DOCUMENT RESUME

ED 215 655 HE 015 046

AUTHOR Wabnick, Richard; Goggin, William

TITLE Indebtedness to Finance Postsecondary Education.

INSTITUTION Educational Testing Service, Princeton, N.J. Education Policy Research Institute.

SPONS AGENCY Office of Program Evaluation (ED), Washington, DC.
PUB DATE Oct 81
CONTRACT 300-79-0823
NOTE 177p.; Appendix D will have marginal reproducibility.
AVAILABLE FROM Education Policy Research Institute, 1800 Massachusetts Avenue, N.W., Washington, DC 20036.

EDRS PRICE MF01/PC07 Plus Postage.
DESCRIPTORS *College Students; Expenditures; Higher Education; *Income; Income Contingent Loans; *Loan Repayment; Models; *Predictive Measurement; Public Policy; Salaries; Student Costs; *Student Loan Programs
IDENTIFIERS *College Costs; *Debt

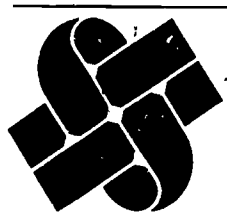
ABSTRACT

The financial aspects of college loan burden are analyzed, based on the view that loan burden is a function of a borrower's capacity to repay the debt obligation. The following components of a financial model of indebtness are addressed: the stock of education loans at the time repayment begins, the repayment flow associated with each stock of loans, the borrower's earnings throughout the repayment period, and the borrower's expenditure patterns throughout the repayment period. According to the proposed model, the measure of loan burden is equal to the ratio of repayments to discretionary earnings during the repayment period. The principal determinants of the amount of debt that students incur to finance their school are the cost of schooling, financial assistance, and personal and market risk. Consumption expenditures and their associated standards of living are used in the model to derive estimates of discretionary, or residual, earnings available to borrowers from which they can repay their loans. New empirical evidence on student indebtedness and earnings is presented as an example of what is required to compute loan burdens for various subpopulations with the model. Attention is directed to: debt data sources, earnings data sources, selection of student categories, and mathematical form of the model. Possible applications of the model to current policy issues are also examined. Suggestions to expand the model's capacity and data base and to allow it to better explore effects of federal policy changes are offered. Results of three surveys on student debt are appended: National Longitudinal Survey of High School Seniors, Survey of Recent College Graduates, and Graduate and Professional Student Financial Aid Survey. (SW)

HE

INDEBTEDNESS TO FINANCE POSTSECONDARY EDUCATION

Education
Policy Research
Institute



Prepared for the
Office of Program Evaluation
of the
Department of Education

1800 Massachusetts
Avenue, N.W.
Washington, D.C.
20036

Contract No. HEW 300-79-0823

October 1981

EPRI is a division
of Educational
Testing Service

2-3

INDEBTEDNESS TO FINANCE POSTSECONDARY EDUCATION

Prepared by the

Education Policy Research Institute

under

Contract #HEW 300-79-0823

to the

Office of Program Evaluation

of the

Department of Education

October 1981

Acknowledgements

This final report was prepared by Richard Wabnick, Associate Project Director with the assistance of William Goggin, Project Director. They would like to acknowledge the cooperation and assistance of the following persons without whom this study could not have been completed: Peter Kuch, former project monitor at the Office of Program Evaluation; Dan Morrissey, current project monitor for the Office of Program Evaluation; Min-Hwei Wang, programming staff at ETS; Dwight Horch, of ETS; Stephen Dresch, President of the Institute for Demographic and Economic Studies (IDES); Donald Showalter, programming staff at IDES; and, especially, Rowena Smith, secretarial staff at EPRI.

The authors accept full responsibility for the contents of this report.

FINAL REPORT

TABLE OF CONTENTS

INTRODUCTION

"I'm going to owe $5,000 when I get out of here, and I'm worried. It's a real anchor on you."

- a Yale College junior, 1981

Of course, not all students will face a $5,000 debt when they graduate from college. In fact only about one in three will have any debt at all. But, for those who do, the repayment of loans which finance higher education can be an oppressive weight.

This study is a conceptual and empirical investigation into the area of student loan burden. The study focuses solely on the financial aspects of loan burden. Although it has long been known that other determinants such as attitudes toward risk, school choice, peer and parental pressure play a part, this focus was chosen because the financial factors were likely to be extremely strong and more empirically accessible than the other factors.

Unlike previous studies on this subject the present one presents an explicit model of financial loan burden that does not limit itself to a single definition of loan burden. The question of what is burdensome and what is not is outside this model. Presumably, each reader will have a different definition of an acceptable level of loan burden which will be based in part on those other factors, mentioned above, which influence individual borrowing decisions.

At the heart of this model is the concept that loan burden is a function of a borrower's capacity to repay their debt obligation. This means that not only is it necessary to determine how much a borrower owes but it is also necessary to identify the means with which these debts would be repaid. In

Chapter One we describe in detail the structure of such a model including alternative definitions of various components, methods of constructing these components as well as their interconnection. The sections of Chapter One are:

- o Stock of Loans
- o Loan Repayment
- o Consumption Expenditures
- o Earnings During the Repayment Period
- o The Integrated Model
- o The General Capabilities and Shortcomings of the Integrated Model
- o General Mathematical Form of Loan Burden Model

One important application of this model is to structure empirical data so as to improve estimates about current and future loan burdens. In Chapter Two new empirical evidence on student indebtedness and earnings is presented as an example of what is required to compute loan burdens for various subpopulations with this model. A full explanation of assumptions that must be made and data manipulations that must be undertaken is spelled out. An attempt is made to note any divergences between the model's requirements and the data available at each critical empirical point. This chapter is divided into the following sections:

- o Debt Data Sources
- o Earnings Data Sources
- o Selection of Student Categories
- o Summary of Empirical Evidence
- o General Conclusions from the Summary Evidence
- o Variations from Base Assumptions
- o Specific Mathematical Form of the Model

The model, however, need not rely upon empirical evidence in order to be policy relevant. And in Chapter Three several possible applications of the model to current policy issues are examined. The point of the chapter is to demonstrate the use and flexibility of the model in formulating the analysis of relevant policy questions from either an individual or a governmental perspective.

Following the first three chapters is a recommended list of next steps which would expand the model's capacity, improve an analyst's ability to interact with the model, add to its usable data base and allow it to more fully explore effects of various federal policy changes. Many of these suggestions require a minimal investment in time and money yet would substantially enhance a presently quite limited area of knowledge.

CHAPTER I

STRUCTURE OF THE MODEL

The empirical analyses of student debt data, to be presented in the following chapter, will be structured around a financial model of indebtedness that relates loan repayment to future discretionary income. The purpose of this chapter will be to define the individual components of that model, to explain the construction or estimation of those components, to describe the interrelationship of the components and to highlight the shortcomings of both the integrated model and its components.

The obvious financial model of indebtedness is one which provides a measure of loan burden for an individual or group of individuals. Banks, for example, use such models to ensure that a prospective borrower will not be overwhelmed by the required payments. The model is not used to make the subjective judgment about how much is burdensome, but is used to simulate the expected level of burden given the financial characteristics of the prospective borrower.

The structure of this model when applied to education debt is very intuitive. The college student accumulates some stock of loans while in school. Each loan may be for a different amount, may have a different maturity period, and may have different repayment terms. Upon graduation, if no loans have already come due, the student will convert his or her stock of loans into a periodic series of repayments. Repayments will be

made from the student's income. Loan burden can be measured as the ratio of these periodic repayments (monthly, annual, whatever) to the student's total income, over the same period. If, however, necessary expenditures are deducted from earnings, leaving what can be termed discretionary earnings, a more meaningful measure of burden can be defined as the ratio of repayments to discretionary earnings. The resulting percent of discretionary earnings encumbered by loan repayments is the measure of burden that will be charted throughout this paper.

From the above example we can extract the four basic components of this financial model:

- the stock of education loans at the time repayment begins,
- the repayment flow associated with each stock of loans,
- the borrower's earnings throughout the repayment period,
- the borrower's expenditure patterns throughout the repayment period.

Obviously if we could track every student through school and beyond we could with great precision determine the burden that their education borrowing had placed on them. However, that information would only tell us with hindsight which students overextended themselves when financing their higher education. This model, to the extent possible, must provide some foresight about the consequences of current and future federal loan policy on students in or about to enter postsecondary institutions.

Stock of Loans

> In our model the measure of loan burden is equal to the ratio of repayments to discretionary earnings during the repayment period....

In order to measure repayment for a group of students we must begin with their debt distribution -- a mapping of each student's accumulated

stock of loans at the time repayment begins. Each point on such a debt distribution would represent one or more students with a specific stock of education debt. This indebtedness distribution could be used to rank students by the absolute value of their total debt and to compare students' debt to some norm, e.g. mean or median debt. This indebtedness distribution alone ,however, cannot reveal any information about loan burden. Those with high (or low) debt could have a high (or low) loan burden.

What are the principal determinants of the amount of debt which students incur to finance their schooling? Three broad factors appear to contribute to the accumulation of debt:

- o cost of schooling
- o financial assistance
- o risk

Obviously the cost of the school which a student attends sets an outside limit on the amount that a student would have to borrow. Students who attend public two year schools are much more likely to have lower accumulated debt than finanically-similar students at more expensive public and private institutions. Even within a given institution costs of programs vary somewhat. So, for example, a humanities student may have lower total costs than a pre-med major and, consequently, is likely to have lower accumulated debt. In some cases, a student may choose a school or a field of study on the basis of the borrowing that choice would entail. Thus, knowing the student's education costs accurately can only provide a small bit of information about that student's debt burden position.

The second important debt determinant is the amount of grant assistance (so-called nonreturnable aid) the student receives as this will, in whole or part, offset the student's school costs. If in whole, then the student

need not borrow at all but if in part, then the net of school costs less grant assistance narrows the range of the student's borrowing needs. Exactly how much grant assistance the student receives itself depends on the socioeconomic characteristics of the student/family, the special abilities (academic or athletic) of the student, the persistence of the student in seeking out sources of funds, and the funding decisions of private and governmental donors. Some of these factors are not within the student's control therefore the resulting "borrowing need" is a function of knowledge as well as caprice.

Risk, the third determinant of education debt, can be separated into two fundamentally different categories: personal risk and market risk. Both types of risk affect a student's decisions with respect to schooling costs and financial assistance. Market risk derives from the student's inability to perfectly anticipate society's future demands for college graduates with particular training. In the extreme this risk could lead a student to decide not to attend college or to choose the lowest priced postsecondary option. (This, as Dresch points out, may be a reasonable tradeoff between expected returns and security). In contrast, personal risk derives from the student's inability to assess accurately his likelihood of success in a particular course of study or in the postschooling labor market. An indication of the magnitude of the personal risks faced by a student who is considering a college-size human capital investment is provided by the dispersion of earnings at various ages for different educational attainment groups. In fact, some research has shown that the standard deviation of annual earnings rises with schooling level. This risk may manifest itself in students choosing what is the optimal combination

of financial burden and employment opportunities. It is not unreasonable to suggest that this may be why many students with interests in literature would decide to train as teachers instead of the humanities. Risk, that cannot be protected against, is a powerful determinant of education debt levels.[1]

In theory, we could hypothesize the relationship among these economic determinants of debt. For example, we could presume that a student would borrow the difference between his cost of schooling and financial assistance (from whatever source). This would presumably give us an outside limit on the amount to be borrowed. However, we also know that there are a set of risk factors which affect the student's willingness to borrow and that these factors also play a strong part in determining the student's choice of school and ability to obtain other financial assistance. Unless we can specify the impact of this set of factors on the simple financial computation of cost less aid we cannot presume to have an accurate or useful measure of accumulated debt.

Even if we were able to specify the nature of the relationship between debt and its determinants, the task of estimating the value of each of these determinants for each student would strain even the techniques of social science research. As an example, one critical economic determinant is the amount of non-returnable financial assistance which the student received. On followups to the 1972 National Longitudinal Survey of High School Seniors, students were asked to indicated the amount of federal financial aid they had received by source. In many cases the numerical answers exceeded the limits set under a particular program. Another case: on the annual Freshmen Norms survey, routinely about 4 percent of the

---

[1] Part of a discussion by Dresch in "Marginal Wage Rates, Hours of Work and Returns to Physician Training and Specialization," 1980.

respondents claim to have received a Basic Grant over $2,000 when that program's maximum award has never been above $1,400.

A second method for determining a student's accumulated debt would be to ask the student at a time as close as possible to when the maximum debt has been reached. This poses fewer nearly insoluable problems than the theoretical approach but difficulties do remain. Do you ask all students? When, in their education lifetime, do you ask them? How do you ask the question? What other necessary information must you have?

The objective of this second, empirical, approach is more limited than the theoretical approach: it is to uncover the distribution of debt among students regardless of its determinants. What matters in this approach is the ability to attribute accurate levels, or ranges, of debt to students with particular characteristics, such as gender, race, sex, field of study, etc. These characteristics, in contrast to the debt determinants discussed above, do not require hypotheses and, once known for each borrower, can be used to determine which groups of students display the most homogeneous debt characteristics.

The construction of useful and accurate debt information through this method requires data which fulfills several criteria:

- o is a well chosen, representative (in this case, nationally) sample of borrowers
- o is an observation of a well constructed debt measure for each borrower in the sample
- o contains sufficient information to allow discrimination among subpopulations

The population of borrowers, at least 3 million during any one year, is too numerous to survey in its entirety. A carefully selected sample would be necessary, stratified to lose as little information about the patterns of debt formation and relevant borrower characteristics as possible. Such stratification might include both school and student

characteristics such as school type (public/private), size, curricula (teacher's college/research university, etc.) financial resources, low-income enrollment and geographic region.

Because debt is not something that is eagerly remembered, students would have to be asked a very unambiguous question concerning their level of debt. If possible this question should refer to some tangible reminder the students may have on hand such as copies of signed loan commitments. The question, further, must be very clear about the time period involved and should use an obvious unambiguous boundary such as baccalaureate debt, master's and baccalaureate debt, only doctoral debt, etc. Boundaries such as freshman or senior years are too vague and can easily, though not intentionally, be misinterpreted by the student. According to the use of the debt data, it would be worthwhile to differentiate the sources of debt, the variety of loan instruments used, and their different terms. Finally, if students are queried well after they have graduated they should be asked to separate principal from interest, though this may be an admittedly difficult task.

Although this method ignores the underlying determinants of debt, it is still necessary to dissect the sample into as many homogeneous groups as possible. To do this the sample must contain a generous amount of demographic, academic and employment information about each borrower. Characteristics such as gender, marital status, employment status, job type, race, age, family income, field of study, type of school can be used to sort out those in the sample whose debt levels are similar.

The usefulness of this approach is that if we inspect the debt distributions of a well chosen sample of borrowers who are grouped by several of the above characteristics (such as single white male engineers) we can more readily observe the extreme cases -- those with significantly higher or

lower accumulated debts. As a matter of policy relevance, students with debt levels at the high end will have a higher probability of appearing in the high debt burden ranges unless their future earnings and consumption patterns are sufficient to compensate for their heavy borrowing. If students with certain characteristics exhibit, more frequently than others, higher debt levels then these types of students must be traced carefully through the subsequent components (repayment and earnings and consumption) of this model. This would be done by matching these types of students with those about whom we have repayment, earnings and consumption data, as will be described in the following sections.

Loan Repayment

> In our model the measure of loan burden is equal to the ratio of repayments to discretionary earnings during the repayment period....

The consideration of loan burden does not really begin until the student/borrower converts his accumulated debt into a series of payments that will fully amortize the debt. In most cases, each borrowing that the student has made during schooling requires a separate repayment schedule. This is the case, many times, even if the student borrowed one loan during each year of college from the same bank. Loan repayment, for our modeling purposes, therefore, represents the sum total of all payments over time necessary to satisfy all loans from all sources -- in effect, a consolidated repayment.

Loan repayment for the individual student is not constant over time. Although each of a student's loan obligations may be amortized with equal installment repayments, each obligation is likely to have a different payback (maturity) period. In addition, repayment may fall to zero on one or more obligations if the student defaults.

Even if we possessed accurate debt distributions for a fair sample of borrowers, as described above, each point on that distribution would have to be translated into its own distribution of repayments over time. Three principal pieces of information would be necessary to construct these repayment patterns:

- o each borrower's likelihood of default on each loan obligation
- o each interest rate to be charged on each loan obligation
- o the expected maturity period of each loan obligation

Default patterns are extremely difficult to construct. Some borrowers never begin repayment, choosing to go into default as soon as their notes come due. Other borrowers, likely for different reasons, may curtail repayment for only a short period -- if unemployed, for example -- on a portion of their notes. Even in the federal loan programs where about one out of every nine or ten borrowers are in default the information on the patterns and probabilities of default and repayment is outdated and limited primarily to the Guaranteed Student Loan program. No information, for example, is available which links default and repayment patterns for students who borrow both a GSL and an NDSL. Information from private loan sources is even more limited although less critical for modeling purposes because default rates on generally very low on these tangibly collateralized debts. Obviously we can't survey borrowers before repayment begins about their likelihood to default. And if we wait until the student defaults, then we most likely have lost their whereabouts and, as a result, cannot determine the reasons for and the intended duration of their deliquency.

Interest rates for all education related loans are fixed at the time the loan is made. Besides the amount borrowed they are generally the most readily known feature of a loan obligation. However there is some room for

confusion on the part of the student/borrower because rates on education loans vary considerably from a low of three percent on NDSLs to 18 percent and up on consumer, credit card and other private financing. Adding to this is the fact that most government education loans defer interest accural as well as repayment while the student remains in school. Reasonably accurate interest rate information could be obtained at the same time that debt information is collected by asking students to itemize the various loan instruments they used, the amount borrowed and the associated interest rate.

In contrast to interest rate information, it is extremely difficult to obtain an accurate estimate of the length of the repayment period before repayment begins. Although a maximum and minimum period is usually specified under the terms of the loan, a repayment schedule is not negotiated between borrower and lender until just before repayment is to start. This is not a rigid schedule, however, and often permits accelerated repayment which thereby reduces the agreed upon repayment period. Consequently until the debts are fully repaid not even the borrower may know the time required for repayment.

The best estimates of repayment time would come from a thorough study of repayment patterns for borrowers who have fully repaid their debts. Evidence from a pre-MISAA study of GSL borrowers indicated an average repayment period of 56 months, almost the dead center of the ten year maximum repayment period. Since that time it appears that the average repayment period has lengthened, perhaps to as much as 84 months. Unfortunately, even this crude GSL evidence does not exist for the other federal loan programs (NDSL, HEAL, HPSL, Nursing Loans, etc.) or for private financing.

The best that can be done is to examine loan burden under varying assumptions about the length of the repayment period.

Consumption Expenditures

> In our model the measure of loan burden is equal to the ratio of repayments to discretionary earnings during the repayment period. Discretionary earnings is equal to total earnings less a measure of consumption....

Most earlier studies of education indebtedness (Daniere,[1] Froomkin,[2] Hartman[3]) have relied upon definitions of financial burden which were functions of income. Daniere concluded that tolerable education indebtedness would not exceed 7.5 percent of a borrower's after tax income. Hartman suggested that up to 15 percent of a college graduate's before tax income would not be an overly burdensome education loan repayment. Froomkin, in his study of education loans and women, defined loan burden for single women as 6 percent of their income and for married women 3 percent of their family income.

Of course the income-based definitions used in those studies were based upon implicit notions of the consumption patterns of the borrowers. Horch, in a 1978 study,[4] made these assumptions explicit by defining manageable debt repayment as an amount equivalent to the "other consumption" component of the nationally-devised living standards. This is one of several ways that consumption expenditures can be explicitly used for modeling indebtedness.

---

[1] Daniere, Andre, "The Benefits and Costs of Alternative Federal Programs of Financial Aid to College Students," in The Economics and Financing of Higher Education in the United States (Joint Economic Committee, 1969).

[2] Froomkin, Joseph, Study of the Advantages and Disadvantages of Loans to Women, (DHEW, 1974).

[3] Hartman, Robert, Credit for College, (McGraw Hill, 1971).

[4] Horch, Dwight, Estimating Manageable Loan Limits for Graduate and Professional Students, Educational Testing Service, 1978.

Consumption expenditures and their associated standards of living are used in a broad sense in this model to derive estimates of discretionary, or residual, earnings available to borrowers from which they can repay their loans.

Consumption expenditures are the third building block in this model of financial reasonableness. After students leave school they generally begin working and repaying their education debts. They generally establish separate households away from their parents. And they begin to consider how to spend, save, or invest the money that they earn. Their living expenses, broadly interpreted, are what is meant by consumption expenditures. They are the outlays that this household makes to obtain those items which they use or need. The basic necessities of food, housing, clothing are included in this group as well as costs associated with transportation, education, recreation, medical care, insurance, etc.

Consumption patterns are unique to each household. The expenditure decisions made by the household depend upon the preferences, income, educational background, and age of the individual household members. No two households are alike even if matched across numerous socioeconomic characteristics. As a result, it is difficult to derive measures of individual households consumption patterns. But experts in the area have devised ways to cluster household expenditure patterns into those which represent low, intermediate and high standards of living.

Briefly those living standards have been developed using two types of information:

- o scientific or technical judgments concerning the requirements for physical health and social well-being such as minimum daily nutritional requirements.

- o analytical studies of the choices of goods and services made by consumers such as recreation or education expenditures.

The intermediate, or moderate, standard of living is the first one derived. Then the costs of the intermediate standard are scaled upward and downward by varying assumptions about the manner of living and by providing different quantities and qualities of the necessary goods and services.[1]

These standards of living do not represent the ways in which household income should be spent or the ways that average households actually spend their income. But when considering financial indebtedness these standards give us a means of estimating whether household income surpasses these levels with income enough to cover educational debts. If all households who have education debts lie far above these living standards over the entire repayment period then all is grand. But this is probably not the case and close examination is required of those households who fall below or marginally close to these levels. Those are the families for whom debt burden is likely to be oppressive.

The exact measure to use for this standard of living depends mostly on the population that it is to represent. In our model it is the population of recent college graduates who are repaying their education loans. For this group there are several indicators from which to choose:

- o the Bureau of Labor Statistics (BLS) low and intermediate standards for all households
- o the BLS levels of consumption expenditures for households whose heads are college graduates aged 25-34.
- o the BLS based College Scholarship Service (CSS) standard maintenance allowance for families with children in college
- o the BLS-based CSS independent student allowance for self-supporting students in college.

---

[1] For a full discussion see Bureau of Labor Statistics Handbook of Methods

Each of the indicators could be used but each require caution when interpreting results based on their use. The first indicator -- the overall BLS measures -- obscures the differences in consumption patterns attributable to age and educational attainment. Work by Thurow, Ghez and Becker indicates that the desired profile of consumption over a working lifetime differs significantly from the earnings profile and that relatively greater desired consumption is desired at earlier ages. Also, desired consumption expenditures at earlier ages are sensitive to anticipated earnings at more advanced ages. We find, for example, from the 1972-73 BLS Consumer Expenditure Survey that for all households the average consumption expenditure is $8,270 but for households whose head is between 25 and 34 years old consumption expenditures average $9,014. This suggests that living standards derived from these consumption levels would be somewhat higher for the age group just out of college.

Although there are no BLS living standards specfically developed for recent college graduates the overall BLS standards could be adjusted to approximate the consumption expenditures of households with heads who are 25-34 years old and have completed 4 or more years of college. This adjustment would help overcome some of the above problems. The narrowed age group corresponds closely to the period during which typical borrowers will repay their loans. The educational attainment restriction attempts to encompass those likely to have educational debt although it falls short in two respects:

- o does not include noncollegiate borrowers
- o overlooks households where spouse or other household members have education debt but the head does not.

The third and fourth indicators are part of a pair which the College Scholarship Service derives from the BLS low standard of living for the

purposes of computing financial aid. One allowance applies to the families of undergraduate college students. It is computed by first subtracting out that portion of the overall BLS standard that represents the student's basic living expenses for a nine-month period. Then the remaining consumption costs are adjusted by estimated changes in the CPI. For our current modeling purposes, this standard maintenance allowance for families with children in college is not a very good proxy for the standard of living of borrowers who are repaying their loans but may serve in the future to examine parental ability to borrow under the newly enacted federal parental loan program.

The second allowance is for self-supporting students and is derived from the BLS low standard by assuming a specific distribution of consumption expenditures. Then added to this budget are adjustments for state and local income and other consumption taxes. Finally, these expenditures are also updated by the CPI. This independent student allowance is intended to represent consumption levels of students not college graduates. And since it is likely that the consumption of many goods and services is postponed while in school the levels use by CSS would be lower than for those who have just graduated or who have quit college and are in the labor force.

Earnings During the Repayment Period

> In our model the measure of loan burden is equal to the ratio of repayments to discretionary earnings during the repayment period. Discretionary earnings is equal to total earnings less a measure of consumption. For these purposes total earnings includes wages, salaries and all other non-wage income.

General Estimation Procedure. The modeler's initial step when estimating an earnings profile is to identify those factors which determine income and other earnings. Second, the modeler must decide what functional

configuration these factors take and what statistical technique will be used to estimate that functional form. Third, before any estimation of the relationship between earnings and its likely determinants begins, the modeler must hypothesize the likelihood that there exists strong correlations among the determinants. This will provide a framework against which the results of the estimating procedure can be evaluated. Fourth, the modeler must examine the available data sources to determine if each determinant can be fully specified or if other approximations are necessary. Finally, having specified the determinants, the sample sizes to be used the functional form, the modeler can estimate the earnings function and compute the standard error of the estimate (under certain statistical assumptions).

Determinants of Earnings. Earnings are a complex function of educational attainment, work experience, previous earnings, type of job, hours worked, geographic location, postschooling training and other factors. Schooling is only one type of human capital investment which generally results in a positive return over the working lifetime. Other employment-related investments such as skills training generally produce returns to earnings as well as to future productivity. Human capital theorists do not agree on the configuration of the earnings function. And only recently have both the theoretical and empirical work developed to the extent that earnings function incorporate factors such as postschooling investment and obsolescence and depreciation of human capital. The earlier, simpler formulations of earnings functions were used predominantly to derive estimates of rates of returns to schooling. More recent work focuses on the earnings functions themselves for direct applications to questions of retirement and health care programs, for example.

Functional Form and Statistical Technique. It is common practice that earnings functions are estimated using linear regression techniques because the results retain desirable statistical properties and are easily interpretable. The particular functional form used is also a matter of convention at this time having been based on extensive empirical investigation. It was found that earnings over a working lifetime increased at a decreasing rate. This meant that neither a purely linear or log model would fit the observed data with desired precision. In order to best approximate the observed earnings patterns economists in the literature, have developed a log linear earnings function which contains a number of nonlinear terms. The earliest formulations contained a nonlinear term for work experience (work experience squared) to account for the plateauing of earnings. Later work by Reinhart[2], Lindsay[3] and Dresch[4] have also included a nonlinear term for hours worked in attempt to better fit the observed data.

