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AUTHOR	Froomkin, Joseph; Andrews, Richard
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ABSTRACT

Four articles on higher education issues are presented. In "Parental Loans--An Option Paper," Joseph Froomkin considers the rationale for and against public initiatives for parental loan plans, rationales for institutional parental loans, the demand for loans and probable cost to the government, and options/terms for loans. The distribution of benefits and the possibility of leveraging student loans and the federal role in encouraging institutional parental loan plans are addressed. In "Options in the Reauthorization of the Higher Education Act," Froomkin considers options for the major reconstruction, consolidation, and reduction of student aid programs, along with options for institutional aid programs. The possibility of consolidating student aid programs is suggested if the Basic Educational Opportunity Grant programs are transferred to the states. In "Statistical Needs to Estimate Demand and Supply of Graduate and Professional Minority Enrollment in Higher Education," Froomkin considers databases that address the supply of minorities with graduate education, the flow of minorities to graduate schools, and the demand for minorities in graduate programs. It is concluded that there is very little existing statistical information that clarifies the occupational distribution of minorities that also considers the discipline of their graduate degrees. There is some information by discipline about the numbers of persons with minority backgrounds with graduate degrees. In "Fine-Tuning the Level of Campus-Based Aid," Froomkin and Richard Andrews consider the following issues: whether aid should be adjusted by the cost of living, whether new statistics should be collected, the need for new data and a better definition of need, and the need for fine-tuning the allocation of aid. (SW)

JOSEPH FROOMKIN INC.
1730 K STREET, N.W., WASHINGTON, D.C. 20006

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FOUR TECHNICAL NOTES ON HIGHER EDUCATION ISSUES:

PARENTAL LOANS--AN OPTION PAPER

OPTIONS IN THE REAUTHORIZATION OF THE HIGHER EDUCATION ACT

STATISTICAL NEEDS TO ESTIMATE DEMAND AND SUPPLY OF GRADUATE AND PROFESSIONAL MINORITY ENROLLMENT IN HIGHER EDUCATION

FINE-TUNING THE LEVEL OF CAMPUS-BASED AID

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INTRODUCTION

From time to time, the Educational Policy Research Center has been invited to write short technical memorandum or option papers on a variety of subjects. Four of these papers are included in this pamphlet.

It should be noted that the present version of Options in the Reauthorization of the Higher Education Act was rewritten by C. Hanes of the Assistant Secretary's staff based on a paper prepared by the Center.

JOSEPH FROOMKIN INC.
1730 K STREET, N.W., WASHINGTON, D.C. 20006

PARENTAL LOANS--AN OPTION PAPER

By

Joseph Froomkin

EPRC for Higher Education and Society

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PARENTAL LOANS--AN OPTION PAPER

1. Introduction.

Should the federal government start or encourage a program of loans to parents to help them pay the costs of their dependents' education? It will be argued below that there is no right or wrong answer. The Department's endorsement of an initiative in this area depends upon the judgements of policy-makers about the timeliness of such a move. In the present unsettled inflationary context, the decision must, of necessity, take into consideration the broader economic impact of any policy to facilitate borrowing.

It may come as a surprise that modern economic theory has paid scant attention to parental financing of the college education of dependent children. Recent discussion has emphasized postsecondary education as a way to accumulate intellectual capital. Economists have been more concerned with the rates of return to an individual from additional expenses on schooling, than in the share of this expenditure borne by the student or his family.

Current economic literature has not dealt with the question of how amounts expended for postsecondary schooling vary according to whether the financing comes from student or parental resources. The student or the family unit that provides the money are assumed to act as profit-maximizers. Since the benefits of education accrue mostly to the

student, economists would argue strongly that financing and borrowing should also be the responsibility of the learner. To some extent, the thinking of modern economic theory has helped shape the guaranteed student loan program.

At the other end of the spectrum (I hesitate to call this the "real world"), the family unit's responsibility for financing its dependents' education has been recognized and institutionalized in a program based on needs analysis. Thus, the largest single federal aid program, the Basic Economic Opportunity Grants (BEOG), determines eligibility depending upon the excess of a family unit's income over some minimum level of cash resources, and further requires a contribution from capital assets which exceed a certain amount per family. In addition, the BEOG program requires the student to declare his savings from summer employment and contribute a higher proportion of his savings than that of the whole family to finance his education. The contribution schedule of the BEOG is summarized in Appendix 1.

The federal program of providing support to finance the least expensive education available, usually in public institutions, has been greatly influenced by the standards set by the College Entrance Examination Board (CEEB) formula for determining eligibility for student aid. This formula, developed with the cooperation of financial aid officers, is widely followed by a large number of institutions, which have committed themselves to distributing institutional aid on the basis of need. The

eligibility for aid, summarized in Appendix 2, is determined after a modest amount is provided for family expenses, and a portion of the excess over and above this amount is expected to be contributed to dependent's educational expenses. The fraction of the income assessed for this purpose increases with the amount of the excess. In addition, a contribution is expected from parental assets above a small minimum amount, which varies with the age of the parent. The treatment of dependent student resources is fairly similar in both the CEEB and BEOG.

Two assumptions underlie the current practice of determining the size of parental contributions. The first is that the educational expenses of dependents are a "non-essential" outlay; therefore, aid formulas expect households to contribute a substantial share of the income above a very modest minimum (less than $6 thousand for a family of four). The second is that prudent families which have accumulated savings should contribute more to the education of their dependents than those with little or no assets.

Actually, the patterns of financing by households with dependents attending college are more complex than those envisaged by the contribution schedules. In the first place, the costs of colleges vary, and in the second place, other forms of aid and loans can be mobilized to pay the school bills of persons with average and below-average incomes.

The following table presents estimates of parental contributions[1]

[1]The out-of-pocket costs of parents with dependents in college has not been estimated with any degree of precision. Some information was

to 1978/79. It is important to remember that 60 per cent of parental contributions are borne by families with parental incomes over $25,000 a year. These families support 42 per cent of the full-time dependent students. (See Table 1.)

In addition, roughly a million independent students, an equal number of males and females, attend postsecondary institutions below the graduate level. Roughly half of the independent students live in households of two or more persons. Our estimate, based on the distribution of student earnings, is that roughly half of these full-time students are dependent on their spouses. Most of them are young, are in the lower-income brackets, and attend low-cost schools. (See Table 2.)

The greatest demand for parental loans is from parents with high assets or high expenses. This group may prefer to borrow against their assets, rather than cut down on their living expenses.

In 1978, slightly over 60 per cent of families with dependent students and incomes over $25,000 had estimated assets of over $30 thousand,

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collected in 1975 for first-time full-time students from the annual survey currently conducted by the Higher Education Research Institute at UCLA, a special questionnaire administered by the Institute for Demographic and Economic Studies, Inc. The preliminary tabulations of these studies have been presented by cost of college for different income groups, not aggregated by income groups, except in one table which is difficult to interpret. They seem consistent with our estimates. As best we could determine, these estimates are not inconsistent with estimates we prepared for our study of Middle-Income Students and the Cost of Postsecondary Education. Our estimates were adapted from 1973 CPS survey students in all four years of college.

TABLE 1

ESTIMATED PARENTAL CONTRIBUTIONS FOR DEPENDENT FULL-TIME STUDENTS, 1976

Parental Income (000's)	Number of Dependent Full-Time Students (000's)	Contribution Average	Total (millions)	Per cent
$0 - $7.5	319	0		
7.5 - 10	474)	$ 750	$ 356	3.9
10 - 15	601)	1100	661	7.3
15 - 20	725	1600	1160	12.8
20 - 25	681	2105	1433	15.7
25+	1931	2700	5484	60.3
	4731	$1922	$9093	100.0

TABLE 2

FULL-TIME STUDENTS IN VARIOUS STATUS CATEGORIES, 1976
(thousands)

	Dependent	Independent
Undergraduate	4831	1169*
Graduate	266	576

*members of two or more person households 522.

and roughly a third had assets over $50 thousand. Among families with incomes under $25,000 and dependent students in college, roughly a third had assets of over $30 thousand and a fifth assets of over $50 thousand. Perhaps more importantly, probably one-half of parents with incomes over $25,000 contributed over $3,000 a year to student costs, and a full 25 per cent contributed over $4,000. We estimate that no more than 5 per cent of parents in the $15-25 thousand income bracket contributed over $3,000.

Thus, sending a dependent to college can affect families in the same income bracket very differently. Not only do tuition rates vary from a nominal $200-$300 at some public institutions to $5,000-$5,500 at a number of Ivy League and private liberal arts schools, but the ancillary costs of subsistence can vary drastically as well. For 40 to 50 per cent of dependent students who commute to college, the imputed costs of living at home and board do not constitute a new cash drain on the household, and do not affect the pattern of expenditures as compared to the period before the dependent entered college. By contrast, students who either move into college residences or move to another location while attending a postsecondary institution incur additional expenses, and if parents contribute to their living expenses, the household's patterns of expenditures may undergo drastic change. The problem of rebalancing the cash-flow of the household is not fully recognized by aid formulas.

Aid formulas establish the maximum contribution which a

household is expected to make towards the education of a dependent. If the total cost of education is below that amount, no aid is given. The aid formula does not, and cannot be expected to, set a floor for family contributions.

In the year a dependent starts attending college, the parents of students in low-cost institutions are required to make smaller sacrifices in their standard of living, or draw down their savings less drastically, than parents in the same economic circumstances whose children attend higher-cost institutions. As long as these higher-cost institutions are more selective (either the Ivy Leagues, selective liberal arts colleges, or state universities), as contrasted to the low-cost options (i.e., community colleges), the standard of living of parents with high-scoring or academically successful children is more likely to suffer compared to that of families whose children did not enroll in high-cost schools.

Rationale for/against public initiatives for parental loan plans. The current system puts a higher burden on parents with motivated or gifted children, and steps ought to be taken to allow these parents to foot high education bills without affecting their standard of living too drastically.

If the cost of postsecondary education can be spread over a longer period, the trauma of high expenses can be substantially moderated. Also, if parents could borrow (either against assets or future income), they could maintain their accustomed level of outlays.

An unspoken, but ever-present, argument for public subsidies

to parental loans is that attractive arrangements for parents to borrow money will encourage more enrollments in higher-cost, presumably private, schools. Current programs to lend money to parents to cover tuition and other costs are expensive, short-term, and have not been popular. In the next few years, as enrollments are expected to decline, the possible public interest in maintaining the current level of diversity in postsecondary education would be well served by such a move.

Finally, the argument based on the hypothesis that students have a higher risk-aversion to loans than their parents should be mentioned. If this contention is correct, an opportunity for parents to borrow could conceivably increase the number of students choosing to attend college, or more likely increase the number of students attending full-time, or enrolling in higher-cost institutions. If one believes that the workloads of postsecondary institutions ought to be stimulated during the forthcoming demographic dip, this argument can also be used to advocate the introduction of parental loan subsidies.

A number of arguments against any public involvement in facilitating access or subsidizing access to parental loans can be marshalled just as easily. The most telling, perhaps, is based on the conservative doctrine of consumer sovereignty. Consumers ought to choose their array of expenditures with the least interference from public authorities. If they choose high-cost education versus low-cost education alternatives, and decide to forego the subsidies given by states and localities to public

schools, they ought to pay for this choice.

Even those who do not agree with this argument may be swayed by a more populist line of reasoning. The reduction in the standard of living of parents, populists will argue, will come out of "non-essentials." The extremist proponents of this position may even claim that parental loans will protect sumptuary outlays and encourage the consumption of luxuries.

One does not need to be at either side of the political spectrum to oppose any government action with respect to loans to parents. Middle-of-the-roaders can convincingly argue:

1) As long as the student is likely to benefit from the education, it is only fair that the responsibility for the loan interest and repayment be shouldered by the student.

2) The possible oversupply of persons with college training makes it more advisable than ever to alert students to the cost of attending school.

