth in enrollment, other than to provide construction aid. A unit, I judge, receives the same amount of subsidy for operating costs whether it has no growth or whether it has a thousand additional pupils to educate. The cost of the extra pupils falls on the local

tax base entirely in the short run, and the differences in valuation per pupil are quite wide, as we know.

The third reservation is that the present system appears to be exerting a drag on the progress of school consolidation in Maine. If a rich town joins with several poor ones, the subsidy to the newly-formed S.A.D. may be less than the total that the group of towns would have received separately. This kind of situation exists, I am told, in spite of the fact that a 10 percent bonus for consolidation is granted.

The last point has to do with the provision in Sec. 237-D under which the Legislature expresses its intent to revise the total of state subsidies each biennium to keep pace with the educational expenditures of the towns. I understand this provision is known as the Sinclair Act. I have heard criticisms of the provision that it is too highly stimulative of school spending. Even taking account of the fact that state subsidies in Maine can be considered to be granted on a reimbursement basis and hence that they are "not stimulative," I do feel that the biennial increase in state aid has a psychological effect of raising the level of school spending in the State. My feeling is that higher school spending is needed at the present time in Maine, so I would be extremely reluctant to see the principle of the Sinclair Act removed. However, the provision appears to place the Legislature in too passive a role with regard to school expenditure - and, hence, with regard to educational policy. I find it hard to believe that the judgement of the towns is an infallible guide to action on educational matters.

SOME LONG RANGE VIEWS ON EDUCATIONAL FINANCE

At the risk of being presumptious and of stating some unpopular notions (unpopular, at least, in educational circles), I would like to offer some views on what I think would be desirable directions for the long range development of the educational services. First, I feel it important that we create a set of specialized secondary institutions. The "comprehensive high school" has, I believe, a traditionally inevitable bias toward the generalized preparation of students for the 4- year liberal-arts college. It cannot adequately serve students who have a keen interest in scientific, technical, or artistic pursuits, but it will remain highly suitable for those who will enter the business, legal, or teaching professions. The interests of these other types - those with a scientific, technical or artistic bent - should not be slighted, however, and the specialized secondary institution may be the best way to help them develop those interests. Second, the cost of maintaining a set of specialized secondary institutions will provide a powerful impetus for the formation of school districts of higher minimum size than we have now. I suggest the minimum might be in the order of 250,000 population (total population, not school population). The formation of these larger districts would itself serve to reduce the amount of variability in local fiscal capacity. Third, it seems to me desirable over time that the administration of school services be merged with the administration of other local government services, all under the control of one local, elected, legislature. The problems of housing, health, welfare, youth activities, cultural activities, and industrial training are closely related. The separateness of school government leads (for

reasons that are too complex to explore here) to a placing on schools of a burden for social charge that can only distract the schools from their primary, educational function. Fourth, the state governments should come to regulate much more closely the geographical distribution of educational resources. Indeed, I believe the states should establish staffing and salary standards, as well as standards of school housing, which would be followed by all local units. Fifth, while the fourth point implies greater uniformity in spending one local unit to another, I would very much like to see greater autonomy placed in the hands of the building principal. I believe he should have the power to make substantive recommendations about his own budget, together with the responsibility of showing results for innovations undertaken. This implies greater differences, presumably, in spending, one school to another in a given district. To have autonomy of principals in a large school administrative unit calls for new administrative arrangements, but these are not beyond the wit of man. Sixth, I think it highly desirable that the separateness of the cultures of school teacher, college professor, and industrial training officer be ended, with the view of reestablishing contact between our schools and the academic community and of creating an effective contact between schools and industry. Lastly, the formation of large, multi-purpose districts could allow the use of general or block grants, essentially per capita grants adjusted for measurable differences in need to provide local services, which would represent a considerable simplification in state-local fiscal relations.

A FEW SUGGESTIONS FOR REVISION OF EDUCATIONAL SUBSIDIES IN MAINE

The most important revision, in my opinion, is the establishment of a uniform effort plan, as it has come to be called in Maine. (Actually, the formula is that, essentially, of the Strayer-Haig type mentioned earlier.) Toward this end I suggest the values of Table I, Sec. 237 - D should be raised. If it were possible to raise them immediately, and I judge it is not, I would like to see the figure for elementary school units size 801 plus go to $275 and the figure for secondary school size 801 plus raised to $385. With corresponding adjustments in the rest of Table I, about half the gap between school expenditures in Maine and in the New England average should be closed.

To finance the foundation program I believe the State should provide subsidies equal to the difference between the cost of the foundation program allowance (Table I plus transportation, tuition, etc.) and the yield of a 20 mill levy on state valuation. Why 20 mills? I estimate the cost of the foundation program with adjustments in the per pupil figures mentioned above to be about $75-80 million. A 20 mill levy on state valuation would raise approximately 60 percent of this sum, leaving 40 percent on the state, which is the national average of the share of the state governments in the finance of elementary and secondary schools. (Actually, the State of Maine would be paying something less than 40 percent, since the expenditures of local authorities in excess of the foundation program allowance would, with changes I mention below about compulsory local contribution, almost certainly exceed what the State pays in construction.) Next, 20 mills

on state valuation is, I judge, about 10 mills on true value, and this is a kind of national average of local contribution toward education.