Multicollinearity[5]

The absence of multicollinearity -- a linear relationship between two or more exogeneously determined independent variables -- is one of the three principal assumptions which allow modelers to follow a multiple regression technique. The other two assumptions relate to the independence and normality of the error terms. If the independent variables do

---

[2] Reinhardt, Uwe E. Physician Productivity and the Demand for Health Manpower, 1975.

[3] Lindsay, Cotton M. "Measuring Human Capital Returns" JPE, 1971.

[4] Dresch, Stephen "Marginal Wage Rates, Hours of Work and Returns to Physician Training and Specialization", 1980.

[5] This section draws from E. Malinvaud, "Statistical Methods of Econometrics", Chapter 6.

exhibit multicollinearities the coefficients in the regression are not identifiable. It is often the case, however, that the independent variables are almost but not perfectly collinear. For example, in our earnings functions the experience variable and its square, the number of hours worked and its square, and age and its square and cube are all likely to exhibit some collinearity. These approximate linear relationships may be purely accidental but may in most cases express the dependencies due to phenomena other than that described by the model. When this occurs estimation of the model coefficients becomes very uncertain and can be revealed only by calculating the standard errors of the estimated coefficients. As far as the predictive precision of the model, it will not suffer as long as we assume that the multicollinearities which existed during the period of observation will still hold during the period of prediction.

Data Considerations. The data which modelers must turn to for estimating earnings functions can be of three types, each with its own advantages and disadvantages -- longitudinal, pooled cross-sectional and single year cross-sectional data.

Longitudinal data is collected by following a person or group of persons over an extended period of time. The purpose of this data collection is generally to witness changes in particular demographic characteristics of the group such as educational attainment, occupation or earnings. In order for the information collected to be analytically useful the group (or cohort) must be statistically representative of a relevant population. The major concern when designing a longitudinal survey is to assure that the cohort and the information collected is carefully chosen to minimize sampling error.

A longitudinal survey used for estimating earnings would require a careful tracking of earnings and related demographic characteristics over a working lifetime. One or more cohorts would be followed and necessary data would be collected at periodic intervals. Earnings functions generated with this longitudinal data would be internally consistent and would not rely on exogenously determined estimates of other demographic characteristics such as years of experience and number of hours worked. (When using cross-sectional data these exogenous estimates will likely lead to biased estimates of the relation between earnings and these exogenously determined variables.)

Unfortunately, though longitudinal data is technically more desirable it is extremely costly and arduous to obtain and maintain. As a result, education or employment data have rarely been collected on nationally representative cohorts for more than a few years and, more often than not, cross-sectional data must be relied upon.

Cross-sectional data can be used in two ways to estimate earnings functions. Either of these methods is more economical than using longitudinal data but, at the same time, increases the variability of the earnings estimates. One method is to combine, or pool, several years of cross-sectional data into a merged data set that approximates a longitudinal data base. Each year's cross-sectional data comes from a newly drawn sample of the population under examination and the samples are merged across some variable such as age. The advantage of longitudinal data is that we know exactly for each person in the sample how their earnings have changed as they age. With pooled cross-sectional data we can only assume that the observed temporal changes in earnings represent an estimate of actual earnings changes. So, for example, we would assume that the 35 year old cohort in the 1980 Census earnings survey is a good proxy for the 30 year old cohort in the 1975 Census survey. There is unmeasurable error associated with this assumption (when

only pooled data is available) and it represents the principal weakness of pooled crosssectional data -- lifecycle changes are estimated from cohort changes.

A second, and even more economical, method relies on a single year of cross-sectional data. This method becomes an attractive option when longitudinal data is not available and when several years of cross-sectional data which might be pooled are not perfectly compatible. However the earnings function that can be estimated from one year's data assumes that the earnings of the older persons in the sample reflect the changes that will occur in the earnings of the younger persons. In contrast to pooled data where, for example, the 30 year cohort is statistically represented by the 35 year old cohort five years later, single year data affords no future point of comparison. The 35 year olds in the sample are assumed to represent the future earning's circumstances of the 30 year olds. Another important limitation of the single year method is the analytical restriction usually forced by a small sample size and the reduction in the number of observations. A relatively small sample will often preclude the examination of earnings (or whatever characteristic) for some subpopulations because either there will be no observations for a particular subgroup or the standard error of the desired characteristic is much greater than the estimate of the characteristic itself.

Comparison of Three Data Types for Earnings Function Estimate

Date Type	Cost of Survey/Processing/ Estimation	Sample Size	Variability of Earnings Estimate
Longitudinal Survey	Most expensive	Generally designed to be adequate	Sample error
Pooled Cross-section Data	Moderate to expensive	Adequate	Sampling error; cohort effects may confound lifecycle effects
Single Year Cross-sectional Data	Least expensive	Generally inadequate for thorough analysis	Sampling error; cannot estimate cohort or life-cycle effects

Beyond these general data considerations there are several specific considerations which relate to the approximation of the independent variables used in the earnings functions. Whichever data source is chosen it must contain an exact measure for the desired variables or allow approximations to be made. There are several important variables that generally require approximation and the modeler must consider how these will affect the earnings estimate.

One critical example is the measure of work experience. The experience variable is generally not directly available through survey data. Traditionally, experience and its square are based on a proxy measure of age minus years of schooling minus six. This construction assumes that both schooling and employment are continuous and may, as a result, underestimate the years of work experience. It would not account for variations in patterns of labor force participation such as the employment lapses of young mothers or the shifts between full and parttime employment of some workers. Because of this, any computation of loan burden may tend to overestimate, to a small extent, the percent of earnings that will be encumbered by loan repayment.

Estimated Earnings Functions. Once the data source is selected and all the variables or their proxies identified, the modeler can then estimate the earnings functions. A separate earnings function can be estimated for any desired subpopulation such as race, age or gender groups an dany combinations. These earnings functions can be evaluated for each age group, producing a profile of median earnings by age for any of the desired subpopulations. In addition the statistical properties of the log linear form allow the modeler to readily estimate the upper and lower quartile boundaries around the median earnings.

The use of a log linear formulation along with multiple regression results in unbiased estimators of the coefficients which measure the strength of the relationship between each independent variable and earnings. These coefficients are subject to the uncertainty resulting from any collinearities (as discussed above).

The choice of subpopulations depends upon several factors including the availability of debt information, the empirical evidence of what factors significantly affect earnings and any relevant policy considerations. Where possible earnings profiles should be matched closely with debt distributions. There are three examples where this is not generally possible because of data incompatibilities. First, earnings data generally does not allow direct differentiation by type of degree. Baccalaureates earnings can be approximated by those having 16 years or more schooling; advanced degree holders by 18 years or more. Second, earnings data generally indicates occupation but not academic field of study. Both are important variables: occupation because all the earnings literature indicates that choice of occupation is a strong determinant of future earnings; field of study because it is an important policy variable in indebtedness analysis representing, as it does, occupational expectations on the part of the student as well as indicating likely borrowing levels. The best that can be done is to suggest, from other data, the probability that a worker in a particular occupation came from a particular field of study. Third, no available earnings data separates borrowers from nonborrowers. Thus, we must assume (as discussed earlier) that the earnings of borrowers and nonborrowers follow similar patterns. A minimally feasible set of subpopulations relevant to indebtedness analysis would include:

- o gender
- o race
- o marital status
- o age (as an experience proxy)
- o educational level
- o occupational group
- o hours worked (employed/unemployed/not in labor force)

Projecting Estimated Earnings Functions. The estimated earnings functions must be projected into the future to cover the period during which the borrower is expected to repay. Generally this is, at its maximum, no more than a 10 year span beginning within a year after the student completes school.

If the modeler used longitudinal or pooled cross-sectional data for estimation then evidence from this data might make it possible to take account likely shifts in the shape of the earnings function over time. Otherwise, if only single year cross-sectional data is used, then the modeler must assume that the earnings function remains constant over the projection period. That is to say, though both real and nominal earnings will rise over time the relative position of earnings at any age will remain the same.

There is really only one method available to accomplish these projections and that is to inflate all points on the earnings profile by a single reasonable income inflator. Though projections of earnings growth may fluctuate annually, an average inflator will suffice if the modeler also tests the sensitivity of the conclusions about loan burden to small changes in this chosen inflator.

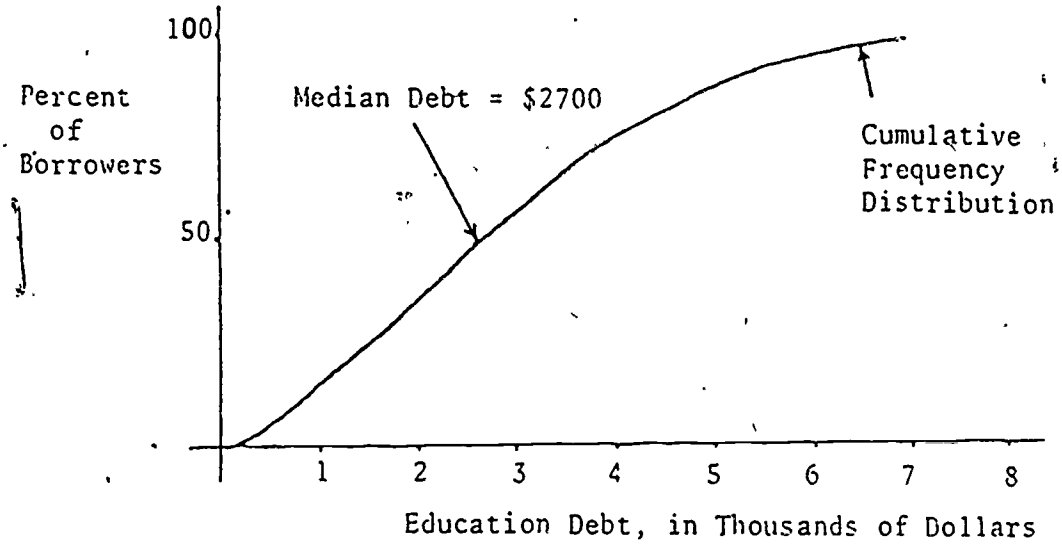
Income inflation estimates are available from several federal and private sources including the Office of Management and Budget, the Congressional Budget Office, Chase Manhattan Bank, Wharton School of Economics,

Data Resources Institute and others. All rely on macroeconomic models for nationwide economic forecasts of unemployment, price inflation, wage inflation, trade balance, etc. The CBO's December 1980 estimates for median family income growth, as an example, are between 10 and 11 percent for the six year period from 1981 thru 1986.

The Integrated Model

The best way to explain the use of this financial indebtedness model is to graphically trace an example of the loan burden computation for a particular group of borrowers. For the sake of example let us consider the average debt burden for undergraduate borrowers. The numbers used are illustrative only.

FIGURE A:
Education Debt Distribution
for Baccalaureates



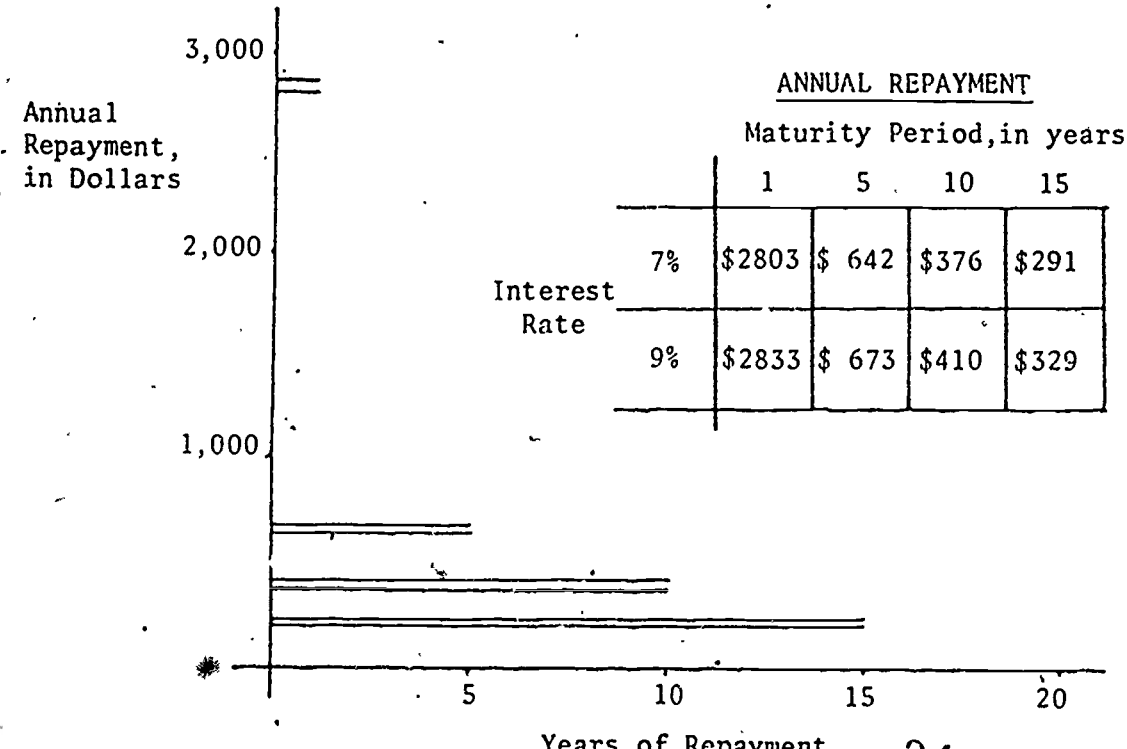
From the debt data we see that the median debt level for all undergraduates is $2700. We can convert the median debt into several repayment

streams that might encompass the likely range of interest rates and maturity periods which we would expect. For example, since federal Guaranteed Loans which carry a rate of 7 percent for about one-half of all secured education loans it might be reasonable to assume 7 percent as a likely minimum for most undergraduate borrowers. A higher rate of, say, 9 percent could be used in an attempt to weight the rate for possible higher cost private borrowing. This rate could also represent a test of the effects of the recent GSL interest increase on borrowers. A range of maturity periods can also be chosen which would contrast burdens incurred by those who repaid in the early years with those who repaid later The model user could select maturity periods of 1 year, 5 years and 10 years which would bound all currently permissible repayment limits. Again, as in the interest rate case, a somewhat longer period such as fifteen years could be used to simulate the effects of the newly allowable extended repayment provisions.

Graphically the transformation from debt to repayment would look like this:

FIGURE B:

Amortization of Median Baccalaureate Debt Under Selected Repayment Terms



ANNUAL REPAYMENT

Maturity Period, in years

Interest Rate	1	5	10	15
7%	$2803	$ 642	$376	$291
9%	$2833	$ 673	$410	$329

Repayment is the numerator of the loan burden ratio; discretionary earnings (after taxes and consumption expenditures), the denominator. Data from the Census Bureau or other sources can be compiled to chart the likely earnings patterns over a working lifetime of those with bachelor degrees. Although these patterns are not perfectly compatible with the debt data they can be used as the basis for earnings profiles. Further reductions in earnings caused by taxes and consumption can be made to these profiles to produce a pattern of discretionary earnings. (Figures C and C1 illustrate an estimated earnings profile with after tax earnings, consumption expenditures and debt amortization). The earnings curve that is illustrated represents the median earnings in any particular year. If, in addition to this median profile, we had a measure of the dispersion of earnings around this central measure we could further compute the range of loan burdens attributable to differences in expected earnings levels (such an example will be presented in Chapter III, An Empirical Example).

With the earnings information we can then compute the average expected percent of discretionary earnings which is encumbered by loan repayment -- "the loan burden" -- under the several combination of assumptions about repayment period and interest rates (See Figure D).

FIGURE C:
Earnings and Consumption Expenditures by Years of Work Experience for Baccalaureates

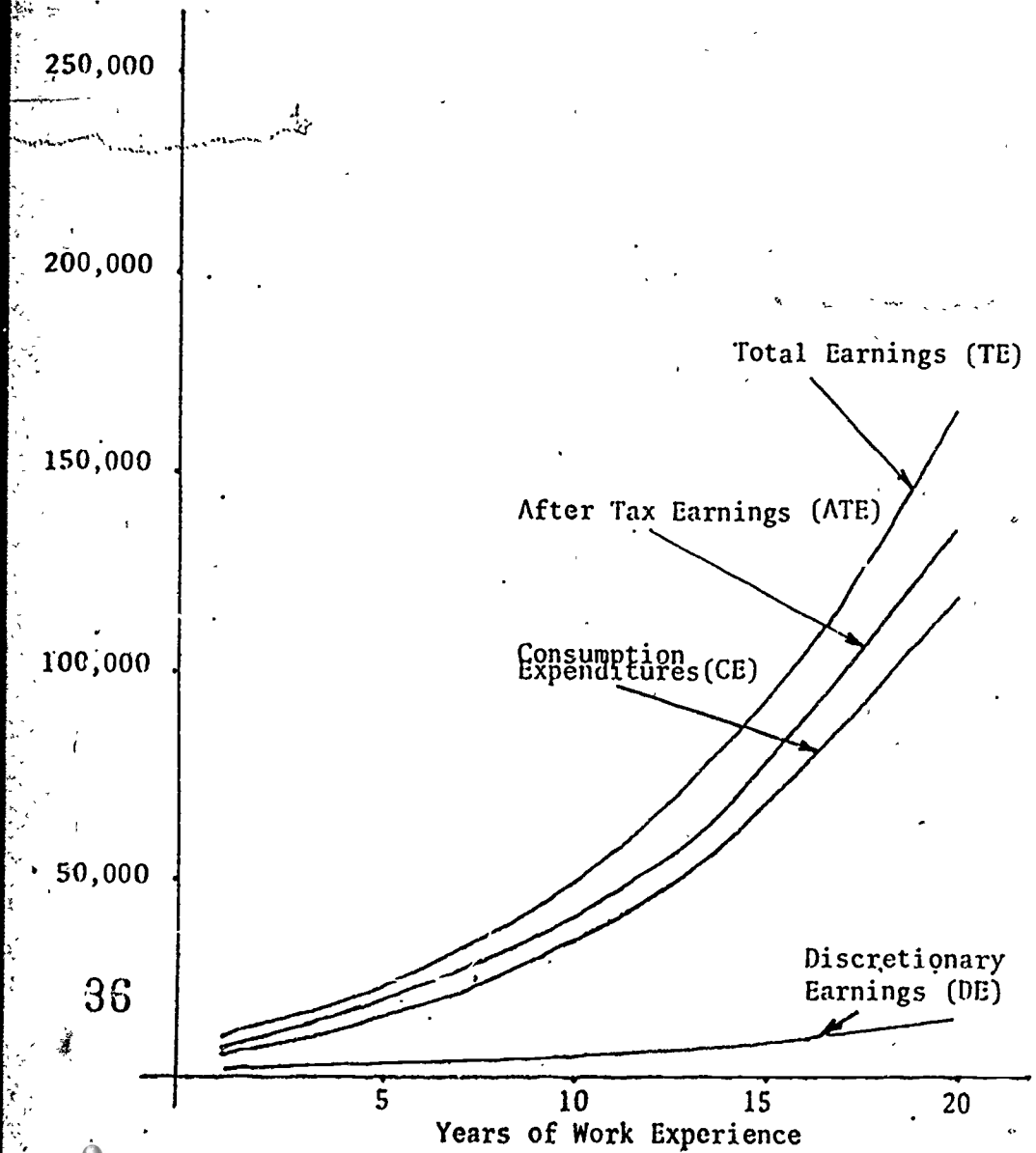


FIGURE C1:
CLOSEUP
Including Amortization Line for 7%-60 Month Payoff of $2700 Debt

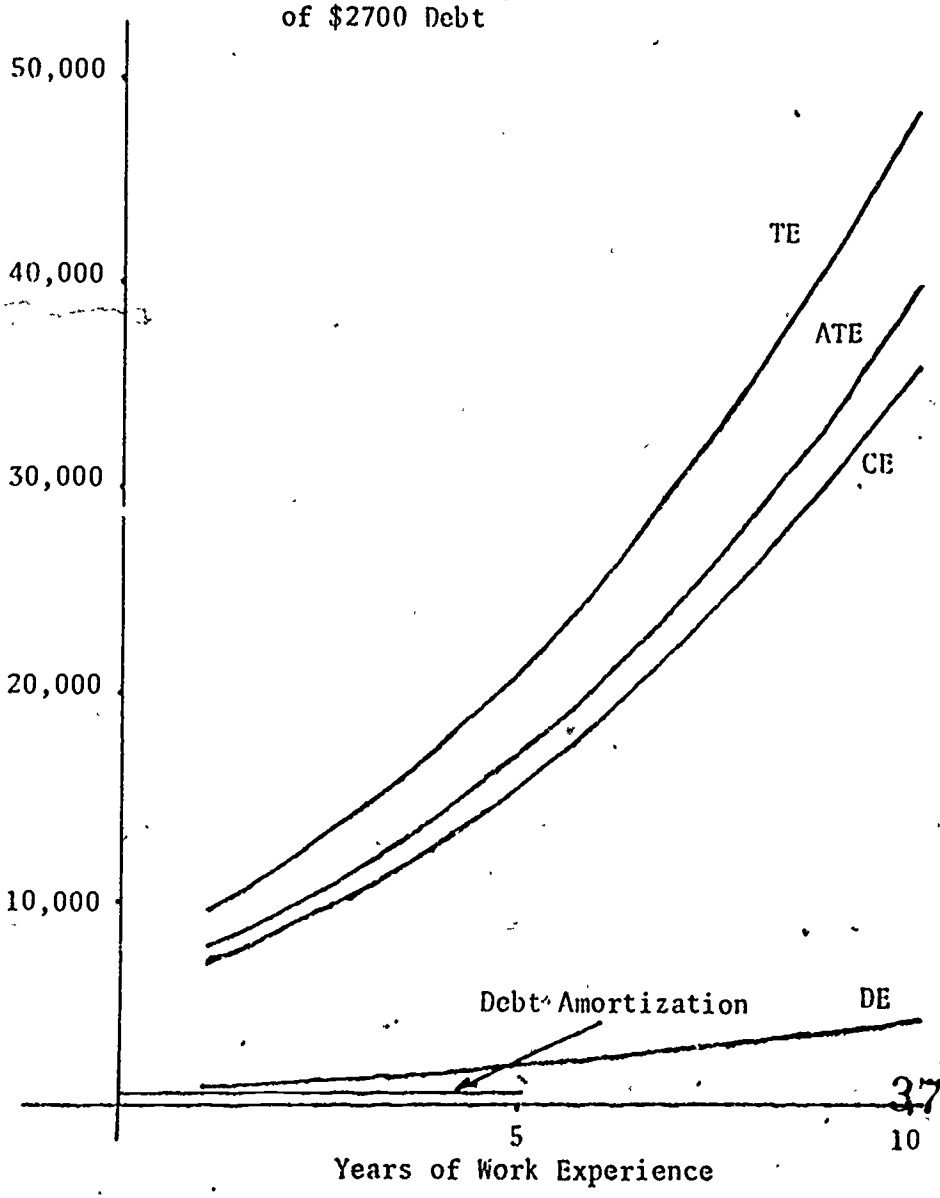


FIGURE D

Year	Total Earnings, in Current Dollars	Total Earnings, in Current Dollars (At 10% Inflation)	After Tax Total Earnings, in Current Dollars a/	Consumption Expenditures b/	Discretionary After Tax Earnings, in Current Dollars c/
1	$ 9,500	$ 9,500	$ 7,790	$ 7,011	$ 779
5	14,000	21,000	17,220	15,498	1,722
10	18,500	48,000	39,360	35,424	3,936
15	22,000	92,000	75,440	64,878	10,562
20	24,500	165,000	135,300	116,358	18,942

Year	Discretionary After Tax Earnings, in Current Dollars	Repayment and Loan Burden Under Selected Rates and Maturities							
		A		B		C		D	
		7%/60mos.	% burden	9%/60 mos.	% burden	7%/120 mos.	% burden	9%/120 mos.	% burden
1	$ 779	$ 642	82.3	$ 673	86.3	$ 376	48.2	$ 410	52.6
5	1,722	642	37.3	673	39.1	376	21.8	410	23.8
10	3,936					376	9.6	410	10.4
15	10,562								
20	18,942								

a/ From Statistics of Income, roughly after tax income equals 82 percent of total income

b/ Through years one thru ten consumption equals 90 percent of after tax income. After year ten consumption equals 86 percent of after tax income. Both adjustments based on 1972-73 Consumer Expenditures Survey

c/ Equals after tax earnings less consumption expenditures.

The General Capabilities and Shortcomings of the Integrated Model

The greatest benefit of the integrated model is that it allows the model user to make some reasonable estimates of loan burden for specific and relatively homogeneous groups of borrowers. These estimates would be made with the best available data using statistical techniques which entail well-known behavioral and mathematical assumptions. Within the limits set by these assumptions, the model permits the estimation of loan burden under hypothetical circumstances, such as higher debt levels, longer repayment periods, higher earnings, greater or lesser consumption, etc.

The model's flexibility permits the disaggregation of the characteristics of loan borrowers across many dimensions. This would enable the modelers to begin unraveling some the intertangling factors which determine loan burden. The model would also allow the user to compare the chances among students/borrowers with different characteristics of winding up with inordinately high loan burdens. For example, the model can be used to compare the loan burdens of students from different fields of study.

A general drawback to the model, aside from those specific construction and estimation problems already mentioned, is the inability to isolate the determinants of debt, future earnings or consumption expenditures. Knowing the determinants of each of the model components is critically important if the modeler/user wishes to relax some assumptions about furture repayment, earnings, inflation or consumption patterns. For example, it would be

important for the modeler/user to know whether students borrowed more as the maximum repayment period is lengthened. Then if the modeler wished to assume a longer repayment period of twenty years, the combined effort of debt level and repayment time could be taken into account.