3) The current difficulty which parents have experienced in borrowing against assets at rates they consider reasonable is due to the present economic situation. Interest rates are high and money tight because the government is taking steps to combat inflation. Loosening the availability of funds or subsidizing, and encouraging, borrowing goes counter to government monetary policy. Thus, eased access or an increase in parental loans for educational purposes will require even higher

interest rates to reduce other borrowing. The cost to the economy of such secondary effects must be closely reckoned.

It may be politic to propose that parental loans be introduced as a possible substitute for student loans. The advantages of lower default rates and easier collection have often been cited as advantages of loans to parents. The pros and cons of raising loan ceilings to households if the loan is cosigned by a parent are examined below.

Rationales for institutional parental loans. Should loans to parents be managed by banks or a government agency, or should colleges and universities be the lenders? The rationale for colleges and universities being chosen as lenders to parents may be summarized as follows:

1. Today, "(t)he question in admissions is not how to pick winners but to fill classes. Frankly, much of what used to be admissions is now recruitment." (John Harris, A New Day for Assessment in Higher Education, Educational Record, Vol. 59, No. 3 (Summer 1978) p. 271.)

Thus, parental loans at reasonable rates are a powerful recruitment tool. The ability to offer parental loans would benefit private institutions which might not survive otherwise.

Some colleges and universities have claimed that rates they would charge for these loans could be equal to or higher than the interest earned on endowment. This argument must be taken with a grain of salt. Marginal returns on free money, even when it is invested in Treasuries, would exceed rates charged on loans with an interest rate low enough to be attractive to most parents.

2. Offering borrowing opportunities to parents may reduce the amount of institutional aid which has to be provided to attract desirable students.

If an institution can offer loans to parents, rather than grants to students, even an indifferent repayment record may improve its financial standing in the long run.

The arguments against this practice are:

1. The public interest may not be served by choosing PSE institutions as lenders. A national or state-administered plan can enforce uniformity in eligibility standards and loan terms; institutional plans are likely to encourage predatory competition between schools.

2. The poor record of colleges and universities in co[illegible]cting NDSL student loans will make such operations more expensive than those administered by banks and public authorities. Apparently, they are incapable of gearing up to the task of recapturing taxpayers' funds.

2. Options and Rationales

A number of choices can be made about the type of parental loans to be introduced. The different definitions of eligibility, length of maturities, interest rates and terms, and types of loans are discussed under this heading.

Eligibility. Four different alternative tests can be used to determine eligibility:

1) by type or level of enrollment,
2) by attendance status,
3) by dependency status,
4) by level of income.

1) Eligibility can be narrowly defined to exclude students in special schools (mostly those attending short-term vocational training) and students attending graduate schools. The arguments for excluding these two types of students are (a) special school students attend short-term courses, and their fees do not constitute a long-term burden on their parents, and (b) the number of dependent graduate students is small, and concern for the financing of their education must take into account the programs of other agencies.

The decision to make loans to parents or guardians available to these three groups, or to one or two groups only, should be made on pragmatic political grounds. If the program is extended to special school students, its volume will go up by 5 per cent. Extending the program to graduate students will further increase volume to 6 per cent of the amounts lent to undergraduates.

2) The program could be restricted to full-time students only, or extended to those who attend college more than half time. The broader interpretation of eligibility will increase the volume of loans to undergraduates by some four per cent, and that to graduate students by 20-30 per cent.

3) The new loans could be made available to parents only, to finance the education of dependent children, or the interpretation of dependent

could be broadened to include dependent spouses of either sex. The broader eligibility would add five to eight per cent to the cost of the program.

4) Eligibility for loans could be limited to persons having a certain level of income, as they are for other programs. If the income cut-off were set at $25,000, roughly 70 per cent of the parental contributions would be ineligible.

While such a restriction would focus the benefits of the program on middle-income recipients, a program with such a limited scope may be considered not politically viable.

Length of maturities. Loans to parents should probably have relatively short maturities, if they are to be tailored to ability to repay the loans and if losses from death and disability are to be minimized. The average borrower will be in his late forties or early fifties and the number of productive years in the labor force for these borrowers is limited.

As long as the objective of the loans is to relieve parents of the cash drain from paying for dependents' education, we are caught on the horns of a dilemma. The shorter the period of the loan, the higher the annual repayments, and if no grace period is provided, the less the relief to the parents. Similarly, the higher the interest rate, the higher the payments. Therefore, the relief to the parents' cash flow may be short-lived, and by the fourth year of a dependent's education the parents' payments may be equal to what they would have been otherwise.

We recommend that parental loans be structured in such a

way as to relieve parents of a constant proportion of the expected college bills. This can be achieved by varying the proportion to be borrowed depending upon the dependents' progress in school. In other words, regulations should provide that a smaller proportion of the expected parental contribution be loaned to parents of freshmen, as contrasted to seniors.

An illustrative example of a five-year loan at nine per cent, with the amount borrowed increasing every year, is given in Table 3. If parental contributions are $100 a year, and $40 is borrowed to help pay this amount, in fact only $30 will be available to pay these costs, as $10 will be consumed by interest and repayment. The following year, $55 borrowed for this purpose will leave $31 to pay for college costs, as $24 will be consumed by interest and repayment.

We have concluded that it is possible to reduce the cash outlay of parents by 30 per cent with five-year loans, by 40 per cent with 10-year loans, and by 50 per cent with 15-year loans. The opportunity to increase the proportion of the outlay financed by loans with longer repayment periods is tied to the lower annual repayments made possible by stretching out the repayment period.

Interest rates and terms. We have assumed that there will be no interest forgiveness for parental loans, and that the repayment will start as it does with ordinary mortgages. The interest on the loans was set at three levels, 8, 9 and 10 per cent.

The rationale for choosing these levels is as follows:

TABLE 3

ILLUSTRATIVE CASH FLOW AND BORROWING SCHEDULE FOR FIVE-YEAR, NINE PER CENT LOAN

	Expected Parental Contribution	Amount Borrowed	Interest and Repayment	Actual Contribution (Cash Flow)
First Year	$100	$40	$10	$70
Second Year	100	55	24	69
Third Year	100	70	40	70
Fourth Year	100	95	64	69

1) Current treasury borrowing rates are 8.5 per cent, hence interest rates lower than 8 per cent would require a high subsidy.
2) Collection costs (assumed to be $30 a year per loan and an average loan of $1,000) would add 0.3 per cent to the cost.
3) The impossibility of collecting loans due to death with insufficient assets would be 0.3 per cent for five-year loans, 0.5 per cent for fifteen-year loans (all of which would need collateral). If forgiveness in the case of death is provided, these costs must be doubled.
4) Provisions must be made for defaults due to bankruptcy or fraud. Commercial banks generally figure a two per cent loss on five-year loans, i.e., 0.3 to 0.4 per cent a year. They have no experience with unsecured ten-year personal loans. We doubled this rate arbitrarily. For fifteen-year secured loans, the same four per cent loss rate was estimated.

With these assumptions, we believe that the public lenders would probably break even with a ten per cent interest on loans. Loans at lower interest rates would be subsidized by lenders.

Types of loans. It is possible to envisage two types of loans, those extended without specific collateral, and those which require collateral.

Loans which require collateral will probably exclude one-fifth of all parents with dependent students enrolled full-time. This can be considered a disadvantage.

On the other hand, one can argue that the most difficult financing problems are faced by parents who are required to pay for their dependents' education by liquidating assets. If the objective of the program is to help parents who are "locked" into assets, requiring collateral for loans could be justified.

If loans were secured with collateral, it would be easier to defend the extension of loans for longer periods. In many cases, the loans could be paid off easily by persons who sold their house after retiring, or because their dependents had left. In the case of younger persons, who own property, the ability to pay school bills (and possibly child-care fees) would be enhanced if the payments were stretched over long periods of time.

On the other hand, the possibility of a cruel public lender forcing a poor widow (or widower) to sell a home to satisfy a government loan might encourage compassionate legislation which would result in a haphazard distribution of subsidies. Perhaps compulsory term insurance to cover the loan outstanding should be required of all borrowers of long-term, secured loans.

3. The Demand for Loans and Probable Cost to the Government.

There is very little experience on which to base any estimate

of demands for loans by parents, especially loans at relatively high interest rates.

Assumptions about demand. We have estimated earlier that total parental contributions amount to $9.1 billion in 1978/79. A loan program which allowed parents to borrow some 50 per cent of the average parental contribution would have a potential of some $4.5 billion. In actual fact, the loan program is most likely to appeal to parents with children in high-cost schools. If the loan potential is limited to that segment, it will only amount to $2.6 billion. (Cf. Table 1)

The potential loan demand for secured loans, limited to amounts to be contributed from assets according to accepted aid formulas, is about $2.5 billion, an amount roughly equal to the estimated annual outlays of unsecured loans. (See Table 4.)

The actual demand will depend upon (1) the interest rate charged, (2) the repayment terms, and (3) the onerousness of the paperwork involved.

We have assumed that for unsecured loans roughly 50 per cent of the eligibles will borrow at an eight per cent rate, and a third at the ten per cent rate. These proportions are no more than educated guesses.

Loans which require collateral demand more paperwork and reduce the flexibility of borrowers in managing their assets, especially stocks and bonds. For such loans, we would arbitrarily reduce the proportion of borrowers by 20 per cent from the above figures. Thus, the proportion of eligibles would be 40 and 26 per cent of the potential at 8 and

TABLE 4

PARENTAL CONTRIBUTIONS FROM ASSETS 1978/79
(millions)

Family Income	
Under $25,000	$ 740
Over $25,000	1,737
Total	$2,477

Contributions: Parental contributions from CEEB scale, and estimate of actual contributions from Middle-Income Students and the Cost of Postsecondary Education.

10 per cent rates, respectively.

Costs of alternative loan programs. Table 5 below shows some salient outcomes of six alternative loan programs. Three different types of maturities of parental loans (five, ten and fifteen years), bearing eight and ten per cent interest rates, are simulated. The potential borrowing for loans without collateral was assumed to equal fifty per cent of parental contributions, and that for loans with collateral was assumed to equal roughly a quarter of the potential. These assumptions were justified in the previous section, and should be considered as "best guesses."

The estimates of the loans outstanding in the first year are derived according to the assumptions in the same portion of the report. It is notable that the longer the term of the loan, the higher the interest as a proportion of the repayment, and consequently the amount outstanding is higher. By the fifth year, if the loan volume does not change from year to year, 1.8 times as much debt is outstanding for ten as it is for five-year loans. This ratio varies slightly with interest rates, as lower interest rate loans, repaid in equal installments, are likely to be repaid somewhat faster than those with a higher effective rate.

The estimated annual subsidy has been set equal to the difference between the repayment of the loans at eight per cent and the rate at which public authorities could cover their costs, ten per cent. The difference between the two payments is shown in the table in relation to annual payment to the nearest single per cent. The cost of the program,

TABLE 5

CASH FLOW AND COSTS OF DIFFERENT LOAN PROPOSALS

	Unsecured Loans				Secured Loans	
Term:	Five-Year		Ten-Year		Fifteen-Year	
Rate:	8 Per Cent	10 Per Cent	8 Per Cent	10 Per Cent	8 Per Cent	10 Per Cent
Potential Borrowing Outstanding (billions $)						
First Year	4.5	4.5	4.5	4.5	2.3	2.3
Fifth Year	9.7	9.9	17.4	17.7	10.1	10.3
Estimated Loans Outstanding (billions $)						
First Year	2.3	1.5	2.3	1.5	.9	.6
Fifth Year	5.0	3.3	8.9	5.9	4.0	2.7
Estimated Annual Subsidy (millions $)						
First Year	320	-	359	-	155	-
Fifth Year	700	-	1388	-	1680	-
Subsidy as Per Cent of Annual Payment	14	-	16	-	17	-

while modest at the outset, is likely to grow to quite considerable sums over the first five years. Both the five-year plan without collateral and the fifteen-year plan with collateral would cost roughly $700 million in the fifth year. The ten-year loan plan would probably cost double this amount.

4. Some Additional Policy Considerations.

Two tantalizing ideas to reduce budget expenditures, leveraging student loans, and providing incentives for institutions to enter the parent loan market, are discussed. An examination of the timing of the loan program in the context of economic and legislative uncertainties concludes this paper.

