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THE ROLE OF TAX POLICY IN FEDERAL SUPPORT FOR HIGHER EDUCATION

JOHN B. KIRKWOOD* DAVID S. MUNDEL[†]

I

Federal Instruments That Influence Higher Education: The Case of Taxes

The federal government has a wide range of instruments by which it can influence the nation's higher education system to produce socially desired outcomes. The challenge facing policymakers and planners is to maximize these socially desirable outcomes by selecting a desirable mix of programs and distributing among them scarce financial resources. This paper will attempt to (a) outline the bases for a policy development process that maximizes the desired program selection, and (b) identify possible roles of tax instruments in federal higher education policy.

There are three basic types of higher education policy instruments available to the government: expenditure programs, regulatory programs, and tax programs. The expenditure programs range from the G.I. Bill that supports former servicemen who are enrolled as students in a large number of postsecondary institutions¹ to Department of Defense programs that support basic scientific research in only a few universities.² The National Commission on the Financing of Postsecondary Education has reported that approximately 380 separate programs administered by more than twenty federal agencies support postsecondary education.³ In fiscal year 1972 these federal programs accounted for \$8,087 million—27 per cent—of total postsecondary education financing. The distribution of these federal expenditures among types of programs is illustrated in Table I.

Government regulatory policies are also highly varied and often have substantial impacts on the financing of higher education. By restricting to ac-

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^{1.} See generally NATIONAL COMMISSION ON THE FINANCING OF POSTSECONDARY EDUCATION, FINANCING POSTSECONDARY EDUCATION IN THE UNITED STATES (1973) [hereinafter cited as NATIONAL COMMISSION].

^{2.} Id.

^{3.} NATIONAL COMMISSION 106.

TABLE I

ESTIMATED TOTAL FEDERAL EXPENDITURES FOR POSTSECONDARY EDUCATION: 1971-72 (in millions of dollars)

| Institutional Support General Institutional Support Categorical Aid (current) Construction Aid Other Total Institutional Support | \$ 457 2,978 442 <u>308</u> \$4,185 |
|---|---|
| Student Support Grants and Scholarships Loans (subsidized) Total Student Support | \$3,334 <u>568</u> \$3,902 |
| Total Federal Financing | \$8,087 |

Source: National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States table 3-20, at 129 (1973).

credited institutions eligibility for funding by some government programs,⁴ the government has effectively regulated the development of nonaccredited institutions. By requiring certain classes of institutions to report to potential students the post-graduation success of their graduates and by requiring partial refunds of fees to noncompleting students,⁵ the government has regulated the advertising and pricing policies of a substantial segment of the higher education marketplace. The government also regulates institutional hiring policies, through requirements for affirmative action programs; recruitment policies,⁶ through legislative restrictions on sex-based admissions practices; as well as budgetary policies.⁷ Controversies concerning admissions, pricing, and financial aid policies have also been the subject of regulatory actions in the federal courts. Government regulatory policies are varied both in their intent and in the agencies that promulgate and administer them.

^{4.} For example, Department of Health, Education, and Welfare student assistance grants are restricted to accredited institutions, see NATIONAL COMMISSION.

^{5.} Id.

^{6.} Id.

^{7.} Act of June 23, 1972, Pub. L. No. 92-318, tit. 10, 86 Stat. 235, 304 (codified in scattered sections of 20 U.S.C.). This Act is commonly known as the Education Amendments of 1972.

Tax policies are a third set of instruments through which the federal government exerts its influence on higher education. Tax policies affect the revenue generating behavior of colleges⁸ and their benefactors, including individuals, foundations, and corporations.⁹ They also affect students and their parents.¹⁰ Because tax programs create incentives through conditional reductions of tax liabilities—and hence tax payments—they may be thought of as expenditure programs. A decrease in tax liability accruing to the benefit of an individual or corporation should be considered identical to a government expenditure to, or an explicit subsidy of, that particular taxpayer, because the net effect of a tax reduction and a direct expenditure is the same both to the government and to the taxpayer.

Designing a comprehensive federal higher education policy is by no means a simple task. The variety of available instruments is immense. Each instrument produces differential impacts on the wide range of actors whose interactional behaviors combine to define the character of the higher education system. Moreover, the impact of these behaviors on societal goals is difficult to evaluate and often contradictory. Nevertheless, because of the importance of higher education's potential contribution to American society and the wide range of financial and other difficulties which appear to restrict or limit this effect as well as the growing scarcity of all forms of government resources, there is a crucial need for a comprehensive federal higher education policy.

Π

The First Basis for Federal Higher Education Policy:¹¹ Goals and Objectives

A. The Role of Government in Higher Education

A proper role of government in all societies is to provide programs and promote policies that maximize the social welfare of their constituents. In some societies, the freedom of individuals to promote their own welfare is of little social value in comparison to the output or consumption of certain goods and services.¹² Consequently, "proper" government policies would aim at in-

^{8.} By causing them to seek and advertise the advantages of gifts and bequests.

^{9.} See generally Council on Foundations, Inc., Report and Recommendations to the Comm'n on Private Philanthrophy and Public Needs of Private Philanthropic Foundations (1975).

^{10.} See Budget of the U.S. Government, Fiscal Year 1977, Special Analyses 116 (1976).

^{11.} An earlier version of this section appeared as Mundel, Whose Education Should Society Support?, in Does College MATTER?: SOME EVIDENCE ON THE IMPACTS OF HIGHER EDUCATION 293 (I., Solmon & P. Taubman eds. 1973).

^{12.} These "other" societies may be societies at different stages of development. For example, many underdeveloped countries have limited individual freedoms in their efforts to stimulate

creasing the production of the valued outputs while lowering individual freedom. In other societies, "proper" government policies focus on protecting individual freedoms, even at the expense of some decline in output of goods and services.

The American scheme places a high value on individual freedom obtained through a free private enterprise economy. Thus, in this context, government's "proper" role is to insure an unconstricted operation of the exchange marketplaces and to establish through them if feasible, a means of achieving desired outcomes where traditional modes of exchange are either impractical or inappropriate for their production.

Government interventions therefore—including those in higher education—should be evaluated on the basis of the interaction of (a) public goods and social benefits, (b) externalities, and (c) market imperfections. Despite the sanctimonious proclamations of its advocates which, if taken at face value, lead one to think otherwise, higher education possesses no sacred attributes. Consequently, an effort to develop a meaningful federal higher education policy must include:

(1) A thorough analysis of the effect of each federal program on higher education;

(2) a comparative weighting, or valuation, system that measures the social value of each outcome against a set of predetermined social objectives; and

(3) a thorough analysis of the impact of non-higher education policies on these same governmental objectives.¹³

Developing such pragmatic criteria is beyond the scope of our current understanding of either social objectives or the impacts of government policies. The approach taken in this paper is (a) to examine, in detail, the justifications for federal aid to higher education and (b) to attempt to develop a set of guidelines against which policy alternatives may be tested. A crucial datum in developing guidelines for testing policy alternatives is a student's family economic position because family income is a discriminator that is relatively easy to use, family income appears to be a key attribute in locating students and potential students whose education is most socially productive,¹⁴ and family income appears to be a key attribute in locating students who can most significantly be affected by government financing policy.¹⁵

economic and social development, but later removed or lessened these restrictions after development progressed.

^{13.} For example, an important governmental objective served by higher education might be crime prevention. But, in order to see if a higher education policy is justified for this purpose, one must compare it with alternative crime prevention policies or programs, such as street lighting.

^{14.} See generally D. Mundel, Federal Aid to Higher Education and the Poor 1971 (unpublished doctoral dissertation, Massachusetts Institute of Technology) [hereinafter cited as Mundel]. 15. Id.

Government support or subsidy programs should treat individuals differently because some individuals may produce more of the benefits that are desired by the society at large,¹⁶ and government should avoid paying for public benefits that would have been produced in the absence of such payments.¹⁷ This reasoning leads to two general guidelines for the evaluation of federal higher education policy alternatives:

(1) All else being equal,¹⁸ the individuals whose education provides the larger marginal social welfare should receive the larger subsidies; and

(2) all else being equal, the individuals whose amount of education is changed most for any price cut or subsidy should receive higher rates of subsidy.¹⁹

B. Whose Education Produces Which Socially Desired Outcomes?

1. Public Goods and Social Benefits²⁰

The categories of public goods and social benefits that may result from higher education and thus provide possible grounds for social support include knowledge; economic growth; political, social, and market functionings; geo-graphic mobility; social and economic mobility; and various intergenerational effects.²¹

The first two categories—knowledge and economic growth—seem to have little, if anything, to do with the income level or socioeconomic status (SES) of the individual student. The societal value of a particular piece of knowledge or the spillover economic growth benefits of a particular technological advance are not determined by the student's family characteristics.²² It may be more appropriate directly to reward behaviors that create these benefits rather than to subsidize training to develop persons who may be creative. Improving the patent process, supporting research and development efforts, and subsidizing creative artists are examples of direct reward policy options.

Economic growth of the national-income variety probably is affected by undergraduate education. Growth results when the improvement of one pro-

^{16.} For example, public welfare programs support poor families rather than rich ones on the premise that bettering the economic position of the former produces higher social benefits.

^{17.} For example, government health programs subsidize, and thus supplement, the care available to poor families, as opposed to rich ones, not because the health of the poor is more socially beneficial, but because subsidizing the rich will simply cut their costs and not improve their health.

^{18.} In this and the subsequent context, "all else being equal" refers to other criteria that affect the subsidy distribution guidelines.

^{19.} If different individuals pay different rates for education, this guideline is based on "price elasticity to price ratios," rather than on "price elasticity" alone. Mundel 222.

^{20.} See generally R. MUSGRAVE, THE THEORY OF PUBLIC FINANCE (1959).

^{21.} See Mundel.

^{22.} Id.

ductive input—labor, in the case of higher education—increases the productivity of other inputs—e.g., capital—within the economy. If education is a good measure of labor quality and average labor quality is determinative of productivity gains by other inputs, then increases in education would be equally valued regardless of who received them and at what level they were received. This would lead to the decision rule that, if all else were equal, all individuals should receive the same subsidy per unit of education acquired. If, on the other hand, these external benefits decline as the level of education increases, the lower levels of education should be more highly subsidized. The reverse may also be true. Knowledge of these relationships might help develop rules for the subsidization of various levels of education, but they do not—by themselves—lead to social evaluations of education that depend on the family background of the student.