General Mathematical Form of the Loan Burden Model

Individual Borrower	Group of Borrowers
1. $LB_{ik} = \frac{R_{ik}}{DE_{ik}}$	$\sum_i LB_{ik} = \frac{R_{ik}}{DE_{ik}}$
Where LB_{ik} is the loan burden of the ith borrower in the kth year of repayment R_{ik} is the amount repaid by the ith borrower in the kth year of repayment DE_{ik} is the discretionary earnings of the ith borrower in the kth year of repayment	
2. $R_{ik} = f(D_i, I_i, MP_i)$	$\sum_i R_{ik}$
Where D_i is the total debt of the ith borrower at the time repayment begins I_i is the weighted interest rate on all loans made to the ith borrower MP_i is the weighted maturity period of all loans repaid by the ith borrower	
3. $D_i = \sum_j d_{ij}$	$\sum_i D_i$
Where d_{ij} is the debt incurred by the ith borrower in the jth year of school plus any interest that accrues on that debt before repayment begins	
4. $I_j = \frac{(\sum_j i_{ij} \times d_{ij})}{D_i}$	$\frac{\sum_i (D_i \times I_i)}{(\sum_i D_i)}$
Where i_{ij} is the interest on debt d_{ij} incurred by the ith borrower in the jth year	
5. $MP_i = \frac{\sum_j \sum_k mp_{ijk} \times d_{ij}}{D_i}$	$\frac{\sum_i (MP_i \times D_i)}{\sum_i D_i}$
Where mp_{ik} is the time period (k years) required for the ith borrower to fully pay off debt d_{ij}	

Individual Borrower	Group of Borrowers

6. $DE_{ik} = E_{ik} - (C_{ik} + T_{ik})$ $\quad \sum_i DE_{ik}$

Where E_{ik} is the total earnings of the ith borrower in the kth year of repayment

C_{ik} is a measure of the total consumption of the ith borrower in the kth year of repayment

T_{ik} is the total federal, state, local and FICA taxes paid by the ith borrower in the kth year of repayment

7. $E_{ik} = f(EXP, EDUC, AGE, HOURS, MARSTAT, JOB, LOC, PREVEARN)$ [1] $\quad \sum_i E_{ik}$

Where EXP_{ik} is the years of work experience of the ith borrower in the kth year of repayment

$EDUC_{ik}$ is the number of year of schooling of the ith borrower in the kth year of repayment

AGE_{ik} is the age of the ith borrower in the kth year of repayment

$HOURS_{ik}$ is the number of hours worked by the ith student in the kth year of repayment

$MARSTAT_{ik}$ is the marital status of the ith borrower in the kth year of repayment

JOB_{ik} is the type of job held by the ith borrower in the kth year of repayment

LOC_{ik} is the region where the ith borrower works in the kth year of repayment

$PREVEARN_{ik}$ is the previous year's earnings of the ith borrower in the kth year of repayment

---

1/ The specific functional form of earnings depends in part on convention and on the available data. For a complete discussion see Chapter Two "Lifetime Earnings."

8. $C_{ik} = f(\text{WELFARE}, \text{GOODS})$ $\quad \sum_i C_{ik}$

Where WELFARE_{ik} is a measure of the needs of the ith borrower in the kth year to maintain physical and mental health; and

GOODS is a measure of those goods and services which the ith borrower would need to consume in the kth year such as housing and recreation

9. $T_{ik} = \sum_m (T_{ikm} \times E_{ik})$ $\quad \sum_i T_{ik}$

Where t_{ikm} is the mth tax rate imposed on the ith borrower's earnings in the kth year

CHAPTER II

AN EMPIRICAL EXAMPLE

This chapter presents an empirical example of the loan burden model described above. It describes what specific data was required, what assumptions had to be made, and what results were achieved using a set of recent data sources. The loan burden evidence presented here relates only to those certain years, certain types of students, and certain educational and employment experiences. It is not meant to be a best guess of current (1981) loan burden or future loan burdens. The next chapter will discuss the implications of the use of this model in answering these and other policy relevant questions.

Debt Data Sources

Three debt data sources were initially considered:

- the 3rd followup to the 1972 National Longitudinal Survey (NLS) of High School Seniors[1]
- the 1978 Survey of Recent College Graduates (Survey) and
- the 1978-79 applicant file of the Graduate and Professional School Financial Aid Service (GAPSFAS)

Evidence on education debt from the NLS was tabulated for various characteristics of students including race, sex, age, marital status, academic level, dependency status, field of study and financial aid use (see Appendix A). The NLS proved of limited usefulness for further work on this study because student debt was only recorded in broad intervals, e.g. $1,000-1,999, which did not permit accurate measurement of the average or median debt levels necessary for loan burden computations.

The 1978 Survey of Recent College Graduates, however, did obtain point estimates of student debt[2] rather than interval estimates and became the

---

[1] At the time of the 3rd followup, about 35 percent of those high school seniors originally surveyed had received their bachelor's degrees.

[2] Point estimates have no range. In the Survey students were asked to select their best single-number estimate of their cumulative undergraduate debt.

main debt data source for the study. The Survey results were the most recent evidence of undergraduate student cumulative debt. The Survey was statistically representative of baccalaureate and master's recipients although some complicated stratifying procedures were used. The Survey contained sufficient data to identify all necessary characteristics including, in addition to those mentioned for the NLS, employment status and continued schooling. Its chief drawback was that it only requested undergraduate cumulative debt levels even for those in the survey who had obtained advanced degrees (see Appendix B for a description of the Survey and its data).

The GAPSFAS data was an improvement but did not completely overcome the lack of graduate student debt data. It provided point estimates of cumulative indebtedness for those graduate students who applied for aid through this service. But GAPSFAS applicants are a non-representative group since they are comprised mostly of business, law and medical students. For those professions and a few others, however, the GAPSFAS data did allow us to obtain estimates of mean and median debts likely to be incurred by those students (see Appendix C for a review of the GAPSFAS debt data).

Earnings Data Sources

Data from the Census Bureau's annual March Current Population Surveys (CPS) of household and individual income were considered best suited for this study because they provided both a statistically sound and sufficiently large sample in addition to educational attainment and employment information. It was necessary to have a data source which could produce as many different earnings profiles as possible, in order to match the different debt distributions that were created from the Survey data.

The only other important potential source of earnings data was the 1975 Survey of Income and Education (SIE). It was rejected mainly because of the

extra effort necessary to obtain the data and to "age" it for several additional years of earnings growth.

Once the CPS was selected it became necessary to decide whether ten or more years of Census data could be used to form a multiyear cross-sectional earnings file or if a single year's data would suffice. Problems with compatibility across years for the Census data and the study's time constraints led to the use of only the 1979 Census March CPS for the construction of earnings profiles by age, educational attainment, employment status (full-time, part-time, etc.) and occupation. (The general pros and cons of longitudinal vs. multi-year cross-sectional vs. single year cross-sectional data were discussed in Chapter I, pp.18-20).

A number of specific concessions and assumptions went along with the choice of using the 1979 March CPS. First, the single year's sample was too sparse to permit the estimation of earnings profiles for:

- o part-time employed black males and black and white females
- o full-time employed black males and black and white females by occupational category

Second, the educational attainment data in the March CPS is by years of school completed. As a result baccalaureate and masters recipients could not be postively identified but were assumed to have completed 16 and 18 years of school, respectively. For certain professional positions — lawyers, doctors and college and university teachers — years of schooling were assumed to be 19, 20, and 21, respectively, in order to approximate their advanced training. Third, age was used as a proxy for work experience, assuming that work experience equals age less years of schooling less six years. Fourth, since the earnings data were drawn from a separate source then the debt data it was decided that earnings groups would be left

disaggregated by race, sex and marital status. Neither the debt data nor the earnings data could be used to further collapse these groupings because 1) the debt data could only provide the appropriate weighting among these groups for recent graduate and offer no insight as to how these weights might change during the repayment period and 2) the earnings data cannot anticipate the shifts in labor market participation among these groups that would occur during the repayment period.

Selection of Student Categories

Given the data constraints discussed above, compatible debt and earnings data were available for 52 categories of student borrowers, as follows:

- Full-time employed (35 hrs. or more per week) white and black males and female baccalaureates, single and married
- Part-time employed (10-34 hrs. per week) white male baccalaureates, single and married
- Full-time employed white male baccalaureates, single and married, by twenty occupational categories
- Full-time employed white male advanced degree holders (professors, engineers, lawyers and physicians) by occupational categories

For each of the above student categories the following information was computed:

- the distribution of debt and debt quartiles
- annual loan repayment at seven percent for ten years
- the estimated distribution of future earnings, taxes, consumption expenditures and discretionary earnings
- the estimated loan burden by year of repayment (see Appendix D for this data for each student category).

Summary of Empirical Evidence

The chart which follows presents a summary of our empirical study of loan burden. It presents loan repayment as a percent of discretionary earnings for all the student/borrower categories discussed above. It has simplified the analysis of loan burden in a number of ways. It only depicts the loan burden of those who have the median debt in their category. It does not show the level of loan burden that would result for a borrower who had more or less than the median debt. Similarly the earnings which are used to compute discretionary earnings for each category are the median earnings for the particular category. Borrowers whose earnings depart from this middle point are not portrayed in this summary chart but are described in the Variations section. Also, loan burden from married borrowers is computed assuming that the borrower is the sole wage earner in the household. This assumption tends to overestimate loan burden for those married borrowers who are likely to have a working spouse.

Additional assumptions which are embodied in the chart are as follows and are followed by brief rationales:

- this median-debt student/borrower is assumed to repay at an interest rate of 7% for 10 years
- this median-debt, median-earnings student/borrower is expected to consume at the BLS low standard of living and to pay 25 percent of earnings in federal, state, local and social security taxes (see Appendix E for consumption expenditure levels).
- the rate of growth in earnings and in the low standard of living level is taken from forecasts in the FY 1982 Carter budget (see Appendix F for inflators).

The assumption about repayment terms appears reasonable because the largest share of student debt is from the federal Guaranteed Student Loan program which, at the time these students borrowed, carried terms of 7

percent and a maximum repayment period of ten years. Of course, some students received federal National Direct Student Loans with terms of 3 percent interest and ten year repayment while others borrowed through other private sources whose terms often were higher interest rates with shorter repayment periods. Also, although interest rates are fixed, many students may choose to repay in a shorter period.

The College Scholarship Service (CSS) derives a consumption expenditures measure directly from the BLS low standard which is specifically designed for independent students under 34 years old. (See Chapter I, pp.11-15 for a general discussion of consumption expenditures) This measure is used in this anlaysis as a proxy for the BLS standard. The CSS measure is adjusted for slight differences between the consumption patterns of independent (self-supporting) students and dependent students. It also varies by family size which permits the use of different standards for single and married student/borrowers. The use of the BLS low standard and this CSS derivative appears justified if one believes that all college graduates should be able to live at the BLS low standard. And, in addition, this assumption provides an appropriate base from which the effects of variations in student's consumption levels can be viewed.

The future earnings profiles derived from the Census data were estimated in constant 1978 dollars. In order to make these profiles compatible with the repayment schedules they must be put in terms of current dollars i.e. dollars of the year in which they are earned. Using the Administration's FY 1982 budget forecasts of future increases in salaries and wages an earnings inflator was derived to convert a dollar of 1978 earnings into the appropriate amount of any future year's earnings.

Similarly to forecast future consumption expenditures required an estimate of changes in the Consumer Price Index. These were also taken from the Administration's FY 1982 budget projection and were used to predict the increases in the consumption expenditure standards.[1]

* * *

Any negative entry on the chart, (-), indicates that discretionary earnings were below zero and that those students, regardless of their debt level, could not sustain themselves at the BLS low standard. For example, the data show that for the first two years of repayment married, part-time employed white males had negative discretionary earnings. This situation could be further exacerbated if debt levels were also high.

An entry on the chart could be greater than 100 percent if discretionary earnings were positive but very small in comparison to annual repayment levels. As an example, single health technicians (occupational category #11) in their third year of repayment had total annual discretionary earnings of $70 which was swamped by their repayment obligations of $529 (making the ratio of repayment to discretionary earnings 7.557 or 755.7 percent).

---

[1] See Appendix F for the inflator used. It should be noted that the critical statistic -- discretionary earnings -- is dependant upon the differential between the percent annual increases in earnings and consumption, not their absolute levels.

Table 1:
Loan Repayment as a Percent of
Discretionary Earnings

Student/Borrower Category	Year of Repayment									
	1	2	3	4	5	6	7	8	9	10
Undergraduate Degree Recipients										
1) All Full-Time Employed White Males										
single (annual repayment = $348)	13.7	10.0	7.6	5.9	4.5	3.5	2.8	2.3	1.9	1.6
married (annual repayment = $279)	14.1	9.7	7.0	5.2	3.9	2.9	2.3	1.8	1.5	1.2
2) All Part-Time Employed White Males										
single (annual repayment = $279)	58.0	26.9	15.9	10.4	7.0	4.9	3.6	2.8	2.2	1.8
married (annual repayment = $223)	(-)	(-)	36.6	15.5	8.2	5.0	3.4	2.5	1.9	1.5
3) All Full-Time Employed White Females										
single (annual repayment = $307)	17.8	14.2	11.6	9.6	7.6	6.0	5.0	4.2	3.5	3.0
married (annual repayment = $251)	70.5	41.5	28.0	20.4	13.7	9.2	6.9	5.4	4.3	3.5
4) All Full-Time Employed Black Males										
single (annual repayment = $279)	6.9	5.6	4.6	3.8	3.1	2.5	2.1	1.8	1.5	1.3
married (annual repayment = $223)	7.8	6.1	4.9	3.9	3.1	2.5	2.0	1.7	1.4	1.2
5) All Full-Time Employed Black Females										
single (annual repayment = $279)	16.6	12.0	8.9	6.9	5.2	4.0	3.2	2.6	2.2	1.8
married (annual repayment = $139)	(-)	97.9	27.7	11.7	6.6	4.1	2.9	2.2	1.7	1.4

Table 1:
Loan Repayment as a Percent of
Discretionary Earnings

Student/Borrower Category		Year of Repayment 1	2	3	4	5	6	7	8	9	10
Occupational Groupings (Full-Time Employed White Male Baccalaureates Only)											
1) Accountants											
single	(annual repayment = $ 265)	6.0	4.8	3.8	3.1	2.5	2.0	1.7	1.4	1.2	1.0
married	(annual repayment = $ 139)	3.5	2.8	2.2	1.7	1.4	1.1	0.9	0.7	0.6	0.5
2) Architects											
single	(annual repayment = $ 279)	7.6	6.6	5.7	4.9	4.1	3.3	2.8	2.4	2.0	1.7
married	(annual repayment = $ 446)	11.7	10.0	8.5	7.2	5.9	4.8	4.0	3.3	2.8	2.3
3) Computer Specialists											
single	(annual repayment = $ 488)	10.1	8.1	6.6	5.4	4.3	3.5	2.9	2.4	2.0	1.7
married	(annual repayment = $ 139)	3.2	2.5	2.0	1.6	1.3	1.0	0.8	0.7	0.6	0.5
4) Engineers											
single	(annual repayment = $ 334)	5.0	4.2	3.6	3.0	2.5	2.1	1.8	1.5	1.3	1.1
married	(annual repayment = $ 279)	5.0	4.1	3.4	2.8	2.3	1.9	1.6	1.3	1.1	1.0
5) Librarians and Social Scientists a/											
single	(annual repayment = $ 697)	21.7	15.8	12.0	9.2	7.2	5.6	4.5	3.7	3.1	2.6
married	(annual repayment = $ 139)	5.8	4.0	2.9	2.2	1.6	1.2	1.0	0.8	0.7	0.6
6) Mathematical Specialists a/											
single	(annual repayment = $ 98)	1.6	1.3	1.0	0.9	0.7	0.6	0.5	0.4	0.4	0.3
married	(annual repayment = $ 697)	14.6	11.6	9.3	7.6	6.1	4.9	4.1	3.4	2.9	2.5
7) Natural Scientists											
single	(annual repayment = $ 279)	8.9	6.6	5.0	3.9	3.0	2.4	1.9	1.5	1.3	1.1
married	(annual repayment = $ 209)	12.2	8.0	5.6	4.1	3.0	2.2	1.7	1.4	1.1	0.9

a/ Small debt sample size

Table 1:
Loan Repayment as a Percent of
Discretionary Earnings

Student/Borrower Category		Year of Repayment 1	2	3	4	5	6	7	8	9	10
Occupational Groupings (Full-Time Employed White Male Baccalaureates Only)											
8) Science Technicians											
single	(annual repayment = $ 209)	12.8	9.5	7.3	5.7	4.3	3.3	2.6	2.1	1.8	1.5
married	(annual repayment = $ 279)	18.7	13.	9.7	7.4	5.5	4.1	3.2	2.6	2.1	1.7
9) Other Medical Practitioners											
single	(annual repayment = $ 627)	16.7	13.0	10.3	8.3	6.6	5.3	4.4	3.7	3.1	2.7
married	(annual repayment = $ 697)	20.6	16.0	12.7	10.3	8.2	6.5	5.4	4.5	3.8	3.2
10) Religious Workers a/											
single	(annual repayment = $ 669)	33.5	32.5	30.8	28.4	24.1	19.5	16.1	13.3	11.0	9.0
married	(annual repayment = $ 404)	42.2	47.0	50.8	52.3	39.5	26.2	19.1	14.4	10.7	8.2
11) Health Technicians											
single	(annual repayment = $ 529)	(-)	(-)	755.7	49.5	21.0	12.0	8.0	5.8	4.4	3.4
married	(annual repayment = $ 70)	(-)	(-)	(-)	15.0	3.7	1.8	1.2	0.8	0.6	0.5
12) Other Technicians, Social and Research Workers											
single	(annual repayment = $ 320)	15.3	11.6	8.9	7.0	5.4	4.2	3.4	2.8	2.3	1.9
married	(annual repayment = $ 418)	30.5	21.1	15.2	11.4	8.4	6.2	4.8	3.8	3.1	2.5
13) Teachers Other Than College and University											
single	(annual repayment = $ 279)	13.2	10.4	8.3	6.7	5.3	4.2	3.4	2.8	2.3	1.9
married	(annual repayment = $ 251	18.8	14.3	10.7	8.2	6.0	4.5	3.5	2.8	2.3	1.8

a/ Small debt sample size

Table 1:
Loan Repayment as a Percent of
Discretionary Earnings

Student/Borrower Category	Year of Repayment 1	2	3	4	5	6	7	8	9	10
Occupational Groupings (Full-Time Employed White Male Baccalaureates Only)										
14) Writers, Artists and Entertainers										
single (annual repayment = $ 181)	9.2	6.9	5.2	4.0	3.0	2.3	1.8	1.5	1.2	1.0
married (annual repayment = $ 279)	36.4	21.1	13.8	9.5	6.5	4.6	3.4	2.6	2.1	1.7
1-14) All Technical Workers										
single (annual repayment = $ 279)	7.7	6.1	4.9	4.0	3.2	2.6	2.1	1.8	2.5	1.3
married (annual repayment = $ 279)	9.6	7.4	5.9	4.7	3.7	2.9	2.3	1.9	1.6	1.3
15) All Administrators, Managers and Sales Workers										
single (annual repayment = $ 348)	7.0	5.7	4.6	3.8	3.1	2.5	2.1	1.8	1.5	1.3
married (annual repayment = $ 348)	7.4	6.0	4.8	4.0	3.2	2.6	2.1	1.8	1.5	1.3
16) Clerical Workers										
single (annual repayment = $ 418)	20.6	15.5	12.0	9.4	7.2	5.6	4.5	3.7	3.0	2.5
married (annual repayment = $ 279)	20.6	14.2	10.3	7.7	5.6	4.2	3.2	2.6	2.1	1.7
17) All Operatives, Laborers and Craftsmen										
single (annual repayment = $ 362)	16.5	12.5	9.7	7.7	6.0	4.7	3.8	3.1	2.6	2.2
married (annual repayment = $ 279)	14.6	10.7	8.1	6.3	4.8	3.7	2.9	2.4	2.0	1.6
18) Farm Managers and Foresters[a]										
single (annual repayment = $ 84)	3.9	2.9	2.2	1.7	1.3	1.0	0.8	0.6	0.5	0.4
married (annual repayment = $ 557)	36.0	24.5	17.5	13.0	9.5	7.1	5.5	4.4	3.5	2.9

[a] Small debt sample size

II-14

Table 1:
Loan Repayment as a Percent of
Discretionary Earnings

Student/Borrower Category	Year of Repayment 1	2	3	4	5	6	7	8	9	10
19) Service Workers and Home Management Advisors										
single (annual repayment = $ 209)	14.7	10.3	7.5	5.7	4.3	3.2	2.6	2.1	1.7	1.4
married (annual repayment = $ 352)	35.7	22.4	15.5	11.3	8.1	5.9	4.7	3.6	2.9	2.4
Advanced Degree Recipients (Full-Time Employed White Males)										
1) College and University Teachers										
annual repayment = $ 697	18.4	15.1	12.4	10.2	8.2	6.5	5.3	4.4	3.7	3.1
2) Engineers										
annual repayment = $ 460	5.8	4.9	4.0	3.4	2.8	2.3	1.9	1.6	1.4	1.2
3) Lawyers										
annual repayment = $ 1087	19.7	14.8	11.4	8.9	7.0	5.6	4.5	3.8	3.1	2.7
4) Physicians										
annual repayment = $ 2076	25.4	20.4	16.6	13.5	11.0	8.9	7.4	6.2	5.3	4.5

General Conclusions from Summary Evidence

The majority of 1977 college graduates, if their borrowing and earnings patterns hover around the median, would not be burdened when repaying the loans they incur to finance their education under the assumptions of our example. Their earnings (if employed full-time) are in most cases more than adequate to repay their loans while they maintain an acceptable standard of living. There are, however, pockets of loan burden within some subpopulations and some individuals depending on their particular configuration of employment status, family size, and occupation. But even these pockets of debt burden only exist during the early repayment years and may be mostly a function of the traditional use by banks of equal installment repayment schedules.

Pockets of loan burden were found among:

- All baccalaureates who work less than full-time who will be hard pressed to cover their repayments during their first two or three years out of school. Also, obviously, unemployed borrowers face complete loan burden while they remain without a job.

- Married, full-time employed women with bachelor's degrees who will be substantially burdened during the first year or two unless their spouse is also working.

- Among health technicians, single or married, who could not support themselves at a low standard of living for the first three years after graduation, even if they had no education debt. Less severely strapped would be married farmers, housekeepers and other service workers, who would have to spend over 35 percent of their first year's discretionary earnings to repay their undergraduate education debt, if they were the sole wage earners.

According to the Survey data part-time employed baccalaureates comprised about nine percent of all four year college and university bachelor and master's recipients. Part-time masters recipients amounted to an additional 2.5 percent. In addition another 16 percent reported that they were not working for pay which meant that they were either unemployed, laid off or working in the home.

Full-time employed white and black married females who showed high burden levels during the early repayment years amounted to about 16 percent of the survey population. White married females show small positive discretionary earnings with loan burdens which decrease from 71 percent to 28 percent of discretionary earnings by their third year of repayment. Black married females show extremely low debt levels but additionally show negative discretionary earnings in year one. By year three their discretionary earnings, though small, are more than adequate to cover their modest repayment commitment.

Health technicians, single and married, stand out as the one occupational category that has severe earnings problems and, consequently, loan burden problems. They comprise less than one percent of the graduating population. These earnings problems may be a result mainly of the nature of the job and its required training. It is very likely that 1) the first few working years amount to on-the-job training at a hospital or other medical center and 2) training wages are kept unusally low until the completion of training at which time earnings escalate quite rapidly. In addition, this particular

occupation often does not require a four-year college degree but just a two year certificate. As a result, college graduates are competing against other qualified job candidates who didn't incur similar schooling expenses.

White male married farmers and service workers who had relatively higher first year loan burdens of 36 percent made up only two percent of the Survey graduates.

Variations from Base Assumptions

Under the base assumptions presented above there appear not to be many students who will suffer financially when repaying their loans. But what of those students who don't fit this middle-of-the-road description? What about those students who graduate with above average debt levels, who enter jobs with below average earnings, who must repay under stricter repayment terms, or who live in more demanding family circumstances (i.e. more dependents)? In this section we can suggest how our conclusions might differ for those students by studying selected cases which vary from the base assumptions.

Debt Levels. What is the range of debt burdens for those students who are not at the median debt, assuming all other circumstances remained the same? We can illustrate the effects for such students by examining the range of debts (including the upper and lower debt quartiles) of various student types and computing their loan burden by year of repayment. We will first look at full-time employed married white males. The following tables illustrate the levels of repayment and loan burden by debt level for these borrowers.

TABLE 2: DEBT LEVELS AND ANNUAL REPAYMENTS FOR FULL-TIME EMPLOYED MARRIED WHITE MALE BACCALAUREATES

DEBT LEVELS	ANNUAL REPAYMENT AT 7 PERCENT FOR 10 YEARS
1. $ 500	1. $ 70
2. 1,000 (lower quartile)	2. 139
3. 1,500	3. 209
4. 2,000 (median)	4. 279
5. 2,500	5. 348
6. 3,000	6. 418
7. 3,800 (upper quartile)	7. 529
8. 4,000	8. 557

Corresponding debt burdens for these borrowers at these debt levels are:

TABLE 3: LOAN BURDEN BY DEBT LEVEL FOR FULL-TIME EMPLOYED MARRIED WHITE MALE BACCALAUREATES

DEBT LEVEL	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
1. $ 500	3.5	2.4	1.8	1.3	1.0	0.7	0.6	0.5	0.4	0.3
2. 1,000	7.1	4.9	3.5	2.6	2.0	1.5	1.2	0.9	0.8	0.6
3. 1,500	10.6	7.2	5.2	3.9	2.9	2.2	1.7	1.4	1.1	0.9
4. 2,000	14.1	9.7	7.0	5.2	3.9	2.9	2.3	1.8	1.5	1.2
5. 2,500	17.6	12.1	8.7	6.5	4.8	3.6	2.8	2.3	1.9	1.5
6. 3,000	21.1	14.5	10.5	7.8	5.8	4.4	3.4	2.8	2.2	1.8
7. 3.800	26.7	18.3	13.2	9.9	7.3	5.5	4.3	3.5	2.8	2.3
8. 4,000	28.2	19.4	14.0	10.4	7.8	5.8	4.6	3.6	3.0	2.4

In comparison, the next example show the range of debt burdens faced by married white female baccalaureates if they had to repay their loans from their own earnings. (Debt levels have been limited to the median and quartiles for simplicity)

TABLE 4: DEBT QUARTILES AND REPAYMENT FOR FULL-TIME EMPLOYED MARRIED WHITE FEMALE BACCALAUREATES

DEBT QUARTILES			ANNUAL DEBT REPAYMENT AT 7 PERCENT FOR TEN YEARS		
LOWER 25%	MEDIAN	UPPER 25%	LOWER 25%	MEDIAN	UPPER 25%
$800	$1800	$3500	$111	$251	$488

Since in this example we are assuming no change in the student's position in the consumption or earnings distribution, then the pattern of loan burden which corresponds to each debt quartile level would be:

TABLE 5: LOAN BURDEN BY DEBT QUARTILES AND YEAR OF REPAYMENT FOR FULL-TIME EMPLOYED MARRIED WHITE FEMALE BACCALAUREATES

DEBT QUARTILES	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
LOWER 25% (annual repayment = $111)	31.2	18.3	12.4	9.0	6.0	4.1	3.1	2.4	1.9	1.5
MEDIAN (annual repayment = $251)	70.5	41.4	28.0	20.3	13.6	9.3	7.0	5.4	4.3	3.4
UPPER 25% (annual repayment = $488)	137.1	80.5	54.4	39.5	26.4	18.1	13.6	10.5	8.4	6.6

As can be seen from the table the upper quartile of women in this group who have debts in excess of $3500 could not afford to repay their loans from their own earnings and still maintain a BLS low standard of living for their household. However, the burden on these borrowers would be substantially mitigated if they were married to a full-time employed male baccalaureate,

even if the spouse had debt. We can construct a loan burden chart to simulate this marriage and to show the range of loan burden if an indebted female was married to a male with median debt.