Distribution of benefits and the possibility of leveraging student loans. These two topics should be treated together. A careful reading of Tables 2 through 4 would convince the policy analyst that (a) the lion's share, between 60 and 75 per cent of the parental loan plan, would benefit parents of students with incomes over $25,000, (b) realistic parental repayment schedules require relatively large sums to be paid every year.

Therefore, the introduction of a higher loan ceiling for parental borrowing, as compared to the student loan ceiling of $2,500 a year, is not likely to appeal to parents of modest means, who would like to borrow instead of paying cash for their dependents' education. Repayment rates of 15 to 25 per cent of the principal borrowed narrow the attraction of

these loans. Only small amounts may be realistically borrowed by parents with modest incomes.

Under these circumstances, it does not seem either feasible or desirable to encourage lower-income parents to take out loans instead of their potentially better-off children. The possibility of introducing a new joint parent/student program for middle-income ($15-$25 thousand) dependents should not be excluded.

The federal role in encouraging institutional parental loan plans. The rationale for interposing institutional intermediaries which would offer parental loan plans looks seductive on the surface. Less federal money would have to be advanced to achieve a certain volume of lending, as federal contributions would have to be matched by moneys mobilized by the institutions.

This advantage may be more apparent than real. Most institutions would hesitate to place a large part of their endowment in lending to parents, and only a small number of institutions possess large enough endowments to finance the plans from internal sources. Thus the majority of institutions would have to turn to financial intermediaries to obtain the necessary funds to mount a lending program. In a number of cases, especially in public institutions, such borrowing may not be authorized by their charters, and could require special amendments by state legislatures. The poorer, badly endowed, liberal arts colleges would also have difficulty obtaining either revolving loans or long-term commitments

from banks or other financial intermediaries.

Thus a matching program, along the lines of the SSIG, is most likely to benefit a small number of institutions with high endowments. The alternative, capitalizing the institution's loan fund by SLMA, can make sense only if there is some evidence that institutions can administer or collect outstanding loans more effectively than public authorities. We did mention that the NDSL experience does not predispose one to advance such judgement.

The prospect that parental loans, at low SLMA-set rates, may be used as recruiting devices cannot be excluded. In practice, the administration of the loan program by institutions would not guarantee the achievement of horizontal equity, as parents in similar circumstances need not be treated in an identical fashion.

The two most powerful arguments for institutionally based programs are (a) that they are likely to be decentralized, and (b) that the absence of universal availability will reduce their inflationary effect. Our off-the-cuff estimate is that the parents of not more than 300 to 500 thousand students are likely to benefit from such a program, and that much less money will be borrowed.

On the assumption that the program will be instituted mostly in expensive private schools, we estimate that 5 per cent of the total benefits will go to parents with 1978 incomes of $20,000, 40 per cent to parents with incomes of $30-$50 thousand, the rest to parents in even higher brackets.

5. Conclusion.

During the time this report was written, most banks raised their prime rate to 10.25 per cent, and the cost of borrowing to the Treasury hit very close to 9.5 per cent. In other words, the Federal Reserve System, with the approval of the Administration, was taking energetic measures to curb borrowing and reduce the money supply.

Thus, to some, this period may appear as the worst of times to sponsor another lending program. Others will argue that it is the best of times for such an initiative: lendable funds are scarce, interest rates are high, and it is urgent to help parents finance the education of their children.

With reasonable arguments marshalled by both sides, the decision about parental loan programs will have to take into account the total subsidies to the higher income groups that are most likely to benefit from this program. If tax or other credits for higher education are passed during this session, perhaps parental loan programs should be shelved, or used merely to convince Congress to keep a lid on higher tax credits. If the House and the Senate fail to agree on tax credit or similar legislation, or if the President vetoes the bill and his veto is sustained, a parental loan program should be pushed aggressively as a substitute for more expensive types of aid to the well-to-do.

JOSEPH FROOMKIN INC.
1730 K STREET, N.W., WASHINGTON, D.C. 20006

OPTIONS IN THE REAUTHORIZATION OF THE HIGHER EDUCATION ACT

By

Joseph Froomkin Inc.

EPRC for Higher Education and Society

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OPTIONS IN THE REAUTHORIZATION OF THE HIGHER EDUCATION ACT

Introduction

Reauthorization of the higher education act is likely to generate considerable controversy. Higher education is faced with unprecedented challenges, and one can expect wide differences of opinion about what the new legislation should include. In view of growing doubts about the value of higher education from an economic standpoint, some will recommend curbing federal aid to this sector. Others will argue that federal aid ought to increase because of anticipated declines in enrollments and consequent financial problems which institutions can be expected to experience during the next two decades.

This paper lists options for federal aid for students and institutions. Alternative proposals for change are presented and discussed briefly. Options to achieve the following goals are outlined:

(1) options for a complete restructuring of legislation that would result in a federal program more in keeping with the changing role of higher education in our society;

(2) options to consolidate present legislation so that overlapping authorities would be eliminated; and

(3) options for changes that would tighten eligibility requirements so that the cost of program would be reduced.

Student Aid

Major Reconstruction of Student Aid Programs

The changing role of postsecondary education in our society could result in proposals for a major revision of federal student aid programs. The economic returns from less than four years of higher education are difficult to document and the benefits from a bachelor's degree are shrinking rapidly. Some economists argue that the social returns from a college education are shrinking even faster than the economic returns to the individual.

Under these circumstances, public policy analysts can argue that subsidies to students should be reduced drastically and that additional steps should be taken to reduce the cost to society of postsecondary schooling. At the same time, analysts must remember that postsecondary education is considered a societal asset, and that the social demand for college may exceed levels that economists could justify.

Option 1--Expansion of work-study programs. Incentives should be introduced for employers to share three jobs among four undergraduate students. This arrangement would allow a greater number of part-time students to attend school two-thirds of the time and still complete their degrees in a reasonable time period. The need for existing subsidies to students would thus be lessened, as would the students' foregone earnings, which are an important part of the cost of attending college. The principal advantage of this proposal is that it would reduce the financial penalty

currently paid by less well-prepared students least likely to complete a four-year college course. Those students are not likely to benefit from higher wages as a result of additional postsecondary exposure.

Option 2--Restriction of program eligibility. As social returns from higher education decline and, from an economic point of view, it becomes increasingly timely to discourage enrollments in higher education, parents and students should be made aware of the cost of attendance. This objective could be attained by introducing major changes in calculating the eligibility for grants. Grant aid could be determined by subtracting the following from the total cost: (1) the expected family contribution, (2) the amount that the student could be expected to earn himself, and (3) a further amount to be borrowed. Grants would then cover only that part of the expenses that remained after the previous contributions had been taken into account.

The current view that access to a postsecondary education is a right makes it unlikely that this calculation method would be adopted for lower-division students. Also, it can be argued that students who are unlikely to complete four years of college should not be saddled with debt. However, this method of calculating grants could be used for upper-division students. Those who persist to the junior year are more likely to graduate and thus to earn more during the rest of their lifetimes. A convincing case can be made that borrowing should play a part in financing their education.

Short of a complete restructuring of the entire aid system, the differential calculations for upper- and lower-division students should rank high among priorities. The money saved as a result of offering loans, rather than grants, could be channelled to finance the costs of students from families with modest backgrounds who attend higher cost institutions. In effect, this would extend the choice of schools available to all students.

However, an upper limit should not be removed from the calculation of federal aid. If the reimbursement ceiling was raised to $5,000, for example, students would have access to 90 per cent of institutions. High fees at some schools do not bar truly needy students since many of these schools have large endowments that allow them to offer scholarships. The cost of attendance at very expensive schools should be shared by the public, the institution, and the student.

Option 3--Development of income-contingent loans. Another change that has been suggested is the conversion of government loan programs into income-contingent loan programs. If, however, a minimum income was excluded from taxation, the scheduled repayment rates would be very high. On the other hand, if all earnings were included, loan repayment would weigh more heavily on students who did not benefit from their postsecondary education. In either case, unless the established repayment schedule underestimates the rate of inflation, the amount of repayments through income-contingent loans is likely to be overestimated if the future incomes of college-educated persons were to fall short of

projections based on past experience. The cost of these loans to the government or other lenders would be higher than anticipated.

Option 4--Conversion of grants into loans. One of the more innovative suggestions that has been made for altering the student aid program is to permit students to convert their eligibility for grants into loans for a larger amount. This plan would enable a student either to finance a higher proportion of education expenses, or, if contributions from family and student resources remained constant, to afford a higher-cost school.

The difficulty surrounding this proposal is how to establish an equitable conversion rate that would cost the government the same amount regardless of the option chosen by the student. The cost of extending the loan are three-fold: (1) payment of interest on the loan while the student attends school, (2) subsidies to the lender in order to keep the interest on the loan low, and (3) losses due to nonrepayment because of death, disability, bankruptcy, or fraud.

It is seldom mentioned that paying interest on loans while a student continues his or her education (and during the grace period) makes loans a meritocratic instrument of student aid. Students who continue their education for longer periods of time benefit from higher subsidies per dollar borrowed than do students who either drop out or take short-term programs. Thus, it is quite possible for a student whose studies are continuous straight through professional school or a doctoral program to benefit from interest subsidies for eight consecutive years. Students

who stay in school for a shorter period are likely to be subsidized less heavily per dollar borrowed.

If grants were converted to loans and the conversion rate was based on subsidies incurred for loans of average maturity (without taking into account defaults other than those for death and disability), the conversion rate would benefit students who were academically talented and who borrowed early in their academic careers. Students who did not intend to repay their loans would also be attracted to the program, as well. Therefore, there would be a net cost to the government both from more lending and defaults.

Alternatively, if the conversion rate was based on a factor that took both average maturities and the cost of defaults into account, students who were more likely to complete a longer educational program and less likely to default on the loan repayments would be subsidized less. The short-term student who repaid the loan would be likely to profit least from such conversion privileges.

Option 5--Consolidation of grant programs. The repertory of federal grant programs consists of (1) the Basic Economic Opportunity Grants (BEOG); (2) aid for special groups, e.g., orphans and veterans; (3) the Supplementary Economic Opportunity Grants (SEOG); (4) State Scholarship Incentive Grants (SSIG); and (5) specialized grants to undergraduates and graduates electing selected courses of study. As many of these programs as possible could be consolidated into a program centered

around the BEOG.

A new consolidated program could be administered by the states, which would apply federally developed contribution schedules. The contribution schedule could be set at a flat 20 per cent of disposable income, with a minimum ceiling of $2,500 or half of the cost. States would be expected to contribute 10 to 20 per cent to this program. Any state that wished to raise the reimbursement ceiling could do so, on condition that its contribution increased, perhaps 1 per cent with every $100 increase in the reimbursement ceiling.

States with large scholarship programs could easily match the required contributions and would have an added incentive to raise ceilings on reimbursements, thus benefiting private sector students. Those that had low student scholarship programs and low tuition would be put under some pressure to bring public tuitions closer to those of the private schools, as new moneys would have to be found to make their residents eligible for the BEOG.

Consolidation of Existing Student Aid Programs

Suggestions under this heading dealing with the College Work-Study Program (CWS) and the introduction of a special program of loans to parents would be relevant even if more radical changes in student aid programs were introduced.

Option 6--Modification of the College Work-Study Program. Currently the federal government subsidizes 80 per cent of the wages of

CWS students. In most instances, these students are paid the minimum hourly wage, and the number of hours worked is limited by their documented need. As a result, many of the students work only a few hours a week or only a few weeks.

The CWS should remain a need-based program, but the federal government should pay a flat, subsidized rate of $2.10 an hour (or 80 per cent of the minimum wage, when this wage escalates) to students up to 80 per cent of the need that financial aid officers wish to cover by work-study. Institutions would be free to pay any wage above the minimum. There would be no limit on student earnings from unsubsidized work, and institutions would be encouraged to employ CWS students in day-to-day clerical and maintenance activities. In other words, the CWS subsidy would become a training subsidy, and institutions would be able to train students for any of the jobs performed by the institutions.