The public benefits from the third category of behaviors altered by higher education-political, social, and economic system behaviors-are probably small and thus should not have a major impact on our choice of governmental higher education policies, although one reason for considering these impacts at the college and university level may exist: the increased complexity of a society demands more highly educated individuals to participate in public policy decision making. The electorate needs to be better educated-but probably not at the college level. Interest groups are benefited by highly educated spokesmen and leaders; these benefits, however, decline rapidly as more of the leaders or more of the interest group's members themselves become educated. But in general, the smaller the number (or proportion?) of a group's members who are college educated, the larger the public benefit created by an additional graduate or enrollee.23 On this basis and the fact that college enrollment increases with income,²⁴ higher education subsidies should vary inversely with income if college graduates are thought to represent their parents' income group and not their own.

The fourth public benefit rationale for federal government intervention in higher education is the geographic mobility of educated individuals. It has been argued that local jurisdictions would tend to undersupport education, if educated individuals who produce localized public benefits are highly mobile.²⁵ Thus, if higher levels of education enhance mobility, higher education will tend to be more undersupported—at a local level—than lower levels of education. If localized benefits increase with education, the effect of this undersupport will be significant. Both of these conditions appear to exist.²⁶

^{23.} Id.

^{24.} See generally NATIONAL COMMISSION: U.S. DEP'T OF COMMERCE, CURRENT POPULATION REPORTS: POPULATION CHARACTERISTICS (Bureau of the Census Series P-20, No. 185, 1969).

^{25.} See Mundel.

^{26.} Id.

The most appropriate instrument for counteracting this problem would be a federally established exchange marketplace through which payments flow from net importing regions of college-educated manpower to net exporters.²⁷

Locally received benefits that vary among students or type of education justify differential subsidy amounts.²⁸ Some observers argue that local social benefits are proportional to an individual's income or ability.²⁹ For example, if the marginal local social benefit of a college graduate is a function which increases with his ability, higher subsidies may be justified for higher-ability students. Most studies of income variations have found that income gains resulting from higher education increase with ability, although the pattern is not as strong as the "ability liturgy" suggests.³⁰

The fifth category of public benefits results from the social and economic mobility stimulated by higher education. Studies have shown that increased levels of education generally produce higher incomes.³¹ The public benefits of income redistribution may not be simply a function of private income gains. If they were, public support for all private behaviors that produce income gains-e.g., personal investments in stocks and bonds or corporate acquisition of capital equipment-might be justified in an effort to redistribute income. Most public redistribution benefits arise from giving income-in kind or in money--to individuals and families who are or would otherwise be poor. The public benefits of these income gains are the benefits received by citizens in general (i.e., taxpayers) that result from the increases in income or in the income-related position of the recipients. In general, these benefits increase directly with the level of subsidies (although the marginal benefits probably decrease) and decrease with increases in the recipients' presubsidy income. In evaluating these redistributive benefits, higher education support programs can be considered either as providing subsidies to families whose children are enrolled in college or as providing subsidies to individuals who are, themselves, enrolled.

^{27.} Although this "market" appears idealistic to most observers, a similar one actually exists in Great Britain. Several local education authorities operate teacher education institutions (both two-year and four-year schools), and the national government operates an exchange system in which local authorities contribute an established level of funds for each teacher they hire who was trained elsewhere. These contributors are allocated, in turn, among the authorities that train teachers.

^{28.} See Mundel.

^{29.} For outlines of these positions see Mundel.

^{30.} See Daniere & Mechling, Direct Marginal Productivity of College Education in Relation to College Aptitude of Students and Production Costs of Institutions, 5 J. HUMAN RESOURCES 51 (1970).

^{31.} One study indicates that college education produces income gains for individuals from all ability groups. *Id.* A more thorough and more recent study based on 1960 Census data also found the income effects of education—especially higher education—to be sizeable. Other variables held constant, it found the annual earnings effect of completing college (*i.e.*, sixteen years of education) to be between \$2,857 and\$1,886. *See G.* Hanoch, Personal Earnings and Investment in Schooling 1965 (unpublished doctoral dissertation, University of Chicago).

Justification of educational subsidies as a method of family support requires either that public benefits result from changing the economic position of students' families or that the family be an important and alterable source of encouragement for student investment in public-benefit-producing education. If the latter is true, society should create a system that rewards motivating families. Using change in the economic position of students' families as the basis for subsidization, subsidies should increase as family income decreases.

If higher education support is considered a subsidy to individuals and is aimed at producing income-redistribution benefits, the recipients' presubsidy economic position must be examined. The relevant measure here is neither the current income of students who are not full-time participants in the labor market nor the incomes of high school graduates who did not go on to college; it is the expected income of subsidy recipients providing they did not receive subsidies. Their minimum presubsidy income would be the income they would receive without any postsecondary education. One study found that approximately three per cent of the increased earnings occasioned by college education could be attributed to student ability.³² Consequently, even without their higher educations, college students would tend to have earned more than other high school graduates. In general, the average incomes of college-educated individuals would be far above the poverty line even if they did not attend college.³³ But, even without government subsidies, many students would still invest heavily in education. Thus, the net income effects of the subsidies would tend to be less than the total difference between the incomes of high-ability high school and high-ability college graduates. If the public benefits of redistributing income decrease as recipient preredistribution income increases, there seems to be little justification for subsidizing higher education in order to produce income redistribution benefits.

There may also be important distributional grounds for the support of higher education that do not specifically involve redistribution of income or income-producing wealth. If higher education stimulates greater social and economic mobility and if public or external benefits result from this mobility, then support of higher education may be justified. This second hypothesis, like most concerning nontechnical social benefits, is difficult to prove. The first is more easily "proven," but its correctness is still a subject of much debate.³⁴

Social and economic (or status) mobility has long been an important focus of commentary on American society. Some reviewers have called this claimed

^{32.} See G. BECKER, HUMAN CAPITAL: A THEORETICAL AND EMPIRICAL ANALYSIS WITH SPECIAL REFERENCE TO EDUCATION (Nat'l Bureau of Economic Research, General Series, Pub. No. 80, 1964).

^{33.} See G. Hanoch, supra note 31.

^{34.} See Mundel.

mobility the "great American myth"; others find ample evidence of Alger-like success stories. Whichever the case, the privately realized benefits of upward mobility are relatively easy to conceptualize. Improving an individual's economic position confers important benefits on him. The publicly derived benefits (or costs) of mobility are more difficult to envision, let alone measure.

One source of these might be the existence of interdependent, individual welfare functions. For example, people may derive benefits from observing the mobility of others. However, benefits to one class may be losses to another. For example, if A's welfare is a function of his economic position relative to that of B, B's upward mobility decreases A's welfare. Or in more concrete terms, the wealthy may experience losses if, as a result of education, the children of the poor can compete with their offspring. It is difficult to specify the direction of the impact of mobility of these individual welfare functions. Without any firm analytical basis, we assume that upward mobility produces positive public benefits and that the level of these benefits varies inversely with the original position of the mobile individual's family.

In all likelihood education (and increasingly higher education) is a necessary—although not sufficient—condition for upward mobility of youth from lower income and lower status backgrounds. If this mobility creates externally received benefits and the remaining conditions that allow mobility are met (*e.g.*, ending discriminatory labor market barriers), the education of these youth ought to be subsidized.

There are other public benefits resulting from mobility. Two researchers from the RAND Corporation argue that³⁵

[t]he growth of the non-white middle class and of a class of high level managers, professionals, or entrepreneurs who make, say, \$26,000 or more might be directly associated with the economic improvement of other nonwhites—through savings and investment, by helping to build information networks, and through key positions of influence that affect entry, promotion, and profit in higher paying occupations.

Although directed only toward developing an upper class of nonwhites, this same argument may hold true for other economically disadvantaged groups. In general, the incremental public benefit resulting from educating an additional youth from a particular group would decrease (although remaining positive) as more of the group became educated. As a result, subsidies should decline as group income and unsubsidized enrollment increase.

Public or external benefits may also result from mobility that reduces socially costly behaviors, such as crime. As urbanization and access to information increase, individuals become more aware of the opportunities that surround them; in turn, this increased awareness may make them more dissatis-

^{35.} See A. Wohlstetter & S. Coleman, Race Differences in Income (RAND Corp. Pub. No. R-578-OEO 1970).

fied, if a large share of the opportunities remain inaccessible to them or to their class. Some theorists view blocked goal attainment as a major cause of delinquency and criminal behaviors.³⁶ nearly all youth are exposed to and internalize the goals of educational attainment and the resulting economic and social success, but some are less able to achieve these goals than others.³⁷ If this is a result of family or other conditions beyond the youth's sphere of influence and if the youth attributes the cause of some of these conditions to society at large—*e.g.*, a black youth may correctly attribute to discriminatory practices by the white majority part of the reason for his family's poverty-it is easy to understand how a lack of educational opportunities might result in anti-social behavior. Furthermore, if high school is predominantly designed to prepare an individual for college and college is conceived as unattainable, then high school, too, becomes irrelevant. Publicly required participation in an irrelevant and futile exercise may be a source of motivation toward delinquent behaviors.³⁸ Therefore, the public policy maker must ask: "How significant are these goal attainment-delinquent mechanisms?" Table II shows the college plans and eventual college attendance of high school students by family income.

TABLE II

College Plans and College Attendance of High School Seniors: October 1965

| Family Income | Per cent re- sponding "yes" for planning college* | Per cent having attended college by February 1967† | Per cent of college goals unachieved |
|------------------|--|---|--|
| Under \$3,000 | 46 | 17.2 | 63 |
| \$3,000-4,999 | 47 | 31.7 | 33 |
| \$5,000-7,499 | 58 | 36.8 | 37 |
| \$7,500 and over | 71 | 56.8 | 20 |

Source: *Unpublished tabulation by A.J. Jaffe & W. Adams of a Bureau of Census study. †Computed from tables 3 and 8, U.S. DEP'T OF COMMERCE, CURRENT POP-ULATION REPORTS: POPULATION CHARACTERISTICS (Bureau of the Census Series P-20, No. 185, 1969).