TABLE 6: LOAN BURDEN BY DEBT QUARTILES AND YEAR OF REPAYMENT FOR A FULL-TIME EMPLOYED MARRIED INDEBTED COUPLE (FEMALE DEBT QUARTILES; MALE HAS MEDIAN DEBT)

	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
LOWER 25% (female repayment = $111 male repayment = $279 total repayment = $390)	5.2	4.2	3.4	2.8	2.2	1.9	1.5	1.3	1.1	1.0
MEDIAN (female repayment = $251 male repayment = $279 total repayment = $530)	7.0	5.6	4.6	3.8	3.1	2.5	2.0	1.7	1.5	1.3
UPPER 25% (female repayment = $488 male repayment = $279 total repayment = $767)	10.2	8.2	6.7	5.4	4.4	3.6	3.0	2.6	2.2	1.8

Repayment Terms. Suppose that through changes in federal or state legislation and/or bank policies it appears that students will be borrowing funds for education at higher rates in the future. Instead of the majority of students

repaying 7 percent loans let's assume that the interest rate they would face will be 10 percent. How would their loan burdens change? If the maximum repayment period remains at 10 years then for full-time employed white males with bachelor's degrees and median debt their annual repayments would jump about 14 percent. Their loan burden pattern would become:

TABLE 6: LOAN BURDEN AT TEN PERCENT INTEREST RATE FOR FULL-TIME EMPLOYED WHITE MALE BACCALAUREATES WITH MEDIAN DEBT

	YEAR OF REPAYMENT									
STUDENT/BORROWER	1	2	3	4	5	6	7	8	9	10
Single (annual repayment = $397)	15.6	11.5	8.7	6.7	5.1	4.0	3.2	2.6	2.2	1.8
Married (annual repayment = $317)	16.0	11.0	8.0	5.9	4.4	3.3	2.6	2.0	1.7	1.4

Their loan burden, however, could be held harmless from what it was under the earlier interest rate in a number of ways. The simplest is to permit an extension of the maximum repayment period. In this case of interest rates increasing from 7 to 10 percent a repayment period of slightly less than thirteen years would be required to maintain the earlier repayment obligation and, hence, the earlier loan burden pattern. But, if the current ten year repayment period is desirable then a somewhat more complicated solution that would not rely on equal repayment installments would have to be devised.

Another variation in repayment terms which is particularly policy relevant is the accrual of interest on the education money that is borrowed while the student is in school. An Administration proposal for the GSL

program recommends adding simple interest to the student's loan principal from the time they first take the loan. If a student borrowed $1,000 at 7 percent in her freshman year through the GSLP the amount to be repaid would be $1,280 (possibly plus some interest accrued during the grace period). As a result annual repayments would increase from $139 to $178. Of course the amount of accrued interest per $1,000 borrowed would vary depending on when the loan was taken. Borrowing $1,000 in the senior year would only amount to repaying $1,070 and annual repayment would increase negligibly from $139 to $149. For purposes of illustration and because the data did not reveal the pattern of borrowing during a student's academic lifetime, we will assume that the full amount of indebtedness was incurred at one point in time -- the middle of the second academic year. This would mean approximately three years of interest would accrue before repayment began. Also in this example we are assuming that all the student's borrowing was under the GSL program and, thus, subjected to the interest accrual.

In 1977, the median debt of all full-time employed single white male baccalaureates was $2,500. If they were subjected to these new accrual provisions they would have to repay $3,025 and their annual repayment would rise from $348 to $421 -- a 21 percent increase. The resulting change in their loan burden would be as follows:

TABLE 8: LOAN BURDEN WITH AND WITHOUT INTEREST ACCRUAL FOR FULL-TIME EMPLOYED SINGLE WHITE MALE BACCALAUREATES

	YEAR OF REPAYMENT									
LOAN BURDEN	1	2	3	4	5	6	7	8	9	10
No interest accrual (annual repayment = $348)	13.7	10.1	7.6	5.9	4.5	3.5	2.8	2.3	1.9	1.6
Interest accrual (annual repayment = $421)	16.6	12.2	9.2	7.1	5.4	4.2	3.4	2.8	2.3	1.9

Consumption Levels. For the purposes of computing discretionary earnings it was assumed that any student/borrower would need at least an amount equal to the BLS low living standard. To the extent that actual consumption was higher than this level discretionary earnings would be lowered with a consequent increase in the borrower's loan burden. We can examine the case where the BLS intermediate living standard was a better approximation to actual consumption. If we inspect the data for full-time employed single black male bachelor's we would find the following change in discretionary earnings and loan burden if we went to the BLS intermediate levels.

TABLE 9: LOAN BURDEN UNDER BLS LOW AND INTERMEDIATE LIVING STANDARDS FOR FULL-TIME EMPLOYED SINGLE BLACK MALE BACCALAUREATES

	YEAR OF REPAYMENT									
BLS LOW	1	2	3	4	5	6	7	8	9	10
Consumption Levels	$3,854	4,355	4,921	5,561	6,117	6,606	7,135	7,634	8,092	8,578
Discretionary Earnings	$4,050	5,009	6,127	7,425	9,095	11,157	13,363	15,744	18,504	21,609
Loan Burden (annual repayment = $279)	6.9	5.6	4.6	3.8	3.1	2.5	2.1	1.8	1.5	1.3

	YEAR OF REPAYMENT									
BLS INTERMEDIATE	1	2	3	4	5	6	7	8	9	10
Consumption Levels	$5,862	6,624	7,465	8,458	9,304	10,048	10,852	11,611	12,308	13,047
Discretionary Earnings	$2,042	2,740	3,583	4,528	5,908	7,715	9,646	11,767	14,289	17,140
Loan Burden (annual repayment = $279)	13.7	10.2	7.8	6.2	4.7	3.6	2.9	2.4	2.0	1.6

The shift from the BLS low to intermediate standard has its sharpest impact on loan burden in the early years. Loan burden nearly doubled in the first year -- from 6.9 percent to 13.7 percent — and increased by over 80 percent in the second year from 5.6 to 10.2 percent. However because earnings rise nonlinearly the percent change in loan burden diminishes in the later years, as shown below.

TABLE 10: PERCENT INCREASE IN LOAN BURDEN FOR CONSUMPTION LEVEL CHANGE BY YEAR OF REPAYMENT

	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
Loan Burden Change (%)	99.0	82.1	69.6	63.2	51.6	44.0	38.1	33.3	33.3	23.1

When computing discretionary earnings for married student/borrowers the BLS consumption level for a married couple with no children was used. If the couple had a child during the repayment period their consumption standard would increase about 32 percent at that time. For the indebted couple (both with median debt) whose loan burden was described in Table 4 we can illustrate the effect of the addition of a child to their household at the third year of repayment. The obvious effect of this variation is to postpone by one year the steady decline in loan burden that would normally take place, as shown below:

TABLE 11: LOAN BURDEN FOR INDEBTED MARRIED COUPLE, TWO WAGE EARNERS, WITH AND WITHOUT CHILDREN

LOAN BURDEN (total repayment = $530)	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
Married with no children	7.0	5.6	4.6	3,8	3.1	2.5	2.0	1.7	1.5	1.3
Married with one child born in 3rd year	7.0	5.6	5.6	4.6	3.7	2.9	2.3	1.9	1.7	1.4

Suppose this couple with one child sought to maintain an intermediate standard of living. Then, the loan burden of this family would increase to:

TABLE 12: LOAN BURDEN OF AN INDEBTED MARRIED COUPLE, BOTH WAGE EARNERS, WITH ONE CHILD AT BLS LOW AND INTERMEDIATE CONSUMPTION LEVELS

LOAN BURDEN (total repayment = $530)	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
BLS Low	7.0	5.6	4.6	3.8	3.1	2.5	2.0	1.7	1.5	1.3
BLS Moderate	7.0	5.7	10.9	8.1	5.9	4.3	3.3	2.7	2.2	1.8

If only the higher wage earner was working (in this case the husband) this couple's loan burden would rise even higher, as shown below.

TABLE 13: LOAN BURDEN OF AN INDEBTED MARRIED COUPLE, ONE WAGE EARNER, WITH ONE CHILD AT BLS LOW AND MODERATE CONSUMPTION LEVELS

LOAN BURDEN (total repayment = $530)	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
BLS Low	7.0	5.6	4.6	3.8	3.1	2.5	2.0	1.7	1.5	1.3
BLS Moderate	7.4	6.1	13.3	10.0	7.4	5.5	4.3	3.5	2.8	2.3

Earnings. It is quite possible that students who have incurred average or above average education debt will find that their job opportunities are limited to relatively low paying jobs. This circumstance could arise by choice as might be the case with theology students who pursue monastic lives. Or it could result from the nature of the job market which may not reward a baccalaureate in humanities as it does one in engineering.

We have not analyzed the data to determine who would fall into the category of high debt but low earnings. However, we can suggest what the effect on a student/borrower's loan burden would be if this situation did occur. We can examine the fate of a white male who gets his bachelors in humanities and borrows at the 75th percentile for his group, $4,500. His annual repayment would have to be $627 under our repayment assumptions. Suppose he is fortunate enough to get a full-time , though low paying, job in a closely related area such as librarian. And that throughout his working lifetime he remains at the 25th percentile of earnings for his occupational group. From our earnings data we find that the 25th percentile of librarians and social scientists would start with a salary of about $7,200 their first

year. Adjusting for taxes and consumption would leave discretionary earnings of $1,583 and a first year loan burden of 40.1 percent. Although this is a relatively higher burden than most students might wish to face, it is affordable and would decrease over time as earnings grew, even if only modestly. Table 12 depicts this scenario for the ten year repayment period.

TABLE 14: LOAN BURDEN FOR FULL-TIME EMPLOYED WHITE MALE BACCALAUREATES WITH HIGH DEBT AND LOW EARNINGS

HIGH DEBT/ LOW EARNINGS	YEAR OF REPAYMENT									
	1	2	3	4	5	6	7	8	9	10
Earnings	$7,223	8,953	9,828	10,706	11,579	12,439	13,162	13,847	14,621	15,363
Discretionary Earnings	$1,563	2,363	2,450	2,469	2,567	2,723	2,737	2,751	2,604	2,944
Loan Burden (annual repayment = $627)	40.1	26.5	25.6	25.4	24.4	23.0	22.9	22.8	24.1	21.3

Specific Mathematical Form of the Loan Burden Model Used in the Empirical Example

1. $LB_{ik} = \frac{R_{ik}}{DE_{ik}}$

2. $R_{ik} = .1393\ D_i$

3. D_i = median debt or mean debt or quartiles

4. I_i = 7 percent

5. MP_i = 10 years

6. $DE_{ik} = E_{ik} - (C_{ik} + T_{ik})$

   where, if the ith borrower is:

	single	married
C_{i1}	= $3,854	$ 5,181
C_{i2}	= 4,355	5,855
C_{i3}	= 4,921	6,616
C_{i4}	= 5,561	7,476
C_{i5}	= 6,117	8,223
C_{i6}	= 6,606	8,881
C_{i7}	= 7,135	9,592
C_{i8}	= 7,634	10,263
C_{i9}	= 8,092	10,879
C_{i10}	= 8,578	11,531

   T_{ik} = 25 percent of E_{ik}

7. $\log E_{ik} = a + b_1 \log EXP + b_2 \log EXP^2 + b_3 \log EDUC + b_4 \log AGE + b_5 \log AGE^2 + b_6 \log AGE^3 + b_7 \log HOURS + b_8 \log HOURS^2 + b_9 \log MARSTAT + b_{10} \log JOB + b_{11} \log LOC + b_{12} \log PREVEARN$

CHAPTER III

APPLICATION OF THE MODEL TO LOAN BURDEN POLICY ISSUES

This model can be used for the analysis of many policy issues related to loan burden. We have selected several current issues and in this chapter will describe how and to what extent this model can illuminate these issues.

- Are current loan burdens too high? What is the prospect that loan burdens of future borrowers will be too high?
- How would a provision to eliminate inschool interest subsidy affect loan burden?
- Can graduated repayment plans be used to alleviate loan burden problems?
- Can available data be used to set borrowing limits?

Are current loan burdens too high? What is the prospect that loan burdens of future borrowers will be too high?

To answer these two questions with any accuracy we must have on hand solid evidence of current indebtedness levels, the mix of loan instruments, and the expected level of post college earnings. Along with this information we must make several assumptions about appropriate living standards and the growth in future earnings. Lastly we must choose a definition of loan burden.

Indebtedness data for current college graduates is not available either for the entire population or for a nationally representative sample of students. The National Center of Education Statistics, however, will survey 1981 graduates this spring in a sequel to the 1978 Survey of Recent College Graduates. The 1981 sequel will obtain similar debt data to the 1978 study which provided a measure of total undergraduate debt but did not separate the total debt into its components by type of loan. This loan data will not be available until late 1981 or early 1982.

It might appear that a reasonable approximation of today's debt levels could be made from the 1978 Survey. One could assume, for example, that average loan amounts have increased at about the same rate as schooling costs. There have been, however, several statutory and regulatory changes that have significantly altered the circumstances and environments which affect student debt levels.

- o The opening of the Guaranteed Student Loan program to families of all incomes brought in a heretofore excluded group of borrowers many with students in high cost schools.
- o the expansion of the number of State Guarantee Agencies and the use of tax-exept bonds to raise GSL capital at the State level eased the presumed pre-MISAA problem of limited capital availability
- o the widening gap betwen the GSL interest rate and the market rate induced considerable GSL borrowing which substituted for other sources of loan funds.

These changes point to increased borrowing and to an increase in the average loan steeper than past trends would suggest.

The 1981 Survey, though it will be the best source of collegiate student debt data, will not permit identification of the mix of loan instruments or how much each student borrows from each federal, state or private loan source. Without this information the effective interest rate and maturity period that will face each student will not be known. As in the empirical example of Chapter Three an assumption such as 7 percent interest for ten years would have to be made. This data shortcoming reduces the overall usefulness of repayment schedules computed from the debt data because they are more hypothetical than real.

Earnings of college graduates is available through the annual Census March Survey of Income, employment and educational attainment. However, as was revealed by the earlier empirical evidence, when a single year's earnings data is used it limits the number of student/borrower categories that can be used for two reasons:

- o insufficient sample size which, for example, precluded the computation of separate occupational earnings profiles for minorities and women
- o accurate aggregation of many categories required more data on labor force participation of college graduates by year after schooling.

Overcoming these problems requires the construction of earnings profiles based on multiyear cross-secional data and the application of proper weights to relevant subpopulations. In addition, since today's indebtedness is paid out of tomorrow's earnings, this current year's earnings data must be cautiously projected into the future.

The basis for choosing the appropriate living standard used in the model is very subjective but is critical to the computation of loan burden. As an example, the difference between the BLS 1978 low and intermediate standards for single persons (illustrated in Chapter Three) is over $2,000 — $3,850, for the low and $5,862 for the intermediate level. That $2,000 per year would be enough to pay off $14,354 of debt over 10 years at 7 percent.

Of course, once these basic assumptions are resolved the remaining, and most important, choice remains the selection of the criteria that defines unreasonable loan burden. The measure of loan burden used in this model is the ratio of annual repayment to annual discretionary earnings (after taxes and a low living standard are allowed). For some students during some years that ratio can be very high, i.e. close to 100 percent of their discretionary earnings would have to be used to amortize their education debt. Anything more than that should be considered an unreasonable burden. Therefore, one definition of unreasonable loan burden would be:

- Debt is unreasonable when loan repayments exceed discretionary earnings in any year.

Some might argue that college graduates should not be required to use their entire discretionary earnings but, say, only one-half. This would leave a portion for cultural and recreational activities or perhaps to support a somewhat higher standard of living or to save for future consumption. In that case, their definition of unreasonableness would be:

- Debt is unreasonable when loan repayments exceed 50 percent of discretionary earnings in any year.

Whatever definition is chosen should be applied consistently across all subpopulations.

These are the considerations that must be resolved before the question of current and future loan burdens can be answered. It appears unlikely that current loan burdens can be accurately known and that the best that can be done is a cautious assessment of computations of recent loan burdens from data which are several years old. Furthermore, to judge the likelihood that future borrowers will face inordinately higher loan burdens than present borrowers it would be necessary to analyze the possible changes in loan policy which would affect:

- borrower behavior
- lender behavior
- government subsidies

The next policy issue suggests how a shift in a particular governmental subsidy would affect loan burdens.

How would a provision to eliminate in-school interest subsidy affect loan burdens?

The initial answer is that any step which increases the amount a borrower must repay will increase loan burden if other circumstances remain the same. However, the impact of the withdrawal of this subsidy is

extremely complex and goes beyond this superficial answer and beyond the capability of this model as well.

First, removal of the in-school interest subsidy would reduce the level at which the program was subsidized. If this change were made in the GSL program it would mean that the federal government's subsidy commitments would be shifted in part to the borrowers. The funds that the government saves may not directly revert to use by other student aid programs or other human resource programs but, rather, the effect of the savings may be to permit the full-funding of the Basic Grants or other need based student assistance programs.

Borrowers, respons to additional interest payments, may decide that they can't borrow as much as they had planned at the original subsidized level. Some might in fact decide to postpone enrollment. In order to prevent a wholesale enrollment loss most proposals to eliminate the interest subsidy are combined with a provision to defer the interest payments until a student graduates. Under this sort of proposal borrowers would not be facing an immediate cash shortage.

By contrast, interest deferral and the shifting of interest costs to the borrower may have consequences for the supply of loans. Many banks might not continue to make available the same level of loans as previously for two reasons which affect the profitability of these loans to lenders:

- Administrative ... ts would increase if lenders had to bill each individual borr... for interest payments while they were in school. Currently, GSL ...ers bill the government quarterly for lump sum interest payments for all borrowers.
- If interest payments were deferred, banks would have to reevaluate the size of their loan portfolios to see if they could afford to postpone the collection of interest during the in-school period even if interest was accrued and compounded during that period.

The magnitude of the charges in loan demand or supply cannot be measured by our loan burden model. It is not a behavioral model and can be used only if assumptions about the effect on debt levels, interest rates and maturity periods on loan availability, the possible expansion of other sources of financial aid, or the slackening of loan demand are made outside the model. The model can reveal the extent to which loan burdens will increase for an individual or group of borrowers under alternative sets of assumptions about borrowing, about earnings patterns, and assuming a constancy of loan supply and demand, as in the example below.

TABLE 1: Impact of Interest Accrual on Median Debt and Annual Repayment of 1977 Bachelor Recipients

		Repayment Terms			
Terms of Loan	Median Total Debt at Graduation	Rate	Period (years)	Pay-ment	% Increase in Repayment
No interest accrual	$2500	7%	10	$348	-
Accrue/simple interest at 7 percent	3025	7%	10	421	21.0
Accrue/compound interest at 7 percent	3063	7%	10	427	22.7
Accrue/simple interest at 9 percent	3175	9%	10/15	483/386	38.2/10.9
Accrue/compound interest at 9 percent	3238 /	9%	10/15	492/394	41.4/13.2

In the example illustrated in Table 1 we can see that requiring interest accrual and deferral could increase repayments. If earning and borrowing patterns don't change, loan burdens would increase from 20 to 40 percent, if the current ten year maximum repayment period remained unchanged. Such an increase could strain the resources of many borrowers during the early repayment years. However, if repayments were spread out over fifteen years then loan burdens would increase by no more than about 13 percent.

Borrowers may be indifferent to the choice between 10 and 15 year repayment periods since the terms are such as to fully amortize their debt in either case. But the party subsidizing these loans as well as the lenders, however, would not be. For the federal government, the subsidizer of GSL loans, a five year extension in repayment time would mean five more years of special allowance subsidy. The present value equivalent of paying a six percent subsidy on a $1000 loan for 10 years is $1141; for 15 years is $1205, a difference of $64 in additional federal subsidy. Therefore, if repayment period extensions were granted today and the government wished to pay off the additional subsidy immediately, then for each $1000 of borrowing that was extended the government would have to pay the lenders $64. Of course, as interest rates fluctuated throughout the repayment period these figures would change.) With about $4 billion of loans in repayment in 1981 and subsidy costs for those loans at about $500 million it would cost an additional $64 million upfront to extend repayment on a billion dollars of those loans.

Similarly, lenders might not want to extend repayment periods if they felt that the returns on these loans were less advantageous than their next best investment alternatives.

Can graduated repayment plans be used to alleviate loan burden problems?

In general, it is possible to devise a graduated repayment schedule — where payments escalate during the repayment period -- which will ease a borrower's loan burden when it is at its highest and shift some of that burden to future years when it is more manageable. These graduated repayment plans take many forms which range from a simple percentage annual increase (based on overall average earnings patterns) to income contingent schemes where each borrower pays a predetermined percent of annual earnings. These plans also serve different purposes with some seeking simply to relieve loan burden in earlier repayment years while others aim at reducing the probability of default. Each form and each purpose has it own effect on each of the participants in the loan system -- the borrower, the lender, the provider of subsidy, and the guarantor. From each participants' standpoint, there are several important considerations when deciding on the use and structure of a graduated repayment plan:

- o the extent of loan burden relief to borrower
- o the effect on lender's flexibility and responsibilities
- o the extent to which subsidy and guarantee commitments are deferred to the future

Further, each of these considerations has an effect on the demand for and supply of loans and the nature of the terms on which they would be offered.

Drawing up a graduated repayment plan for a certain type of student is not as easy as it may appear. We could, for example, specify that no more than 50 percent of a borrower's annual discretionary earnings go toward loan repayment. That would set an outside limit on the amount to be repaid each year. Since earning patterns differ, this implies a varying and uncertain stream of repayments for each borrower. Lenders would not

know before the borrower begins working how much would be repaid during any year by each borrower. Nor would the provider of subsidy or guarantor know what subsidy and default payments to anticipate. Even borrowers would not be able to determine the lifetime cost of their loans in advance.

In order to make any loan supply decisions, lenders would, as in setting insurance rates, have to estimate the earnings profile of borrowers by various characteristics. Then, since they are making capital available, they would probably be given the responsibility of selecting those for whom they would permit the use of graduated repayment. The lenders would surely try to limit their exposure to loss. Unfortunately, in so doing, the lenders would probably choose those borrowers whom they felt would repay within a reasonable period and either disallow or offer stricter terms to those with a low likelihood of prompt and certain repayment.

The provider of subsidy and guarantor would also have to make complex estimates of their future year obligations for subsidies and defaults based on far less certain information than is used for current estimates. Unlike the current system, where the subsidy per borrower remains fixed once the repayment terms are fixed, the subsidy per borrower under some graduate repayment plans would now vary each year or quarter depending on the accounting convention.

Borrowers would no doubt want some discretion when selecting graduated repayments since, for some, it might mean extending their repayment period to 20 or 30 years while for other it might shorten repayment to 3 or 4 years. The borrower's expectations about inflation and their own investment opportunities would play a part in their decision.

Although specific graduated repayment schedules could be developed which would illustrate how the repayments of the individual borrower would

be affected, we could not apply those schedules to all borrowers until we knew how the aggregate of all borrowing and lending decisions would change.

Can available data be used to set reasonable borrowing limits?

How can the loan burden model described in this study and available data be used to select reasonable borrowing limits? First we must decide for which group we will set limits. Suppose we wish to set borrowing limits for undergraduate students only. Do we want different limits for undergraduate men and women? Or different limits for those in different fields of study? Or different limits for those who enter different occupations? Current regulations in the GSL program do not distinguish between borrowers who are likely to need to borrow more than others; all undergraduates are held to the same aggregate loan limits. But each undergraduate will probably have a distinctly different ability to repay his loans because his earnings pattern will be different from other borrowers. Should all undergraduates be subjected to the same loan limits? Suppose current practice is sustained -- a single limit for all undergraduates. How would we select that limit?

Our loan burden model suggests that loan limits should be related to ability to repay as measured by discretionary earnings. But how much of discretionary earnings should be encumbered by loan repayments? Each borrower's answer might be different; their preferences about loan repayment will certainly differ. But for the purposes of setting a single overall limit we must choose a reasonable level of repayment that protects most borrowers from excessive loan burden. We can simplify our choice if we assume that, as is generally the case, loan burden is highest in the first year of repayment. Therefore choosing a reasonable level for the first year's loan repayment in relation to first year's discretionary earnings

will result in a maximum level of repayment for the life of the loan. This maximum repayment in conjunction with the selection of repayment terms can be used to compute maximum reasonable borrowing limits for undergraduates.

The selection of a reasonable level of loan repayment is very subjective. The 1977 debt data analyzed in the previous chapter suggested that most borrowers at that time did not face repayments exceeding 50 percent of their first year discretionary earnings. This amounts to, in other terms, less than 15 percent of gross income. For want of a better choice and for purposes of illustration we will use that level as our maximum repayment criterion. From the 1978 Census earnings data we found that median first year discretionary earnings for baccalaureates who were employed full-time was about $2,540. Therefore their maximum annual repayment should not exceed $1,270. Assuming the use of a traditional equal installment repayment schedule, borrowing limits would range from $8,300 to $11,775 depending upon repayment terms, as shown below.

Maximum Borrowing Limits for 1977
Baccalaureates Under Selected Repayment Terms

Repayment Terms	Maximum Annual Repayment	Maximum Aggregate Borrowing Limit
1. 7 percent for 10 years	$1,270	$ 8,115
2. 7 percent for 15 years	1,270	11,775
3. 9 percent for 10 years	1,270	8,355
4. 9 percent for 15 years	1,270	10,434

Any projection of these illustrative 1977 borrowing limits to future borrowers should be based on projections of earnings growth rather than projections of school cost increases. In addition, the effect of any changes in borrowing limits on loan supply and demand must be considered

before they are reset. The limits calculated above are the result of already known behavior, i.e. the borrowers had already made their choices in light of the limits on their borrowing capacity set by lenders and government. Future loan limits based on ability to repay must await further study of the effects of borrowing limits on lender, borrower and government behavior.

With these qualifications in mind we can make estimates of the increases in earnings that have occurred between 1978 and 1982 and from these estimate what loan maximums could be financed by 1981 college graduates (whose first full year of earnings will be 1982). According to projected data through 1982, median earnings will rise approximately 57 percent between 1978 and 1982. As a result, the median earnings of the full-time employed baccalaureate in 1978 -- $8,525 -- can be estimated to rise to about $13,400 by 1982. Applying our "reasonableness" criteria that loan repayment should not exceed 50 percent of discretionary or 15 percent of gross earnings then the maximum annual repayment for these borrowers should not exceed about $2,000. Under repayment terms of 7 percent for 10 years this repayment could amortise a loan of about $14,400. The table shows maximums under different repayment assumptions.