If this proposal was adopted, CWS funds would probably be used more effectively, especially by the junior colleges. In 1975 an estimated two-thirds of all full-time college undergraduates earned more than the minimum wage. Seven out of eight undergraduates, aged 25 and over, an important part of the junior college student body, earned more per hour than the minimum wage. It should come as no surprise, then, that junior colleges had difficulty in spending their CWS allocations.

Option 7--Provision of special purpose educational loans to parents. If contributions from capital or savings were not eliminated from

the BEOG and other contribution schedules, a new, unsubsidized, but guaranteed, loan program for parents might be introduced. At a minimum, the amount that parents would be expected to contribute from assets would be lent through an affiliate of the Guaranteed Student Loan program, at the rate of nine per cent.

More liberally, collaterized loans up to the cost of education, less grants, could be advanced to parents under such an option. This innovation would go a long way towards helping middle-income parents who are "asset rich," but "cash poor." It would eliminate the complaint that the appreciation in housing equity cannot easily be converted to pay for college costs.

Option 8--Consolidation of SEOG and SSIG. The recommendation to consolidate the SEOG and the SSIG is not new. The idea of placing institution-based money into a student-based program appeals to those who believe that it is impossible for students who are in the same circumstances to be treated equally when decisions on aid are made by thousands of aid officers. The most often cited reason for the desirability of consolidating these programs is that federal matching of money for state scholarship funds would act as a powerful incentive to the states to raise tuitions and channel their aid to students rather than to institutions.

Opposition to such a consolidation might come from the financial aid officers and the administrators of private institutions. The financial aid officers might argue that their ability to fashion aid packages that suit

individual students would be crippled. Formula aid, they have maintained, does not take into account the special requirements of students that do not fit onto a financial aid form. The administrators of private institutions might be concerned that money that could be used to discount tuition to students would be taken away from them.

Option 9--Reform of the SSIG. Alternatively, a number of changes can be proposed for the SSIG. The suggestion that only state scholarships that are portable from one state to another should be matched is one such change. This much discussed change would affect potentially only 8 per cent of all undergraduates who cross state lines to attend college. Hence, it may not have a high priority.

Other modifications that would encourage the adoption of federal contribution rules for calculating eligibility for state scholarship programs would appear to be more far-reaching. In this way the SSIG program could be a way of subsidizing students who attend higher-cost institutions. Federal matching funds could be limited to programs that (1) used the BEOG contribution schedules, (2) do not use the BEOG ceilings, (3) did not fund the first $1,000 of uncovered cost, and (4) were used to fund a part of the remaining calculated need. This modification would channel grants to students only in relatively high-cost schools. It would also reduce the burden of middle-income parents, who incur very high expenses by sending their children to expensive schools.

If these ground rules are judged too complicated, a simple

provision that would limit federal matching funds to grants of $1,000 or more could be established. Such a modification would favor students who attend private schools. It might also encourage some private institutions to raise tuition so that part of the aid from the state would benefit them.

Option 10--Alteration of the allocation formula for the SEOG and CWS programs. Currently, neither the SEOG allocation formula nor the CWS formula determines allocations by states that cover the same percentage of student need, however defined. Changes in the allocation formulas have been suggested by a study group formed by the U.S. Office of Education. The recommendations of this group should (1) be modified slightly to simplify the calculation of allocations by states and (2) be further modified to provide an incentive for schools that do not ordinarily enroll a large number of students from less affluent backgrounds.

An important procedural change, which, incidentally, would remove much of the states' criticism of the USOE recommendations, would be to calculate need in a manner that takes into account the costs in a specific school. Need would be defined to include tuition, room and board charges in a school offering resident accommodations, and a flat $750 for books and incidentals for all schools. Schools that did not have resident facilities could use the average cost of resident facilities at other schools in similar metropolitan or nonmetropolitan areas. This would solve the problem of "grantsmanship" that has crept into the estimating of costs of attending a given school. Some junior colleges estimate

higher nontuition costs for their students than do Ivy League schools.

The current system also tends to perpetuate the existing distribution of funds among schools and may be partially responsible for the concentration of students from modest backgrounds in certain institutions. It is only natural for students to continue attending institutions where the administration can offer them additional aid. Two modifications could help solve these problems: (1) institution-based aid could be distributed partly in proportion to the uncovered need of BEOG recipients, and (2) a special fund, say 10 per cent of the total, could be allocated to institutions that have a below-average attendance of low-income students for their state. This fund would be distributed to institutions which increased both the number and the proportion of students eligible for BEOG grants in each of the past two years.

Option 11--Consolidation of loan programs. The coexistence of the National Defense Student Loan Program, which charges 4 per cent interest on loans, and the Guaranteed Student Loan Program, for which the interest rate is set at 7 per cent, illustrates the difficulty of eliminating any program of aid and replacing it with another whose charges are more up-to-date. There is little to justify the lower-interest program in purely economic terms. Its elimination or consolidation is overdue.

It may be useful to consider the possibility of substituting a single student loan program for the multiplicity of present programs. To give this proposal a chance to be adopted by Congress, it will probably

need to be coupled to the establishment of a Student Loan Bank. The bank would be a lender of last resort and would have the authority to warehouse the paper of other lenders.

The timing of such a proposal may be wrong. The facilitation of borrowing for any purpose is not likely to be popular during inflationary times. Even if the bank were to finance itself by issuing obligations guaranteed by the federal government, some economists would argue that the savings diverted to this purpose would better be employed in the private sector.

The discussion about the desirability to establish the Student Loan Bank needs to take into account what is likely to happen when income ceilings for subsidized loans are removed. Would the less affluent students be shut out of the private lending market? Is the current Sally Mae network sufficient to counter these developments? Would the new Student Loan Bank make it easier for the rich to borrow, and thus cause a vast increase in borrowing? Would this increase in borrowing dry up the commercial lending market as parents financed noneducational expenditures with subsidized student loans? Or, on the contrary, would parents and students who did not need the money invest it or lend it and thus increase the supply of loanable funds, contributing to inflationary pressures?

Reduction of Student Aid Programs

Suggestions for controlling the cost of federal student aid programs would usually focus on methods of more precisely targeting aid to

students from low-income households. However, the current interest in providing relief to middle-income families shifts the focus of alternatives that must be considered.

Option 12--Modification of loan programs. It has been suggested that the current rate of interest should be charged on student loans and that the interest subsidy to students while they attend college should be eliminated. Such a change is unlikely to be considered sympathetically by Congress, and a much more modest change in the program could be considered. This modification would shift the burden of the 2 per cent subsidy that the federal government now pays to banks to students, both while they are in college and during the repayment period.

It can be argued that high inflation in the economy has necessitated this subsidy, but the same inflation is making it possible for students to repay their loans more easily using dollars of decreased buying power. The surcharge will persist as long as prices continue to rise. As soon as prices stabilize and the surcharge is no longer necessary, loans would revert to the lower interest rate.

Option 13--Narrowing of eligibility for student aid. Another option is to limit eligibility for aid to students enrolled either in academic programs or in longer-term vocational programs. Short-term vocational training is currently generously subsidized by the U.S. Department of Labor's CETA programs. Insufficient attention has been paid to the extent to which "double-dipping" is possible or desirable for CETA participants.

This narrowing of eligibility would reduce the number of students benefiting from such grant programs as BEOG and such loan programs as NDSL and GSL. In the case of GSL, additional economies to the government would accrue since the majority of defaults are incurred by students who have attended short-term vocational programs. Additional savings of some $40 million that go to proprietary schools would also be effected in the NDSL program.

Institutional Aid

Today there is less justification than formerly for the introduction of across-the-board, or even selective, institutional aid based either on the number of students attending a given school, or on enrollment induced by federal aid. If introduced today, such measures would not defuse the push for tax credits. The crest of enrollments has passed through the colleges and places for the multitude of new students were found without federal subsidy. Also, the number of families with more than one child in college is likely to diminish in the near future.

Instead, institutional aid should be directed to arresting a number of undesirable trends that will otherwise affect graduate students, faculties, and the leadership capability of this country. It should forestall the following trends:

(1) the decline in the level of new positions in institutions of higher education,

(2) the resulting loss of our research and development capability, and

(3) the exclusion of a whole generation of scholars from opportunities for research, development, and creativity.

Major Programs

If the current trend continues, the intake of tenured professors will come to a halt in the period 1982-1987. Even afterwards, we shall have very few tenured positions opening up in colleges and universities.

Option 14--Federal subsidy of faculty positions. It is suggested that the federal government start a program to offer university employment to some of the more promising graduates of our graduate schools. This initiative might take the form of a competition to designate thirty outstanding departments in, say, some twenty disciplines in sciences as well as the humanities, and would provide funds to offer each member of the tenured faculty a full sabbatical year after three full years of instruction. The replacement for that faculty member would then be paid by federal funds.

This plan is superior to proposals for establishing special research institutes to give work to underemployed persons with doctorates because the additional persons hired under this program would be assured of working in stimulating milieus. It could be expected that departments that were certain of their continued preeminence and confident of being refunded after the original period would offer permanent positions to the most promising of the temporarily-filled positions.

Option 15--Designation of national universities. An alternative that might achieve the same result would be to designate some fifteen to twenty universities as worthy of special federal attention. The designation of national universities has been suggested by both the Ford Foundation and the Carnegie Foundation. These selected universities would be eligible for additional funding to maintain their leadership capabilities.

The difficulty with this proposal is that it assumes that the patterns of the last twenty years will repeat themselves. In the past, mobility of professors among institutions tended to provide opportunities for younger scholars. In the future, however, such lateral moves will be rarer. As a result, the faculties at the proposed national universities might end up consisting predominantly of older professors. The leadership in a number of disciplines might then pass to younger, now less well-established departments.

Consolidation of Existing Programs

The problems of consolidating legislation that deals with graduate students and affects the viability of the universities can be conveniently discussed under two headings: (1) continued support for graduate education for minorities and women and (2) support for teacher training.

Option 16--Retargeting support for graduate studies for minorities and women. The federal role in encouraging an over-supply of graduates in already overcrowded occupations through the support of graduate studies for women and minorities is increasingly difficult to

justify. No amount of equal opportunity legislation will create jobs in universities for minorities and women when positions are unavailable for placement. Only if a program to create more faculty positions was adopted would it make sense to fund small, selective programs for underrepresented groups to ensure that they have a fair chance of bidding on jobs. In the absence of such programs, women and minority graduate programs could be spread more thinly to encourage graduate studies for a master's degree only.

Option 17--Inservice training for teachers. The total number of persons qualified to teach and seeking teaching jobs will exceed the number of openings. Existing teachers will be less likely to quit as reentry into the profession will be more difficult. Under these circumstances, federal programs in teacher training should emphasize the following: (1) improvement of the quality of students who enter teacher-training programs, and (2) upgrading of the qualifications of existing teachers.

Funds available for inservice training should be used to retrain large groups of teachers in a given school or district. During the 1960s, when there was considerable interest in teacher retraining, a number of studies were conducted. They proved that although teachers enjoyed summer institutes, this exposure did not affect the methods or content of their instruction once they returned to their classrooms. By contrast, school-wide retraining of teachers in the elementary school and discipline-oriented district-wide retraining efforts did have an effect on teacher behavior.

Conclusions

Some items on our long list of possible changes to the student aid legislation are likely to be received more positively than others. Informal conversations with congressional staff persons and members of higher education associations have left us with the following impressions regarding student aid programs. It might be possible to consolidate student aid programs if BEOG programs are transferred to the states. If this proposal is not acceptable, there is very little chance of consolidating or changing the emphasis of student aid programs; however, some minor changes, as outlined above, in the CWS and SEOG programs have a slight chance of being accepted. There were differences of opinion about program reductions. Some of our contacts were optimistic about the possibility of enacting these changes, but the majority were not.

