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A REVIEW OF HANSEN AND WEISBROD'S, THE DISTRIBUTIONAL EFFECTS OF PUBLIC HIGHER EDUCATION IN CALIFORNIA

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In their recent book, Benefits, Costs, and Finance of Public Higher Education (Markham, 1969), W. Lee Hansen and Burton Weisbrod conclude that "the current method of financing public higher education [in California] leads to a sizeable redistribution of income from lower to higher income (page 77)." This conclusion is based on figures showing that families with children in the California system of public higher education have higher average incomes than families who do not have children in the system. Since the state-local tax structure is regressive, it seems to follow that the state's higher education system is an instrument for redistributing resources from the poor to the rich.

For reasons I shall give later, I do not believe that the exercise performed by Hansen and Weisbrod can provide even an approximate estimate of the distributional effects of public higher education. Hansen and Weisbrod seem to be aware of many of the pitfalls, but nevertheless, do not hesitate to draw conclusions from their results. However, they can be criticized on a much more elementary level. At no point do Hansen and Weisbrod compare the benefits and costs of public higher education at different income levels, as they seem to suggest. Their comparison is between benefits and the taxes paid on the average by families with

and without children enrolled in the California system. When the benefits and costs are distributed by income levels, using their own figures, it turns out that their conclusion is reversed, i.e., that the California system of public higher education is progressive.

THE DATA

The figures that are basic to the Hansen-Weisbrod argument are given in Tables 1 and 2, which reproduce their Tables IV-11 and IV-12. The average subsidy is $720 for families with children in junior colleges, $1,400 for those with children in state colleges, and $1,700 for those with children in the university (Table 1, line 2). These three groups of families have average incomes of $8,800, $10,000, and $12,000 respectively, as compared with an average of $7,900 for families without children in the system (line 1). Naturally, the families without children in the system pay a sizeable average tax ($650) without any benefit from the higher education system, while those with children in the system have net benefits ranging from $40 for the junior colleges to $790 for the university.

Two points should be noted about Table 1. First, Hansen and Weisbrod do not compare the benefits with all state-local taxes. The comparison is between the benefits and state-local taxes from selected sources, presumably, those to which the cost of public higher education in

TABLE 1

AVERAGE FAMILY INCOMES, AVERAGE HIGHER EDUCATION SUBSIDIES, AND AVERAGE STATE AND LOCAL TAXES PAID BY FAMILIES, BY TYPE OF INSTITUTION CHILDREN ATTEND, CALIFORNIA, 1964.

	All Families	*Families Without Children in California Public Higher Education*	*Families With Children in California Public Higher Education*			
			Total	*JC*	*SC*	*UC*
1. Average Family Income	$8,000	$7,900	$9,560	$8,800	$10,000	$12,000
2. Average Higher Education Subsidy Per Year	--	0	880	720	1,400	1,700
3. Average Total State and Local Taxes Paid[a]	620	650	740	680	770	910
4. Net Transfer (Line 2-Line 3)	--	-650	+140	+40	+630	+790

Source: W. Lee Hansen and Burton A. Weisbrod, Benefits, Costs, and Finance of Public Higher Education (Markham Publishing Company, 1969), Table IV-12, pg. 76.

[a]Total state and local tax rates from Table 2 were applied to the median incomes for families in each column.

TABLE 2

ESTIMATED TAX BURDENS BY INCOME CLASS, CALIFORNIA, 1965

Adjusted Gross Income Class	*State Taxes Only Per Family*[a]	*Effective State Tax Rate*[b]	*State and Local Taxes Per Family*[c]	*Effective State and Local Tax Rate*[b]
$ 0-3,999	$ 104	5.2%	$ 474	23.7%
4,000-5,999	132	2.6	527	10.5
6,000-7,999	161	2.3	576	8.2
8,000-9,999	221	2.4	696	7.7
10,000-11,999	301	2.7	833	7.6
12,000-13,999	389	3.0	984	7.6
14,000-19,999	539	3.2	1,228	7.2
20,000-24,999	865	3.8	1,758	7.8
25,000 plus	2,767	5.5	4,093	8.2

Source: W. Lee Hansen and Burton A. Weisbrod, Benefits, Costs, and Finance of Public Higher Education (Markham Publishing Company, 1969), Table IV-11.

[a]Personal income, state sales, cigarette, and alcoholic beverage taxes only.

[b]Taxes as a percent of estimated mean income of each income class. The mean of the highest income interval was arbitrarily assumed to be $50,000.

[c]State taxes include: personal income, sales, cigarette, alcoholic beverage, and gasoline taxes. Local taxes include: local sales and property taxes.