Estimated Maximum Borrowing Limits for 1981 Baccalaureates (1982 first full year earnings) Under Selected Repayment Terms

Repayment Terms	Maximum Annual Repayment	Maximum Aggregate Borrowing Limit
1. 7 percent for 10 years	$2,008	$14,412
2. 7 percent for 15 years	2,008	18,617
3. 9 percent for 10 years	2,008	13,210
4. 9 percent for 15 years	2,008	16,498

RECOMMENDATIONS FOR ADDITIONAL ANALYSES

Policy, Modeling and Administrative Issues

1. Construct an interactive loan burden model with sufficient flexibility to allow incorporation of new debt and earnings data when it becomes available.

   - For the federal government's policy purposes it might be most useful to limit the model only to borrowers under GSL and NDSL programs.

   - The model must be capable of handling alternative repayment schemes, consumption norms and earning patterns.

2. Examine the impact of interest accrual and deferral plans under a variety of assumptions about rates and maturity periods.

   - Compute the effect of alternative rates and periods of deferral and repayment on the loan burden of various types of borrowers.

   - Examine the administrative impact on lenders caused by interest accrual and compute the likely monetary impact of interest deferral on their overall student loan portfolio profitability.

   - Compute the savings to the federal government under selected interest accrual and deferral plans.

3. Devise selected graduated repayment schedules based on currently available debt and earnings data.

   - One set of schemes could hold borrowers harmless when compared to equal installment repayments to avoid dislocations in loan demand.

   - Another set of schemes could maintain lenders' average profit margin over some period compared to equal installments so as to assure adequate loan supply.

   - A third set of plans could try to minimize the federal government's exposure to any increased special allowance costs and default risks.

4. Analyze the effects of increased borrowing limits on:

   - borrower's demand for loans,

   - lender's ability to supply capital, and

   - the government's budget capacity to absorb higher subsidy costs associated with higher average borrowing.

Data Issues

1. Analyze the undergraduate debt data from the 1981 Survey of Recent College Graduates as soon as it is available.

   - Compute new median and quartile debt levels for each subpopulation.

   - Compute new repayment schedules based on a variety of interest rate and maturity period assumptions.

2. Recommend to the National Center for Education Statistics (NCES) that in their next Survey they obtain graduate student indebtedness data.

   - Otherwise this year's GAPSFAS data should be used to compute median and quartile debts by field of study for graduate borrowers.

3. Recommend to NCES that in their next Survey they obtain data about the types and terms of the loans used by students.

   - Accurate information on interest rates maturity periods, etc. would allow more accurate estimation of repayment schedules.

4. Develop (or request that the Bureau of Labor Statistics develop) consumption norms for singles and families with a college graduate head of household between 25 and 34 in order to more closely approximate the consumption needs of the borrowers while they're in repayment.

5. Create a multi-year cross-sectional earnings file from, perhaps, ten years of Census data.

   - This more comprehensive sample should permit the computation of earnings profile for previously deleted subpopulations such as part-time employed minorities and women as well as specific occupational groups.

6. Since Census data applies to all students (not just borrowers) use first year earnings of borrowers from NCES's Survey to estimate separate earnings profiles for borrowers.

APPENDIX A

LEVELS OF EDUCATION DEBT BY SELECTED STUDENT CHARACTERISTICS: DATA FROM THE THIRD FOLLOWUP OF THE NATIONAL LONGITUDINAL SURVEY OF HIGH SCHOOL SENIORS

Preliminary Data
2/15/80

LEVELS OF EDUCATION DEBT BY SELECTED STUDENT CHARACTERISTICS: DATA FROM THE THIRD FOLLOWUP OF THE NATIONAL LONGITUDINAL SURVEY OF HIGH SCHOOL SENIORS

Prepared by
the Education Policy Research Institute and the Institute for Demographic and Economic Studies
under HEW Contract No. 300-79-0823

TABLE _____: Level of Education Debt by Race

LEVEL OF EDUCATION DEBT

RACE	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
BLACK							
Number	1692	295	154	158	31	3	2333
Percent	72.5	12.7	6.6	6.8	1.3	.1	
Cumulative percent	72.5	85.2	91.8	98.6	99.9	100.0	
HISPANIC							
Number	574	90	37	25	4	2	732
Percent	78.4	12.3	5.1	3.4	0.5	0.3	
Cumulative percent	78.4	90.7	95.8	99.2	99.9	100.0	
WHITE							
Number	11538	1006	652	705	184	17	14102
Percent	81.8	7.1	4.6	5.0	1.3	0.1	
Cumulative percent	81.8	88.9	93.5	98.5	99.8	99.9	
OTHER							
Number	708	77	23	35	4	1	848
Percent	83.5	9.1	2.7	4.1	0.5	0.1	
Cumulative percent	83.5	92.6	95.3	99.4	99.9	100.0	
ALL RACES							
Number	14512	1468	866	923	223	23	18015
Percent	80.6	8.1	4.8	5.1	1.2	0.1	
Cumulative percent	80.6	88.7	93.5	98.6	99.8	99.9	

A-1

TABLE _____: Level of Education Debt by Sex

LEVEL OF EDUCATION DEBT

	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
MALE							
Number	7100	677	419	477	109	10	8792
Percent	80.8	7.7	4.8	5.4	1.2	0.1	
Cumulative percent	80.8	88.5	93.3	98.7	99.9	100.0	
FEMALE							
Number	7439	793	448	446	114	13	9253
Percent	80.4	8.6	4.8	4.8	1.2	0.1	
Cumulative percent	80.4	89.0	93.8	98.6	99.8	99.9	
ALL SEXES							
Number	14539	1470	867	923	223	23	18045
Percent	80.6	8.1	4.8	5.1	1.2	0.1	
Cumulative percent	80.6	88.7	93.5	98.6	99.8	99.9	

A-2

TABLE _____: Level of Education Debt by Marital Status

MARITAL STATUS	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-2000	$2000-5000	$5000-10,000	$10,000+	All
SINGLE							
Number	7215	877	585	671	165	17	9530
Percent (%)	75.7	9.2	6.1	7.0	1.7	0.2	
Cumulative percent (%)	75.7	84.9	91.0	98.0	99.7	99.9	
MARRIED							
Number	6319	497	235	220	48	6	7325
Percent (%)	86.3	6.8	3.2	3.0	0.7	0.1	
Cumulative percent (%)	86.3	93.1	96.3	99.3	100.0	100.1	
OTHER							
Number	718	60	22	8	2	1	811
Percent (%)	88.5	7.4	2.7	1.0	0.2	0.1	
Cumulative percent (%)	88.5	95.9	98.6	99.6	99.8	99.9	
ALL STATUSES							
Number	14252	1434	842	899	215	24	17666
Percent (%)	80.7	8.1	4.8	5.1	1.2	0.1	
Cumulative percent (%)	80.7	88.8	93.6	98.7	99.9	100.0	

TABLE _____: Level of Education Debt by Age

AGE	LEVEL OF EDUCATION DEBT						
	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
24-25							
Number	373	54	30	35	8	2	502
Percent	74.3	10.8	6.0	7.0	1.6	0.4	
Cumulative percent	74.3	85.1	91.1	98.1	99.7	100.1	
26-27							
Number	13676	1366	831	879	211	20	16983
Percent	80.5	8.0	4.9	5.2	1.2	0.1	
Cumulative percent	80.5	88.5	93.4	98.6	99.8	99.9	
28-29							
Number	537	51	9	14	4	2	617
Percent	87.0	8.3	1.5	2.3	0.6	0.3	
Cumulative percent	87.0	95.3	96.8	99.1	99.7	100.0	
30							
Number	15	3	0	0	0		18
Percent	83.3	16.7	0.0	0.0	0.0	0.0	
Cumulative percent	83.3	100.0	100.0	100.0	100.0	100.0	
ALL AGES							
Number	14601	1474	870	928	223	24	18120
Percent	80.6	8.1	4.8	5.1	1.2	0.1	
Cumulative percent	80.6	88.7	93.5	98.6	99.8	99.9	

LEVEL OF EDUCATION DEBT

ACADEMIC LEVEL	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
FRESHMEN							
Number	354	77	23	10	0	0	464
Percent	76.3	16.5	5.0	2.2	0.0	0.0	
Cumulative percent	76.3	92.8	97.8	100.0	100.0	100.0	
SOPHMORE							
Number	356	67	27	18	4	0	472
Percent	75.4	14.2	5.7	3.8	0.8	0.0	
Cumulative percent	75.4	89.6	95.3	99.1	99.9	99.9	
JUNIOR							
Number	369	108	54	55	11	1	598
Percent	61.7	18.1	9.0	9.2	1.8	0.2	
Cumulative percent	61.7	79.8	88.8	98.0	99.8	100.0	
SENIOR							
Number	889	207	164	171	38	5	1474
Percent	60.3	14.1	11.1	11.6	2.6	0.3	
Cumulative percent	60.3	74.4	85.5	97.1	99.7	100.0	
GRAD STUDENT							
Number	374	68	68	105	43	3	661
Percent	56.6	10.3	10.3	15.9	6.5	0.5	
Cumulative percent	56.6	66.9	77.2	93.1	99.6	100.1	
OTHER							
Number	83	16	7	11	1	0	118
Percent	70.3	13.6	5.9	9.3	0.8	0.0	
Cumulative percent	70.3	83.9	89.8	99.1	99.9	99.9	
ALL LEVELS							
Number	2425	543	343	370	97	9	3787
Percent	64.0	14.3	9.1	9.8	2.6	0.2	
Cumulative percent	64.0	78.3	87.4	97.2	99.8	100.0	

TABLE _____: Level of Education Debt by Self-Reported Dependent or Indpendent Status

SELF-REPORTED DEPENDENCY STATUS	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
INDEPENDENT							
Number	11634	1117	637	679	147	130	14227
Percent	81.8	7.9	4.5	4.8	1.0	0.1	
Cumulative percent	81.8	89.7	94.2	99.0	100.0	100.1	
DEPENDENT							
Number	2120	287	199	223	715	7	2907
Percent	72.9	9.9	6.8	7.7	2.4	0.2	
Cumulative percent	72.9	82.8	89.6	97.3	99.7	99.9	
ALL							
Number	13754	1404	836	902	218	20	17134
Percent	80.3	8.1	4.9	5.3	1.3	0.1	
Cumulative percent	80.3	88.5	93.4	98.7	100.0	100.1	

A-6

TABLE _____: Level of Education Debt by School Expectations

SCHOOL EXPECTATIONS	$0	$1-999	$1000-2000	$2000-5000	$5000-10,000	$10,000+	All
			LEVEL OF EDUCATION DEBT				
WILL CONTINUE							
Number	7537	993	643	725	169	13	10080
Percent (%)	74.8	9.8	6.4	7.2	1.7	0.1	
Cumulative percent (%)	74.8	84.6	91.0	98.2	99.9	100.0	
WON'T CONTINUE							
Number	4760	240	113	103	25	6	5247
Percent (%)	90.7	4.6	2.2	2.0	0.5	0.1	
Cumulative percent (%)	90.7	95.3	97.5	99.5	100.0	100.1	
OTHER							
Number	2337	248	115	101	29	5	2835
Percent (%)	82.4	8.7	4.1	3.6	1.0	0.2	
Cumulative percent (%)	82.4	91.1	95.2	98.8	99.8	100.0	
ALL							
Number	14634	1481	871	929	223	24	18162
Percent (%)	80.6	8.2	4.8	5.1	1.2	0.1	100.0
Cumulative percent (%)	80.6	88.8	93.6	98.7	99.9	100.0	100.0

TABLE _____: Level of Education Debt by Field of Study

LEVEL OF EDUCATION DEBT

FIELD OF STUDY	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
HUMANITIES							
Number	248	59	31	33	15	0	386
Percent	64.2	15.3	8.0	8.5	3.9	0.0	100.0
Cumulative percent	64.2	79.5	87.5	96.0	99.9	99.9	
SOCIAL SCIENCES							
Number	394	105	56	69	8	2	634
Percent	62.1	16.6	8.8	10.9	1.3	0.3	100.0
Cumulative percent	62.1	78.7	87.5	98.2	99.5	99.8	
BIOLOGICAL SCIENCES							
Number	440	97	58	55	18	1	669
Percent	65.8	14.5	8.7	8.2	2.7	0.1	100.0
Cumulative percent	65.8	80.3	89.0	97.2	99.9	100.0	
PHYSICAL SCIENCES							
Number	444	92	45	44	14	0	639
Percent	69.5	14.4	7.0	6.9	2.2	0.0	100.0
Cumulative percent	69.5	83.9	90.9	97.8	100.0	100.0	
BUSINESS							
Number	605	96	65	63	15	2	846
Percent	71.5	11.3	7.7	7.4	1.8	0.2	100.0
Cumulative percent	71.5	82.8	90.5	97.9	99.7	99.9	
EDUCATION							
Number	313	97	70	61	11	1	553
Percent	56.6	17.5	12.7	11.0	2.0	0.2	100.0
Cumulative percent	56.6	74.1	86.8	97.8	99.8	100.0	
OTHER							
Number	120	22	7	11	5	0	165
Percent	72.7	13.3	4.2	6.7	3.0	0.0	100.0
Cumulative percent	72.7	86.0	90.2	96.9	99.9	99.9	
ALL FIELDS							
Number	2564	568	332	336	86	6	3892
Percent	65.9	14.6	8.5	8.6	2.2	0.2	100.0
Cumulative percent	65.9	80.5	89.0	97.6	99.8	100.0	

TABLE _____: Level of Education Debt by Total School Expenses

TOTAL EXPENSES	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
$0							
Number	800	97	38	27	5	1	968
Percent	82.6	10	3.9	2.8	0.5	0.1	
Cumulative percent	82.6	92.6	96.5	99.3	99.8	99.9	
$1-500							
Number	835	90	23	19	4	1	972
Percent	85.9	9.3	2.4	2.0	0.4	0.1	
Cumulative percent	85.9	95.2	97.6	99.6	100.0	100.1	
$500-1000							
Number	562	118	40	36	4	0	760
Percent	73.9	15.5	5.3	4.7	0.5	0.0	
Cumulative percent	73.9	89.4	94.7	99.4	99.9	99.9	
$1000-2000							
Number	1091	222	148	134	26	1	1622
Percent	67.3	13.7	9.1	8.3	1.6	0.1	
Cumulative percent	67.3	81.0	90.1	98.4	100.0	100.1	
$2000-5000							
Number	1834	360	367	475	109	5	3150
Percent	58.2	11.4	11.7	15.1	3.5	0.2	
Cumulative percent	58.2	69.6	81.3	96.4	99.9	100.1	
$5000-10,000							
Number	345	49	47	100	46	7	594
Percent	58.1	8.2	7.9	16.8	7.7	1.2	
Cumulative percent	58.1	66.3	74.2	91.0	98.7	99.9	
$10,000+							
Number	25	3	2	1	0	0	31
Percent	80.6	9.7	6 5	3.2	0.0	0.0	
Cumulative percent	80.60	90.3	96.8	100.0	100.0	100.0	
ALL RESPONDENTS							
Number	5492	939	665	792	194	15	8097
Percent	67.8	11.6	8.2	9.8	2.4	0.2	
Cumulative percent	67.8	79.4	87.6	97.4	99.8	100.0	

TABLE _____: Level of Education Debt by Total Grant,

TOTAL GRANT	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
$0							
Number	147	41	38	31	7	1	265
Percent	55.5	15.4	14.3	11.7	2.6	0.4	
Cumulative percent	55.5	70.9	85.2	96.9	99.5	99.9	
$1-500							
Number	356	104	77	84	23	3	646
Percent	55.1	16.1	11.9	13.0	3.6	0.5	
Cumulative percent	55.1	71.2	83.1	96.1	99.7	100.2	
$500-1000							
Number	237	114	93	120	29	1	594
Percent	39.9	19.2	15.7	20.2	4.9	0.2	
Cumulative percent	39.9	59.1	74.8	95.0	99.9	100.1	
$1000-2000							
Number	248	110	89	134	36	1	618
Percent	40.1	17.7	14.4	21.7	5.8	0.2	
Cumulative percent	40.1	57.8	72.2	93.9	99.7	99.9	
$2000-5000							
Number	208	78	52	76	16	2	432
Percent	48.1	18.1	12.0	17.6	3.7	0.5	
Cumulative percent	48.1	66.2	78.2	95.8	99.5	100.0	
$5000-10,000							
Number	15	5	3	2	2	0	27
Percent	55.6	18.5	11.1	7.4	7.4	0.0	
Cumulative percent	55.6	74.1	85.2	92.6	100.0	100.0	
$10,000+							
Number	14	0	0	1	1	0	16
Percent	87.5	0.0	0.0	6.3	6.3	0.0	
Cumulative percent	87.5	87.5	87.5	93.8	100.1	100.1	
ALL RESPONDENTS							
Number	1225	451	352	448	114	8	2598
Percent	47.2	17.4	13.5	17.2	4.4	2.3	
Cumulative percent	47.2	64.6	78.1	95.3	99.7	100.0	

TABLE ____: Level of Education Debt by Loans Used for Schooling

LOANS USED FOR SCHOOLING	LEVEL OF EDUCATION DEBT						
	$0	$1-999	$1000-2000	$2000-5000	$5000-10,000	$10,000+	All
NO							
Number	6397	710	253	145	25	7	7537
Percent	84.9	9.4	3.4	1.9	0.3	0.1	
Cumulative percent	84.9	94.3	97.7	99.6	99.9	100.0	
YES							
Number	234	372	472	695	186	11	1970
Percent	11.9	18.9	24.0	35.3	9.4	0.6	
Cumulative percent	11.9	30.8	54.8	90.1	99.5	100.1	
ALL							
Number	6631	1982	725	840	211	18	9607
Percent	69.7	11.4	7.6	8.8	2.2	0.2	
Cumulative percent	69.7	81.1	88.7	97.5	99.7	99.9	

A-11

TABLE _____: Level of Education Debt by Total Loans

TOTAL LOANS	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
$0							
Number	51	60	73	61	8	0	253
Percent	20.2	23.7	28.9	24.1	3.2	0.0	
Cumulative percent	20.2	43.9	72.8	96.9	100.1	100.1	
$1-500							
Number	51	91	59	40	6	1	248
Percent	20.6	36.7	23.8	16.1	2.4	0.4	
Cumulative percent	20.6	57.3	81.1	97.2	99.6	100.0	
$500-1000							
Number	24	96	98	144	11	1	374
Percent	6.4	25.7	26.2	38.5	2.9	0.3	
Cumulative percent	6.4	32.1	58.3	96.8	99.7	100.0	
$1000-2000							
Number	33	42	146	264	72	1	558
Percent	5.9	7.5	26.2	47.3	12.9	0.2	
Cumulative percent	5.9	13.4	39.6	86.9	99.8	100.0	
$2000-5000							
Number	12	6	16	102	66	7	209
Percent	5.7	2.9	7.7	48.8	31.6	3.3	
Cumulative percent	5.7	8.6	16.3	65.1	96.7	100.0	
$5000-10,000							
Number	0	0	0	3	3	1	7
Percent	0.0	0.0	0.0	42.9	42.9	14.3	
Cumulative percent	0.0	0.0	0.0	42.9	85.8	100.1	
$10,000+							
Number	0	0	0	0	0	0	0
Percent	0.0	0.0	0.0	0.0	0.0	0.0	
Cumulative percent	0.0	0.0	0.0	0.0	0.0	0.0	
ALL RESPONDENTS							
Number	171	295	392	614	166	11	1649
Percent	10.4	18	23.8	37.2	10.1	0.7	
Cumulative percent	10.4	28.4	52.2	89.4	99.5	100.2	

TABLE _____: Level of Education Debt by Aid From Friends and Relatives

AID FROM FRIENDS/ RELATIVES		LEVEL OF EDUCATION DEBT $0	$1-999	$1000-2000	$2000-5000	$5000-10,000	$10,000+	All
NO								
	Number	3538	659	355	394	91	8	5045
	Percent	70.1	13.1	7.0	7.8	1.8	0.2	
	Cumulative percent	70.1	83.2	90.2	98.0	99.8	100.0	
YES								
	Number	3036	428	364	426	116	10	438
	Percent	69.3	9.8	8.3	9.7	2.6	0.2	
	Cumulative percent	69.3	79.1	87.4	97.1	99.7	99.9	
ALL								
	Number	6574	1087	719	820	207	18	9425
	Percent	69.8	11.5	7.6	8.7	2.2	0.2	
	Cumulative percent	69.8	81.3	88.9	97.6	99.8	100.0	

A-13

TABLE _____: Level of Education Debt by Total Aid From Friends and Relatives

TOTAL AID	LEVEL OF EDUCATION DEBT $0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
$0							
Number	261	50	38	27	4	0	380
Percent	68.7	13.2	10.0	7.1	1.1	0.0	100.0
Cumulative percent	68.7	81.9	91.9	99.0	100.1	100.1	
$1-499							
Number	322	89	63	91	25	1	591
Percent	54.5	15.1	10.7	15.4	4.2	0.2	100.0
Cumulative percent	54.5	69.6	80.3	95.7	99.9	100.1	
$500-999							
Number	356	58	62	75	23	0	574
Percent	62.0	10.1	10.8	13.1	4.0	0.0	
Cumulative percent	62.0	72.1	82.9	96.0	100.0	100.0	
$1000-1999							
Number	537	69	64	83	28	1	782
Percent	68.7	8.8	8.2	10.6	3.6	0.1	
Cumulative percent	68.7	77.5	85.7	96.3	99.9	100.0	
$2000-4999							
Number	753	70	72	86	19	5	1005
Percent	74.9	7.0	7.2	8.6	1.9	0.5	100.0
Cumulative percent	74.9	81.9	89.1	97.7	99.6	100.1	
$5000-9999							
Number	151	15	7	13	3	1	190
Percent	79.5	7.9	3.7	6.8	1.6	0.5	
Cumulative percent	79.5	87.4	91.1	97.9	99.5	100.0	
$10,000 and up							
Number	5	0	0	1	0	0	6
Percent	83.3	0.0	0.0	16.7	0.0	0.0	
Cumulative percent	83.3	83.3	83.3	100.0	100.0	100.0	
ALL AID LEVELS							
Number	2385	351	306	376	102	8	3528
Percent	67.6	9.9	8.7	10.7	2.9	0.2	
Cumulative percent	67.6	77.5	86.2	96.9	99.8	100.0	

TABLE _____: Level of Education Debt by Student Savings Used for Schooling

LEVEL OF EDUCATION DEBT

SAVINGS USED FOR SCHOOL	$0	$1-999	$1000-1999	$2000-5000	$5000-10,000	$10,000+	All
NO							
Number	2587	305	167	182	42	60	3289
Percent	78.7	9.3	5.1	5.5	1.3	0.2	
Cumulative percent	78.7	88.0	93.1	98.6	99.9	100.1	
YES							
Number	4012	790	559	652	165	12	6190
Percent	64.8	12.8	9.0	10.5	2.7	0.2	
Cumulative percent	64.8	77.6	86.6	97.1	99.8	100.0	
ALL							
Number	6599	1095	726	834	207	18	9479
Percent	69.6	11.5	7.7	8.8	2.2	0.2	
Cumulative percent	69.6	81.1	88.8	97.6	99.8	100.0	

APPENDIX B

STUDENT LOAN INDEBTEDNESS: EVIDENCE FROM THE 1978 SURVEY OF RECENT COLLEGE GRADUATES

Student Loan Indebtedness: Evidence from the 1978 Survey of Recent College Graduates

Prepared by:

Rich Wabnick, EPRI

with the assistance of

Min-Hwei Wang, ETS
Dwight Horch, ETS

July 22, 1980

This paper will summarize evidence on student loan indebtedness taken from the Survey of Recent College Graduates. After a brief description of the Survey, its sampling design and limitations, and its general picture of the characteristics of college graduates, the paper will present levels of undergraduate debt by the following characteristics:

— earned degree
— race, sex, marital status
— employment status, earnings and type of job (if employed)
— field of study and institution type

The Survey of Recent College Graduates

The Survey was conducted by the National Center for Education Statistics in February 1978, surveying about 11,000 students who received their bachelor's and master's degrees between July 1976 and June 1977 from four-year schools. The survey's two primary objectives were to provide estimates of additions to the existing supply of teachers and to determine the labor force participation of recent college graduates who were trained as teachers. These objectives and the survey's secondary objectives relating to predominately black schools and special and vocational education teachers led to a sampling design which disproportionately selected predominately black schools and education, special and vocational education majors within all schools. The resulting institutional and student sample was as follows:

FOUR-YEAR COLLEGE AND UNIVERSITIES	1976-77 GRADUATES
BLACK: N= 30	BLACK: N= 873
NON-BLACK: N=270	NON-BLACK: N=10,152
ALL INSTITUTIONS:N=300	All INSTITUTIONS: N=11,025

The original survey elicited responses from about 7,900 graduates out of the 11,025 surveyed. Telephone contacts and on-site visits to follow-up nonrespondents yielded an additional 1,700 responses for a total of 9,600 cases.

By using weighting adjustments to account for the sampling overweighting, this sample is representative of the approximately 1,248,000 students who received their bachelor's or master's degrees during the 1976-77 academic year from about 1,800 four year colleges and universities. All debt distributions in this paper will be presented in terms of these weighted population totals. Conclusions should not be generalized beyond this population.

The loan debt question used in this survey asked for an exact dollar amount of undergraduate debt, as follows:

> At the end of your undergraduate education, what was the total amount of money, if any, which you owed that was directly related to your education? EXCLUDE SUCH ITEMS AS MORTGAGES, NON-EDUCATION LOANS FOR CARS, APPLICANCES, ETC. IF YOU OWED NO MONEY, CIRCLE "0."
>
> ENTER AMOUNT OWED: $_____
>
> OWED NO MONEY.....0

As can be seen, it is expected that both bachelor's and master's recipients report only their undergraduate debt. However, there is no independent way to check whether this was done.

Of the 1,248,000 students in the total survey population 401,000 (32.1%) reported undergraduate debt which averaged $2,659, 825,000 (66.1%) reported having no debt, and 21,000 (1.8%) left the question blank.

General Characteristics of Recent College Graduates

About 75 percent (930,000) of the 1,248,000 1976-77 college graduates received a bachelor's degree, 25 percent (318,000) a masters. The median age of the baccalaureates at the time of graduation was about 24, the masters were about 30.

A full 70 percent (835,300) of the graduates received their degrees from public schools, the remainder from private institutions. Most students at all institutions majored in the social sciences (25 percent) or education (20 percent), then in business (17 percent) or the biological sciences (16 percent), and least likely in the humanities (11 percent) and the physical sciences (9 percent).

Only 23 percent (290,000) were enrolled as either full-time or part-time students while a full 84 percent (1,050,000) had a full-time or part-time job. Of those employed, 20 percent (212,000) were school teachers. Of those who were not school teachers the majority (68 percent or 567,000) worked for private business (profit or nonprofit) and 24 percent (204,000) worked for some level of government. The median annual rate of pay for all employed graduates was about $13,100.