In terms of institutional aid, it is difficult to see that any of the options outlined above would be accepted. Congressional concern is now centered on institutions that have difficulties in continuing their operation. Longer range considerations have received less attention: (1) most institutions that cannot continue operating are the ones that students no longer wish to attend and (2) the continued subsidies to marginal institutions are likely to weaken other, stronger institutions, which would enroll the students from schools that are no longer viable.

JOSEPH FROOMKIN INC.
1730 K STREET, N.W., WASHINGTON, D.C. 20006

STATISTICAL NEEDS TO ESTIMATE DEMAND AND SUPPLY OF GRADUATE AND PROFESSIONAL MINORITY ENROLLMENT IN HIGHER EDUCATION

By

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We have been asked to comment on a Statement of Work, and give our views whether extensive analytic effort can be mounted on this topic. For convenience, we have divided our comments into three parts. The first deals with a short description of data bases which deal with the supply (both stock and flow) of minorities with graduate education. The second comments on the state of the art of projections of future demand for minorities with graduate degrees, and the last section contains recommendations for additional research.

SUPPLY OF MINORITIES WITH GRADUATE EDUCATION

Stock of Persons with Advanced Degree

The U.S. Bureau of the Census. The most comprehensive published data base about selected minorities, Blacks and Hispanics, who continue their education beyond four years of college is the decennial census conducted in 1970. In that census, for the first time, statistics were published differentiating between persons with four and five years or more of education after high school. The following table shows the number of persons with college degrees for all Blacks and Hispanics with labor force experience in 1969.

TABLE 1

COLLEGE GRADUATES WITH LABOR FORCE EXPERIENCE IN 1969
BY YEARS OF POSTSECONDARY EDUCATION COMPLETED
(thousands)

	All		Blacks		Hispanics	
	4 Yrs.	5 or More Years	4 Yrs.	5 or More Years	4 Yrs.	5 or More Years
Males	3,540	3,300	105	87	48	60
Females	2,088	1,141	159	81	30	20
Total	5,628	4,441	264	168	78	80
			(per cent)			
Males	52	48	55	45	44	56
Females	64	36	66	34	60	40
Total	56	44	61	39	49	51

The proportion of minorities with at least one year of college education beyond the conventional four-year course is fairly close to the national average by sex. Small sample size, and consequently large possible standard errors, does not allow one to claim that either Blacks or Hispanics had higher or lower proportions of persons with a fifth year of education than the U.S. average.

A closer look at the occupational distribution of Blacks and persons of Spanish origin can provide a better idea of the attainment of minorities, both from an educational and occupational viewpoint. As of 1970, 18 occupations were reported by the Census Bureau as employing persons with 17 years or more of education. Roughly 70 per cent of all persons with this educational attainment were employed in these jobs.

The distribution of persons with five or more years of education for the total population and that of Blacks and the Spanish speaking is shown in Table 2. Compared to the national average, Blacks are more likely to teach below the college level, and be vocational counsellors, librarians, and research workers, n.e.c., and persons of Spanish origin to be architects, physicians, research workers, n.e.c., and salesmen.

TABLE 2

PER CENT OF PERSONS WITH FIVE YEARS OR MORE OF POSTSECONDARY EDUCATION IN EXPERIENCED CIVILIAN LABOR FORCE, TOTAL, BLACK AND HISPANIC BY SELECTED OCCUPATIONS, 1969
(per cent)

	Total	Black	Spanish
Accountants	1.5	0.8	0.8
Architects	0.7	0.3	5.3
Engineers	6.6	1.7	5.4
Librarians	1.2	1.4	0.8
Mathematicians	0.1	0.1	0.1
Life & Physical Scientists	2.1	1.2	1.5
Lawyers and Judges	5.3	1.5	2.6
Dentists	1.8	1.2	1.0
Optometrists	0.2	0.1	0.2
Physicians	5.8	2.9	11.9
Clergymen	3.0	2.1	1.5
Social Scientists	1.3	0.7	1.2
College Teachers	8.9	6.0	7.4
Other Teachers	21.6	38.2	18.0
Counsellors, Vocational	1.6	3.1	1.2
Research Workers, n.e.c.	0.2	0.5	1.2
School Administrators, Elementary	2.5	0.6	-
School Administrators, Secondary	5.3	5.0	1.7
Salesmen	1.9	1.3	2.9

Another way of looking at the degree of minority under-representation by occupation is to calculate the proportion of Blacks and

Spanish-origin persons to the total, and note those occupations where they exceed the proportion of these groups with this level of education. The results of this calculation are shown in Table 3. Again, in the case of Blacks, only librarians and teachers exceed the "expected" proportion of 3.8 per cent. Persons of Spanish origin with 1.8 per cent of all persons with 5 or more years of college exceed this proportion among accountants, architects, librarians, physicians, teachers, counsellors, researc! work.rs and salesmen.

TABLE 3

PROPORTION OF BLACKS AND PERSONS OF SPANISH ORIGIN FOR SELECTED OCCUPATIONS
(per cent)

	Black	Spanish
Accountants	2.0	3.1
Architects	1.5	2.1
Engineers	1.0	1.5
Librarians	17.8	4.9
Mathematicians	0.3	0.2
Life & Physical Scientists	2.1	1.3
Lawyers and Judges	1.1	0.9
Dentists	2.6	1.0
Optometrists	1.0	1.7
Physicians	1.9	3.7
Clergymen	2.7	0.9
Social Scientists	2.5	1.9
College Teachers	2.5	1.5
Other Teachers	15.5	3.5
Counsellors, Vocational	7.1	2.2
Research Workers, n.e.c.	1.7	2.0
School Administrators, Elementary	1.0	-
School Administrators, Secondary	4.1	0.7
Salesmen	3.2	3.3

Readers must be cautioned that the reporting in the 1970 Census does not conform to current norms. Blacks include persons of Spanish origin, who called themselves Black. It also includes the same

persons in the Spanish-origin total, thus producing some double-counting.

Later statistical publications of the U.S. Census, such as the Current Population are based on too small a sample to permit an analysis by detailed occupation of Blacks or other minorities. Standard errors in this data would be too big.

Survey of Income and Education (SIE). The much larger sample of the SIE could raise hopes that an update of the 1970 Census could be conducted. Unfortunately a detailed examination of the number of cases reported in that survey did put a damper on plans to estimate numbers of minorities with graduate education by occupation (Table 4).

TABLE 4

NUMBER OF CASES IN THE SIE SURVEY OF MINORITY MEMBERS WHO HAVE COMPLETED FOUR YEARS OF POSTSECONDARY EDUCATION

	Female	Male	Total
American Indians/ Alaskan Natives	244	166	410
Blacks	1,745	1,152	2,897
Mexican American	322	270	592
Puerto Ricans	90	73	163
Japanese Americans	131	117	248
Chinese Americans	44	70	114
Filipino Americans	77	46	123

Source: U.S. Commission on Civil Rights.

The largest minority group, Blacks, with nearly 2900 cases is likely to contain 1500 cases of persons with five years or more of education beyond high school. Some 1350 of these will have worked in 1975. Roughly 40 per cent, or 540 cases, would report teaching as an occupation. In the case of other occupations, the numbers are likely to be well below the 50-75 cases needed to place some reliability on the estimates of proportion of Blacks in a given field. The standard error of the estimate (roughly 25 cases) would be too high.

The numbers for other minorities, e.g., the sum of Mexican Americans and Puerto Ricans, 755 cases, is lower still. No more than 400 cases, in toto, are likely to have both labor force experience and over five years of education. The prospects of obtaining reliable estimates of persons by occupation for this group is very poor. It is even worse for persons with Asiatic backgrounds or American Indians/Alaskan Natives.

Minority Ph.D.'s. An estimate of minority Ph.D.'s was published by the Commission of Human Resources, the National Research Council, Women and Minority Ph.D.'s in the 1970's: A Data Book (National Academy of Sciences, 1977). No breakdown of Ph.D.'s by field is available separately in published form for these groups.

Table 5

Employment Status of Doctoral Scientists and Engineers[1] in the U.S. Labor Force in 1973 and 1975 for Whites, Asians and Other Minorities

Employment Status		Whites				Asians				Other Minorities				Total Reporting[2]			
		MEN		WOMEN		MEN		WOMEN		MEN		WOMEN		MEN		WOMEN	
		1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975	1973	1975
Employed Full-Time	WN	163,525	186,428	11,429	15,069	1,101	1,285	59	101	2,372	2,907	305	460	166,998	190,620	11,793	15,630
	V	93.9%	93.7[3]	71.5%	74.4%	96.8%[a]	92.9%	78.7%[b]	75.4%[b]	92.8%[a]	93.9%	88.9%[a]	87.3%[a]	93.9%	93.7%	71.9%	74.8%
Science, Eng., Postdoc.	WN	156,112	176,410	10,587	14,163	1,050	1,221	59	101	2,169	2,622	278	428	158,331	180,253	10,924	14,692
	V	89.1	88.6	66.3	70.0	92.3[a]	94.3[a]	78.7[b]	75.4[b]	84.9[a]	84.7[a]	81.0[a]	81.2[a]	89.1	88.6	66.6	70.3
Non-Science	WN	8,413	10,018	842	906	51	64	-	-	203	285	27	32	8,667	10,367	869	938
	V	4.8	5.0	5.3	4.5	4.5[a]	4.9[a]			7.9[a]	9.2[a]	7.9[a]	6.1[a]	4.9	5.1	5.3	4.5
Employed Part-Time	WN	3,454	3,740	2,293	2,401	-	19	10	21	74	56	6	36	3,528	3,806	2,309	2,458
	V	2.0	1.9	14.4	11.9		.6	13.3[b]	15.7[b]	2.9	1.8	1.7[a]	6.8[a]	2.0	1.9	14.1	11.8
Not Employed	WN	5,638	8,671	1,350	2,668	31	4	6	11	55	133	22	31	5,724	8,808	1,878	2,710
	V	3.2	4.4	11.6	13.2	2.7[a]	.3	8.0[b]	8.2[a]	2.2	4.3	6.4[a]	5.9[a]	3.2	4.3	11.5	13.0
Seeking	WN	1,484	1,389	489	485	10	4	5	6	15	30	3	5	1,509	1,414	497	496
	V	.9	.7	3.1	2.4	.9	.3	6.7[b]	4.5	.6	1.0	.9	.9	.8	.7	3.0	2.4
Not Seeking	WN	437	890	685	1,087	10	-	1	5	10	48	10	13	457	938	696	1,105
	V	.3	.4	4.3	5.4	.9		1.3[a]	3.7	.4	1.6	2.9[a]	2.5[a]	.3	.5	4.2	5.3
Retired	WN	3,717	6,401	676	1,096	11	-	-	-	30	55	9	13	3,758	6,456	685	1,109
	V	2.1	3.2	4.2	5.4	1.0				1.2	1.8	2.6[a]	2.5[a]	2.1	3.2	4.2	5.3
Other	WN	1,448[4]	213	407[4]	104	5[4]	-	-	1	55[4]	-	10[4]	-	1,508[4]	213	417[4]	105
	V	.8	.1	2.5	.5	.4			.7[a]	2.2		2.9[a]		.8	.1	2.5	.5
Total	N	23,239	24,193	5,323	5,980	164	200	24	51	362	574	114	187	23,765	24,967	5,461	6,218
	WN	174,065	199,052	15,975	20,242	1,137	1,299	75	134	2,556	3,096	343	527	177,758	203,447	16,397	20,903
	V	99.9	100.1	100.0	100.0	99.9	100.0	100.0	100.0	100.1	100.0	99.9	100.0	99.9	100.0	100.0	100.1
Unknown	WN	3,259	279	422	75	14	-	-	3	66	-	29	-	3,339	279	451	78

1/ Native-born U.S. citizens only
2/ Excludes those whose group status was unknown: here 6,715 men in 1973 and 8,280 in 1975, 639 women in 1973 and 830 in 1975
3/ Subtotals may differ slightly from sum for activities because of rounding
4/ These statistics may be artificially large because the 1973 forms were processed by optical scanning equipment that did not take advantage of employment information available elsewhere on the questionnaire; consequently other statistics in the table may have a downward bias.
a Sampling error between 1 and 5 percentage points
b Sampling error between 5 and 10 percentage points

Source: Survey of Doctoral Scientists and Engineers, National Research Council.