Society might wish to avoid crime and other socially costly behaviors resulting, in part, from a failure to achieve individually desired economic and social mobility by stimulating increased mobility. This might take the form of in-

^{36.} See Schaefer & Polk, *Delinquency and the Schools*, in President's Commission on Law Enforcement and Administration of Justice, Task Force Report: Juvenile Delinquency and Youth Crime 226 (1967).

^{37.} See Table II.

^{38.} Schaefer & Polk, supra note 36, at 232.

creasing attributes that improve mobility (e.g., education) or removing discriminatory barriers (racial- and class-oriented discrimination) that inhibit mobility. Mobility-oriented higher education policies would, on the basis of the above analysis of their benefits, indicate higher subsidies to individuals from lower class-generally low-income-families.

Intergenerational benefits result from the protection of the freedom of youth. Parental support plays an important role in higher education finance. Individuals growing up in families which do not value education or which have limited incomes have restricted access to educational support. This limits their choices among colleges and between college and nonschool alternatives. Public intervention may be justified, and this justification increases as the limitation becomes more "crucial" to the individual's eventual condition. Therefore, intervention aimed at improving health or nutrition might be highly valued, while that oriented toward providing color television sets would be less so. Higher education falls more nearly at the health end of the spectrum of possible interventions. The resource constraints imposed on students from lower income familes are graphically illustrated by the amounts of parental support received. Additional factors may also influence the amount of family resources available to potential college students. Holding income constant, larger familes would tend to have smaller available per student support levels.39

TABLE III

| Family Income | Average Support |
|-----------------------|-----------------|
| Less than \$ 4,000 | \$ 349 |
| \$ 4,000- 6,000 | 610 |
| \$ 6,000- 8,000 | 664 |
| \$ 8,000- 10,000 | 719 |
| \$10,000- 15,000 | 895 |
| \$15,000- 20,000 | 1,167 |
| \$20,000- 25,000 | 1,531 |
| \$25,000- 30,000 | 1,696 |
| Greater than \$30,000 | 1,740 |

NET PARENT SUPPORT OF COLLEGE STUDENTS:* 1966-67

* Social Security and tax expenditure subsidies are controlled.

Source: D. Mundel & S. Zeckhauser, Who Pays the Higher Education Bill? For Which Students?, May 1971 (unpublished manuscript on file with the College Entrance Examination Board).

In general, therefore, lower income and larger families devote smaller amounts of financial resources to the college education of their children. This

^{39.} See J. LANSING, T. LORIMER, & C. MORIGUCHI, HOW PEOPLE PAY FOR COLLEGE 80 (University of Michigan Institute for Social Research Pub. No. 19, 1960).

pattern of assistance is not the result of decisions made by the children themselves; shielding them from the influence of this pattern would increase their control over their own futures. A higher education policy aimed at insuring or increasing this freedom would give larger subsidies to students from lowand moderate-income and larger families.

2. Externalities⁴⁰

The following categories of externalities or external effects are often cited as justifications for social support for higher education:⁴¹

- (a) Lower welfare and transfer program costs;
- (b) increased tax vields; and
- (c) external effects among students within the educational process itself.

Most welfare and transfer programs are based on society's desire to raise the standard of living of families and individuals whose income is at the lower end of the income distribution scale. The costs of these programs can be reduced either by decreasing the number of these families and individuals or by decreasing the amounts of support received by eligibles-narrowing the gap between their incomes and the eligibility limits. Higher education adds significantly-approximately 10 per cent⁴²-to the incomes of those individuals who might have had above-poverty incomes without a college or university education. Higher education does, however, also have some slight impact on the incidence of poverty-level incomes.

Two factors must be carefully evaluated in order to develop subsidization guidelines in this respect. First, if the decrease in the probability that the college enrollee will experience poverty is matched by an increase in the probability that a nonenrollee will experience poverty, no cost saving can be achieved; the transfer payments will simply be redirected because collegeeducated individuals would fill job positions in the labor market that would have been otherwise filled by nonenrollees.43 Second, if there are significant economic returns to ability, higher ability high school graduates would be less likely to experience poverty than lower ability ones.⁴⁴ Thus, the higher education of lower ability prospects would be more likely to yield reductions in transfer program costs, and their education should be more highly subsidized than that of higher ability youths. Because of family wealth, presumed economic returns of "style," and the inculcation of certain attitudes toward or tastes for work and earning a living, individuals from higher SES families may be less likely to experience later poverty than lower SES students at equal, non-college levels of education. If this is so, the higher education of poorer

^{40.} See generally R. MUSGRAVE, supra note 20.

^{41.} See Mundel.

^{42.} See G. Hanoch, supra note 31.43. This phenomenon is commonly called "labor" or "job market" displacement.

^{44.} See G. BECKER, supra note 32.

individuals should be more highly subsidized, assuming transfer program cost avoidance is the socially sought objective. On balance, these factors indicate a slight justification of higher education subsidization with larger subsidies going to lower ability and lower SES youths.

The second and most frequently mentioned category of external effects is *increased tax yields* (and the increased output of public goods and services they finance) resulting from the greater incomes of college-educated individuals. These effects are not as easy to specify, let alone measure, as most studies that concentrate on them would lead one to believe.⁴⁵ They depend on the impact of higher education on the educated individual—do his tax payments actually increase?; the impact of higher education on the labor market and thus the income distribution of society as a whole—do total tax payments increase?; and on the underlying philosophical basis of the tax system itself—ability to pay versus benefit taxation.

Higher education appears to increase an individual's income and, consequently, the level of his gross income for tax purposes. But, if labor market displacement is an important result of government-stimulated higher education enrollments, the net tax effects of such a policy are limited and its subsidization unjustified.

The evaluation of public or external benefits of tax payment increases is complicated, when federal taxation is based on the benefit approach, by the following concerns:

(a) The individual's altered tax payments are *not* external benefits, but, in actuality, private payments for privately received benefits that result from publicly supplied or supported goods and services; and

(b) the change in an individual's tax payment may *cause* external effects among other taxpayers, but the level of these effects may be larger than, equal to, or less than the change in the tax payments. The complexity inherent in isolating the second concern severely limits efforts to design an appropriate subsidy format based on the tax effects of higher education.

The remaining category of external effects are those occurring within the higher education process itself, rather than among educated individuals and the remainder of society. Generally, higher ability or higher achievement students benefit their college colleagues—both students and faculty members—through intellectual stimulation within academic institutions. Some schools use admissions and financial aid policies intended to attract "externally productive" students. Other institutions use strict continuation criteria (*e.g.*, dismissal for poor performance) to assemble a desired set of students. Still other schools make no effort to assemble productive student bodies and rely more heavily on faculty instruction to create desired educational outcomes.

^{45.} These studies and arguments are discussed more fully in Mundel.

Each of the various restriction procedures benefits the individuals who enroll in those institutions and imposes costs or welfare losses on those who are denied admission. Students who would be willing to pay high prices for education at selective institutions but who fall below the admissions standards of such institutions are denied enrollment and thus prevented from acquiring what they feel is a desirable education. These restrictive policies may also impose costs on society at large, if the individuals whose educations would be most socially productive (on the basis of any of the public good or externality grounds discussed *supra*) are denied entrance to institutions by the application of privately beneficial restriction policies. What should be the governmental response to these restrictive policies?

Society may decide that colleges and universities are—like restaurants and theaters—places of public business and thus cannot deny their services to consumers (on other than price grounds). This would follow from the civil rights principles that support the right of blacks to be served even though their presence may impose costs on white proprietors and customers. Such a policy would redistribute benefits from those classes of students formerly accepted by restrictive institutions to those formerly rejected but desiring enrollment.

Alternatively, colleges and universities might be likened to country clubs, and thus their discriminatory admissions processes would be considered legitimate. Favoring the latter interpretation is the fact that students do not pay the entire cost of their education: higher education is supported, at least in part, by private gifts and endowments controlled by these institutions. Probably no policy would be adopted that limited the freedom of benefactors to choose to support the students whose education they find most valuable. Consequently schools that charge full costs may be more likely to be made the objects of antidiscrimination policies and regulations.

If the restrictive entry policies of institutions are found to be legitimate, their impact on society's efforts to achieve its goals must be carefully considered. For example, the achievement of the social and economic mobility goal might be limited by non-price-restrictive policies limiting the entry of lower achievement youth into more prestigious institutions.

In an effort to overcome this inhibition, society may wish to offer bounties to institutions that admit these less productive students, establishing a dual price system: less productive students would bring more revenues to the institutions, while all students would still face a single institutional price. Such a system of institutional supplements poses a number of problems. First, a student's educational productivity is probably a function of his position relative to that of the other students at a particular institution. Thus, an efficient bounty system would make the bounty variable across institutions. Second, the nonprice rationing may influence the enrollment possibilities of lower achievement individuals from all SES groups, but only the limitations that ì

influence particular segments of that population may cause social costs. As a result, the social bounties should be differentially attached.

3. Market Imperfections

The three important market imperfections that effect higher education are: capital market imperfections, monopoly and oligopoly behaviors, and the not-for-profit character of colleges and universities. Each of these has important impacts on the operation of the higher education system as a whole and is an appropriate criterion for public or societal intervention.⁴⁶ Although these effects probably are experienced by all students and potential students, they may be greater and more invidious among specific segments of the population—particularly students from poor and disadvantaged families.

The imperfections in the capital market and the nonexistence of a riskinsurance market are likely to cause greater hardships among disadvantaged individuals. Providing that capital funds are limited and college enrollment requires sizeable outlays from current cash resources, those from lower income families are more limited in their attempts to obtain financing for higher education than individuals whose families have greater financial resources. Assuming that a range of prices exists within the higher education system, (all else being equal) individuals with lower resource availabilities will enroll disproportionately in lower priced colleges and universities. Enrollment data confirm this expectation.⁴⁷

The lack of income insurance or income-contingent features in most existing loan programs also has a greater impact on students from disadvantaged backgrounds. These students must borrow more to attend college because no alternative resources are available; the riskiness of investment in education is greater to them than to others who do not have to resort to mandatory repayment resources. High ability, high family social status, and majority race all have positive effects on income.⁴⁸ Individuals with these attributes may have higher postcollege incomes than those who do not, even though the net income effect of college itself for each group may be the same. If the marginal utility of income decreases with increasing income, individuals with higher expected postcollege incomes will experience lower levels of possible welfare decline (*i.e.*, risk) in borrowing than will those with lower expectations. Correlating noncollege income producing factors with family income,

^{46.} Although regulation and intervention are usually the appropriate mechanisms for correcting market imperfections, the impact of imperfections on subsidy programs and the possible amelioration of imperfections by subsidy (both expenditure and tax) programs should also be considered.