A full 40 percent (about 500,000) were married and living with their spouse. Of those, their spouse was most likely to be working (66 percent full-time, 10 percent part-time), or keeping house (40 percent). Only 14 percent of the spouse were students either full-time or part-time.

Almost 89 percent (1,110,000) of the graduates were white, 6 percent (77,000) were black. Asians, Hispanics and American Indians comprised the remaining 4.4 percent (56,000) of the reported racial categories.

Undergraduate Debt by Degree Earned

Is there a difference between undergraduate debt incurred by bachelor's and master's recipients with those who anticipate advanced degrees borrowing more because they expect higher future earnings? The data says the differences do not appear to be significant. The survey population consists of about 930,000 bachelor's recipients, 303,000 of whom report having undergraduate debt which averaged $2705. Of the 318,000 masters recipients, 97,000 reported having undergraduate debt which averaged $2513.

TABLE 1: Debt Quartiles, in Dollars, by Degree Earned

Degree Earned	1st Quartile Ends At:	Median Debt Level:	4th Quartile Begins At:	Number
Bachelors	$ 1100	$ 2200	$ 4000	303,298
Masters	1000	2000	3000	97,496
All Degrees	1200	2400	4300	400,794

Many factors may explain the small observed differences in debt between masters and bachelors recipients. First, if answering the question correctly, the masters recipients were being asked to recall their level of debt when they completed their undergraduate degree which, on average, was at least two years earlier. Second it is likely that their schooling costs were lower at that earlier time. Masters recipients may also have begun repayment of some of their education debt and may have, mistakenly, reported those lower "remaining balances".

Undergraduate Debt by Race, Sex and Marital Status

Loan debt appears to vary significantly with the ethnicity of the borrower. Average debt for white graduates with debt was $2717 while for black graduates the average debt was $2359. Among the other racial groups, American Indians had the highest average debt at $3154, Hispanics the lowest at $2101, and Asian Americans in-between at $2676.

There was also a difference in the portion of each racial group which reported having any debt. Black graduates had the largest percentage with debt, 54 percent. Hispanics were second with 44 percent, followed by white graduates at 31 percent, American Indians at 23 percent and Asians at 20 percent.

TABLE 2: UNDERGRADUATE DEBT DISTRIBUTIONS BY RACE

RACE	NUMBER	LEVEL OF DEBT (%) $0	$1-999	$1000-1999	$2000-5000	$5000-9999	$10000-AND UP	MEAN NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
WHITE	1,093,237	68.7	6.1	7.4	13.0	4.2	0.5	2717	2389
BLACK	73,334	46.0	14.7	10.5	21.8	6.6	0.4	2359	2038
HISPANIC	25,791	55.7	8.7	10.4	22.3	2.9	0.0	2101	1448
ASIAN	27,035	79.7	2.8	3.3	12.2	2.0	0.0	2676	1688
AMERICAN-INDIAN	2,386	76.6	0.0	0.0	21.2	2.2	0.0	3154	1700
NO RESPONSE	4,345	64.5	11.9	12.7	11.0	0.0	0.0	1364	778
ALL RACES	1,226,120	67.3	6.6	7.5	13.7	4.2	0.4	2659	2327
NO DEBT INFORMATION	21,476								
TOTAL	1,247,596								

Male graduates had higher average debt ($2805) than female graduates ($2475) and women had a slighter larger percentage of graduates with no debt than did the men (69 percent vs. 66 percent). Factors which affect these differences include: cost of schooling, choice of major, and availability of other aid (see Table 3).

The average debt of married graduates living with spouse was substantially lower than for graduates who were not married ($2451 vs. $2800) (See Table 3).

TABLE 3: UNDERGRADUATE DEBT DISTRIBUTION BY SEX AND MARITAL STATUS

	NUMBER	LEVEL OF DEBT (%) $0	$1-999	$1000-1999	$2000-5000	$5000-9999	$10000-AND UP	MEAN NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
SEX									
Male	663,597	66.3	6.3	7.4	14.5	4.7	0.7	2805	2496
Female	560,900	68.5	7.1	7.7	12.7	3.6	0.4	2475	2081
No Response	1,654	53.9	4.6	9.5	25.9	6.1	0.0	2735	2100
MARITAL STATUS									
Married, Living with spouse	491,295	68.5	7.4	8.1	12.4	3.1	0.5	2451	2258
Other	726,787	66.6	6.2	7.1	14.6	5.0	0.4	2800	2368
No Response	8,071	60.0	8.9	13.0	15.6	2.4	0.0	2116	1587
TOTAL	1,226,120	67.3	6.6	7.5	13.7	4.2	0.4	2659	2327
No Debt Information	21,476								
GRAND TOTAL	1,247,596								

Undergraduate Debt by Employment Status, Earnings and Type of Job

Employed graduates with debt reported lower debt levels than did indebted unemployed graduates. The average debt for a working graduate was $2,601 while for an unemployed graduate it was $3,022 (See Table 4 for details). The differences in average debt were the same whether the graduates were from public (and presumably lower cost) or private schools.

TABLE 4: Average Debt By Employment Status and Institutional type

	EMPLOYMENT STATUS		
INSTITUTION TYPE	EMPLOYED	NOT EMPLOYED	ALL GRADUATES
PUBLIC	$2348	$2689	$2389
PRIVATE	3114	3490	3176
ALL INSTITUTIONS	2601	3022	2659

The difference in average debt by employment status cannot be explained adequately by the data but several factors may contribute to an explanation:

- o employed graduates may have earned more than unemployed graduate while in school reducing their need for loans
- o employed graduates may have reported their current debt instead of their debt when they received their baccalaureate and, having begun repayment, would have "reduced" debt levels

TABLE 5: UNDERGRADUATE DEBT DISTRIBUTIONS BY EMPLOYMENT STATUS, EARNINGS AND TYPE OF JOB

		LEVEL OF DEBT (%)						MEAN	
	NUMEER	$0	1-999	1000-1999	2000-5000	5000-9999	10000-AND UP	NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
EMLOYMENT STATUS (As Of 7/78)									
Employed	1,031,439	66.5	7.0	7.8	14.2	4.1	0.4	2601	2307
Not Employed	194,702	71.7	4.7	6.3	11.4	5.1	0.7	3033	2422
TYPE OF JOB									
Professional ,Worker	76,949	65.6	5.8	7.9	14.2	4.8	1.7	3278	3012
Manager & Sales Worker	43,901	70.1	3.8	6.2	14.8	5.1	0.0	2821	1816
Clerk	49,963	64.1	9.4	6.4	15.1	4.9	0.1	2547	2035
Craft Person	225,031	70.6	6.4	6.2	12.9	3.7	0.3	2574	2144
Farmers	325,673	65.7	6.4	8.7	14.0	4.6	0.7	2714	2294
Service Workers	102,337	68.2	8.3	5.9	14.4	3.0	0.2	2415	3044
Teacher	207,656	62.5	8.7	9.5	15.4	3.5	0.3	2286	1848
No Response	194,687								
ANNUAL RATE OF PAY									
$0- 6000	77,499	66.1	7.2	6.5	16.2	3.4	0.5	2573	n/c
6- 9000	140,895	63.4	7.9	8.8	14.0	5.2	0.7	2644	n/c
9-12,000	200,881	63.5	6.9	9.1	16.1	4.0	0.4	2537	n/c
12-15,000	161,317	64.4	7.9	8.1	14.1	5.1	0.4	2692	n/c
15-20,000	123,843	66.8	7.6	7.7	12.1	5.0	0.8	2709	n/c
20,000 and up	253,032	68.8	6.1	7.0	14.5	3.1	0.4	2577	n/c
No Response	268,750								
TOTAL	1,226,120	67.3	6.6	7.5	13.7	4.2	0.4	2659	2327
No Debt Information	21,476								
GRAND TOTAL	1,247,596								

Level of undergraduate debt followed no perceptible pattern with respect to earnings. Wage earners making between $9,000 and $12,000 annually had the lowest average debt of $2537. Next lowest were wage earners in the $0-6,000 group who had average debt of $2573 but who also had the largest fraction with debt between $2000 and $5000 (16.2 percent) and the smallest share with debt over $5000 (3.9 percent). Those with earnings between $15,000 and $20,000 had the highest average debt of $2709 but also had the smallest share in the middle debt range (12.1 percent).

Within broad categories, however, it appears that debt levels do vary directly with type of job. Professional workers including doctors, lawyers and engineers had the highest average debt of $3278 while service workers had the lowest mean debt of $2415.

Undergraduate Debt by Field of Study and Institutional Type

Average undergraduate debt by field of study ranged from $2297 for education majors to $3098 for those who studied the biological sciences. Business and phsycial science majors had the second and third highest average debts of $2818 and $2789, respectively. Then followed humanities and social science students with average debts of $2740 and $2508.

Debts were not clumped around the average debts. In fact, within each field of study, the distribution of debt was rather broad. For example, though the mean for biology majors was $3098 the standard deviation was $2388 which meant that about two-thirds of these students had debt which ranged from $710 to $5486 (assuming a roughly normal debt distribution).

Average debt at all institutions was $2659 but at public schools average debt was only $2389 while at private institutions mean debt was $3176. At public and private schools majors in the biological sciences had the highest average debts of $2756 and $3840, respectively. But while business majors had the second highest mean debt at public schools ($2661), physical sciences majors outborrowed both business and humanities majors for second highest debt at private schools ($3870). Education majors had the lowest debt at both types of institutions ($281 at publics and $2665 at private schools).

TABLE 6: UNDERGRADUATE DEBT DISTRIBUIONS BY FIELD OF STUDY AND TYPE OF INSTITUTION

ALL INSTITUTIONS

FIELD OF STUDY	NUMBER (% OF COLUMN TOTAL)	LEVEL OF DEBT (%) $0	1-999	1000-1999	2000-5000	5000-9999	10000- AND UP	MEAN NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
HUMANITIES	135,348 (11.0)	68.7	5.5	6.4	14.1	4.5	0.7	2740	2233
SOCIAL SCIENCES	301,754 (24.6)	69.7	3.5	6.7	12.8	3.5	3.4	2508	2064
BIOLOGICAL SCIENCES	198,708 (16.2)	64.6	5.5	7.3	15.7	6.1	8.3	3098	2388
PHYSICAL SCIENCES	109,446 (8.9)	68.4	5.6	6.0	14.0	6.0	0.0	2789	2037
BUSINESS	205,440 (16.8)	67.9	6.8	8.2	12.4	3.9	7.9	2818	3097
EDUCATION	248,326 (20.3)	64.9	8.3	9.1	14.0	3.3	4.0	2297	1973
OTHER	20,834 (17.0)	66.0	7.6	10.8	13.8	1.7	0.0	2435	1083
NO RESPONSE	5,354 (0.4)	69.2	2.2	6.8	21.8	0.0	0.0	2435	1083
ALL FIELDS	1,226,210 (100.0)	67.3	6.6	7.5	13.7	4.2	0.4	2659	2327

TABLE 6A: UNDERGRADUATE DEBT DISTRIBTUIONS BY FIELD OF STUDY AND TYPE OF INSTITUTION

PUBLIC INSTITUTIONS		LEVEL OF DEBT (%)							
FIELD OF STUDY	NUMBER (% OF COLUMN TOTAL)	$0	1-999	1000-1999	2000-5000	5000-9999	10000- AND UP	MEAN NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
HUMANITIES	84,023 (10.1)	72.0	5.2	6.4	12.3	3.8	0.2	2379	1779
SOCIAL SCIENCES	198,809 (23.8)	70.4	8.1	7.4	10.8	3.3	0.1	2235	1889
BIOLOGICAL SCIENCES	135,998 (16.3)	64.6	5.7	8.8	15.8	4.3	0.7	2756	2136
PHYSICAL SCIENCES	77,229 (9.2)	71.2	6.8	6.9	11.4	3.8	0.0	2221	1644
BUSINESS	134,094 (16.1)	70.2	7.1	7.6	11.6	2.3	1.1	2661	3355
EDUCATION	189,907 (22.7)	65.1	8.7	9.6	13.2	2.9	0.4	2181	1902
OTHER	11,128 (1.3)	68.9	12.2	6.8	9.0	3.1	0.0	1910	1828
NO RESPONSE	4,172 (0.5)	74.5	0.0	5.9	19.6	0.0	0.0	2420	624
ALL FIELDS	835,300 (100.0)	68.5	7.3	8.0	12.5	3.3	0.4	2389	220

TABLE 6B: UNDERGRADUATE DEBT DISTRIBUTIONS BY FIELD OF STUDY AND TYPE OF INSTITUTION

PRIVATE INSTITUTIONS

FIELD OF STUDY	NUMBER (% OF COLUMN TOTAL)	LEVEL OF DEBT (%) $0	1-999	1000-1999	2000-5000	5000-9999	10000-AND UP	MEAN NON-ZERO DEBT ($)	STANDARD DEVIATION ($)
HUMANITIES	51,325 (13.1)	63.2	6.0	6.5	17.1	5.6	1.5	3190	2624
SOCIAL SCIENCES	102,944 (26.3)	68.3	4.7	5.5	16.7	3.9	0.8	2999	2265
BIOLOGICAL SCIENCES	62,710 (16.0)	64.6	4.8	4.2	15.3	9.9	1.2	3840	2714
PHYSICAL SCIENCES	32,217 (8.2)	61.7	2.8	3.8	20.4	11.3	0.0	3810	2264
BUSINESS	72,347 (18.5)	63.6	6.0	9.2	13.8	7.1	0.2	3056	2639
EDUCATION	58,419 (14.9)	64.2	7.1	7.6	16.3	4.4	0.5	2665	2143
OTHER	9,705 (2.5)	62.7	2.4	15.5	19.4	0.0	0.0	2412	1291
NO RESPONSE	1,182 (0.3)	50.1	10.1	10.1	29.7	0.0	0.0	2460	1608
ALL FIELDS	390,822 (100.0)	64.8	5.3	6.5	16.4	6.3	0.7	3176	2465

APPENDIX C

EVIDENCE OF LOAN INDEBTEDNESS FOR GRADUATE AND PROFESSIONAL STUDENTS FROM THE 1979-80 GAPSFAS SURVEY

EVIDENCE OF LOAN INDEBTEDNESS FOR GRADUATE AND PROFESSIONAL STUDENTS FROM THE 1979-80 GAPSFAS SURVEY

Submitted to:
Office of Evaluation and Dissemination
under HEW Contract No. 300-79-0823

Prepared by:

Rich Wabnick, EPRI
with the assistance of
Dwight Horch, ETS and
Judy Pollack, ETS

March 20, 1980

Within its limitations, data from the Graduate and Professional Students Financial Aid Survey (GAPSFAS) reveal the levels of debt incurred by graduate and professional students across major fields of study, educational level and several socio-economic variables, including age, parental income and marital status. The data compiled is a random sample of 12,629 indebted students from a total of 50,490 students with reported indebtedness. This sample was drawn from the 78,682 who filed GAPSFAS applications for the 1979-80 school year.

Neither the sample used or the population of indebted GAPSFAS filers are statistically representative of any group but GAPSFAS filers with debt. These filers are disproportionately entering professional students attending selective graduate schools. About 56 percent are entering students in business, law or medicine. The sample does not reflect an accurate distribution of all graduate students across educational levels or fields of study but sample sizes are ample enough to produce reliable debt distributions by educational level and field of study.

Most of the indebted GAPSFAS filers are under 26 years old (69.8 percent), are not married (80.7 percent) and are slightly more likely to be self-supporting[1] (51.6 percent). Of those who are married only about one out of four (27.7 percent) have a spouse who is also a student. Slightly less than half (47.1 percent) of all the aid applicants are from families with incomes under $20,000.

Students in professional programs (business, law and medicine) make up 57 percent of the filers; the physical and biological sciences another 12 percent; and education, humanities and social sciences 26 percent.[2] The

---

[1] by the Basic Grants definition

[2] the remaining 5 percent did not report a field of study.

average GAPSFAS filer has an education debt of $5843 but the range is quite wide. Humanities students have the lowest average debt of $3717 while medical students top the list with the highest average debt of $9823 (see Table 1 and Figure 1).

The median debt for all fields of study is $4600 with the upper quartile of students having debt levels above $7,700 and the lower quartile having debt below $2,200. The arts, sciences (except for the biological sciences which include pre-med students) and business students have roughly similar debt distributions with median debts which range between $3,000 and $3,500 and with interquartile ranges (the difference between the median and lower and upper quartile boundaries) that do not vary more than $300. Debt distributions for the other three fields (law, biological sciences and medicine) appear to be significantly different from the arts and sciences group as well as from each other. About twenty-five percent of the graduate law students have debt leve..s above $7,500; twenty-five percent of the biological sciences students are over $10,000 in debt which is the current borrowing ceiling under the Guaranteed Student Loan program and <u>one-half</u> of all medical students show debt levels above $8,200.[1] (For quartile distributions by field of study see Table 2)

Many factors are at work to produce the distributions of debt by field of study which we observe. They include:

- o preselection by certain students who choose not to apply for aid
- o different availability of federal, state, and institutional non-refundable aid for specific fields of study (grants, fellowships, assistanceships, etc.)

---

[1] Recall that these figures relate only to GAPSFAS applicants with debt -- students who are seeking additional financial assistance.

Table 1: Level of Debt by Field of Study

Field of Study	TOTAL N	$0	1-99	100-499	500-999	1000-1999	2000-4999	5000-9999	10000-19999	20000-OVER	MEDIAN (10 NEAREST 100)	MEAN	S.D.
	LEVEL OF DEBT												
Humanities	1396	66	1	53	94	231	552	335	64	0	$ 3000	3717.	2944.
Education	296	14	0	10	20	52	111	72	17	0	$ 3000	3759.	3069.
Physical Sciences	210	11	0	10	7	36	90	49	7	0	$ 3100	3764.	3000.
Social Sciences	1635	56	1	53	97	249	661	446	69	3	$ 3300	3915.	3136
Business	1256	40	3	44	65	190	465	366	82	1	$ 3500	4217.	4000
Law	3545	84	2	80	141	377	1206	1200	443	12	$ 4500	5279.	3993
Biological Sciences	1294	23	0	25	49	106	314	422	313	42	$ 5600	7358	5806
Medical	2459	21	0	26	48	129.	412	779	824	220	$ 8200	9823.	7165
TOTAL	2629	340	7	319	561	1432	3990	3023	1073	284	$ 4400	5843.	5277

FIGURE 1: CUMULATIVE DEBT DISTRIBUTIONS FOR '75-'79 GAHSFAS FILERS (ALL YEARS) BY DISCIPLINE

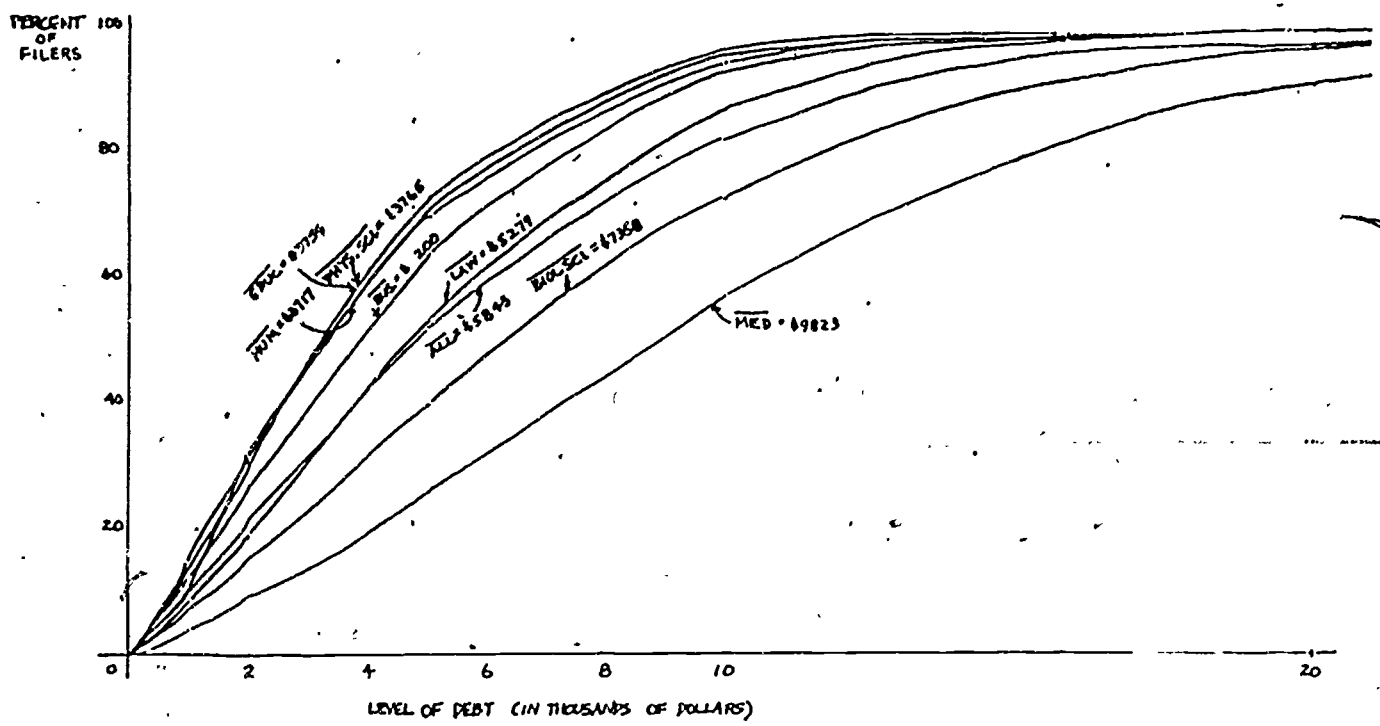


TABLE 2: DEBT QUARTILES, IN DOLLARS, BY FIELD OF STUDY

FIELD OF STUDY	1st Quartile Ends At:	Median Debt Level:	4th Quartile Begins At:
ALL FIELDS	2,200	4,600	7,700
HUMANITIES	1,500	3,000	5,100
EDUCATION	1,400	3,000	5,200
PHYSICAL SCIENCES	1,600	3,100	5,200
SOCIAL SCIENCES	1,700	3,300	5,200
BUSINESS	1,800	3,500	5,600
LAW	2,400	4,500	7,400
BIOLOGICAL SCIENCES	3,000	5,600	10,400
MEDICINE	4,800	8,200	13,900

- o varying amounts of parental and other non-governmental support
- o different costs of attendance
- o differing loan terms (limits, repayment periods, interest rates, etc.) for the available loan programs.

Factors such as these may help explain large differences in average debt by field of study between, for example, the physical and biological sciences.

Although the level of student debt bears some relation to parental income (except when the student is totally self-supporting), the GAPSFAS data does not permit a close examination of this relationship. The data does suggest that debt levels reach a peak at roughly some middle income level and then decrease as parental contributions become significantly large. Of course, within any given field of study the relationship between the student's debt level and parental income depends also on the distribution of school costs associated with that field. A simple unimodal relationship is likely to hold in a field where the range of costs is relatively narrow (e.g., humanities) than in a field where the cost spread is broader (e.g., law schools). [see figure 3]

The pattern of education debt by year in graduate school varies significantly by field of study. For example, median debt in the humanities peaks for fourth and fifth year students at $3600 after dipping to $3100 for third year students. But law students reach their highest median debt level of $7800 in their second year and their debt falls substantially by the fourth and fifth years to $4900. Factors such as length of program, school costs, loan terms (particularly loan limits and repayment requirements) and the selection process of applying to GAPSFAS account for many of the differences between these observed distributions (See Table 4).

TABLE 3: MEDIAN DEBT IN DOLLARS, BY PARENTAL INCOME LEVEL AND FIELD OF STUDY FOR GAPSFAS FILERS

FIELD OF STUDY	PARENTAL INCOME $0-10,000	$10,000-20,000	$20,000-30,000	$30,000-40,000	$40,000 and up	Not Reported
ALL FIELDS	4,000	4,400	5,000	5,000	5,000	4,300
(%)	(12.3)	(21.2)	(19.0)	(10.2)	(6.7)	(30.7)
HUMANITIES	2,700	3,200	3,300	3,900	3,500	,000
(%)	(9.6)	(15.4)	(15.0)	(8.4)	(4.2)	(47.3)
SOCIAL SCIENCES	2,700	3,100	3,700	3,700	3,400	3,600
(%)	(12.4)	(19.7)	(13.7)	(7.5)	(5.3)	(41.4)
BIOLOGICAL SCIENCES	4,600	6,000	6,000	6,000	5,000	5,100
(%)	(10.4)	(22.0)	(23.0)	(12.3)	(5.4)	(26.9)
PHYSICAL[a] SCIENCES	3,500	2,900	4,400	1,800	5,500	3,300
(%)	(10.0)	(16.7)	(21.0)	(8.6)	(4.3)	(39.5)
BUSINESS	2,900	3,000	4,200	3,700	2,500	4,000
(%)	(12.6)	(21.3)	(17.1)	(11.9)	(8.0)	(29.1)
EDUCATION[a]	2,000	3,100	2,700	5,000	1,500	3,100
(%)	(11.1)	(15.2)	(8.4)	(2.7)	(2.7)	(59.8)
LAW	4,000	4,300	4,300	4,500	5,000	5,000
(%)	(13.6)	(22.9)	(20.5)	(9.4)	(6.1)	(27.7)
MEDICINE	8,600	8,600	7,900	7,700	7,900	8,700
(%)	(12.9)	(24.0)	(23.8)	(14.1)	(10.9)	(14.3)

NOTE: Percent of filers in each income category are placed in parentheses. A substantial percent of students did not report parental income.

[a] Small samples for this field of study accounts for some wider variations in median debt.

TABLE 4: MEDIAN DEBT, IN DOLLARS, BY YEAR IN GRADUATE SCHOOL AND FIELD OF STUDY

FIELD OF STUDY	YEAR IN GRADUATE SCHOOL 1st	2nd	3rd	4th & 5th	Not Reported
ALL FIELDS	3,700	7,500	10,300	5,400	5,100
(%)	(65.7)	(18.9)	(8.8)	(4.4)	(2.1)
HUMANITIES	2,900	3,500	3,100	3,600	3,300
(%)	(65.5)	(16.6)	(8.5)	(7.9)	(1.5)
SOCIAL SCIENCES	3,200	3,800	3,900	4,500	3,700
(%)	(75.7)	(14.0)	(4.2)	(4.7)	(1.5)
BIOLOGICAL SCIENCES	4,500	10,000	13,500	10,000	5,000
(%)	(59.1)	(20.6)	(12.4)	(4.8)	(3.1)
PHYSICAL[a] SCIENCES	3,300	3,100	2,900	2,700	1,200
(%)	(76.7)	(9.0)	(5.7)	(6.7)	(1.9)
BUSINESS	3,400	4,000	6,000	3,500	2,000
(%)	(83.4)	(8.4)	(2.7)	(3.3)	(2.1)
EDUCATION[a]	2,700	3,000	3,700	5,000	8,200
(%)	(66.6)	(17.2)	(8.8)	(6.4)	(1.0)
LAW	3,800	7,800	6,100	4,900	5,000
(%)	(69.0)	(23.0)	(3.6)	(2.7)	(1.7)
MEDICINE	5,000	11,300	14,900	14,100	9,300
(%)	(47.0)	(24.3)	(21.0)	(4.6)	(3.10)

NOTE: Percent of filers in each income category are placed in parentheses.