The Higher Education Research Institute. The Higher Education Research Institute in Los Angeles has conducted three surveys to highlight career paths for Ph.D.'s outside of the academic world. Three sets of questionnaires were distributed: (a) survey of mobility and non-traditional careers of Ph.D.'s in science and engineering, sponsored by the National Science Foundation, (b) survey of highly trained public sector employees, sponsored by the same agency, and (c) survey of humanities graduate alumni/alumnae, sponsored by private foundations.

None of the three surveys had a representative sample. In the first instance, the doctoral file of the National Science Foundation was used. Some 60 per cent of the 10,000 Ph.D.'s queried responded. In the second instance, the sample consisted of 700 names obtained from the Civil Service Commission, mostly Ph.D.'s outside of the field of science and engineering. In the third survey, 40 leading producers of humanities doctorates were asked to submit a list of Ph.D.'s whom they believe were employed outside of the academic sectors. Dr. Lewis Solmon, the principal investigator, has informed us that no attempt was made to determine the extent to which the samples were representative since the objectives of the research were to document non-traditional careers rather than to give the profile of occupation or earnings of doctorates by discipline and race. He believes that the number of minority members in the sample is very small. No tabulations of the results are currently available. The

questionnaires in the three studies are enclosed as Appendix II.

FLOW OF MINORITIES TO GRADUATE SCHOOLS

Office of Civil Rights. In 1972 and 1974, the Office of Civil Rights conducted two surveys dealing with the racial composition of college students. Only those schools which received federal aid were surveyed. Nevertheless, the number of minority students reported by these schools exceeded the estimates for the appropriate years published by the U.S. Bureau of the Census. Most analysts believe that institutions did not report accurate data and one would be prudent not to use them to establish attendance trends.

National Center for Education Statistics. This organization conducted two surveys of attendance and degrees granted which contain information on the race of students and degree recipients. The data for the first survey, conducted in 1976, is currently available. The compilation of the 1978 survey is still in process.

A limited number of tabulations are currently available for the 1976 survey. The highlights of the attendance survey are summarized in Table 6. For instance, the proportion of black fourth-year students was 7.1 per cent of the total, but their share of graduate enrollments in most science-oriented disciplines was much lower than 7 per cent. The proportion of graduates and undergraduates by discipline can also provide some additional inkling of the degree of under-representation of minorities in graduate programs by discipline. As long as the proportion of graduate

students is below the proportion of bachelor's degrees granted in a discipline, there is room to encourage minority students to continue their studies.

Both sets of comparisons are approximations of this potential for additional incentives. The ratio between fourth-year students and graduate students may be misleading since Black enrollment has been growing faster than that of other groups, and hence the proportion of persons eligible to enter graduate school is probably slightly exaggerated by the ratio of fourth-year students to graduate and professional students. In the second instance, the comparison of Blacks or Hispanics as a proportion of all undergraduates to graduates may be criticized as not taking into account the higher college non-completion rates of these minorities.

TABLE 6

PROPORTION OF MINORITIES OF TOTAL ENROLLMENT OF U.S. RESIDENT STUDENTS BY LEVEL
(per cent of enrollment by discipline)

	American Indian	Black	Asian	Hispanic
Agriculture and Natural Resources				
Undergraduate	0.8	2.2	1.1	2.3
Graduate	4.3	2.0	1.9	1.3
Architecture and Environmental Design				
Undergraduate	0.5	4.5	2.3	5.3
Graduate	0.4	5.8	3.1	2.3

TABLE 6 (Cont'd)

	American Indian	Black	Asian	Hispanic
Biological Sciences				
Undergraduate	0.5	7.4	2.6	4.0
Graduate	0.3	2.8	2.8	1.5
Business				
Undergraduate	0.6	10.7	1.6	4.4
Graduate	0.3	4.4	2.3	1.6
Engineering				
Undergraduate	0.4	6.0	2.8	4.1
Graduate	0.2	1.9	5.7	1.8
Physical Sciences				
Undergraduate	0.5	5.1	1.8	2.5
Graduate	0.3	2.1	2.8	1.2
Dentistry	0.4	4.1	2.7	2.8
Medicine	0.4	6.0	2.3	3.0
Veterinary	1.0	2.0	0.6	0.6
Law				
Professional	1.2	4.0	6.0	4.6
Graduate	0.3	1.4	6.9	1.7
All Others				
Undergraduate	0.8	10.9	1.8	5.1
Graduate	0.4	7.5	1.4	2.7
All Disciplines				
Fourth-Year Students	0.5	7.1	1.8	3.7
Graduate	0.4	6.7	1.7	2.4

Source: DHEW, USOE, Office of Civil Rights, Racial, Ethnic and Sex Enrollments Data from Institutions of Higher Education, Fall 1976, Washington, D.C., April 1978.

Perhaps a better idea of the potential for encouraging additional graduate study can be read from Table 7. This table shows the proportion of degrees granted to minorities at the bachelor's, master's and doctorate levels. The proportion of Blacks and Hispanics in graduate programs in the sciences, it will be noted, is much lower than could be expected from their majors at the bachelor's level.

TABLE 7

PROPORTION OF DEGREES AWARDED TO MINORITIES IN SELECTED DISCIPLINES, 1976
(per cent of degrees by discipline)

	American Indian/ Alaskan Native	Black Non-Hispanic	Asian or Pacific Islander	Hispanic
Agriculture and Natural Resources				
Bachelor	0.5	1.5	1.1	1.1
Master	0.3	1.7	2.6	0.7
Doctorate	0.4	1.7	5.2	1.5
Architecture & Environmental Sciences				
Bachelor	0.4	3.4	2.4	2.6
Master	0.3	5.5	3.2	3.2
Doctorate	-	9.4	9.4	9.4
Business				
Bachelor	0.3	6.7	1.8	2.8
Master	0.2	3.8	2.2	1.6
Doctorate	0.4	1.8	2.2	1.0
Engineering				
Bachelor	1.1	3.0	2.6	2.8
Master	0.2	1.9	6.0	2.5
Doctorate	0.1	1.3	7.1	1.4

TABLE 7 (Cont'd)

	American Indian/ Alaskan Native	Black Non-Hispanic	Asian or Pacific Islander	Hispanic
Health Professions				
Bachelor	0.3	5.4	1.8	2.3
Master	0.4	5.2	2.7	2.4
Doctorate	-	3.0	4.4	1.5
Physical Sciences				
Bachelor	0.3	3.1	1.7	2.1
Master	0.5	2.0	3.1	1.5
Doctorate	0.2	1.6	3.3	1.5
Biological Sciences				
Bachelor	3.0	4.6	2.5	2.9
Master	0.2	3.1	2.5	1.6
Doctorate	0.5	1.7	3.4	1.1
Medicine	0.3	5.2	1.9	2.4
Law	0.4	3.9	1.1	2.7
Education				
Bachelor	0.5	9.0	0.6	3.2
Master	0.4	10.2	0.8	2.4
Doctorate	0.4	9.1	1.0	2.2
All				
Bachelor	0.4	6.5	1.5	3.0
Master	0.3	7.0	1.7	2.5
Doctorate	0.3	4.2	1.8	1.8

Minority Doctorates. Two publications of the Commission on Human Resources of the National Research Council have collected and published data on Ph.D.'s. The first one covers the period 1973 to 1976, and the second is an update for 1977. The data from these publications, by broad field, are summarized in Table 8.

TABLE 8

NUMBERS OF TOTAL AND MINORITY PH.D.'S FROM U.S. UNIVERSITIES BY MAJOR FIELD

1973-76	U.S.	Black	American Indian	Chicano	Puerto Rican	Asian	Other
Total	108,497	3,495	526	845	224	1,165	84
Physical Sciences	14,614	143	51	71	19	231	10
Engineering	7,078	55	24	27	17	234	6
Life Sciences	15,426	237	66	95	29	251	9
Social Sciences	21,244	498	96	140	50	158	13
Art & Humanities	18,148	309	93	209	33	110	21
Professional Fields	4,722	133	18	27	10	43	3
Education	27,158	2,119	178	275	66	136	22
Other	107	1	2	1	-	2	-

Source: Women and Minority Ph.D.'s in the 1970's: A Data Book, Appendix A.

1977							
Total	27,371	1,186	215	471		907	
Physical Sciences	3,600	44	16	56		223	
Engineering	1,793	15	12	22		248	
Life Sciences	3,986	68	37	35		182	
Social Sciences	5,716	220	47	82		106	
Art & Humanities	4,209	108	30	121		49	
Professional Fields	1,147	44	5	15		33	
Education	6,884	687	68	140		66	
Other	36	-	-	-		-	

Source: Summary Report, 1977, Doctorate Recipients from United States Universities, pp. 17-19.

The most striking features of this table are (1) the low proportion of Hispanic Ph.D.'s during the 1973-76 period, and its rather large increase in 1977, (2) the high proportion of doctorates in education awarded to Blacks, some 60 per cent of the total.

Summary. There is little information on occupations of minorities with master's degrees, and spotty information about doctorate holders, and enrollment by major covers a few short years as well. Nevertheless, it is clear that minorities are under-represented in most science-oriented, business, engineering and professional graduate programs and occupations. In the case of Blacks, a higher than expected proportion of students major in education.

Even more than Blacks, Hispanics fail to enroll in graduate programs. This would appear to be a high priority target for federal scholarships.

DEMAND FOR MINORITIES IN GRADUATE PROGRAMS

It is difficult to forecast the demand for minorities in graduate programs by specialty because the market for college graduates is in a real flux. The U.S. Department of Labor estimates that roughly a quarter of all new college graduates will be employed in jobs which will not utilize their full training. In Supply and Demand for Persons with Postsecondary Education (October 1976), we estimated that a third of all college graduates in 1985 will fill jobs formerly filled by persons without college degrees.

The relevance of these findings regarding the job prospects

of minorities may or may not be moot. In the case of Blacks, between 70 and 80 per cent of the total graduates were employed in education, government or another part of the non-profit sector; social science, religious institutions, or medicine. We believe that in the next five or six years the number of jobs in the non-profit sector will grow slower than for the economy at large. The openings for minority college graduates will probably depend more upon the pressure of federal and state funding agencies to make their work force mirror more closely the composition of the general population than on total job openings. A substantial proportion of new openings may continue to be filled by minorities.

The areas in which minorities may encounter some difficulties in placement are quite specialized. One of them is probably colleges and universities. Minority members with Ph.D.'s in disciplines which have no transferability outside of the academic setting probably will be affected unfavorably by the dearth of college openings in the 1980-85 period. If our analysis of this market is correct, there will be only one-third to one-fifth as many job openings in this 1980-85 period as compared to the 1970-75 period. ACE recently published a study projecting few net hires in academia in the mid-1980's (T. M. Corwin and P. R. Knepper, Finance and Employment Implications of Raising the Retirement Age for Faculty).

Perhaps, this may affect minority teaching opportunities. In 1977, only 100 Blacks and Hispanics received Ph.D.'s in the physical sciences, 37 were awarded Ph.D.'s in engineering, 103 in the life sciences,

302 in the social sciences, and 229 in the humanities. Perhaps 4,500 Ph.D.'s outside of education are likely to be awarded to Blacks and Hispanics in the mid-1980's. Jobs could be found for them in college teaching if affirmative action programs were to be pushed actively even during this period.

By contrast, it appears that the chances of landing a professional managerial job are vastly increased for all persons who have continued beyond the bachelor's degree. A recent study of developments between 1972-73 and 1976-77 implied that 75 per cent of the men and 80 per cent of the women got professional or managerial jobs if they continued a year beyond the bachelor's level, as contrasted to half the men and 80 per cent of the women who just graduated from college. Thus, a graduate program in selected specialties which would stop short of the doctorate could ensure the upper mobility of minorities.