^{47.} See generally U.S. DEP'T OF COMMERCE, supra note 24.

^{48.} See G. Hanoch, supra note 31.

individuals from lower income families would be more affected by the lack of risk insurance.

Another factor restricting lower income students is their families' lack of assets which can serve as collateral for loans. Even if no student loan market existed, it would be possible to borrow funds for college attendance providing the individual possessed other assets—e.g., homes or automobiles—that could serve as loan collateral. Asset ownership declines significantly as income declines. Thus, youths from lower income families are more reliant on the student loan market for capital funds and more subject to the detrimental impacts of the loan market's imperfections ascribed above.

The monopoly, oligopoly, and not-for-profit characteristics of the higher education supply system may impose disproportionate losses on lower income youths for several reasons. First, demands for different forms or types of higher education than have been historically provided may be unfulfilled if a demand-responsive supply system does not exist. Second, although disadvantaged students may want to leave higher education with the same range of skills and attributes as their higher income colleagues, their poor secondaryschool experiences may inhibit their ability to benefit from current levels and styles of college instruction. If the supply side were more responsive to demand, compensatory activities would be developed to upgrade those students who wish to enter traditional programs. The correlation between high school achievement levels and family income is sizeable enough to indicate that this nonresponsive supply is more likely to affect lower income students. Third, the colleges' goal to maximize the quality of their graduates, rather than the net gains achieved by their students, may limit enrollment and the resulting gains by lower income individuals who have lower measured abilities.

So far this analysis has argued that the bases for societal support and intervention in a free market are public goods and social benefits, externalities, and market imperfections. An examination of these justifications has generally resulted in the conclusion that social policy should concentrate its attention and resources on students from low- and moderate-income families.

Ш

The Second Basis for Federal Higher Education Policy: Patterns and Determinants of Demand

Patterns and determinants of higher education demand and enrollment are of great importance in formulating federal higher education policy for several reasons. First, the enrollment patterns themselves may be an important determinant of social benefits, and their identification may provide important guidance for the policy process. For example, if a principal, socially received benefit of higher education is its randomizing effect on social and economic mobility, the pattern of enrollment among socioeconomic groups is an important indicator of the level of social benefits being produced.

Second, recognition of demand and enrollment can help to provide guidance for the development of effective policy instruments. Although the levels of social benefits that result from the education of individuals from particular population groups are important factors in deciding appropriate subsidy patterns, they do not necessarily define the form or style of the subsidization instruments. If the higher education marketplace were a perfect one in the classical economic sense—free of all external and discriminatory effects and composed of participants possessing essentially perfect information—and if all the social benefits resulted from the same behaviors, the choice of an appropriate policy instrument would be easier. But this is unfortunately not the case.

A number of factors influence the overall pattern of demand for and enrollment in higher education, including: student ability and achievement; the income or wealth of a student's family; student motivations, tastes, and aspirations; the price of college enrollment (including transportation and living costs); and institutional program offerings.49 A major problem encountered in describing the empirical effects of the various factors that affect demand is the lack of any observations of pure demand. As discussed earlier, a number of market imperfections, including restrictive admission policies by colleges and universities, exist within the higher education marketplace, which may make the observed enrollment pattern diverge from the actual demand pattern in significant ways. For example, students from low-income families may attend lower price colleges not because these colleges represent their optimal choices (that is, their "demanded" colleges), but simply because capital-market restrictions prevent them from borrowing sufficient funds to enroll at more expensive schools. Thus, while the enrollment of low-income youth at lower price schools may signify that they prefer these options to nonenrollment, it does not signify that they prefer these options to more expensive alternatives.

A. Ability and Achievement

Ability and achievement affect an individual's demand for higher education in many ways. One study⁵⁰ found that higher aptitude male college graduates (that is, those with higher scores on the verbal SAT) tended to experience higher income gains after acquiring a college education than did their lower aptitude colleagues. If college is viewed as an investment by potential students, those students with high expectations for income gains should,

^{49.} A more thorough analysis of these impacts may be found in M. Kohn, C. Manski, & D. Mundel, A Study of College Choice, November 1971 (unpublished manuscript on file with author).

^{50.} Daniere & Mechling, supra note 30, at 56.

on the average, invest more, that is, more of them should enroll. The greater returns to higher ability individuals may result from several phenomena, all of which substantiate the view that higher ability individuals have a greater demand for higher education.⁵¹

It is more difficult to measure the magnitude of the impact of ability on demand for higher education than the impact of any other factor because of several attributes of the higher education marketplace. Ability (or achievement) is the most often used admission criterion among restricted entry colleges and universities. Thus, the observations that higher ability individuals enroll more frequently in higher quality schools and have higher overall enrollments does not necessarily indicate that their demand for higher education is greater. Because students are simultaneously consumers and producers of education, higher ability (that is, more educationally productive) students may pay less than their lower ability colleagues for the same education. This hypothesis was confirmed in a study for the College Scholarship Service of the College Entrance Examination Board, which found that higher ability students tended to receive larger proportions of their financial aid in the form of grants rather than from the less-subsidized forms of assistance, such as loans or work-study.⁵² Other studies have shown that the overall effect of governmental higher education support is to give larger per student subsidies to institutions enrolling higher ability students; consequently, subsidies tend to increase with ability.53

A variety of studies⁵⁴ have shown that the college enrollment rate increases with student ability, even when important family background variables are controlled. In spite of these strong confirmations of the ability-enrollment hypothesis, the development of a subsidy rule (that is, policy guideline) regarding subsidies and student ability has not yet been realized.

It was noted previously that (all else being equal) the optimal subsidy pattern should give greater subsidies to students whose price elasticity is greatest. If the price elasticity of ability groups varies and if the federal government can implement a policy that discriminates among ability groups, the price elasticity data is an important input to the higher education decision process. However, only a few of the studies of demand for higher education have used models or data from which price elasticities of various ability groups can be estimated. One such study used linear models to estimate the demand-

^{51.} These phenomena are discussed in Mundel 183-86.

^{52.} See generally College Scholarship Service, College Entrance Examination Board, Report of the Panel on Student Financial Need Analysis (1971). This report is also known as the Carter Commission Report.

^{53.} See, e.g., W. HANSEN & B. WEISBROD, BENEFITS, COSTS, AND FINANCE OF PUBLIC HIGHER EDUCATION (1969); D. Mundel, Federal Funds and Subsidies to Students of Various Ability Levels, undated (unpublished manuscript on file with author).

^{54.} These are discussed more fully in Mundel.

enrollment equations of 1960 tenth graders from various SES groups and found that enrollment was positively related to ability for all groups.⁵⁵ The structure of linear models themselves, as opposed to the underlying phenomena, guarantees a conclusion that equal price changes will cause equal enrollment changes for all ability groups in a given SES group, and thus the group with the lowest presubsidy enrollment will have the greatest elasticity. In a more recent study, R. Radner and L.S. Miller separated the effect of price on students in such a way as to inhibit price elasticity calculations for various ability groups.⁵⁶

A study by Paul Feldman and Stephen A. Hoenack⁵⁷ gives some limited insight into the price elasticities of various ability groups. They report changes in the proportion of enrollment at various ability-income levels that would result from \$100 increases in tuition at various types of colleges—private four-year, public four-year, and two-year institutions. Adding up the enrollment proportion changes that result from each price change for a particular population group and dividing the sum by the enrollment rate for that group gives an estimate for the percentage enrollment change caused by the tuition change.⁵⁸ Assuming that a \$100 price reduction in all institutions would cause equal percentage price changes for all ability groups, the ratio of the previously calculated sums is equal to the ratio of price elasticities.⁵⁹

The general pattern of subsidies indicated by this pattern of price elasticities is one in which low ability, low achievement high school students should receive larger college subsidies. This supports the following observation. It would seem that the greater the enrollment rate for a particular group of students, the greater the number of enrollees whose college-going behavior would not be altered by subsidization. In its search for efficient subsidy programs, the federal government should concentrate its support on those whose behaviors it can influence. Thus, in the case of less frequently enrolling ability groups, lower ability individuals should be more highly subsidized. Of couse, if market imperfections and supply unresponsiveness are

^{55.} See A. Corazzini, The Determinants of Enrollment in U.S. Higher Education, undated (unpublished manuscript on file with the Massachusetts Board of Higher Education).

^{56.} See Radner & Miller, Demand and Supply in U.S. Higher Education: A Progress Report, 60 Am. ECON. REV. no. 2, at 326 (1970).

^{57.} See Feldman & Hoenack, Private Demand for Higher Education in the United States, in JOINT ECONOMIC COMM., U.S. CONGRESS, 91ST CONG., 1ST SESS., THE ECONOMICS AND FINANCING OF HIGHER EDUCATION IN THE UNITED STATES 375 (Comm. Print 1969).

^{58.} This method tends to overestimate the enrollment change because it ignores enrollment switches among institutions.

^{59.} This ignores the fact that higher ability students tend to attend higher price schools. Consequently the relative price elasticity of higher ability students would be overestimated because \$100 divided by their average cost is less than the comparable figure for lower ability students. If college cost is a small part of the cost of higher education to the student, such overestimation is lessened.

such that, even when highly subsidized, lower ability individuals are unable to enroll in colleges, concentrating subsidies on them will have little impact.

B. Family Financial Ability

The financial ability of a high school graduate's family is also a principal factor in his decisions on college, and its influence probably occurs through as complex a set of causative mechanisms as those described for ability effects. College costs money. Even if the benefits of going to college greatly exceed out-of-pocket and opportunity costs, the lack of available capital for student borrowing will tend to limit enrollment. This limitation varies inversely with family income for several reasons.

First, potential students from higher income families have greater internal family financial resources that can be used to defray college costs. If there is a decreasing marginal utility of money, higher income families would experience lower opportunity costs in supporting their children as students than would lower income families. This family financing can be either a private loan or a gift. In either case, the ability to meet college costs will tend to increase with income.