[a]: Small samples for this field of study accounts for some wider variations in median debt.

APPENDIX D: DEBT, REPAYMENT, EARNINGS AND LOAN BURDEN FOR SELECTED STUDENT/BORROWER CATEGORIES

ALL FULL-TIME 35 HRS. EMPLOYED WHITE MALE BACHELORS

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1000	2500	4000	63900.	196445.
MARRIED	1000	2000	3800	42087.	126107.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARA

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	348.3250	557.3201
MARRIED	139.3300	278.6599	529.4541

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8525.	0.0	8525.	6394.	3854.	2540.
1979	9302.	0.120	10418.	7814.	4355.	3459.
1980	10100.	0.120	12670.	9502.	4921.	4581.
1981	10915.	0.120	15335.	11501.	5561.	5940.
1982	11742.	0.120	18476.	13857.	6117.	7740.
1983	12575.	0.120	22161.	16621.	6606.	10015.
1984	13409.	0.110	26231.	19673.	7135.	12539.
1985	14240.	0.100	30641.	22981.	7634.	15347.
1986	15061.	0.100	35653.	26738.	8092.	18645.
1987	15869.	0.100	41314.	30985.	8576.	22411.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9549.	0.0	9549.	7162.	5181.	1981.
1979	10404.	0.120	11652.	8739.	5855.	2884.
1980	11279.	0.120	14141.	10611.	6616.	3995.
1981	12169.	0.120	17097.	12823.	7476.	5347.
1982	13076.	0.120	20565.	15424.	8223.	7201.
1983	13974.	0.120	24626.	18470.	8881.	9589.
1984	14876.	0.110	29130.	21848.	9592.	12234.
1985	15771.	0.100	33930.	25452.	10263.	15189.
1986	16652.	0.100	39415.	29561.	10879.	18683.
1987	17515.	0.100	45603.	34202.	11531.	22671.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	13.7%	14.1%
1979	10.0	9.7
1980	7.6	7.0
1981	5.9	5.2
1982	4.5	3.9
1983	3.5	2.9
1984	2.8	2.3
1985	2.3	1.8
1986	1.9	1.5
1987	1.6	1.2

ALL PART-TIME 10-34 HRS. EMPLOYED WHITE MALE BACHELORS

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1100	2000	4000	21425.	65221.
MARRIED	1000	1600	3000	10672.	33923.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARA

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	153.2630	278.6599	557.3201
MARRIED	139.3300	222.9280	417.9900

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	5756.	0.0	5756.	4335.	3854.	481.
1979	6420.	0.120	7190.	5393.	4355.	1038.
1980	7100.	0.120	8950.	6660.	4921.	1758.
1981	7617.	0.120	10582.	8237.	5561.	2676.
1982	8566.	0.120	13478.	10109.	6117.	3992.
1983	9340.	0.120	16451.	12346.	6606.	5739.
1984	10134.	0.110	19025.	14808.	7135.	7734.
1985	10940.	0.100	22540.	17695.	7634.	10021.
1986	11748.	0.100	27631.	20876.	8092.	12764.
1987	12552.	0.100	32032.	24511.	8578.	15933.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	6246.	0.0	6246.	4615.	5181.	-497.
1979	6941.	0.120	7774.	5850.	5855.	-24.
1980	7679.	0.120	9633.	7225.	6616.	609.
1981	8456.	0.120	11682.	8912.	7476.	1436.
1982	9270.	0.120	14537.	10940.	8223.	2717.
1983	10110.	0.120	17817.	13363.	8881.	4482.
1984	10970.	0.110	21459.	16095.	9592.	6503.
1985	11842.	0.100	25481.	19111.	10263.	8848.
1986	12716.	0.100	30100.	22575.	10979.	11696.
1987	13585.	0.100	35371.	26528.	11531.	14997.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	58.0%	(-)
1979	26.9	(-)
1980	15.9	36.6%
1981	10.4	15.5
1982	7.0	8.2
1983	4.9	5.0
1984	3.6	3.4
1985	2.8	2.5
1986	2.2	1.9
1987	1.8	1.5

ALL FULL-TIME 35 HRS. EMPLOYED WHITE FEMALES BACHELORS

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D≥0	TOTAL N
SINGLE	1200	2200	4000	55046.	166329.
MARRIED	800	1800	3500	21803.	69616.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARA

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	167.1960	306.5259	557.3201
MARRIED	111.4640	250.7941	487.6550

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	7441.	0.0	7441.	5511.	3784.	1727.
1979	7750.	0.120	8680.	6516.	4355.	2155.
1980	8045.	0.120	10092.	7569.	4921.	2648.
1981	8326.	0.120	11697.	8773.	5561.	3212.
1982	8591.	0.120	13518.	10136.	6117.	4021.
1983	8840.	0.120	15579.	11684.	6606.	5078.
1984	9073.	0.110	17748.	13311.	7135.	6176.
1985	9280.	0.100	19937.	14996.	7634.	7356.
1986	9487.	0.100	22290.	16842.	8092.	8750.
1987	9669.	0.100	25175.	18861.	8578.	10303.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	7383.	0.0	7383.	5537.	5181.	356.
1979	7690.	0.120	8612.	6459.	5855.	605.
1980	7983.	0.120	10014.	7510.	6615.	895.
1981	8262.	0.120	11597.	8706.	7476.	1230.
1982	8520.	0.120	13410.	10062.	8223.	1838.
1983	8774.	0.120	15452.	11597.	8881.	2716.
1984	9005.	0.110	17616.	13212.	9592.	3620.
1985	9221.	0.100	19839.	14879.	10263.	4616.
1986	9416.	0.100	22291.	16716.	10879.	5840.
1987	9599.	0.100	24992.	18744.	11531.	7212.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	17.8%	70.5%
1979	14.2	41.5
1980	11.6	28.0
1981	9.6	20.4
1982	7.6	13.7
1983	6.0	9.2
1984	5.0	6.9
1985	4.2	5.4
1986	3.5	4.3
1987	3.0	3.5

ALL FULL-TIME 35 HRS. EMPLOYED BLACK MALE BACHELORS

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D≥0	TOTAL N
SINGLE	1000	2000	2500	6874.	9090.
MARRIED	1000	1600	2200	1463.	5182.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARA

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	278.6599	348.3250
MARRIED	139.3300	222.9280	306.5259

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10539.	0.0	10539.	7904.	3854.	4050.
1979	11140.	0.120	12436.	9324.	4315.	5009.
1980	11744.	0.120	14731.	11046.	4921.	6127.
1981	12325.	0.120	17315.	12986.	5561.	7425.
1982	12590.	0.120	20283.	15212.	6117.	9095.
1983	13439.	0.120	23655.	17743.	6586.	11157.
1984	13972.	0.110	27331.	20498.	7135.	13363.
1985	14486.	0.100	31171.	23378.	7634.	15744.
1986	14982.	0.100	35462.	26597.	8092.	18504.
1987	15459.	0.100	40250.	30187.	8578.	21609.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10720.	0.0	10720.	8040.	5181.	2859.
1979	11325.	0.120	12684.	9513.	5954.	3559.
1980	11917.	0.120	14940.	11211.	6616.	4596.
1981	12494.	0.120	17553.	13165.	7476.	5689.
1982	13057.	0.120	20545.	15409.	8223.	7185.
1983	13604.	0.120	23974.	17981.	8881.	9099.
1984	14135.	0.110	27650.	20738.	9592.	11146.
1985	14650.	0.100	31523.	23643.	10263.	13380.
1986	15148.	0.100	35855.	26891.	10879.	16013.
1987	15629.	0.100	40693.	30520.	11531.	18988.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	6.9%	7.8%
1979	5.6	6.1
1980	4.6	4.9
1981	3.8	3.9
1982	3.1	3.1
1983	2.5	2.5
1984	2.1	2.0
1985	1.8	1.7
1986	1.5	1.4
1987	1.3	1.2

ALL FULL-TIME 35 HRS. EMPLOYED BLACK FEMALES BACHELORS

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D&O	TOTAL N
SINGLE	700	2000	3800	9795.	14295.
MARRIED	400	1000	3000	2616.	5537.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARA

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	97.5310	278.6599	529.4541
MARRIED	55.7320	139.3300	417.9900

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	7380.	1.0	7380.	5525.	3844.	1681.
1979	7960.	1.120	8915.	6686.	4355.	2331.
1980	8545.	1.120	10719.	8039.	4921.	3118.
1981	9130.	1.120	12836.	9621.	5561.	4059.
1982	9700.	1.120	15273.	11415.	6117.	5338.
1983	10269.	1.120	18097.	13573.	6606.	6966.
1984	10611.	1.110	21149.	15862.	7135.	8727.
1985	11321.	1.100	24379.	18211.	7639.	10647.
1986	11913.	1.100	27967.	20971.	8092.	12879.
1987	12263.	1.100	31924.	23946.	8578.	15368.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	6604.	1.0	6604.	4953.	5181.	-228.
1979	7139.	1.120	7996.	5997.	5855.	142.
1980	7681.	1.120	9603.	7202.	6610.	611.
1981	8224.	1.120	11555.	8666.	7476.	1189.
1982	8760.	1.120	13735.	10301.	8224.	2114.
1983	9282.	1.120	16359.	12269.	8881.	3388.
1984	9786.	1.110	19193.	14395.	9592.	4766.
1985	10264.	1.100	22086.	16564.	10263.	6302.
1986	10711.	1.100	25353.	19014.	10879.	8136.
1987	11123.	1.100	29062.	21721.	11531.	10190.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	16.6%	(-)%
1979	12.0	97.9
1980	8.9	27.7
1981	6.9	11.7
1982	5.2	6.6
1983	4.0	4.1
1984	3.2	2.9
1985	2.6	2.2
1986	2.2	1.7
1987	1.8	1.4

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(1) Accountants

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D2.)	TOTAL N
SINGLE	800	1900	3500	582	15917.
MARRIED	600	1000	1300	3304.	12501.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	111.4640	264.7271	487.6550
MARRIED	83.5980	139.3300	181.1290

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11022.	0.0	11022.	9271.	3854.	4417.
1979	11797.	0.120	13213.	9910.	4355.	5555.
1980	12573.	0.120	15771.	11829.	4921.	6907.
1981	13352.	0.120	18759.	14069.	5561.	8508.
1982	14132.	0.120	22236.	16677.	6117.	10560.
1983	14909.	0.120	26274.	19706.	6606.	13099.
1984	15681.	0.110	30675.	23007.	7135.	15872.
1985	16466.	0.100	35339.	26541.	7634.	18907.
1986	17201.	0.100	40714.	30535.	8092.	22443.
1987	17943.	0.100	46718.	35039.	8578.	26461.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	12149.	0.0	12149.	9112.	5181.	3931.
1979	12981.	0.120	14538.	10904.	5855.	5049.
1980	13816.	0.120	17333.	13000.	6616.	6384.
1981	14657.	0.120	20592.	15444.	7476.	7968.
1982	15495.	0.120	24392.	18294.	8223.	10063.
1983	16329.	0.120	28778.	21583.	8881.	12702.
1984	17157.	0.110	33562.	25171.	9592.	15580.
1985	17974.	0.100	38677.	29007.	10263.	18745.
1986	18779.	0.100	44450.	33337.	10879.	22459.
1987	19569.	0.100	50952.	38214.	11531.	26683.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	6.0%	3.5%
1979	4.8	2.8
1980	3.8	2.2
1981	3.1	1.7
1982	2.5	1.4
1983	2.0	1.1
1984	1.7	0.9
1985	1.4	0.7
1986	1.2	0.6
1987	1.0	0.5

150

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(2) Architects

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	2000	2000	2000	967.	1354.
MARRIED	400	3200	10000	774.	1598.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	278.6599	278.6599	278.6599
MARRIED	55.7320	445.8560	1393.3003

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10013.	0.0	[illegible]	[illegible]	[illegible]	3656.
1979	10193.	0.120	11417.	[illegible]	[illegible]	4207.
1980	10405.	0.120	[illegible]	[illegible]	[illegible]	4868.
1981	10650.	0.120	14952.	[illegible]	5561.	5661.
1982	10933.	0.120	[illegible]	[illegible]	6117.	6785.
1983	11254.	0.120	[illegible]	[illegible]	[illegible]	8269.
1984	11612.	0.110	22724.	[illegible]	[illegible]	9908
1985	12021.	0.100	[illegible]	[illegible]	7534.	11767.
1986	12471.	0.100	[illegible]	[illegible]	[illegible]	14047.
1987	12960.	0.100	[illegible]	[illegible]	[illegible]	16741.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11968.	0.0	11968.	[illegible]	5161.	3810.
1979	12293.	0.120	[illegible]	[illegible]	5355.	4471.
1980	12620.	0.120	[illegible]	11375.	6016	5257.
1981	12973.	0.120	[illegible]	13679.	7470.	6194.
1982	13353.	0.120	21011.	15758.	8223.	7535.
1983	13763.	0.120	[illegible]	18151.	[illegible]	9310.
1984	14202.	0.110	27732.	20837.	[illegible]	11245.
1985	14672.	0.100	31571.	23679.	[illegible]	13416.
1986	15172.	0.100	35911.	26932.	10979.	16054.
1987	15695.	0.100	[illegible]	30057.	11531.	19126.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	7.6%	11.7%
1979	6.6	10.0
1980	5.7	8.5
1981	4.9	7.2
1982.	4.1	5.9
1983	3.4	4.8
1984	2.8	4.0
1985	2.4	3.3
1986	2.0	2.8
[illegible]7	1.7	2.3

151

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(3) - Computer Specialists

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1100	3500	3800.	1340.	5522.
MARRIED	1000	1000	3000	491.	3792.

REPAYMENT : ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	153.2630	487.6550	529.4541
MARRIED	139.3300	139.3300	417.9900

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11579.	0.0	11579.	[illegible]	3654.	4631.
1979	12330.	0.120	13517.	10362.	4355.	6007.
1980	13215.	0.120	16454.	12339.	4921.	7418.
1981	13914.	0.120	19547.	14661.	5561.	9100.
1982	14727.	0.120	23174.	17380.	6117.	11263.
1983	15553.	0.120	27410.	20557.	6606.	13951.
1984	16380.	0.110	32057.	24043.	7135.	16908.
1985	17227.	0.100	37069.	27802.	7634.	20167.
1986	18067.	0.100	42756.	32074.	8092.	23982.
1987	18900.	0.100	49226.	36919.	8578.	28341.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	12744.	0.0	12744.	9558.	5181.	4377.
1979	13555.	0.120	15181.	11366.	5835.	5531.
1980	14379.	0.120	18036.	13528.	6616.	6913.
1981	15213.	0.120	21573.	16030.	7476.	8554.
1982	16050.	0.120	25255.	18942.	8223.	10718.
1983	16880.	0.120	29758.	22319.	8881.	13437.
1984	17713.	0.110	34651.	25988.	9592.	16397.
1985	18529.	0.100	39870.	29903.	10263.	19640.
1986	19326.	0.100	45744.	34308.	10879.	23430.
1987	20100.	0.100	52335.	39252.	11531.	27720.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	10.1%	3.2%
1979	8.1	2.5
1980	6.6	2.0
1981	5.4	1.6
1982	4.3	1.3
1983	3.5	1.0
1984	2.9	0.8
1985	2.4	0.7
1986	2.0	0.6
1987	1.6	0.5

152

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(4) - Engineers

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1200	2400	4900	8051.	21851.
MARRIED	2000	2000	4000	3944.	10380.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	167.1960	334.3918	682.7170
MARRIED	278.6599	278.6599	557.3201

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	13962.	0.0	13962.	10974.	2894.	8013.
1979	14557.	0.120	16304.	12441.	4395.	7673.
1980	15176.	0.120	19039.	14279.	4921.	9358.
1981	15821.	0.120	22227.	15670.	5561.	11109.
1982	16491.	0.120	25934.	19451.	6117.	13333.
1983	17194.	0.120	30231.	22673.	6606.	16067.
1984	17934.	0.110	34987.	26105.	7135.	19030.
1985	18716.	0.100	40644.	29883.	7634.	22249.
1986	19196.	0.100	49430.	34477.	8982.	25995.
1987	19867.	0.100	51728.	38710.	8578.	30212.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	14376.	0.0	14376.	10712.	5191.	5601.
1979	15026.	0.120	16840.	12666.	5855.	6776.
1980	15725.	0.120	19725.	14794.	6616.	8178.
1981	16436.	0.120	23094.	17321.	7476.	9845.
1982	17171.	0.120	27018.	20204.	8223.	12041.
1983	17917.	0.120	31576.	23604.	9301.	14601.
1984	18674.	0.110	36527.	27399.	9592.	17304.
1985	19450.	0.100	41611.	31356.	10263.	21095.
1986	20189.	0.100	47779.	35739.	10979.	24755.
1987	20932.	0.100	54506.	40875.	11531.	29343.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	5.0%	5.0%
1979	4.2	4.1
1980	3.6	3.4
1981	3.0	2.8
1982	2.5	2.3
1983	2.1	1.9
1984	1.8	1.6
1985	1.4	1.3
1986	1.3	1.1
1987	1.1	1.0

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(6) - Librarian/Social Science

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1000	5000	5000	774.	2515.
MARRIED	1000	1000	1000	104.	1379.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	696.6501	696.6501
MARRIED	139.3300	139.3300	139.3300

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9431.	0.0	9431.	7073.	3854.	3219.
1979	10425.	0.120	11676.	8757.	4355.	4402.
1980	11427.	0.120	14335.	10751.	4921.	5830.
1981	12436.	0.120	17472.	13104.	5561.	7543.
1982	13440.	0.120	21147.	15861.	6117.	9744.
1983	14430.	0.120	25430.	19073.	6606.	12466.
1984	15400.	0.110	30125.	22594.	7135.	15459.
1985	16343.	0.100	35166.	26375.	7634.	18740.
1986	17253.	0.100	40838.	30629.	8092.	22536.
1987	18127.	0.100	47198.	35398.	8578.	26820.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10113.	0.0	10113.	7585.	5181.	2404.
1979	11127.	0.120	12466.	9347.	5855.	3492.
1980	12149.	0.120	13924.	11443.	6616.	4914.
1981	13169.	0.120	15901.	13676.	7476.	6400.
1982	14176.	0.120	18309.	16732.	8223.	8509.
1983	15166.	0.120	20732.	20049.	9061.	11108.
1984	16133.	0.110	23560.	23670.	9592.	14079.
1985	17067.	0.100	26726.	27544.	10263.	17281.
1986	17965.	0.100	32523.	31892.	10679.	21513.
1987	18823.	0.100	40059.	36797.	11531.	25225.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	21.7%	5.8%
1979	15.8	4.0
1980	12.0	2.9
1981	9.2	2.2
1982	7.2	1.6
1983	5.6	1.2
1984	4.5	1.0
1985	3.7	0.8
86	3.1	0.7
87	2.6	0.6

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(7) - Math Specialists

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D≥0	TOTAL N
SINGLE	700	700	700	193.	967.
MARRIED	5000	5000	5000	193.	387.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	97.5310	97.5310	97.5310
MARRIED	696.6501	696.6501	696.6501

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	13377.	0.0	13377.	10033.	3854.	6179.
1979	14200.	0.120	15904.	11996.	4355.	7641.
1980	15157.	0.120	18013.	14200.	4921.	9339.
1981	16008.	0.120	22496.	16868.	5561.	11307.
1982	16837.	0.120	26493.	19870.	6117.	13753.
1983	17647.	0.120	31099.	23324.	6606.	16712.
1984	18440.	0.110	36072.	27054.	7135.	19919.
1985	19220.	0.100	41357.	31018.	7634.	23384.
1986	19969.	0.100	47314.	35485.	8092.	27393.
1987	20749.	0.100	54024.	40518.	8578.	31940.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	13273.	0.0	13273.	9955.	5181.	4774.
1979	14153.	0.120	15851.	11888.	5855.	6034.
1980	15005.	0.120	18822.	14117.	6616.	7501.
1981	15832.	0.120	22243.	16682.	7476.	9207.
1982	16630.	0.120	26130.	19639.	8223.	11411.
1983	17424.	0.120	30707.	23031.	8881.	14150.
1984	18196.	0.110	35595.	26696.	9592.	17104.
1985	18955.	0.100	40788.	30591.	10263.	20328.
1986	19706.	0.100	46643.	34982.	10879.	24102.
1987	20448.	0.100	53241.	39931.	11531.	28399.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	1.6%	14.6%
1979	1.3	11.6
1980	1.0	9.3
1981	0.9	7.6
1982	0.7	6.1
1983	0.6	4.9
1984	0.5	4.1
1985	0.4	3.4
1986	0.4	2.9
1987	0.3	2.5

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(8)

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1100	2000	6000	1652.	2143.
MARRIED	500	1500	1500	1161.	1623.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	153.2630	278.6599	835.9800
MARRIED	69.6650	208.9950	208.9950

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9323.	0.0	9323.	6994.	3354.	3136.
1979	10202.	0.120	11426.	8569.	4335.	4234.
1980	11110.	0.120	13957.	10468.	4921.	5532.
1981	12045.	0.120	16922.	12691.	5561.	7131.
1982	13000.	0.120	20456.	15342.	6117.	9225.
1983	13971.	0.120	24622.	18467.	6605.	11850.
1984	14954.	0.110	29253.	21940.	7135.	14805.
1985	15942.	0.100	34309.	25729.	7634.	18095.
1986	16932.	0.100	40077.	30058.	8092.	21966.
1987	17917.	0.100	46630.	34967.	8558.	26409.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9194.	0.0	9194.	6895.	5181.	1714.
1979	10069.	0.120	11277.	8458.	5855.	2604.
1980	10975.	0.120	13767.	10326.	6616.	3710.
1981	11908.	0.120	16736.	12547.	7476.	5072.
1982	12862.	0.120	20239.	15179.	8223.	6956.
1983	13834.	0.120	24538.	18403.	8861.	9404.
1984	14818.	0.110	29087.	21740.	9592.	12149.
1985	15809.	0.100	34018.	25514.	10263.	15251.
1986	16802.	0.100	39776.	29832.	10879.	18949.
1987	17791.	0.100	46323.	34742.	11531.	23211.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	8.9%	12.2%
1979	6.6	8.0
1980	5.0	5.6
1981	3.9	4.1
1982	3.0	3.0
1983	2.4	2.2
1984	1.9	1.7
1985	1.5	1.4
86	1.3	1.1
87	1.1	0.9

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(9) - Science Technicans

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1000	1500	3500	1820.	5489.
MARRIED	1500	2000	13600	2297.	4282.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	208.9950	487.6550
MARRIED	208.9950	278.6599	1894.8882

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7315.	0.0	7315.	5486.	3854.	1632.
1979	7792.	0.120	8727.	6545.	4355.	2190.
1980	8279.	0.120	10396.	7709.	4921.	2668.
1981	8775.	0.120	12328.	9246.	5561.	3685.
1982	9275.	0.120	14594.	10945.	6117.	4828.
1983	9777.	0.120	17230.	12925.	6606.	6316.
1984	10279.	0.110	20109.	15081.	7135.	7947.
1985	10779.	0.100	23195.	17396.	7634.	9762.
1986	11274.	0.100	26697.	20015.	8092.	11923.
1987	11763.	0.100	30627.	22970.	8578.	14392.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9893.	0.0	8123.	6670.	5161.	1499.
1979	9483.	0.120	10621.	7966.	5855.	2111.
1980	10083.	0.120	12648.	9486.	6616.	2870.
1981	10689.	0.120	15017.	11263.	7476.	3787.
1982	11297.	0.120	17776.	13332.	8223.	5109.
1983	11903.	0.120	20978.	15733.	8901.	6832.
1984	12505.	0.110	24461.	18346.	9592.	8755.
1985	13097.	0.100	28183.	21136.	10263.	10873.
1986	13676.	0.100	32372.	24279.	10979.	13300.
1987	14246.	0.100	37078.	27808.	11531.	16277.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	12.8%	18.7%
1979	9.5	13.2
1980	7.3	9.7
1981	5.7	7.4
1982	4.3	5.5
1983	3.3	4.1
1984	2.6	3.2
1985	2.1	2.6
1986	1.8	2.1
87	1.5	1.7

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(10) - Other Medical Practitioners

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	4000	4500	5000	3095.	6414.
MARRIED	5000	5000	7900	2013.	3805.