The choice of majors or specialties in that connection is less clear. The only source for determining those specialties is the Occupational Outlook for College Graduates published by the U.S. Department of Labor, who have summarized the total outlook for occupations which require a graduate degree and, in separate columns, have indicated whether a master's or doctorate degree is considered to be appropriate for the exercise of these professions (Table 9).

TABLE 9

OCCUPATIONAL OUTLOOK RATED BY BLS

(+ = positive, ·· not rated, - slower growth than average)

	Master's Degree	Professional or Doctorate	Total Outlook
Accountants	+		+
Actors & Actresses	··	··	-
Actuaries	-	··	+
Anthropologists		+	-
Architects	+	··	-
Astronomers		+	-
Biochemists		+	+
Chemists	··	··	+
Chiropractors			-
Protestant Ministers			-
Rabbis			-
Roman Catholic Priests			+
Counselors	+		-
Dancers	?		-
Dentists		+	+
Dietitians	?		+
Economists	+	+	?
Engineers	+		+
Foresters	+		-
Geographers	+		-
Geologists	··	··	+
Geophysicists	··	··	+
Health Service Administrators	+		-
Historians	+	+	-
Home Economists	+		-
Landscape Architects	··	··	+
Lawyers		+	-
Librarians	+		-
Life Scientists	+	+	+
Market Researchers	+		+
Mathematicians	+	+	-
Meteorologists	+	+	+
Musicians	··	··	-
Osteopathic Physicians		+	+
Personnel Workers	+		-

TABLE 9 (Cont'd)

	Master's Degree	Professional or Doctorate	Total Outlook
Pharmacists	+		+
Physical Therapists	..	..	-
Physicians		+	+
Physicists	+	+	
Podiatrists		+	+
Political Scientists	+	+	-
Psychologists		+	+
Nurses	+		+
Security Brokers	+		+
Social Workers	+		?
Sociologists	+	+	-
Speech Pathologists	+		?
Statisticians	+	+	+
Systems Analysts	..	..	+
Elementary & Secondary Teachers	..	..	-
College Teachers		+	-
Urban Planners	+		+
Veterinarians		+	+

Source: U.S. Department of Labor, Occupational Outlook for College Graduates, 1978-79 Edition

CONCLUSIONS AND RECOMMENDATIONS

There is very little existing statistical information which throws light on the occupational distribution of minorities which also take into account the discipline of their graduate degrees. There is some, but very little, information by discipline about the numbers of persons with minority backgrounds with graduate degrees. We have searched the literature thoroughly, and have encapsulated the findings in the above memorandum.

in our judgement, the basis for projecting future supply of minority new entrants into the labor force is both difficult and uncertain.

One recent attempt to prepare such projections was published by the University of Pennsylvania, Wharton School, Industrial Research Unit. A book entitled The Availability of Minorities and Women for Professional and Managerial Positions, 1970-85 by Stephen Schneider provides projections for a number of specialties: (1) engineering, (2) accountancy, (3) law, (4) physics, (5) chemistry, (6) medicine and (7) dentistry. An alternative set of projections is currently being sponsored by the EPRC, and will provide projections for 12 to 16 disciplines of graduate degrees granted to minorities.

These projections may be useful in setting funding goals for minority programs, if an executive decision is made that a certain proportion of minority graduate students deserve to be supported in their graduate careers. Targets for students to be supported in each specialty or discipline are less easy to recommend. They will depend upon scholarships available from other sources. A number of mission-oriented agencies, e.g., the National Institute for Mental Health, provide scholarships in graduate psychology earmarked for minority members, and certain specific legislation, e.g., Indian Education Act of 1972, provide fellowships in selected fields (medicine, law, education, natural resources and engineering) to Indians, Aleuts, Eskimos or other Alaskan natives. It would be useful if FICE were to conduct a quick survey of available fellowships for graduate study

in all of the Federal government. It would be even better if a catalogue of awards were made available as well.

Finally, the activity of the Federal government in sponsoring graduate fellowships does need to be put into the general perspective of the Federal goal to help minorities to achieve educational parity. One cannot help but recommend going as far upstream to high school to remedy the disparities in educational attainment. Drop-out rates in high school are catastrophically high in the case of Hispanics, and uncomfortably high in the case of Blacks. Non-completion rates of four years of college are also high for these two groups. Hence, an increasing, but still relatively low proportion of the age group is eligible for graduate fellowships.

Among Blacks, the college non-completion rate among males is especially troubling. This is reflected in their share of earned doctorates. While three out of four doctorates to whites, Hispanics, Asians and American Indians/Alaskan Natives go to males, in the case of Blacks 61 per cent of the doctorates are earned by males. To some extent, but not totally, the higher proportion of females is responsible for the skewing of Black degrees to education. This skewing may or may not be a source for concern: most doctorates in that discipline are earned by persons who are already employed in the field of education, and are a prerequisite to appointment to an administrative position. While one may interpret the large number of doctorates in education as evidence of the striving of

Blacks to be promoted to educational management posts, one cannot help wondering to what extent others have passed up opportunities to obtain graduate degrees in other disciplines.

In the present employment climate, one may wish to fine-tune the scholarship program in such a way as to favor professional and intermediate master's degrees. In the light of the dearth of academic and research opportunities for persons with doctorates, such action appears prudent. Before this recommendation is implemented, it would be useful to check with the Office of Civil Rights to gauge the promises of higher education institutions to hire minorities against the likely levels of production of Ph.D.'s.

Recommendations for further study.

It has been suggested that an RFP be developed to acquire information on demand for persons with advanced degrees by occupation, sex and ethnicity. It was also stated that tracking the supply of graduates by discipline, sex and ethnicity should be collected.

The above short technical study does not allow one to be optimistic about achieving these objectives. Persons knowledgeable of the highly competent effort of the U.S. Department of Labor in connection with that agency's work on the Occupational Outlook are aware to what extent projections of employment by occupation are subject to error. In our ever-changing economy, it is extremely difficult to forecast demand by detailed occupations. It can be flatly stated that projections of demand

by occupation for persons with advanced degrees, especially Ph.D.'s, is technically impossible. To a large extent, their employment depends upon the availability of public funds for research, development and, sometimes, dissemination of new technology and cultural achievements. As long as the United States does not have a manpower policy for persons with advanced degrees, these studies will not be productive.

Even without detailed studies, it is possible to postulate that minority members with advanced degrees in disciplines where they are highly under-represented (mathematics, some sciences, and the hard social sciences) are likely to find jobs in a tight academic labor market, as long as an affirmative action policy is in effect, and steps are taken to enforce it by continuous monitoring of hiring patterns.

If we may be permitted to make a suggestion which goes beyond the scope of our original charge, we would place much higher priority (1) upon research on reducing attrition in postsecondary education for minorities, and (2) learning more about the factors which will encourage increasing the number of minority college students to choose majors other than education in both undergraduate and graduate studies.

STATISTICAL NOTE

Retention Rates of Blacks and Persons of Spanish Origin

The continuing higher dropout rates of minorities from high school is documented in U.S. Bureau of the Census, Current Population Reports, School Enrollment--Social and Economic Characteristics of Students: October 1977 (Advance Report) (P-20, No. 321), March 1978, Table 6.

PER CENT OF PERSONS NOT ENROLLED IN SCHOOL, NOT HIGH SCHOOL GRADUATES BY AGE GROUP 16 TO 34

	Black	Spanish Origin*	White
16 and 17 years	7.6	15.3	8.8
18 and 19 years	21.9	32.7	15.9
20 and 21 years	24.5	36.6	14.5
22 to 24 years	25.0	45.1	14.0
25 to 29 years	24.2	39.4	13.0
30 to 34 years	32.1	47.3	16.7

*Persons of Spanish origin may be of any race.

The higher non-completion rates by minorities of four-year college can be gauged from the following data in U.S. Bureau of the Census, Current Population Reports, Educational Attainment in the United States: March 1977 and 1976 (P-20, No. 314), December 1977, Table 1.

PER CENT OF PERSONS WITH FOUR OR MORE YEARS OF COLLEGE OF TOTAL PERSONS WITH ONE OR MORE YEARS OF COLLEGE, 25 YEARS AND OVER BY RACE AND SPANISH ORIGIN, 1977

	Black	Spanish Origin	White
Total 25 years and over	42.3	40.7	61.5
25-29	40.5	27.8	53.6
30-34	39.0	36.7	57.7
35-39	46.5	47.8	55.7

JOSEPH FROOMKIN INC.
1730 K STREET, N.W., WASHINGTON, D.C. 20006

Technical Note

FINE-TUNING THE LEVEL OF CAMPUS-BASED AID

By

Joseph Froomkin
Richard Andrews

EPRC for Higher Education and Society

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FINE-TUNING THE LEVEL OF CAMPUS-BASED AID

The Center has been directed to examine the possibility and advisability of recommending that the distribution of campus-ba be adjusted by a cost of living factor. W ere asked whether the amount of money allocated to a given state or should be affected by the living costs in the appropriate geographical area.

This possibility is examined below and, with present statistical information, is believed to be impractical. It is further argued that collecting statistical information about living costs ought to have a low priority. A much higher priority, in the opinion of the Center staff, is the development of formulae to channel aid to individual schools in such a way to enhance the choice between schools by economically deprived students. Once these formulae are developed and desirable levels of aid school by school are determined, the amounts of aid could be aggregated by state consonant to present legislation.

ADJUSTING AID BY THE COST OF LIVING

It makes intuitively good sense that the allocation of campus-based aid ought to reflect the cost of living in a given state, or at least in a given region. A student from a family with limited means who attends school in a high-cost area will need more resources, and hence aid, than a student in similar circumstances who goes to school in a low-cost area.

In practice, the cost of attendance is not only determined by

living costs, but also by tuition levels of schools attended by students. These tuition levels vary from state to state, and also between schools in a given state. It is possible that two states with the same average tuition have very different costs to different strata of students. Some have expensive four-year schools and cheap two-year or community colleges, others may have narrower differences between tuition in different types of schools.

As long as program funds are allocated on a state-by-state basis, one may be tempted to use average costs of education in a state as representative of the costs incurred by economically deprived students. It can be argued then that the campus-based aid ought to be adjusted by these average costs. The argument will hold water only if needy students are distributed evenly in all schools in the state.

Even if one were to accept this rather unrealistic assumption, considerable difficulties will be experienced to determine these costs. At first blush, it would appear simple to obtain the costs of attendance in different schools either from their announcements, catalogues, or submissions to the Office of Education on a special form, which requires this data to be submitted in connection with schools' applications for student financial aid.

An examination of the published data will convince a policy analyst that estimates from any one of these three sources are inconsistent, and it would not be prudent to compare costs cited by one

school with cost submissions from another. Not only are room and board costs not comparable, since the number of meals per week and the number of weeks schools are in session are not the same, but even more puzzling discrepancies occur in the amount cited for expenses for books, travel, supplies, etc. Is it reasonable that these costs are higher in a Southern state school than at Harvard? Are they really $300 a year lower at Columbia University, located in one of the highest cost areas in the country, compared to either Harvard or Yale?

If individual estimates cannot be trusted, perhaps we may gain some insight into the level of costs by aggregating costs for a whole region? Table 1 shows such an aggregate of costs for each Census region. The tuition and the board/room charges for each of the states' flagship schools were aggregated to construct the table. The results support our preconceptions, namely that the highest costs are in the Northeast, and the lowest are in the South.

Could these findings be used to allocate campus-based aid? The answer to this question is resoundingly in the negative: variations within a region are as large, if not larger, than variations between regions. (See Table 2.)

Since the data provided by institutions describe the living costs of resident students only, the costs of non-resident students should be adjusted by cost of living levels in the area in which the school is located. Can this be done? The federal government does not collect cost

of living information state by state. It does collect cost of living budgets for three different standards of living (low, intermediate, and higher) for four-person families for each of the Census regions, as well as a number of metropolitan areas.

A critical examination of these tables pinpoints another issue: living costs differences depend upon geographical location, type of residence, and the market basket used in connection with the standard of living. At the higher standard of living, costs in the Northeast are 8 per cent higher than the average. At a low standard, probably the most appropriate to distribute aid, the difference is only five per cent.