Second, the effect of family income on the ability to finance college results from the lending policies of banks which are the principal sources of nonfamily cash resources. Even under a federally guaranteed student loan program, banks tend to restrict their lending to those students whose families are perceived to be good credit risks or those who have other, more traditional banking relationships—for example mortgages or business loans.⁶⁰ College- and university-administered loan programs tend to discriminate less against student borrowers from lower income families, but other program criteria (*e.g.*, the traditional impetus toward more academically able students such as in the National Defense Student Loan Program) may still constrain the capital access of certain classes of low-income students.⁶¹

Even though there are fewer restrictions on borrowing from nonfamily sources by higher income students, the amount of student borrowing declines as family income increases.⁶² This, however, does not free greater amounts of capital for borrowing by lower income individuals. The more extensive degree of borrowing by lower income students in spite of their general enrollment in lower priced colleges shows them to be, as expected, more reliant on nonfamily financial resources. Thus, any restrictions on capital availability—even if

^{60.} See generally Hinson, Student Loan Programs for Higher Education . . . Part 1, NEW ENGLAND BUS. REV. 2 (June 1968); Hinson, Student Loan Programs for Higher Education . . . Part 2, NEW ENGLAND BUS. REV. 2 (July 1968).

^{61.} For example, lower high school and college academic performance levels.

^{62.} See D. Mundel & S. Zeckhauser, Who Pays the Higher Education Bill? For Which Students?, May 1971 (unpublished manuscript on file with the College Entrance Examination Board).

they were uniform across all levels of family income—would influence the enrollment of lower income students more than that of students from higher income families. The limitations on family and external sources of capital influence both the aggregate college enrollment rates of lower income students and their enrollment pattern—that is, they enroll in less expensive colleges.⁶³

The chief effect of family income on the college enrollment of high shcool graduates appears to be one influencing price rather than motivation; lower income students face higher effective costs for college and university enrollment. Thus, the conclusion that lower income high school graduates (even with like ability) have a lower demand for college cannot be based on simple observations of their enrollment rates relative to those of higher income students.

If the marginal utility of income is lower in higher income families and if nonfamily capital access is more limited for lower income families, price elasticity should decline with increasing family income—for both the college-going decision and the choice-among-colleges decision. A number of studies confirm this hypothesis to some degree.

Using Project TALENT data on 1960 tenth graders, one study⁶⁴ found that lower income students tended to be more responsive to college costs changes than upper income students. Another study, using data on 1966 California, Illinois, Massachusetts, and North Carolina 1966 high school graduates found that lower and moderate income students would leave school and other students would shift to lower cost schools more frequently in response to \$400 price increases.⁶⁵ These findings are summarized in Table IV. One reason for this latter finding may be the fact that lower income students are more prevalent in the least expensive colleges or universities and, therefore, cannot choose to enroll in less expensive institutions.

Because students from different income groups pay different amounts for college, Table IV must be corrected before examining the impact of price responsiveness on the choice of subsidy patterns. Using Table IV data, the elasticity-to-price ratios of students in different income groups can be estimated; the result of this estimate is shown in Table V.

The elasticity-to-price ratios show that if enrollment maximization is desired, lower income students should receive substantially higher subsidies than higher income students. If a shift toward more expensive schools is socially desired, the pattern of subsidies should be flatter. Except for the lower in-

^{63.} See U.S. DEP'T OF COMMERCE, supra note 24.

^{64.} See A. Corazzini, Higher Education in the Boston Metropolitan Area—A Study of the Potential and Realized Demand for Higher Education in the Boston SMSA 1969 (unpublished manuscript on file with the Massachusetts Board of Higher Education).

^{65.} See generally Center for Research and Development in Higher Education, SCOPE: Grade Twelve Profile (1967).

TABLE IV

| | Average | Per cent | Elasticity Estimates | | |
|------------------|-----------------------------------|---|--|--------------------------------|---|
| Family Income | Parent and Student Costs | Change in Cost Due to \$400 Increase | Short-Run Enrollment Rate Change* | Change in College Plans† | Shift to Less Expensive College‡ |
| Under | | | | | |
| \$2,000 | \$ 710 | 56% | 25 | - 1.18 | 21 |
| \$2,000- | | | | | |
| 3,499 | 780 | 51 | 40 | - 1.72 | 33 |
| \$3,500- | | | | | |
| 4,999 | 930 | 43 | 42 | - 1.86 | 37 |
| \$5,000- | | | | | |
| 7,499 | 1,020 | 39 | 35 | - 2.02 | 41 |
| \$7,500- | | | | | |
| 9,999 | 1,060 | 38 | 22 | - 2.00 | 41 |
| \$10,000- | | | | | |
| 14,999 | 1,280 | 31 | 17 | - 2.16 | 43 |
| \$15,000- | | | | | |
| 19,999 | 1,500 | 27 | 08 | - 1.95 | 38 |

ESTIMATED PRICE ELASTICITIES FOR COLLEGE ENROLLMENT PATTERNS AND RATES

Source: D. Mundel & S. Zeckhauser, Who Pays the Higher Education Bill? For Which Students?, May 1971 (unpublished manuscript on file with the College Entrance Examination Board).

* Per cent of students leaving school temporarily and permanently (normalized for nonrespondents) divided by percentage change in price.

† Per cent of students changing plans (normalized for nonrespondents) divided by percentage change in price (all changes in plans included).

‡ Per cent of students shifting to less expensive institutions (normalized for nonrespondents).

TABLE V

AVERAGE ELASTICITY-TO-PRICE RATIOS FOR DIFFERENT INCOME GROUPS

| Short-Run Enrollment Rate (Elasticity ÷ Price × 1,000) | Shift to Less Expensive College (Elasticity ÷ Price × 1,000) |
|---|---|
| 35 | 30 |
| 51 | 42 |
| 45 | 40 |
| 34 | 40 |
| 21 | 39 |
| 13 | 34 |
| 05 | 25 |
| | Short-Run Enrollment Rate (Elasticity ÷ Price × 1,000) 35 51 45 34 21 13 05 |

Source: Author's estimates based on data in Table IV.

come students, subsidy amounts should still decline as family income increases. Other subsidy patterns would be indicated by policies oriented toward other societal goals, but, in general, the influence of family income on enrollment is such that, all else being equal, lower income students should receive larger subsidies than higher income students.

Overall, two general guidelines for appropriate federal subsidization policy emerge from an understanding of patterns of demand for higher education. First, as student ability and achievement increase, subsidies should decrease. Second, as family income increases, subsidies should decrease.

IV

CHOICE AMONG POLICY INSTRUMENTS: Appropriateness, Effectiveness, Efficiency, Adequacy

In the last few years, it has become increasingly apparent that the nation's higher education system—institutions as well as their governmental, parental, and student backers—face dramatic financial problems. These problems first came to public attention amid reports of budget deficits and expenditures of capital funds to cover operating costs. Subsequent developments indicate that the character of the financial crisis facing American higher education is both larger and more complex than a simple difference between revenues and expenditures.

Because of the important contributions of higher education to American society, a strong effort should be made to overcome the impacts of these financial problems. Amelioration will not result from a simple expansion of public support. Not only is expansion of public resources for higher education unlikely given the constraints on government revenues and the growing demands for public support from other sectors, but it is also undesirable given the questionable efficacy of many of the current forms of governmental involvement. Four questions should guide efforts to design and implement government policies aimed at improving the financial health and performance of the nation's higher education system.

First, we should ask whether a particular governmental policy is appropriate. Appropriateness can be defined as a function of directing resources toward the achievement of important, socially desired outcomes and goals and the facilitation of private efforts to acquire benefits through involvement in higher education. A policy that directs public resources away from socially desired outcomes or imposes constraints on beneficial private behaviors is inappropriate and should not be included in the agenda of governmental activities.

Second, we should ask whether a particular government policy is effective. A policy is effective if it stimulates the production of more socially desired outcomes than would be produced in its absence. For example, if increasing the college enrollment rates of low- and moderate-income students is a public objective, a student assistance program directed toward this outcome would be effective only to the extent that it stimulates additional enrollment of these students.

Third, we should ask whether a particular government policy is efficient. A policy is efficient if, among all the available options for governmental support, it produces the largest amount of socially desired outcomes at a given budget level. For example, equality of educational opportunity could conceivably be achieved in several ways. College costs for students who could not otherwise enroll could be reduced through: (a) general grants to institutions, whether based on enrollment or on some other criterion; (b) grants to institutions based specifically on enrollment of low- and moderate-income students; or (c) direct grants to these students. General grants to institutions could result in any of the following: an increase in institutional quality without an increase in tuition; a general reduction in tuition for all students; or an institutionally administered selective reduction in tuition for low- and moderate-income students. Only if the latter result occurred would public support be distributed in terms of need. For this reason efficiency concerns point toward the provision of direct aid to low- and moderate-income students. These grants would ensure that public resources would in fact lower the personal cost of college attendance for these students.

Fourth, we should ask whether a particular government policy is adequate. A government policy may be appropriate, effective, and efficient but still stimulate the production of less than the desired quantity of socially desired outcomes. Hence, it would be inadequate and should be altered in size or scope in order to increase its impact.

Answering these questions about policy alternatives and developing a design for governmental higher education policy is a complex and difficult task. The task involves resolving issues of both value (or taste) and fact.

Because governmental resources are constrained and social goals are not influenced equally by all programs, policymakers need to articulate the mix of goals toward which policy should be directed. Issues of fact need to be understood and resolved. The impacts of federal finance instruments on the behaviors of other governments, institutions, benefactors, students, parents, and lending institutions are poorly understood. But, without such an understanding our ability to predict the impact of alternative policies is limited and our capacity to design appropriate, effective, efficient, and adequate higher education policy is limited. Nevertheless, policy is and will continue to be made. The remainder of this paper will be devoted to answering these questions with respect to tax policies that influence higher education.

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V

THE CURRENT SYSTEM OF HIGHER EDUCATION FINANCE

A. Nontax Instruments

Higher education is supported from a variety of sources utilizing a multiplicity of mechanisms. Table VI shows the overall pattern of support within which the desirability of federal financing should be assessed. The modes of federal involvement are equally varied.