California can be allocated.[1] But even if the particular taxes selected by Hansen and Weisbrod are accepted as being the source of finance for the higher education system, only a portion of these taxes should be allocated as costs of the system, not the total. Second, there is no comparison of benefits and costs for various income levels--the comparison is entirely between benefits and costs at the average income levels of the various types of families.

Now, it is curious that Hansen and Weisbrod did not try to make estimates by income levels, because their own data would have permitted them to do so. These data are given in Table 2, which shows the average state and state-local tax burdens by income classes in California. Hansen and Weisbrod are, of course, right in saying that poor people pay heavy taxes in California; according to their figures, those with incomes below $4,000 pay an average of $474 in state and local taxes, and an average of $104 in state taxes alone.[2] But the flaw in their

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[1] Curiously, Hansen and Weisbrod make no attempt to justify the particular taxes they selected. They merely say (p. 74) that "we still have no real way of determining how much of whatever taxes are paid reflect support for higher education, as against the many services provided by state and local governments." But they are silent about the reasons for their particular selections.

[2] Hansen and Weisbrod do not provide any information on how they estimated the tax burdens by income levels. While the state-local tax system is undoubtedly regressive, it is very doubtful that the ratio of taxes to income for families with adjusted gross income of less than $4,000 is as high as their estimate of 23.7 percent. The Council of Economic Advisers estimated that, for the country as a whole, the ratio (for the same year used by Hansen and Weisbrod) was 25 percent for families below $2,000 and 11 percent for those between $2,000 and $4,000, giving an unweighted average of 18 percent (Economic Report of the President, January 1969, p. 161). Considering the fact that Hansen and Weisbrod have not included all the taxes in their burden distribution, their figure of 23.7 percent for the taxes they selected is almost certainly a substantial overestimate.

reasoning is that only a small proportion of these taxes go to pay for the California system of public higher education. The taxes actually paid in the lowest income classes for public higher education in California are smaller than the benefits received by families in these same classes.[3]

The reason why this is so may be explained by a simple example, using figures which are not very different from the actual ones. The benefits of the University of California (as calculated by Hansen and Weisbrod) account for 7 percent of the state taxes they included in their 1965 tax burden distribution. The average state tax burden for a family with a $5,000 income was $135.[4] This means that families with incomes of $5,000 paid an average of $9.45 toward support of the university (7 percent of $135). But 1.5 percent of these families had a child in the university and the benefit per child was $1,700, giving an average subsidy of $25.50 ($1,700 x .015) for all families with $5,000 incomes. It follows that, in this income class, the average subsidy is $16.05 larger than the taxes paid for the subsidy. The same calculation may be performed for other income classes and for families with children in the junior colleges and in the state colleges.

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[3] It is, of course, true that many families in the lower income classes pay taxes to finance the education of children of other families in these same classes. To this extent, the redistribution is from poor to poor, rather than from poor to rich, as Hansen and Weisbrod allege.

[4] The illustration is based on the Hansen-Weisbrod data for the $4,000-5,999 class. Only state taxes are used in the example, because the University of California is financed entirely by the state government.

TABLE 3

AVERAGE NET SUBSIDY OR TAX PAYMENT FOR THE HIGHER EDUCATION SYSTEM BY INCOME CLASS, CALIFORNIA, 1965[a]

Adjusted Gross Income Class	*Average Tax Payment Using Taxes Selected by Hansen-Weisbrod*	*Average Higher Education Subsidy*	*Net Subsidy (+) or Net Tax Payment (-)*
A. Assuming the Subsidy is Distributed on the Basis of Distribution of Families with Parent-Supported Students			
$ 0- 3,999	$ 66	$ 56	$ -10
4,000- 5,999	77	122	+45
6,000- 7,999	88	129	+41
8,000- 9,999	112	126	+14
10,000-11,999	142	179	+37
12,000-13,999	175	167	-8
14,000-19,999	229	229	0
20,000-24,999	348	271	-77
25,000 and over	974	291	-683
B. Assuming the Subsidy is Distributed on the Basis of All Families, Including Those with Self-Supporting Students			
$ 0- 3,999	$ 66	$ 83	$ +17
4,000- 5,999	77	139	+62
6,000- 7,999	88	143	+55
8,000- 9,999	112	122	+10
10,000-11,999	142	160	+18
12,000-13,999	175	155	-20
14,000-19,999	229	181	-48
20,000-24,999	348	252	-96
25,000 and over	974	235	-739

Sources: Based on W. Lee Hansen and Burton A. Weisbrod, Benefits, Costs, and Finance of Public Higher Education (Markham Publishing Company, 1969), Tables IV-7, IV-11, and IV-12; Total and Full-Time Enrollment, California Institutions of Higher Education, Fall 1965 (Sacramento, Department of Finance: undated), pp. 5, 13, and 19; J. Edward Sanders and Hans C. Palmer, The Financial Barrier to Higher Education in California (Pamona College, Claremont, California: 1965), Tables M, p. 21 and O, p. 25.