One should also note that the variability of costs within a region is higher than the variability of costs between regions for different metropolitan areas. Once again, averages do not appear to be very meaningful. They may even be misleading.

SHOULD NEW STATISTICS BE COLLECTED?

Do five, ten or fifteen per cent differences in living costs warrant the recommendation to start a large program to collect living costs for students? Such a program would be extremely expensive. One would have to build new "baskets" of goods for single students living on campus, another one for non-resident students, and probably a third for married students. Furthermore, once these baskets are constructed, they may or may not be meaningful. For instance, the metropolitan area with the highest cost of living, Honolulu, has a university with one of the

lowest ... and board charges in the country.

It is argued here that aid allocations would be more precise if student need state by state were calculated more precisely, and surrogate factors to establish the need abandoned. Currently, these factors differ from program to program, and do not reflect closely the ability of parents to contribute to their children's education.

TOWARDS A BETTER DEFINITION OF NEED

In our opinion, it is more urgent to distinguish between the conventional definitions of need, used in most policy discussions, and one which would promote more choice by students from economically deprived backgrounds. Currently need is defined as:

> Average cost per student in target population (with the cost estimated on the basis of the present distribution of students among different schools) less expected parental or student contribution.

If federal policy is re-oriented to distributing campus-based aid in such a way as to encourage the participation of students from needy backgrounds evenly among institutions in a given state, rather than consigning them to low-cost institutions catering to the poor, need ought to be calculated in the following manner:

> Average cost in institution in the state times proportion of target group to total enrollment less parent or student expected contribution.

The second formula cannot be used to distribute aid under present circumstances. It ignores the current distribution of the target

population, the selectivity of schools, and the proportion of out-of-state students in high-cost schools in the Northeast and Central regions. If the aid were to be distributed according to this formula, a number of poor students would be stranded in schools from which aid was withdrawn. Thus, the real challenge to analysts is to devise a method which will channel funds to institutions (and states) to encourage them to recruit students from poverty and near-poverty backgrounds to more desirable institutions, without penalizing existing students.

SOME PRACTICAL CONSIDERATIONS

The discussion above postulated that it is possible to estimate the price of attendance at different institutions. At the outset of this paper, we have tried to make a case that such data are not readily available. We would like to suggest that only small errors will be introduced if estimates were constructed as follows:

(1) in-state tuition charges are used for public institutions, published tuition charges for the others,

(2) weekly estimates of room and board charges are constructed for those institutions which offer these facilities,

(3) average weekly charges are constructed for those institutions without residential facilities, taking into account control, type and selectivity. The assumption here is that students in similar institutions incur roughly equal costs, and at the margin the costs are likely to be equal for on- and off-campus students,

(4) a flat incidental cost, say $750 in 1978 dollars, be allowed to all students for incidental outlays.

The most difficult problem is to adjust posted tuition charges by the amount of state or institutional aid available to poverty-background students. Perhaps, some rules of thumb may be developed from a tape prepared by S. Dresch for U.S.O.E.'s Office of Planning, Budget and Evaluation. This tape contains data on aid offers to 10 thousand freshmen. It may be helpful in determining the net prices charged (both before and after federal aid) to students, if not institution by institution then at least by institution type within a state. We have not used the data, and have no opinion about its quality, but it does seem to be the most promising source for this type of analysis.

Estimates of need will require even more ingenuity. The Office of the Assistant Secretary for Education spent over $100 thousand with Stanford Research Institute in 1975 to develop such estimates. The experience of the Stanford Research Institute illustrates the extent to which judgement had to be used to derive state-by-state estimates.

In 1975, were we asked to perform the analysis, we would have used a methodology not much different from that of SRI. We would have only differed in our final calculation of the estimate of need. We would have given less weight to the need of part-time students, 70 per cent of whom are single, and many gainfully employed.

Despite the scope of the effort, which resulted in a number of well-written documents, the impact of the SRI study on policy was minimal.

SIMPLER, NEWER DATA AND A MORE POWERFUL ARGUMENT

Is it possible to marshal a simpler and more convincing argument for the reallocation of campus-based aid as newer and more relevant data become available?

At first blush, the public use tapes of the Survey of Income and Education did provide such hope. The survey, conducted in spring 1976, collected information from 151 thousand households and individuals. The Higher Education Center has spent considerable time and effort to make this tape relevant to federal policy modeling. For instance, we have imputed full- and part-time status to postsecondary students. Table 3 presents a comparison of postsecondary enrollment from NCES fall enrollment, and the corresponding figures for enrollment in the spring of the same academic year. The difference between the two sets of figures is due to (1) difference in coverage--NCES estimates do not include a complete enumeration of students in proprietary schools. SIE data, since they are based on self-reporting, are presumably more complete in this connection, and (2) NCES reports attendance in institutions located in a given state, while SIE data ought to reflect the state in which the student is domiciled, and (3) sampling and allocation errors. The differences in definition and coverage make SIE data less than ideal to base new formulas for the distribution of campus-based aid.

The data are also deficient to estimate the distribution of

students by income. Some 30 out of 50 states have fewer than 100 thousand students enrolled, and thus the proportion of students with low incomes cannot be determined with any degree of precision from this sample. While the SIE is an invaluable source for describing attributes of students nationally, it cannot be used to aid the allocation process.

A second, and more promising, source of data has become available since SRI completed its study. Currently, information on BEOG disbursements, totals and numbers of recipients is available on an institution by institution basis. Since BEOG's are now given to students in all four undergraduate years, the number of grants by institution and the average amount of the grant could be used to construct an index of the institution's involvement in offering instruction to underprivileged students. The effect of campus-based aid on this index could then be studied.

FINE-TUNING THE ALLOCATION OF AID

Two types of models immediately come to mind to fine-tune the distribution of campus-based aid. The first would predict the number of BEOG recipients in a given school depending upon the size of the school, the cost per student, the average amount of BEOG grant, other campus-based aid per full-time or FTE student and, perhaps, some index of selectivity. After the coefficient of each variable in the equation is estimated, some rules (trade-offs) could be developed to allocate campus-based aid, as the effect of changing the level of aid upon the number of BEOG recipients can be measured.

A second approach also appears promising. In this instance, need would be estimated by taking into account costs of attendance, the BEOG ceiling, and the average BEOG grant. A regression where the dependent variable is need and the independent variables are campus-based aid per student, size of school and selectivity would provide a useful estimating equation. In this case, an optimum relationship between campus-based aid and need will be estimated.

Such modeling is both tedious and expensive. First, the data from the tapes containing program application and disbursement data have to be carefully edited. Then cost, preferably per comparable time period, must be estimated. One ought to expect a great deal of trouble from the "noise" introduced in the equation by state aid, or possibly some other factors. It is quite likely that the form of the equations are different for the public and private sectors, or for states with and without open admission institutions. A conservative estimate would require the allocation of two men-years to that effort.

RECOMMENDATIONS

We strongly recommend that no further effort be expended to try to calibrate state aid allocations solely in relation to the cost of attendance. This exercise would make sense if (1) the average income of students eligible for aid was the same in all states, and (2) needy students were distributed among higher education institutions in proportion to the rest of the postsecondary population. Since this is not the case, and the cost of attendance within a state is likely to vary more than

attendance costs between states, studies of this type are not likely to be productive.

We believe that models similar to those recommended above would contribute to a better understanding of the role of campus-based aid, and form a good basis for efficient formulae to allocate it between both states and institutions. An eight-months lead-time is required to do the study. Alternatives have to be documented convincingly if formulae are to be changed in the long run.

We anticipate that an "ideal formula" will take into consideration (a) the optimum number of target students, and (b) an equitable distribution of aid by institutions, which will offer incentives to colleges which underserve poor students to mount an effort to attract them to these institutions.

While a special committee appointed by the U.S.O.E. did propose similar changes in allocation formula, we feel that their suggestion to impute a constant cost of living allowance will discriminate against urban institutions as well as western schools. The proposal above is more far-reaching; it not only addresses allocation by state or school, but also suggests that the formula address itself to facilitating choice.

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TABLE 1

AVERAGE, HIGH, AND LOW TUITION AND ROOM AND BOARD FOR FLAGSHIP UNIVERSITIES IN THE FOUR CENSUS REGIONS IN 1977

Average Non Weighted School Year Charges

	Tuition	% of Average	Tuition and Room and Board	% of Average	High as % of Average	Low as % of Average
North East	$972	142.1	$2,466	117.2	115.4	76.9
North Central	742	108.5	2,097	99.7	122.9	74.1
South	576	84.2	1,999	95.0	132.6	70.3
West	564	82.5	1,988	94.5	122.8	78.0
All	684	100.0	2,104	100.0	135.3	66.8

Source: CEEB, The College Handbook, Sixteenth Edition, 1977.

TABLE 2

RELATION OF DIFFERENT LEVELS OF BUDGETS BY REGION AND TYPE OF RESIDENCE, AUTUMN 1976
(dollars and per cent)

	Non-Metro Area		Unweighted Average of Metro Areas		Low Cost as % of Average	High Cost as % of Average
	(budget)	(per cent)	(budget)	(per cent)		
Lower Budget						
North East	$9,876	105.3	$10,361	101.7	94	107
North Central	9,673	103.1	9,889	97.1	96	107
South	8,828	94.1	9,457	92.8	93	113
West	9,996	106.5	10,613	104.1	90	120
All	9,382	100.0	10,189	100.0	-	-
Intermediate						
North East	$16,040	109.7	$17,166	103.4	90	113
North Central	14,962	102.3	16,089	96.9	94	115
South	13,855	94.7	15,105	91.0	95	113
West	14,627	100.0	16,564	99.8	91	118
All	14,625	100.0	16,596	100.0	-	-
Higher						
North East	$22,105	107.9	$25,507	104.1	87	116
North Central	21,068	102.8	23,292	95.5	93	105
South	19,442	94.9	21,912	89.4	94	113
West	20,606	100.6	24,327	99.3	87	124
All	20,486	100.0	24,492	100.0	-	-

Source: Autumn 1976 Urban Family Budgets and Comparative Indexes for Selected Urban Areas, U. S. Department of Labor 77-369, April 27, 1977 (processed).

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TABLE 3

FULL-TIME POSTSECONDARY ENROLLMENT BY STATE

(thousands)

	Fall Enrollment, 1975 NCES	Postsecondary SIE, Spring 1976
Maine	28	24
New Hampshire	31	20
Vermont	23	11
Massachusetts	250	217
Rhode Island	43	31
Connecticut	88	112
New York	619	728
New Jersey	166	243
Pennsylvania	320	373
Ohio	292	285
Indiana	149	121
Illinois	333	387
Michigan	289	268
Wisconsin	161	160
Minnesota	126	124
Iowa	99	87
Missouri	147	134
North Dakota	25	20
South Dakota	25	18
Nebraska	52	46
Kansas	81	78
Delaware	20	21
Maryland	109	125
District of Columbia	48	31
Virginia	143	161
West Virginia	49	38
North Carolina	187	131
South Carolina	93	66
Georgia	123	110
Florida	210	223
Kentucky	87	87
Tennessee	125	105
Alabama	116	85
Mississippi	74	67
Arkansas	48	44

TABLE 3 (Cont'd)

FULL-TIME POSTSECONDARY ENROLLMENT BY STATE

(thousands)

	Fall Enrollment, 1975 NCES	Postsecondary SIE, Spring 1976
Louisiana	112	109
Oklahoma	97	84
Texas	392	345
Montana	24	26
Idaho	27	20
Wyoming	11	9
Colorado	104	93
New Mexico	35	39
Arizona	87	83
Utah	67	44
Nevada	17	13
Washington	140	126
Oregon	90	100
California	803	925
Alaska	4	5
Hawaii	31	39
	6,841	6,846

Source: G. H. Wade, Ellory C. Pollock and N. S. Rousselle, U.S. Department of Health, Education, and Welfare, Education Division, National Center for Education Statistics, Fall Enrollment in Higher Education, 1975 Summary Report, p. 32.