TABLE VI

| Sources of Income | Institutional Support | Aid to Students | Total Support | Per cent of Total |
|--|--------------------------|--------------------|------------------|-------------------------|
| Student payments for tuition and other fees | \$ 5.9* | | \$ 5.9 | 20.0% |
| State and local government | 9.0 | 0.3 | 9.3 | 31.6 |
| Federal government | 4.2 | 3.9 | 8.1 | 27.4 |
| and endowment income | 2.5 | 0.2 | 2.7 | 9.1 |
| Auxiliary enterprises and other activities | 3.5 | | 3.5 | 11.9 |
| Total | \$25.1 | \$4.4 | \$29.5 | 100.0% |

MAJOR SOURCES OF INCOME FOR POSTSECONDARY EDUCATION: 1971-72 (in billions of dollars)

Source: National Commission on the Financing of Postsecondary Education, Financing Postsecondary Education in the United States 69 (1973).

* Net of aid received by students from public and private sources and paid to institutions for tuition and fees.

Federal support to institutions includes subsidizing research undertaken by colleges and universities as well as research and development directed toward improving the performance of the higher education sector.⁶⁶ Federal categorical support⁶⁷ emanates from programs that provide assistance to particular types of institutions (*e.g.*, developing institutions), particular types of institutional activities (*e.g.*, special education and manpower training programs), and particular resources needed for educational programs (*e.g.*, instructional aids). The federal government is also authorized to provide institutional support directly to institutions based on their enrollment levels; this assistance program has not yet been funded.

^{66.} Which is supported by the National Institute of Education and the Fund for the Improvement of Postsecondary Education.

^{67.} See generally NATIONAL COMMISSION.

The federal government also supports students with a wide array of mechanisms. Direct support is provided to low- and moderate-income students through the Basic Educational Opportunities Grant Program (BEOG), to former military servicemen through the G.I. Bill, and to Social Security beneficiaries.⁶⁸ Federal support is provided to needy students through the Supplementary Educational Opportunity Grant (SEOG), College Work-Study (CWS), and National Direct Student Loan (NDSL) programs which are administered directly by higher education institutions. The federal government subsidizes and guarantees a wide variety of student loan programs that are disbursed by states, commercial banks, and educational institutions. Federal resources also support students through subsidies of scholarship and grant programs administered by state governments.

B. Tax Mechanisms

Taxation is, for most taxpayers, inevitable and unwelcome. Yet the unpopular work carried on by the bulk of the federal tax system provides its own counterpoint-the appealing prospect of tax relief. With substantial taxation the general rule for all of society, provisions that spare particular citizens and organizations from taxation are highly prized. And so it is with higher education. Five provisions in the federal tax structure reduce tax collections in order to promote higher education.⁶⁹ These provisions were enacted at different times and for different reasons; they do not make up a coordinated assistance package. Still, they are cherished by many for their two common characteristics-they provide tax relief for institutions and individuals and they are thought to promote the achievement of the public good.

1. Charitable Contributions Deduction⁷⁰

One of the oldest of these provisions is the deduction allowed individuals and corporations for their contributions to educational institutions. As presently constituted, this provision permits corporations to deduct gifts to qualifying organizations, including institutions of higher learning, in amounts up to five per cent of their pre-tax profits;⁷¹ it permits individuals to deduct contributions in amounts up to 50 per cent of their adjusted gross income,⁷² 30 per cent for contributions of property that would have produced capital

^{68.} Social security provisions continue eligibility for over eight-year-old beneficiaries who are full-time enrollees.

^{69.} The charitable contributions deduction, INT. REV. CODE OF 1954, § 170 [hereinafter cited as CODE]; the student dependents exemption, CODE §§ 151, 152; the exclusion of scholarship income, CODE § 117; the exclusion of interest income on state bonds, CODE § 103; and the exemption of institutional net income, CODE § 501(c)(3).

^{70.} CODE § 170. 71. CODE § 170(b)(2).

^{72.} CODE § 170(b)(1)(A).

gains had they been sold.⁷³ The value of the deduction for gifts of property that would have produced ordinary income had they been sold is limited to the cost of the property to the taxpayer.⁷⁴

Since 1917 the deduction has drawn funds to donee institutions and brought savings to donors. On the basis of their survey of 1093 institutions, the Council for Financial Aid to Education estimated that voluntary support of higher education in 1972 totalled \$2.02 billion.⁷⁵ Individuals contributed 48.2 per cent of this sum;⁷⁶ industrial corporations provided 13.6 per cent.⁷⁷ Donee institutions utilized part of this money to meet current operating costs and part to defray capital costs. The balance enlarged institutional endowments to produce income for future years. The Carnegie Commission calculated that in 1970-71, endowment income plus gifts for current operating cost purposes financed 10.3 per cent of the current operating costs of institutions of higher education, while contributions for capital expenditure purposes accounted for 22.3 per cent of their capital budgets.⁷⁸

Not all educational contributions are tax deductible, but the majority are. Each contribution deducted lessens the donor's tax bill and reduces the total tax collected by the Treasury. In the aggregate, deductions for educational contributions cause a substantial sacrifice in tax revenues. The House Ways and Means Committee has estimated that this federal "tax expenditure" on education amounted to \$275 million in 1972.⁷⁹

The benefits of this indirect expenditure are not spread evenly across donors; gifts to higher education tend to be concentrated among the more affluent taxpayers. In 1962 taxpayers with adjusted gross incomes greater than \$200,000 accounted for 49 per cent of the value of itemized contributions to education.⁸⁰ And just one per cent of the donors to higher education contributed 75 per cent of the value of its gifts in 1962-63.⁸¹ That pattern seems to persist in the more recent figures. The wealthy give a disproportionate amount of appreciated property, for example, and many of the recent gifts to higher education have been in this form.⁸²

^{73.} CODE § 170(b)(1)(D).

^{74.} CODE § 170(e)(1).

^{75.} COUNCIL FOR FINANCIAL AID TO EDUCATION, VOLUNTARY SUPPORT OF HIGHER EDUCATION 1971-72, at 3 (1973). See Table VI, p. 141 supra, for an estimate of this figure from another source.

^{76.} Id. at 8.

^{77.} COUNCIL FOR FINANCIAL AID TO EDUCATION, 1972 SURVEY OF CORPORATION SUPPORT OF HIGHER EDUCATION 19 (1973).

^{78.} See generally Carnegie Commission on Higher Education, Higher Education: Who Pays? Who Benefits? Who Should Pay? (1973).

^{79.} S. SURREY, PATHWAYS TO TAX REFORM 11 (1973) [hereinafter cited as SURREY].

^{80.} Taussig, Economic Aspects of the Personal Income Tax Treatment of Charitable Contributions, 20 NAT'L TAX J. 1, 18 (1967).

^{81.} SURREY 227.

^{82.} See 2 American Council on Education, Patterns of Giving to Higher Education 11,

This differential flow of tax savings is intensified by the way our progressive income tax subsidizes higher bracket gifts more than lower bracket gifts. A donor in a tax bracket with a 14 per cent marginal rate saves \$14 in taxes through a \$100 deductible gift, while, in contrast, a donor in a tax bracket with the highest marginal rate saves \$70 in taxes with a gift of the same size.⁸³ In other words, the government contributes more per dollar of net taxpayer contribution for high-income taxpayers than low-income taxpayers: if a 14 per cent bracket taxpayer and a 70 per cent bracket taxpayer each decides to limit his net contribution (total gift minus tax savings) to \$100, because of the pattern of government subsidies, the former may make a total gift of only \$113 while the latter may give a total of \$330.⁸⁴

Partly because of this process and partly for other reasons, contributions to higher education pile up at relatively few institutions. Professor Freeman has observed that the bulk of the gifts made nationwide go to "well-known prestige institutions with the crumbs left for others."⁸⁵ A detailed study of individual and corporate giving to Massachusetts colleges and universities discovered that the same pattern prevails.⁸⁶ Of 41 institutions surveyed, the 11 best-known private institutions received \$123.8 million of voluntary support in fiscal year 1972.⁸⁷ The other 28 private colleges and universities enrolled

Similarly, under the current rate schedule, an individual who has a taxable income of \$500,000 must pay income tax at the rate of 70 per cent on all his taxable income over \$200,000. Id. The total tax bill of this top bracket taxpayer is \$320,980. Id. If he contributes \$100 to charity, he remains in the 70 per cent tax bracket, but his taxable income drops to \$499,900. His taxes become \$320,910, a change of \$70. Thus, a \$100 gift by a top bracket taxpayer diminishes his taxes by \$70.

^{22 (1972).} This survey also noted that gifts in amounts greater than \$5,000 accounted for approximately three-fourths of the total amount received by all institutions. *Id.* at 10-11.

^{83.} Consider an individual who has \$1,000 of taxable income. (His actual income could be much higher, with deductions for mortgage interest, medical expenses, and the like accounting for the difference.) Under the current rate structure, his tax rate, if he is married and files jointly, is 14 per cent. CODE § 1(a). His total taxes are therefore \$140. Suppose he decides to donate \$100 to charity. His taxable income falls in the amount of the deduction to \$900. He remains in the 14 per cent tax bracket, and so his taxes fall to \$126. Thus, a \$100 gift by a taxpayer with a 14 per cent marginal tax rate reduces his total tax bill by \$14.

^{84.} According to the analysis in the previous footnote, a taxpayer in the 14 per cent tax bracket who donates \$113 will realize a reduction in his total income tax bill of 14 per cent of \$113 or \$13. This tax savings partially offsets the gross amount of his contribution and results in a "net" contribution of \$100. That is, the income available for consumption or saving by the taxpayer is not reduced by the whole amount of his gift. It falls by the amount of his contribution minus the amount of his tax savings—in short, by his net contribution. Thus, although the charity receives the full \$113, the taxpayer actually contributes a net figure of only \$100. The remaining \$13 is a government subsidy or "tax expenditure."

Analogously, a taxpayer in the 70 per cent tax bracket who donates \$330 experiences a reduction in his tax liability of about \$230. His net contribution is just \$100. The government defrays the cost of the rest of his contribution.

^{85.} See R. Freeman, Federal Assistance to Higher Education Through Income Tax Credits (1972).