In order to receive any general purpose state aid toward schools, I believe the local authorities should meet two conditions. First, the local authorities must levy a school tax to yield the equivalent sum of a 20 mill levy on state valuation. Second, the local authorities must certify that they have spent at least the sums per pupil of Table I on their elementary schools.

Now, a problem is that 20 mills on state valuation will produce more than the amount of the foundation program allowance in some rich districts. There are many ways this problem can be handled, of which four are noted here. The easiest, possibly, or the simplest anyway, is the use of a "save harmless" clause, under which the rich districts are guaranteed as a minimum subsidy the amount (total, not per pupil) they received in the last year of operation of the present plan. A second alternative is to regard the 20 mill levy as a state tax and to require the rich districts to turn over their surplus revenue, i.e., excess of the 20 mill levy over the foundation program allowance, to the State, with these funds being used for some purpose of which the benefits are widely dispersed over the whole state. Examples are the financing of scholarships for higher education or for the retraining of teachers. The rich districts, of course, would receive no subsidy from the state. Indeed, what happens to them could be regarded as a negative subsidy, and the transition problems could be severe.

The next two suggestions have to do with revision of state valuation (downward) for school tax (and subsidy measurement) purposes. I believe both can be defended on their merits. One is to remove industrial properties from local taxation for schools. Instead, these properties would be subject to a uniform rate of school taxation by the state, with the funds being redistributed to the towns under the main general-purpose school subsidy. It seems to me that industry has a stake in the progress of education in the State as a whole but not necessarily in the progress of some particular town's school. Local differences in school costs, further, should fall primarily on the households of the towns. The final suggestion has to do with private and parochial enrollments. In the cities of Maine, a large proportion of children are educated at private expense. Yet, in measuring the fiscal ability of the cities, one divides state valuation by public school membership, not by the total of school age children. It seems to me that this serves to overstate the fiscal capacity of the cities. I feel it should be considered whether the following kind of adjustment in state valuation for school subsidy purposes might be made: multiply the number of private and parochial students of the administrative unit by the dollar amount of state average expenditure in public schools in the last year; divide the product by 20 mills; deduct the value so obtained from state valuation of the administrative unit. This is a process of capitalizing the estimated cost of educating the private school enrollment and adjusting the valuation of the place of residence downward by the sum so obtained.

Other recommendations follow. With respect to the formation of School Administrative Districts, I think it

extremely important that no set of towns lose state subsidy because of the fact that they have formed a consolidated unit. This would be, I should think, a fairly easy change to make; though whether it should be made retroactive I do not know. I also think there should be a time limit on this "save harmless from consolidation" feature, say 5 years, after which the special aid would be tapered off at 20 percent a year.

The pace of school district consolidation in Maine appears to have been fairly rapid, but I am not so sure about the quality. The S.A.D.'s are often of small size themselves, and to speak of an area where I once lived, I could see advantages in Brunswick, Topsham, Freeport, and Bath forming a unified district. But this takes me beyond the scope of this report.

Another recommendation has to do with the financing of the retraining of teachers. I suggest that the State reimburse towns and districts 100% of the cost of sabbaticals granted under Sec. 54 -IX and that the aggregate of such reimbursement be "pooled." That is, the State would cast up the sum of its 100% reimbursement grants and deduct the amount from its general aid subsidy, pro-rated among towns and and districts on the basis of enrollment. The idea is (a) effective retraining calls for a full-time period of study on the part of the teacher and (b) any individual district cannot itself be sure of recouping the cost of providing retraining, since the teacher may not remain in its employ. I think it well to modify Sec. 54 - IX to allow the district to provide travel to and a share of tuition costs in the institution of higher education the teacher attends.

With respect to the problem of the lag in state

subsidies behind the needs of districts with rising enrollments, I suggest that state subsidies be based on estimates of current enrollment (or membership) for all towns and districts.

I would urge that the State continue its policy of establishing technical and vocational schools and that at least some schools established under Sec. 203 be designed to provide instruction for students as young as 15 years.

Lastly, I suggest that the percentages of state subsidy to foundation program allowance continue to be computed, even though they may not be used (as in Table II) to govern the distribution of the main portion of general-purpose subsidies. I believe these percentages should govern the distribution of construction aid and, further, that the provision about supplementary aid for high cost districts (7th paragraph, Sec. 237 - E) should be continued. However, I believe the last part of the last sentence in that paragraph might read "exceeds its net foundation program allowance by 50% of the percentage that the state support of its foundation program bears to its net foundation program allowance."

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