REPAYMENT — ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS :

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	557.3201	626.9851	696.6501
MARRIED	696.6501	696.6501	1100.7070

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10139.	0.0	10139.	7604.	3854.	3750.
1979	10932.	0.120	12224.	9168.	4355.	4922.
1980	11706.	0.120	14083.	11013.	4921.	6092.
1981	12466.	0.120	17505.	13125.	5561.	7568.
1982	13189.	0.120	20755.	15566.	6117.	9447.
1983	13892.	0.120	24483.	18362.	6606.	11756.
1984	14570.	0.110	28508.	21378.	7135.	14242.
1985	15226.	0.100	32755.	24566.	7634.	16932.
1986	15849.	0.100	37913.	28435.	8392.	20043.
1987	16452.	0.100	43834.	32876.	8578.	23298.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11411.	0.0	11411.	8558.	5181.	3377.
1979	12156.	0.120	13615.	10211.	5855.	4357.
1980	12862.	0.120	16144.	12107.	6616.	5491.
1981	13540.	0.120	19033.	14274.	7479.	6795.
1982	14189.	0.120	22327.	16745.	8223.	8522.
1983	14798.	0.120	26079.	19559.	9081.	10478.
1984	15374.	0.110	30074.	22555.	9592.	12964.
1985	15918.	0.100	34523.	25890.	10263.	15627.
1986	16435.	0.100	39901.	29176.	10879.	18297.
1987	16926.	0.100	44869.	33052.	11531.	21521.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	16.7%	20.6%
1979	13.0	16.0
1980	10.3	12.7
1981	8.3	10.3
1982	6.6	8.2
1983	5.3	6.5
1984	4.4	5.4
1985	3.7	4.5
986	3.1	3.8
987	2.7	3.2

158

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(12) - Religious Workers

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	4800	4800	4800	193.	849.
MARRIED	1000	2900	2900	867.	1448.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	668.7839	668.7839	668.7839
MARRIED	139.3300	404.0569	404.0569

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7600.	0.0	7600.	5859.	3854.	2000.
1979	7637.	0.120	8553.	6415.	4355.	2060.
1980	7543.	0.120	9462.	7096.	4921.	2175.
1981	7511.	0.120	10553.	7914.	5561.	2354.
1982	7534.	0.120	11833.	8869.	6117.	2772.
1983	7597.	0.120	13389.	10042.	6606.	3436.
1984	7701.	0.110	15064.	11298.	7135.	4163.
1985	7536.	0.100	16861.	12646.	7634.	5012.
1986	7996.	0.100	18932.	14199.	8092.	6106.
1987	8182.	0.100	21304.	15978.	8578.	7400.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8185.	0.0	8185.	6139.	5181.	958.
1979	7993.	0.120	8952.	6714.	6155.	559.
1980	7878.	0.120	9832.	7412.	6616.	796.
1981	7828.	0.120	10998.	8249.	7476.	773.
1982	7834.	0.120	12327.	9245.	8223.	1022.
1983	7885.	0.120	13897.	10423.	8881.	1542.
1984	7976.	0.110	15603.	11702.	9592.	2111.
1985	8100.	0.100	17430.	13072.	10263.	2809.
1986	8251.	0.100	19530.	14648.	10879.	3769.
1987	8424.	0.100	21934.	16451.	11531.	4919.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	33.5%	42.2%
1979	32.5	47.0
1980	30.8	50.8
1981	28.4	52.3
1982	24.1	39.5
1983	19.5	26.2
1984	16.8	19.1
1985	13.3	14.4
1986	11.0	10.7
1987	9.0	8.2

159

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(13) - Health Technicians

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D≥0	TOTAL N
SINGLE	1000	3800	3800	703.	2161.
MARRIED	300	500	500	595.	1448.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	529.4541	529.4541
MARRIED	41.7990	69.6650	69.6650

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	3495.	0.0	3495.	2622.	3854.	-1232.
1979	4367.	0.120	4991.	3868.	4355.	-487.
1980	5306.	0.120	6055.	4991.	4921.	70.
1981	6294.	0.120	7040.	6650.	5561.	1089.
1982	7307.	0.120	11496.	6674.	6117.	2507.
1983	8335.	0.120	14689.	11017.	6606.	4411.
1984	9362.	0.110	16314.	13735.	7135.	6600.
1985	10376.	0.100	22328.	16746.	7634.	9111.
1986	11370.	0.100	26912.	20184.	8092.	12091.
1987	12335.	0.100	32117.	24087.	8578.	15510.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	4423.	0.0	4423.	3370.	4681.	-1311.
1979	5475.	0.120	6132.	4599.	5855.	-1255.
1980	6498.	0.120	8151.	6113.	6616.	-503.
1981	7538.	0.120	10590.	7945.	7476.	467.
1982	8577.	0.120	13496.	10122.	8223.	1899.
1983	9601.	0.120	16920.	12690.	8885.	3805.
1984	10500.	0.110	20735.	15551.	9592.	5960.
1985	11567.	0.100	24859.	18667.	10263.	8404.
1986	12499.	0.100	29504.	22128.	10879.	11250.
1987	13395.	0.100	34276.	25707.	11531.	14176.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	(-)%	(-)%
1979	(-)	(-)
1980	755.7	(-)
1981	49.5	15.0
1982	21.0	3.7
1983	12.0	1.8
1984	8.0	1.2
1985	5.8	0.8
1986	4.4	0.6
1987	3.4	0.5

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(14) - Other Technicians Social and Research Workers

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1500	2300	4700	2454.	6245.
MARRIED	1400	3000	4500	1474.	2875.

REPAYMENT — ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	208.9950	320.4590	654.8511
MARRIED	195.0620	417.9900	628.9851

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7926.	0.0	7926.	5943.	3854.	2091.
1979	8474.	0.120	9490.	7118.	4355.	2763.
1980	9033.	0.120	11330.	8498.	4921.	3577.
1981	9601.	0.120	13439.	10117.	5561.	4556.
1982	10177.	0.120	16014.	12011.	6117.	5894.
1983	10758.	0.120	18959.	14219.	6606.	7613.
1984	11340.	0.110	22184.	16638.	7135.	9503.
1985	11921.	0.100	25633.	19246.	7634.	11605.
1986	12498.	0.100	29504.	22128.	8092.	14036.
1987	13066.	0.100	34026.	25519.	8578.	16941.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	6737.	0.0	6737.	5053.	3161.	1372.
1979	9332.	0.120	10452.	7839.	5855.	1984.
1980	9941.	0.120	12470.	9353.	6616.	2737.
1981	10561.	0.120	14837.	11128.	7476.	3652.
1982	11189.	0.120	17605.	13204.	8223.	4981.
1983	11822.	0.120	20835.	15626.	8881.	6745.
1984	12459.	0.110	24372.	18279.	9592.	8687.
1985	13095.	0.100	28178.	21133.	10265.	10870.
1986	13728.	0.100	32494.	24370.	10979.	13391.
1987	14354.	0.100	37373.	28030.	11531.	16499.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	15.3%	30.5%
1979	11.6	21.1
1980	8.9	15.2
1981	7.0	11.4
1982	5.4	8.4
1983	4.2	6.2
1984	3.4	4.8
1985	2.8	3.8
1986	2.3	3.1
1987	1.9	2.5

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(16) - Teachers Other Than College & University

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D20	TOTAL N
SINGLE	1000	2000	3000	3312.	10847.
MARRIED	1200	1800	3000	5755.	11678.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	278.6599	417.9900
MARRIED	167.1960	250.7941	417.9900

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7956.	0.0	7956.	5907.	3794.	2113.
1979	8370.	0.120	9374.	7031.	4355.	2676.
1980	8792.	0.120	11026.	8271.	4921.	3350.
1981	9220.	0.120	12953.	9715.	5561.	4154.
1982	9651.	0.120	15136.	11369.	6117.	5272.
1983	10084.	0.120	17771.	13326.	6606.	6722.
1984	10515.	0.110	20570.	15428.	7135.	8293.
1985	10944.	0.100	23548.	17661.	7634.	10027.
1986	11366.	0.100	26902.	20177.	8072.	12004.
1987	11779.	0.100	30669.	23001.	8578.	14424.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8596.	0.0	8596.	6449.	5181.	1268.
1979	9061.	0.120	10148.	7611.	5855.	1757.
1980	9533.	0.120	11917.	8938.	6616.	2353.
1981	10011.	0.120	14064.	10548.	7476.	3072.
1982	10492.	0.120	16511.	12382.	8223.	4159.
1983	10976.	0.120	19343.	14507.	8881.	5626.
1984	11457.	0.110	22413.	16810.	9592.	7218.
1985	11934.	0.100	25694.	19271.	10273.	8998.
1986	12405.	0.100	29363.	22022.	10879.	11143.
1987	12865.	0.100	33496.	25122.	11531.	13591.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	13.2%	19.8%
1979	10.4	14.3
1980	8.3	10.7
1981	6.7	8.2
1982	5.3	6.0
1983	4.2	4.5
1984	3.4	3.5
1985	2.8	2.8
1986	2.3	2.3
1987	1.9	1.8

162

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(17) - Writers, Artists & Entertainers

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	400	1300	4500	2222.	6877.
MARRIED	2000	2000	4200	491.	2733.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	55.7320	181.1290	626.9851
MARRIED	278.6599	278.6599	585.1860

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7746.	0.0	7746.	5811.	3854.	1957.
1979	8329.	0.120	9328.	6997.	4555.	2642.
1980	8943.	0.120	11218.	8415.	4921.	3492.
1981	9567.	0.120	13469.	10102.	5561.	4541.
1982	10260.	0.120	16144.	12108.	6117.	5991.
1983	10960.	0.120	19315.	14486.	6606.	7880.
1984	11683.	0.110	22854.	17141.	7135.	10006.
1985	12426.	0.100	26739.	20055.	7634.	12420.
1986	13186.	0.100	31212.	23409.	8092.	15317.
1987	13959.	0.100	36344.	27258.	8578.	18680.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7930.	0.0	7930.	5948.	5141.	807.
1979	8541.	0.120	9566.	7175.	5855.	1320.
1980	9188.	0.120	11525.	8644.	6616.	2028.
1981	9868.	0.120	13964.	10398.	7476.	2922.
1982	10581.	0.120	16640.	12487.	8223.	4264.
1983	11325.	0.120	19958.	14968.	8861.	6107.
1984	12096.	0.110	23662.	17746.	9592.	8155.
1985	12892.	0.100	27741.	20806.	10244.	10563.
1986	13709.	0.100	32449.	24336.	10879.	13457.
1987	14542.	0.100	37654.	28395.	11531.	16866.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	9.2%	36.4%
1979	6.9	21.1
1980	5.2	13.8
1981	4.0	9.5
1982	3.0	6.5
1983	2.3	4.6
1984	1.8	3.4
1985	1.5	2.6
1986	1.2	2.1
1987	1.0	1.7

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS (1 - 17) - All Technical Workers

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1000	2000	4500	32790.	89613.
MARRIED	1000	2000	4000	24086.	60902.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	278.6599	626.9851
MARRIED	139.3300	278.6599	557.3201

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9997.	0.0	9997.	7456.	3794.	3644.
1979	10619.	0.120	11569.	8917.	4355.	4562.
1980	11249.	0.120	14106.	10179.	4921.	5258.
1981	11863.	0.120	16695.	12271.	5561.	6961.
1982	12529.	0.120	19714.	14785.	6117.	8668.
1983	13170.	0.120	23224.	17418.	6606.	10812.
1984	13830.	0.110	27054.	20296.	7135.	13156.
1985	14481.	0.100	31451.	23371.	7634.	15738.
1986	15130.	0.100	35611.	26692.	8092.	18767.
1987	15773.	0.100	41069.	30802.	8571.	22224.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	10779.	0.0	10779.	8014.	5161.	2853.
1979	11429.	0.120	12590.	9660.	5355.	3746.
1980	12088.	0.120	15163.	11374.	6616.	4757.
1981	12755.	0.120	17920.	13440.	7476.	5964.
1982	13427.	0.120	21126.	15846.	8223.	7623.
1983	14102.	0.120	24853.	18640.	8881.	9759.
1984	14778.	0.110	28908.	21681.	9592.	12090.
1985	15451.	0.100	33247.	24936.	10263.	14673.
1986	16119.	0.100	38154.	28616.	10879.	17737.
1987	16780.	0.100	43601.	32701.	11531.	21237.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	7.7%	9.6%
1979	6.1	7.4
1980	4.9	5.9
1981	4.0	4.7
1982	3.2	3.7
1983	2.6	2.9
1984	2.1	2.3
1985	1.8	1.9
1986	1.5	1.6
1987	1.3	1.3

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1000	2500	3900	15862.	51897.
MARRIED	1300	2500	4000	92[illegible]7.	54335.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	139.3300	348.3250	543.3870
MARRIED	181.1290	348.3250	557.3201

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11750.	0.0	11750.	[illegible]	[illegible]54.	4964.
1979	12508.	0.120	14[illegible].	1[illegible].	4[illegible].	6151.
1980	13264.	0.120	16636.	[illegible]977.	[illegible].	75[illegible].
1981	14017.	0.120	19[illegible].	14770.	5561.	9209.
1982	14772.	0.120	23244.	17[illegible].	5117.	11316.
1983	15523.	0.120	27357.	[illegible]	6666.	13912.
1984	16269.	0.110	31625.	[illegible]	713[illegible].	15734.
1985	17020.	0.100	36[illegible]74.	[illegible]7995.	7034.	19511.
1986	17733.	0.100	41975.	[illegible]1681.	[illegible]	23389.
1987	18446.	0.100	4[illegible].	[illegible]	[illegible]	27[illegible].

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	13155.	0.0	13155.	9[illegible].	5161.	4695.
1979	13922.	0.120	15593.	11[illegible].	5[illegible].	5940.
1980	14689.	0.120	18425.	13619.	6016.	7203.
1981	15451.	0.120	21707.	162[illegible].	7896.	8805.
1982	16206.	0.120	25531.	191[illegible].	[illegible]223.	10903.
1983	16953.	0.120	29678.	224[illegible].	[illegible]	13527.
1984	17690.	0.110	34654.	[illegible]953.	9592.	16362.
1985	18413.	0.100	39621.	27736.	10245.	19453.
1986	19122.	0.100	4[illegible].	33946.	10879.	23067.
1987	19814.	0.100	51590.	3[illegible].	11531.	27161.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	7.0%	7.4%
1979	5.7	6.0
1980	4.6	4.8
1981	3.8	4.0
1982	3.1	3.2
1983	2.5	2.6
1984	2.1	2.1
1985	1.8	1.8
1986	1.5	1.5
1987	1.3	1.3

165

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(24) - Clerical Workers

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	1500	3000	4000	6556.	18549.
MARRIED	1000	2000	2800	3316.	8785.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	208.9950	417.9900	557.3201
MARRIED	139.3300	278.6599	390.1240

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	7147.	0.0	7147.	[illegible]	[illegible]	2031.
1979	[illegible]	0.120	[illegible]	[illegible]	[illegible]	2609.
1980	8932.	0.120	11212.	8409.	5721.	3498.
1981	9501.	0.120	13349.	10011.	5561.	4450.
1982	10072.	0.120	15849.	11886.	6117.	5769.
1983	10649.	0.120	18706.	14029.	6606.	7423.
1984	11228.	0.110	21954.	16473.	7135.	9338.
1985	11808.	0.100	25940.	19456.	7634.	11822.
1986	12389.	0.109	29318.	21987.	8022.	13964.
1987	12957.	0.109	33734.	25301.	8578.	16724.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	ALLOWANCE	DISCRETIONARY EARNINGS
1978	8713.	0.0	8713.	6535.	5181.	1354.
1979	9309.	0.120	10426.	7820.	5855.	1965.
1980	9916.	0.120	12447.	9335.	6616.	2718.
1981	10536.	0.120	14806.	11104.	7474.	3629.
1982	11167.	0.120	17571.	13178.	8223.	4955.
1983	11800.	0.120	20775.	15581.	8891.	6715.
1984	12435.	0.110	24325.	18244.	9592.	8653.
1985	13066.	0.100	28123.	21092.	10213.	10880.
1986	13699.	0.109	32426.	24320.	10979.	13341.
1987	14322.	0.109	37230.	27917.	11531.	16436.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	20.6%	20.6%
1979	15.5	14.2
1980	12.0	10.3
1981	9.4	7.7
1982	7.2	5.6
1983	5.6	4.2
1984	4.5	3.2
1985	3.7	2.6
1986	3.1	2.1
1987	2.5	1.7

FULL-TIME EMPLOYED WHITE MALE BACHELORS(25 - 28) - All Laborers and Craftsmen

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# D20	TOTAL N
SINGLE	900	2600	4000	5010.	20949.
MARRIED	1000	2000	3000	2677.	11767.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	125.3970	362.2581	557.3201
MARRIED	139.3300	278.6599	417.9900

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8076.	0.0	8076.	6054.	3854.	2200.
1979	8629.	0.120	9665.	7249.	4355.	2894.
1980	9197.	0.120	11524.	8643.	4921.	3722.
1981	9741.	0.120	13685.	10264.	5561.	4703.
1982	10239.	0.120	16190.	12142.	6117.	6025.
1983	10526.	0.120	19083.	14312.	6606.	7706.
1984	11357.	0.115	22217.	16663.	7135.	9528.
1985	11673.	0.100	25549.	19161.	7634.	11527.
1986	12374.	0.100	29270.	21967.	8092.	13875.
1987	12859.	0.100	33451.	25110.	8576.	16533.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	9447.	0.0	9447.	7086.	5191.	1905.
1979	10571.	0.120	11290.	[illegible]	5355.	2605.
1980	10591.	0.120	13411.	[illegible]	6616.	3443.
1981	11504.	0.120	15882.	11911.	7476.	4436.
1982	11906.	0.120	18737.	14053.	8223.	5830.
1983	12495.	0.120	22027.	16521.	8881.	7640.
1984	13075.	0.115	25576.	19182.	9592.	9592.
1985	13634.	0.100	29338.	22004.	10263.	11741.
1986	14174.	0.100	33550.	25163.	10879.	14284.
1987	14694.	0.100	38253.	28695.	11531.	17162.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	16.5%	14.6%
1979	12.5	10.7
1980	9.7	8.1
1981	7.7	6.3
1982	6.0	4.8
1983	4.7	3.7
1984	3.8	2.9
1985	3.1	2.4
1986	2.6	2.0
7	2.2	1.6

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(29) - Farm Manager and Foresters

DEBT	LOWEST 25%	MED	HIGHEST 25%	# D>0	TOTAL N
SINGLE	600	600	600	193.	1875.
MARRIED	3000	4000	4000	774.	1341.

REPAYMENT — ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	83.5980	83.5980	83.5980
MARRIED	417.9900	557.3201	557.3201

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	6635.	0.0	6635.	6076.	3904.	2172.
1979	6880.	0.120	7705.	7091.	4395.	2936.
1980	9344.	0.120	11721.	8791.	4921.	3870.
1981	10023.	0.120	14032.	10562.	5561.	5001.
1982	10715.	0.120	16860.	12645.	6117.	6528.
1983	11415.	0.120	20117.	15088.	6606.	8482.
1984	12121.	0.110	23711.	17783.	7135.	10648.
1985	12826.	0.100	27604.	20703.	7634.	13069.
1986	13534.	0.100	32035.	24026.	8092.	15934.
1987	14234.	0.100	37061.	27791.	8570.	19218.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8978.	0.0	8978.	6728.	5181.	1547.
1979	9661.	0.120	10543.	8132.	5855.	2277.
1980	10411.	0.120	13060.	9795.	6616.	3179.
1981	11157.	0.120	15675.	11757.	7476.	4281.
1982	11917.	0.120	18752.	14064.	8223.	5841.
1983	12687.	0.120	22359.	16769.	8881.	7888.
1984	13463.	0.110	26536.	19952.	9592.	10160.
1985	14241.	0.100	30941.	22963.	10263.	12721.
1986	15019.	0.100	35482.	26602.	10379.	15783.
1987	15791.	0.100	41114.	30855.	11531.	19304.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	3.9%	36.0%
1979	2.9	24.5
1980	2.2	17.5
1981	1.7	13.0
1982	1.3	9.5
1983	1.0	7.1
1984	0.8	5.5
1985	0.6	4.4
1986	0.5	3.5
1987	0.4	2.9

168

ALL FULL-TIME EMPLOYED WHITE MALE BACHELORS(30) - Service Workers and Home Management Advisors

DEBT

	LOWEST 25%	MED	HIGHEST 25%	# >0	TOTAL N
SINGLE	700	1500	2500	3488.	13576.
MARRIED	800	2600	5000	2017.	8985.

REPAYMENT ANNUAL DEBT REPAYMENT AT 7% FOR 10 YEARS

	LOWEST 25%	MED	HIGHEST 25%
SINGLE	97.5310	208.9950	348.3250
MARRIED	111.4640	362.2581	696.6501

DISCRETIONARY EARNINGS

SINGLE

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	7032.	0.0	7032.	5974.	3954.	1420.
1979	7611.	0.120	8524.	6963.	4325.	2038.
1980	8190.	0.120	10273.	7705.	4921.	2784.
1981	8765.	0.120	12314.	8236.	5561.	3075.
1982	9333.	0.120	14566.	11015.	6117.	4898.
1983	9891.	0.120	17432.	13074.	6606.	6468.
1984	10436.	0.110	20416.	15312.	7135.	8177.
1985	10966.	0.100	23598.	17698.	7634.	10064.
1986	11479.	0.100	27171.	20378.	8092.	12286.
1987	11975.	0.100	31174.	23380.	8578.	14802.

MARRIED

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	8261.	0.0	8261.	6195.	5181.	1014.
1979	8939.	0.120	9963.	7470.	5855.	1615.
1980	9619.	0.120	11941.	8956.	6616.	2340.
1981	10136.	0.120	14246.	10680.	7476.	3205.
1982	10740.	0.120	16930.	12695.	8223.	4451.
1983	11328.	0.120	19964.	14973.	8881.	6092.
1984	11896.	0.110	23274.	17456.	9592.	7864.
1985	12447.	0.100	26754.	20066.	10274.	9792.
1986	12975.	0.100	30711.	23033.	10879.	12155.
1987	13479.	0.100	35096.	26322.	11531.	14790.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

	SINGLE	MARRIED
1978	14.7%	35.7%
1979	10.3	22.4
1980	7.5	15.5
1981	5.7	11.3
1982	4.3	8.1
1983	3.2	5.9
1984	2.6	4.6
1985	2.1	3.7
1986	1.7	3.0
1987	1.4	2.4

ADVANCED DEGREE RECIPIENTS

College and University Teachers

DEBT

Median debt = $5,000 a/

REPAYMENT

Annual repayment at 7% for 10 years = $697

DISCRETIONARY EARNINGS

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	11950.	0.0	11950.	8963.	5181.	3782.
1979	12462.	0.120	13957.	10468.	6355.	4113.
1980	13003.	0.120	16511.	12233.	6616.	5618.
1981	13573.	0.120	19069.	14302.	7476.	6826.
1982	14169.	0.120	22295.	16721.	8223.	8498.
1983	14788.	0.120	26061.	19546.	8881.	10665.
1984	15428.	0.110	30179.	22634.	9592.	13043.
1985	16084.	0.100	34611.	25958.	10263.	15695.
1986	16755.	0.100	39653.	29745.	10379.	19366.
1987	17436.	0.100	45398.	34048.	11531.	22517.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

1978	18.4%
1979	15.1
1980	12.4
1981	10.2
1982	8.2
1983	6.5
1984	5.3
1985	4.4
1986	3.7
1987	3.1

a/See GAPSFAS data review, pp.C-8

DEBT

Median debt = $ 3,300 a/

REPAYMENT

Annual repayment at 7% for 10 years = $460

DISCRETIONARY EARNINGS

YEAR	REAL EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	17415.	0.0	17415.	13061.	5191.	7870.
1979	18251.	0.120	20441.	15331.	5855.	9476.
1980	19116.	0.120	21410.	16058.	6016.	11371.
1981	20011.	0.120	22413.	16809.	7476.	13605.
1982	20922.	0.120	23921.	17941.	8223.	16468.
1983	21546.	0.120	24132.	18099.	8081.	19994.
1984	22775.	0.110	25502.	19127.	9592.	23823.
1985	23794.	0.100	26173.	19630.	10263.	27992.
1986	24625.	0.100	27088.	20316.	10779.	32836.
1987	25530.	0.100	28083.	21062.	11541.	39323.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

1978	5.8%
1979	4.9
1980	4.0
1981	3.4
1982	2.8
1983	2.3
1984	1.9
1985	1.6
1986	1.4
1987	1.2

a/ See GAPSFAS data review, pg. C-8

DEBT

Median debt = $ 7,800 a/

REPAYMENT

Annual repayment at 7% for 10 years = $1087

DISCRETIONARY EARNINGS

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	14276.	0.0	14276.	10707.	5181.	5526.
1979	15724.	0.120	17610.	13208.	5855.	7353.
1980	17184.	0.120	21566.	16167.	6616.	9551.
1981	18645.	0.120	26194.	19646.	7476.	12170.
1982	20093.	0.120	31617.	23713.	8223.	15490.
1983	21520.	0.120	37925.	28444.	8881.	19563.
1984	22914.	0.110	44824.	33618.	9592.	24027.
1985	24268.	0.100	52221.	39166.	10263.	28903.
1986	25575.	0.100	60536.	45402.	10879.	34523.
1987	26829.	0.100	69854.	52390.	11531.	40859.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

1978	19.7%
1979	14.8
1980	11.4
1981	8.9
1982	7.0
1983	5.6
1984	4.5
1985	3.8
1986	3.1
1987	2.7

a/ See GAPSFAS data review, pg. C-8

DEBT

Median debt = $14,900 a/

REPAYMENT

Annual repayment at 7% for 10 years = $2076

DISCRETIONARY EARNINGS

YEAR	MEDIAN EARNINGS	EARNINGS INFLATOR	INFLATED EARNINGS	POST-TAX EARNINGS	CSS ALLOWANCE	DISCRETIONARY EARNINGS
1978	17826.	0.0	17826.	13365.	5181.	8184.
1979	19966.	0.120	21355.	16015.	5855.	10161.
1980	20340.	0.120	25914.	19135.	6616.	12520.
1981	21636.	0.120	30400.	22800.	7476.	15325.
1982	22958.	0.120	36125.	27094.	8223.	18871.
1983	24296.	0.120	42617.	32113.	8881.	23232.
1984	25640.	0.110	50169.	37627.	9592.	28036.
1985	27000.	0.100	59113.	44335.	10263.	33322.
1986	28371.	0.100	67154.	50366.	10879.	37487.
1987	29736.	0.100	77423.	58067.	11521.	46535.

LOAN BURDEN (MEDIAN DEBT REPAYMENT AS A PERCENTAGE OF DISCRETIONARY EARNINGS)

1978	25.4%
1979	20.4
1980	16.6
1981	13.5
1982	11.0
1983	8.9
1984	7.4
1985	6.2
1986	5.3
1987	4.5

a/ GAPSFAS data review, pg. C-8

APPENDIX E

CONSUMPTION EXPENDITURE LEVELS

CONSUMPTION EXPENDITURE LEVELS

Year 1 = 1978

	BLS Low Standard			BLS Intermediate Standard		
Year	Single	Married	Married w/1 child	Single	Married	Married w/1 child
1	$3,854	$ 5,181	$ 6,829	$5,862	$ 7,880	$ 10,380
2	4,355	5,855	7,717	6,624	8,905	11,730
3	4,921	6,616	8,720	7,465	10,063	13,254
4	5,561	7,476	9,854	8,458	11,371	14,978
5	6,117	8,223	10,839	9,304	12,507	16,475
6	6,606	8,881	11,706	10,048	13,508	17,793
7	7,135	9,592	12,643	10,852	14,589	19,217
8	7,634	10,263	13,528	11,611	15,610	20,563
9	8,092	10,879	14,339	12,308	16,547	21,795
10	8,578	11,531	15,200	13,047	17,539	23,104

BLS Low and Intermediate Standard for Married Couple Having Child in Third Year

Year	Low	Intermediate
1	$ 5,181	$ 7,880
2	5,855	8,905
3	8,720	13,254
4	9,854	14,978
5	10,839	16,475
6	11,706	17,793
7	12,643	19,217
8	13,528	20,563
9	14,339	21,795
10	15,200	23,104

APPENDIX F

CONSUMPTION AND EARNINGS INFLATORS

CONSUMPTION AND EARNINGS INFLATORS

Year	Earnings	Consumption
1978	1.0	1.0
79	1.12	1.13
80	1.12	1.13
81	1.12	1.13
82	1.12	1.10
83	1.12	1.08
84	1.11	1.08
85	1.10	1.07
86	1.10	1.06
87	1.10	1.06

SOURCE: The Budget of the United States, Fiscal Year 1982 (the Carter Budget) Earnings inflator derived from changes in personal wages and salaries. Consumption inflator derived from CPI projections.