^{86.} See J. Kirkwood, Tax Incentives for Higher Education, June 1974, at 73 (unpublished manuscript on file with the Task Force on Massachusetts Higher Education, Harvard University). 87. Id.

twice as many students but received only \$16.4 million.88 The two public institutions received a miniscule \$0.5 million.⁸⁹ The same study also found that voluntary support tended to flow toward already wealthy institutions; that is, those with the largest existing endowments.90

Thus, voluntary support, stimulated by the charitable deduction, rushes in appreciable quantities toward institutions of higher education. Careful observation suggests, however, that this stream of support tends to originate in the generosity of more affluent taxpayers and tends to come to rest in the coffers of the more wealthy and well-known institutions, whose students come disproportionately from upper income families.91

2. Student Dependents Exemption⁹²

Another tax relief provision designed to aid higher education is the special treatment afforded student dependents. Taxpayers can claim a dependents exemption of \$750 for every statutory "relative" of whose support they contribute one half so long as the relative has a gross income of less than \$750. The exemption would ordinarily be lost if the relative's income equals or exceeds \$750, but it is not if the relative is younger than nineteen or if the relative is a student.⁹³ Moreover, in calculating the total support a student garners from all sources, scholarships are excluded.94

These special rules for student dependents cushion the impact of higher education bills on parents. According to a House Ways and Means Committee estimate, parents saved a total of \$640 million in taxes as a result of the exemption.95 In making this estimate, the Committee apparently did not realize that many of the students included in the calculation would have gualified as dependents even if the exemption were repealed because their incomes were below \$750. An earlier study that incorporated this refinement into its analysis fixed \$169 million as the estimated tax savings in 1968 attributable to the student dependent exemption.96 That figure would be considerably larger today, probably of the same order of magnitude as the charitable deduction "tax expenditure" on higher education.

Like the charitable deduction, the dependents exemption favors higher bracket taxpayers-it is worth more to those with higher marginal tax rates.

^{88.} Id.

^{89.} Id. 90. Id.

^{91.} See generally Committee for Economic Development, The Management and Financing OF COLLEGES (1973).

^{92.} CODE §§ 151, 152.

^{93.} Id.

^{94.} CODE § 152(d).

^{95.} SURREY 11.

^{96.} D. Mundel, Tax Impact of Special IRS Regulations for Student Dependents, March 1970 (unpublished manuscript, John F. Kennedy School of Government, Harvard University).

In addition, higher income families are more likely to support their children as students and thus more likely to be able to claim them as dependents. Finally, students from higher income families generally attend more expensive schools, live more luxuriously and, as a result, are likely to incur higher support costs. These students can earn more than students from low-income families before losing their status as dependents. For these reasons, therefore, the dependents exemption tends to award larger subsidies to higher income students.⁹⁷

In sum, the dependents exemption is a sizeable "tax expenditure" on higher education that funnels a large number of small subsidies to individual parents whose children attend college. Unhappily, the exemption skews its assistance towards well-to-do parents.

3. Exclusion of Scholarship Income⁹⁸

The operation of the exclusion is simple. A student need not report as taxable income amounts received as a scholarship or a fellowship grant and amounts received for expenses incidental to such awards.⁹⁹ Recipients of scholarships and fellowship grants, according to a congressional estimate, thereby were spared some \$125 million in income taxes in 1972.¹⁰⁰ This tax relief provision probably does not result in a regressive pattern of assistance. Although the exclusion bestows greater tax savings on higher bracket tax-payers, scholarships and fellowships naturally gravitate toward poorer students from lower tax bracket families.

4. Exclusion of Interest Income on State Bonds¹⁰¹

Institutions of higher education benefit along with state and local government organizations generally in a fourth tax incentive—the exclusion from income of interest received on bonds issued by state and local governments.¹⁰² Public institutions of higher education receive capital funds directly from state and local governments, but private institutions, which often have access to state loans or are able to rent the facilities of public higher education authorities, gain indirectly from this tax relief provision. Both sectors find it easier to market their securities because of the favorable tax treatment afforded purchasers.

This tax incentive is worth more to higher bracket taxpayers. One study of the interest exclusion found that the tax savings it created lodged principally

99. Id.

^{97.} Mundel, Federal Aid to Higher Education: An Analysis of Federal Subsidies to Undergraduate Education, in JOINT ECONOMIC COMM., U.S. CONGRESS, 92D CONG., 2D SESS., THE ECONOMICS OF FEDERAL SUBSIDY PROGRAMS, pt. 4, at 407 (1972).

^{98.} Code § 117.

^{100.} SURREY 11.

^{101.} Code § 103.

^{102.} Id.

with taxpayers whose adjusted gross incomes in 1971 exceeded \$20,000.¹⁰³ This study also estimated that the "tax expenditure" on higher education resulting from this exclusion amounted to \$109 million in that year.¹⁰⁴

5. Exemption of Institutional Net Income¹⁰⁵

The fifth tax relief provision is less significant than it seems. Both public and private institutions of higher education are exempt from federal income tax on their net incomes from educational activities.¹⁰⁶ Business income from unrelated endeavors, though, is generally subject to the normal corporate income tax.¹⁰⁷ Yet the educational activities of public institutions would probably be exempt from income tax even if the present tax relief provision were repealed. Governmental bodies have traditionally been shielded from taxes imposed by other governmental bodies-a principle embodied in the current Internal Revenue Code.¹⁰⁸ And private institutions, as a group, would probably pay little or no taxes on net income because their aggregate net income is insignificant. In the first place, colleges and universities rely on contributions to defray from 10 to 20 per cent of their aggregate expenditures-yet gifts are not taxable to the donee.¹⁰⁹ In the second place, numerous private institutions have recently registered deficits even after including income from gifts, while other private colleges and universities have been caught in a severe budgetary squeeze.¹¹⁰ In consequence, it seems that the tax expenditure attributable to the exemption is too small to warrant formal estimation.

Five provisions, then, abide in the federal tax system in order to support higher education. As Table VII indicates, the magnitude of this assistance is

| TABLE V | Ί | I |
|---------|---|---|
|---------|---|---|

FEDERAL TAX EXPENDITURES ON HIGHER EDUCATION: 1972

| Charitable Contributions Deduction | \$275 | million |
|---|-----------|---------|
| Student Dependents Exemptions | 200-300 | " |
| Exclusion of Scholarship Income | 125 | " |
| Exclusion of Interest Income on State Bonds | 110 | " |
| Exemption of Institutional Net Income | 0 | " |
| Total | \$710-810 | million |

Source: Authors' computations from various sources.

^{103.} H. Weinman, Survey of Tax Expenditures on Higher Education, April 6, 1973, at 64 (unpublished thesis, John F. Kennedy School of Government, Harvard University).

^{104.} Id. at 63.

^{105.} CODE § 501(c)(3).

^{106.} Id.

^{107.} Code §§ 511-15.

^{108.} Code § 115.

^{109.} CODE § 102. See p. 143 supra.

^{110.} See generally NATIONAL COMMISSION ch. 5.

significant, about three quarters of a billion dollars in 1972. Whether these provisions are worth keeping is the issue we address in the next section.

VI

AN EVALUATION OF CURRENT HIGHER EDUCATION FEDERAL TAX INCENTIVES

A. Standards

Sections II and III of this paper analyzed several possible bases for federal higher education policy. That discussion devolved into a set of specific policy goals and guidelines. These guidelines will inform our evaluation of the five forms of tax assistance described in section V. But there are also other concerns of federal higher education policy. Frequently mentioned are: institutional support, diversity, and access.¹¹¹ In addition, whether or not the distribution of income is improved should influence every policy choice. These concerns will also enter our evaluation. We will conduct that evaluation in terms of the criteria developed in section IV for measuring a particular program's achievement of policy goals: appropriateness, effectiveness, efficiency, and adequacy.

B. Charitable Contributions Deduction

1. Appropriateness

The deduction is designed to serve several goals. First, it seeks to increase total voluntary support of higher education by reducing the price of giving. A dollar given to a college is not as expensive as a dollar spent on a car because the former is tax deductible while the latter is not. Second, the deduction is designed to increase diversity in higher education. In particular, it should increase pluralism, for all taxpayers are eligible to claim a deduction and all institutions are eligible to receive contributions. It should also increase private control over public funds: the government, in effect, matches private gifts with tax revenues foregone without questioning the size of the gift—beyond the mandatory annual maxima—or the identity of donor or donee.

On the other hand, the deduction renders the distribution of income less progressive. In the first place, the deduction is worth more to higher income givers. But to this extent, all deductions are at odds with the goal of progressivity. The charitable contributions deduction, however, has additional regressive factors. Donations tend to originate disproportionately among higher income households, and the pattern of contributions is skewed toward institutions enrolling relatively more students from higher income families.

^{111.} Id. ch. 2.

Finally, the deduction is not designed to have any direct effect on enrollments. It is inappropriate, as a result, to the goal of access.

2. Effectiveness

One parameter turns out to be critical in appraising the effectiveness of the charitable deduction. A simple model of giving, developed by one of the authors in an earlier paper, indicates that the price elasticity of giving determines whether or not the deduction increases or decreases resource transfers to charity. The price elasticity of giving is a simple technical measure of the responsiveness of giving to changes in the price of giving.¹¹² The price of giving is just the opportunity cost of giving: one can donate a dollar to charity or spend a dollar minus the income taxes on a dollar on consumption. So the cost of giving is unity minus the marginal tax rate. This cost, and thus the price of giving, falls when the marginal tax rate rises and rises when the rate falls. According to the model, if the price elasticity exceeds zero, total resource transfers (taxpayers' net contributions plus the government's foregone tax revenues) would have increased as a result of deductibility. The price elasticity would have to be greater than one, however, for the taxpayers' net contributions to increase. Otherwise, taxpayers' net contributions would decline. The evidence collected to date puts the price elasticity of giving, both for corporations and for individuals, somewhere between 1.0 and 1.5.113 Consequently, the charitable deduction is effective at increasing both total voluntary support for higher education and private net transfers to higher education.

But the deduction causes taxpayers as a whole to surrender several hundred million dollars to the control of those taxpayers who choose to give to higher education. For the deduction matches government tax revenues foregone with private net transfers and thus permits donors to allocate government tax expenditures on higher education when they choose the size and destination of their donations.

It is unclear whether this private allocation process is effective in increasing diversity. Because it stimulates contributions from many sources to many institutions, the deduction promotes pluralism. Yet, the effect is limited. Over 70 per cent of the private funds received by colleges and universities are restricted as to their use.¹¹⁴

^{112.} The price elasticity of giving is defined as the negative of the percentage change in giving divided by the percentage change in price. The minus sign is necessary because an increase in the price of giving results in a decrease in the amount of giving. See P. SAMUELSON, ECONOMICS 363-69 (7th ed. 1967).