[a]See text for the method of calculation and explanation of the differences between assumptions A and B.

The results of such calculations are given in Table 3, which is based on data given in the Hansen-Weisbrod volume or from the sources they cite.[5] The mechanics of the calculations in Part A of Table 3 were as follows: (1) The dollar value of the benefits of each component of California's public higher education system, as estimated by Hansen and Weisbrod, was distributed by income classes in accordance with their distribution of families with parent-supported children in the system.[6] (2) The taxes paid for these benefits were distributed by income classes, again using the Hansen-Weisbrod estimates. In this calculation, it was assumed that 40 percent of the cost of the junior colleges is borne by the state and the remaining 60 percent by the local governments; the costs of the state colleges and of the university were allocated entirely to the state. (3) The net subsidy

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[5]The only information not actually published by Hansen and Weisbrod which is needed for these calculations is the total number of families in the state. This was obtained from the letter by the California Legislative Analyst cited by Hansen and Weisbrod in their Table IV-7 (page 69 of their monograph). The total number of families in the state is given as 3,877,985 in this source. The number of families with children in the state's junior colleges, state colleges, and the university are given in Total and Full-Time Enrollment, California Institutions of Higher Education, Fall 1965 (Sacramento, Department of Finance: undated), pp. 5, 13, and 19 (cited by Hansen and Weisbrod in their bibliography on p. 109). The number of families with children in the junior colleges was 411,000; the number with children in the state colleges, 115,000; and the number with children in the universities, 49,000.

[6]Hansen and Weisbrod do not explain why they omitted the families of self-supporting students in their analysis. The distribution of families with parent-supported students is given in J. Edward Sanders and Hans C. Palmer, The Financial Barrier to Higher Education in California (Pamona College, Claremont, California: 1965), Table M, p. 21.

or net tax payment was calculated for each income class by subtracting the figures obtained in step (2) from those obtained in step (1).

The calculations in Part B of Table 3 are similar to those in Part A except that, in Part B, the distribution of benefits was based on the distribution of all families with children in California's higher education system, including families with self-supporting students.[7] As might be expected, the average income of families with self-supporting students is substantially lower than the average income of families who support their children in college, so that the use of the all-family distribution shifts more of the subsidy to the lower income classes.

The results of these calculations are striking. If it is assumed that the distribution of families with parent-supported students represents the distribution of the higher education subsidy (Part A), families with incomes between $4,000 and $12,000 receive a net subsidy, while those with incomes above $20,000 pay a large net tax. There are also net tax payments for families with incomes below $4,000 and $12,000-14,000, but these net payments are small on the average. Families with incomes between $14,000 and $20,000 break even. The only conclusion one can draw from these figures is that there is a redistribution from families in the two highest income classes (i.e., above

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[7] J. Edward Sanders and Hans C. Palmer, ibid., Table 0, p. 25.

$20,000) to those with incomes between $4,000 and $12,000.[8] If it is assumed that the distribution of all families with children in the system more nearly represents the distribution of the subsidy (Part B), there is a net redistribution from families with incomes above $12,000 to families with incomes below $12,000.

The significance of the particular figures in Table 3 should not be exaggerated, but they clearly contradict the Hansen-Weisbrod conclusion that there is a net distribution from the lower to the higher income classes. Moreover, Hansen and Weisbrod failed to include all state-local taxes in their analysis. Since two of the states' most progressive taxes--the corporation income tax and the estate and gift taxes--are excluded, the entire state-local tax burden is distributed more progressively than the distribution estimated by Hansen and Weisbrod. Thus, Table 3 understates the actual redistributional effects from the higher to lower income groups.

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[8] It may be of interest to note that in the letter cited by Hansen and Weisbrod in the source to their Table IV-7, the California Legislative Analyst arrived at approximately the same conclusion by simply comparing the estimated distribution of state sales, income, and tobacco taxes by income classes with the distribution of adjusted gross income by income classes (as reported on federal income tax returns filed in California). Hansen and Weisbrod do not refer to this comparison in their monograph, apparently because they felt that the addition of other taxes would reverse the conclusion of the Legislative Analyst. But they did not bother to make calculations for their broader group of taxes by income classes. Had they done so they would have arrived at the results in Table 3.