^{113.} The model of giving is developed and the evidence on price elasticity is surveyed in J. Kirkwood, *supra* note 86, at 52-72, 81-85. The model presented in that paper applies specifically to state income tax deduction provisions, but an elementary generalization of it yields the results discussed in the text.

^{114.} SURREY 378 n. 84.

On the subject of private control over public funds, by contrast, the verdict seems clear. The deduction does place private citizens in charge of a vast amount of public support of higher education. This private hegemony probably makes colleges and universities more independent from established power centers and conventional dogmas. "The appropriations process," one economist has contended, "is not well suited to the nourishment of new or unpopular ideas or minority tastes"¹¹⁵ Although gifts to higher education are restricted, on the whole, the deduction probably fosters diversity.

But its effectiveness in directing federal assistance to students from low or moderate income families appears to be quite limited. As already noted, the preponderance of assistance reaches the treasuries of relatively few institutions, and they enroll small numbers of the target population. Moreover, for this reason and for other reasons noted earlier, the deduction fails to increase the progressivity of the income distribution.

3. Efficiency

The scope of this paper does not permit a detailed formulation of alternatives to the existing tax incentives for higher education. We could not, therefore, unqualifiedly recommend the replacement of the charitable deduction. Nevertheless, there are several reasons for change. First, the deduction is inappropriate and ineffective in serving the goals of access and progressivity. Second, to the extent the deduction serves the goals of institutional support and diversity, for the reasons more fully explored by Professor Surrey which need not be repeated here — it is ineffective and inefficient in directing federal assistance in a manner that would appear to maximize the societal benefits from a given level of support.¹¹⁶

4. Adequacy

The charitable deduction seems adequate to move a massive amount of funds from government and private hands to college and university coffers. Its adequacy in producing diversity is unclear, and it clearly is inadequate as the sole source of support for institutions of higher education throughout the country.

C. Student Dependents Exemption

1. Appropriateness

This exemption is intended to increase the after-tax income of parents whose dependents are students and thus raise their ability to support a student in college. It therefore supports the goal of access. It is, however, inap-

^{115.} R. Goode, The Individual Income Tax 171 (1964).

^{116.} See generally SURREY.

propriate to our redistributive goal because poor parents realize a disproportionately small share of its benefits. Furthermore, it gives larger subsidies to students whose education is less socially productive—as defined earlier in this paper—and whose decisions are less influenced by external financial incentives. Consequently, this exemption is inappropriate when compared with the guidelines established in sections II and III. And it is irrelevant, in any specific sense, to institutional support and diversity goals.

2. Effectiveness

The exemption increases enrollments somewhat because higher education participation rates vary negatively with price for all family income levels.¹¹⁷

3. Efficiency

The total effect, however, is small. The tax savings attributable to the exemption amounts to only several hundred dollars per dependent, compared to college costs in the thousands of dollars. Moreover, parents accrue the tax savings a year or more after the decision to matriculate is made, so the influence of the exemption on the decision is attenuated. Most important, the benefits flow in the form of an income supplement, not a price reduction. Meanwhile, what evidence there is suggests that a tuition reduction of \$100 will produce a far greater increase in enrollments than a \$100 addition to parental incomes.¹¹⁸ Hence, it would seem more efficient to distribute the current tax expenditure as a tuition cut rather than as a dependents exemption.

4. Adequacy

In view of its inefficiency, the exemption is clearly inadequate to achieve the goal of access, even though the overall tax expenditure involved is substantial.

D. Exclusion of Scholarship Income

1. Appropriateness

This tax incentive principally reduces the price of higher education to students from lower income households. Accordingly, it serves the twin goals of increasing access and redistributing income toward the poor. In addition, the exclusion furnishes assistance in conformity with the guidelines developed in

^{117.} See NATIONAL COMMISSION 27.

^{118.} See D. Mundel, Recent Developments in the Understanding of the Determinants of Demand for Postsecondary Education, November 14, 1974 (unpublished manuscript on file with the author); M. KOHN, C. MANSKI, & D. MUNDEL, AN EMPIRICAL INVESTIGATION OF FACTORS WHICH INFLUENCE COLLEGE-GOING BEHAVIOR, (RAND Corp. Pub. No. R-1470-NSF 1974).

sections II and III. It is largely irrelevant, however, to the goals of institutional support and diversity.

2. Effectiveness

The exclusion of scholarship income, operating as a limited price reduction, increases student enrollments. Since most scholarships and fellowship grants are awarded to lower income students, the exclusion is also effective in transferring resources from taxpayers in general to poorer taxpayers.

3. Efficiency

While a price reduction (the scholarship exclusion) is superior to an income supplement (the dependents exemption), it nevertheless remains an expensive way to increase access to higher education. Although the exclusion carefully confines its assistance to those students who have been awarded scholarships, these students are not all lower income students. Because scholarships are based on "need"—a function of both college costs and family income—higher income students may and do receive scholarships at higher cost institutions. Furthermore, scholarships tend to be awarded disproportionately to higher ability students. Thus, the tax expenditures resulting from the scholarship exclusion are not carefully targeted toward lower income and lower ability students. Direct expenditure programs could probably achieve the desired pattern of subsidies more easily.

4. Adequacy

Whether the exclusion is adequate to the task of producing "sufficient" enrollment of lower income and lower ability students depends upon highly subjective judgments about the "right amount" of access and the "proper degree" of distributive equity.

E. Exclusion of Interest Income on State Bonds

1. Appropriateness

This provision facilitates the financing of higher education construction projects. It is, as a result, appropriate to the goal of providing direct institutional support of higher education. Since bonds bring in capital with few bureaucratic strings attached, this provision is also appropriate to the goal of increasing diversity. It is inappropriate, though, as an equity measure. Affluent taxpayers accrue the bulk of the tax savings generated by the provision. Finally, it is not specifically relevant to the goal of enrolling lower income students unless physical capacity constraints are a major barrier to their admission and subsequent enrollment.

2. Effectiveness

Unlike charitable contributions, the funds produced by this exclusion are seldom restricted as to use. On the other hand, small, financially ailing colleges may find it more difficult to issue bonds than to solicit contributions. So the exclusion may be more effective at increasing private control over public funds than at promoting pluralism. On the whole, though, the exclusion seems effective at increasing diversity. It appears to be effective in stimulating the transfer of some funds to institutions of higher education. Without the exclusion, these institutions would pay higher interest rates and thereby sell fewer bonds.¹¹⁹

3. Efficiency

There is some evidence that the exclusion is an inefficient interest subsidy. The Federal Reserve Bank of Boston studied the bond markets to determine whether the tax revenues sacrificed by the federal government exceeded the funds generated by the exclusion for the benefit of state and local governments. The study concluded that state and local governments save amounts equivalent to no more than 50 to 70 per cent of the tax revenues foregone by the federal fisc.¹²⁰ And these revenues, of course, redound primarily to upper income taxpayers. It would seem preferable, therefore, to abandon the exclusion and transfer the tax expenditures directly to state and local governments. For the reasons delineated by Professor Surrey, such revenue sharing would also be advantageous because it is a direct, and not a tax, expenditure.

4. Adequacy

While hundreds of millions of dollars are funnelled to institutions of higher education through this tax provision, its adequacy as a form of institutional support is debatable. In addition, it appears that, as needs increase, it will become harder for governments to issue larger amounts of these bonds because the market among high-bracket taxpayers is gradually becoming saturated.¹²¹

F. Exemption of Institutional Net Incomes

1. Appropriateness

This provision insulates institutional net income from taxation and thus helps colleges and universities balance their budgets. The exemption, then, is appropriate to the goals of institutional support and diversity. It is specifically irrelevant to access and distributive equity, unless the enrollments of private

^{119.} SURREY 209-14.

^{120.} Id. at 214.

^{121.} Id. at 211.

institutions with positive net incomes come disproportionately from higher or lower income families.

2. Effectiveness

Our earlier analysis indicated that the subsidy provided by the provision is quite small. Consequently, its effect is minimal.

3. Efficiency

Our earlier discussion suggested that this exemption is not so much inefficient as irrelevant: the exemption transfers few resources to higher education and the Treasury foregoes few tax revenues.

4. Adequacy

The exemption appears to be inadequate to achieving any goal or desired pattern of subsidization.

VII

CONCLUSIONS AND NEW PROPOSALS:

THE LIMITED DESIRABILITY OF TAX SUBSIDIES TO HIGHER EDUCATION

In general, tax incentives enter an analysis with one strike against them —the prodigious indictment issued by Professor Surrey. The tax incentives for higher education suffer from additional specific defects that make their inclusion in a system of federal policy instruments undesirable. In the first place, where they are designed to serve social goals, they further the less important ones. Where they provide subsidies, they often provide larger ones to higher income taxpayers. This pattern of subsidization conflicts with the appropriate pattern outlined in sections II and III of this paper. Second, the current tax incentives are only marginally effective. They result in sizeable tax revenue losses while stimulating only small changes in private behaviors. In some instances, their net impacts may actually be negative. Third, the efficiency of these policy instruments is even more doubtful. Not only is it easier to design expenditure programs the resource flows of which are more appropriate and effective, such expenditure programs are generally both authorized and operational.

Within the last few years two additional higher education tax expenditure programs have been proposed: tax credits and tax deductions for educational expenditures. Tax credit schemes would reduce tax liabilities directly by subtracting educational expenses from taxes owed. Tax deduction proposals would reduce tax liabilities by reducing a family's taxable income.

The low tax liabilities of lower income households would limit the size of the tax credit they could receive. A tax credit scheme, moreover, would tend to give greater subsidies to families who incur larger education costs. Yet, as shown in Tables III and IV, higher income families generally incur larger education costs. For two reasons, then, the pattern of subsidies resulting from a tax credit would be inappropriate. A tax deduction scheme would produce an even more inappropriate pattern of subsidies because of the simultaneous occurrence of both greater educational expenses and higher marginal tax rates among upper income families.

The appropriateness of either scheme could be increased by placing a ceiling on the maximum benefit allowable, particularly if the ceiling varied inversely with income, and by authorizing direct payments to taxpayers whose credits exceed their tax liabilities or whose deductions exceed their taxable income. But both programs would remain relatively ineffective and inefficient because of their placement within the tax system. Thus, the most frequently discussed higher education tax proposals suffer from the same flaws that mar current tax expenditures.