IMPLICATIONS OF DISTRIBUTIONAL DATA

As I have already indicated, the Hansen-Weisbrod data--even after they are extended by income classes--shed very little light on the distributional effects of public higher education. The real question is whether public higher education makes more or less equal the distribution of lifetime incomes of the recipients of its benefits and of society in general. Hansen and Weisbrod go to great lengths to estimate the average present value of the additional after-tax incomes generated by higher education (see their Chapter II). But their distributional analysis (Chapter III and IV) is confined to the annual subsidies, estimated at educational costs less the taxes paid at the median family income level of users and non-users of the public system. They seem to imply, though they are careful to avoid an explicit statement, that the distributional effects of the higher after-tax incomes can be inferred from the net burdens or net benefits of the annual subsidies defined in this way. I have already shown that this subsidy is probably progressively distributed by income classes. But this distribution is not even remotely related to the lifetime income distribution needed to establish the distributional effects of the subsidy. In addition to knowing the income distribution without public higher education, one would need evidence on rates of return to higher education expenditures by income class and on the pattern of other investments possibly curtailed by the taxes used to finance the investments in higher education.

Evaluation of the distributional effects is even more difficult than the preceding remarks suggest because the benefits of public higher education are not enjoyed by the same generation of people that pays the taxes. The effect of this type of intergenerational transfer cannot be evaluated by comparing the discounted benefits of the future generation of earners with the costs incurred by the present generation of persons that pays taxes to create these benefits.[9] Such an evaluation involves three different questions: first, should the activity be supported by public funds; second, is the cost of the activity financed in an equitable manner; and, third, is the activity organized in a manner that best promotes the objectives of the program?

With respect to the first two questions, the present generation of voters must decide whether an investment in higher education is desirable from a social point of view. This involves a balancing of expected public benefits against costs (both appropriately discounted). If the decision to invest in higher education is affirmative, the voters must then decide how the costs should be allocated among its

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[9]The situation is analagous to the allocation of costs and benefits of the social security system. Retirement benefits are paid to the aged by taxes which are levied on the generation of people who are employed. It is not very meaningful to net out the benefits and taxes by income classes, because the taxes are not paid by the same people who receive the benefits. See Joseph A. Pechman, Henry J. Aaron, and Michael K. Taussig, Social Security: Perspectives for Reform (The Brookings Institution: 1968), Chaps. IV and IX.

members. The fact that state-local tax systems are regressive suggests that something may be wrong with the tax system, not that one particular public benefit created by that tax system should be raised by some variant of a user charge.

The difficulty in the decision to support a public higher education system is that it is probably impossible to measure the value of the public benefits to be derived from it. Hansen and Weisbrod pay lip service to the idea that there may be public benefits, but conclude that they are "elusive" (page 40) and then proceed to allocate all public higher education costs to individual families. In practice, foregone earnings plus living costs and fees paid by college students account for perhaps 70 percent of the total costs of higher education in the United States.[10] No one knows whether this approximates the ratio of private benefits to total benefits, but it is very doubtful that the ratio is as high as 100 percent, as Hansen and Weisbrod and other economists assume. Under such circumstances, it would seem to be the better part of wisdom to proceed cautiously, rather than to raise tuition abruptly to levels approximating full costs.

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[10]It is assumed that, on the average, foregone earnings are $4,000 per year, dollar outlays by the student or his family for room, board, books, etc., are $1,000 per year, and instructional costs are $2,000 per year. On this basis, the burden on the student and his family is 5/7 of total costs if instructional costs are provided without tuition.

Finally, in deciding on the question of organization, we should ask ourselves whether the particular type of institutions of higher learning which have been developed in most of the states promote their educational and distributional objectives more or less efficiently than some other types. The answer to this question depends on value judgments regarding the benefits of public institutions of higher learning, and on the effect of an alternative tuition policy on these institutions and on enrollments of students coming from families with incomes in the bottom quartile or bottom half of the income distribution. My own view is that a system which provides free, or almost free, access to a public institution of higher learning to all qualified students is the simplest and most effective method of insuring enrollment of qualified poor and near-poor students.[11] Some grant-loan systems, combined with full-cost tuition fees, may appear to be "more efficient" in principle. But I am not persuaded that such systems can be operated with the evenhandedness with which the free tuition system has operated. Whether or not this is the case, the answer depends on the type of grant-loan plan, methods of administration, and other factors, and not on the distributional data developed by Hansen and Weisbrod.[12]

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[11] Grants to low-income students to offset the cost of foregone earnings would make a free-tuition public higher education system even more effective.

[12] The recent decision by California's Board of Regents to raise student fees illustrates the point. At the request of the Regents, the President of the University devised a plan under which the proceeds of a higher tuition schedule would be used for student grants and capital construction. The Regents accepted the tuition schedule, but allocated the additional funds to a special fund to be spent at their discretion. Although the exact use of the funds is still uncertain, the additional student assistance, if any, will apparently be in the form of loans and not grants. (San Francisco Chronicle, Feb. 21, 1970, p. 1.)