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Process and Net Impact Evaluations of the Focus:HOPE Adult Training Programs and Student Loan Fund

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Design Study

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by

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Introduction

This document proposes the design of a major study of the Focus:HOPE adult training programs and student loan fund and reviews the major activities that helped to shape that design. In March 2003, Focus:HOPE contracted with the Upjohn Institute to develop a study design. Over the past several months, Upjohn Institute staff have conducted site visits to the Focus:HOPE campus and to agencies in Southeastern Michigan to interview key training program and loan fund stakeholders, have developed a preliminary design and had it reviewed by the project advisory committee, have reviewed substantial literatures in the areas of student loans and program evaluation, have reviewed program data, and have conducted other activities aimed at developing a rigorous, defensible evaluation design.

In a nutshell, we have designed a quasi-experimental evaluation that will use comparisons of the labor market and other noneconomic outcomes of Focus:HOPE participants to the outcomes for similar individuals who do not participate as the basis for estimating the *net* impacts of Focus:HOPE adult education programming. An important element of the Focus:HOPE training intervention, which distinguishes it from most other training and education programs targeted on disadvantaged populations, is its student loan fund. The students who enroll are held responsible for tuition for their training program(s). At enrollment, they enter into loan contracts. A substantial portion of their repayments may come in the form of government grants-in-aid for which students may be eligible. The remainder of the loans must be repaid through small co-payments during the duration of the training and scheduled loan payments after program completion. In addition to estimating the impact that the training has on the earnings and economic circumstances of participants, the study will attempt to assess the viability of using unsecured loans to disadvantaged students as a means of financing needed skill training.

Program Description

In many ways, the education programs at Focus:HOPE for adults operate like course offerings at a postsecondary educational institution. A high school diploma or General Equivalency Degree (GED) is required for entrance.[1] Tuition is charged for each course. The Center for Advanced Technologies (CAT) awards academic degrees. Like some postsecondary institutions, Focus:HOPE offers its curriculum in an open-entry/open-exit (OE/OE) format. Like all postsecondary institutions, young adults enter with different abilities and skills. And like most postsecondary institutions, Focus:HOPE offers developmental courses to address basic skills deficiencies (First Step and Fast Track).

Of course, Focus:HOPE is unique and differs from other institutions in some major ways. First, the student body is comprised almost exclusively of economically or educationally disadvantaged young adults. Second, the curriculum is highly focused and fairly sequential. Students ideally proceed from First Step (optional, as needed) to Fast Track (optional, as needed) to

[1] Note that a few of the Focus:HOPE students are still in high school. These students will be omitted from the study.

either the Machinist Training Institute (MTI) or to the Information Technology Center (ITC). After completing the MTI program, students may proceed to the CAT. In the MTI, students move sequentially from Vestibule to Core 1 to Pre-Engineering (Core 2).

Thus, the "treatment" for this study is fairly well-defined—a sequence of developmental and applied courses in the areas of machining and information technology. An analytical problem that must be addressed in the study is that many students do not complete the full treatment, or they complete it on an intermittent, interrupted basis. In particular, some students do not complete the courses. In some cases, this is a good outcome because the students realize that they are not interested in a machining or IT career; in other cases, noncompletion is not good. The students do not have the initiative or motivation to succeed; or they encounter a substantial barrier in their personal lives that causes them to "stop out" or to "drop out." Another analytical complexity will be caused by students who repeat courses or who transfer between MTI and ITC.

Loan Fund Description

The Student Loan Fund is intended to be a revolving loan fund. Its goal is self-sustainability; meaning that over a year, the funds needed for new loans will be less than or equal to the funds received in repayments (including government payments). The fund has not achieved self-sustainability, and is experiencing, in fact, a high rate of default.[2]

The operation of the loan fund is not complex. When an applicant to Focus:HOPE has been assessed to have sufficient reading and mathematical skill levels to enter, they are counseled about placement into the appropriate program, tuition, and scheduling. The students complete a Federal student loan application (although the loan is not contingent on that information). If the student is under the age of 24 and meets all of the criteria to be deemed a dependent under U.S. Department of Education Title IV rules, they must have a co-signer for the loan.

The tuition charges for the training programs (as of this date) are as follows:

First Step (4 weeks)		$1,000
Fast Track (7 weeks)		1,700
Vestibule (5 weeks)		1,500
Core 1 (26 weeks)		7,750
Pre-Engineering (24 weeks)		4,000
ITC		
Initial Skills	500	
Basic Skills	1,700	
Network Inst.	6,000	
Network Admin.	9,000	
Desktop Supp.	8,000	

[2] There are indications that the default rates are declining over time.

The Center for Advanced Technologies (CAT) does not bear any tuition charge.

If the student drops out of their class within the add/drop period, there is no financial liability. If the student drops out after that point in time, there is a formula for the amount of tuition owed that increases the liability as a function of the amount of time that the student remained in the class. While students are in their training program, they are required to make a nominal co-pay of approximately $10 per week. The co-pay reduces principal. If the student is eligible for government aid (through Pell grants, for example), then Focus:HOPE invoices the appropriate agency and reduces the student's loan principal. After the program ends, loan repayments are deferred if the student enters another training program; otherwise repayments are expected to begin on the first day of the second month after the last day the student attends classes. The principal amount is the original loan minus any co-payments minus government invoices. This is referred to as the residual student responsibility. Monthly interest (5% annual rate) is charged on the unpaid balance starting the month after the last day of class. Late fees of $15/month and any collection costs are added to the principal and interest. When repayment is received, it is applied to late fees, interest, and principal reduction, in that order.

The monthly repayment amount is fixed depending on which course(s) the student was enrolled. The payment is currently $90 per month for the shorter duration courses (First Step, Fast Track, Vestibule, ITC Initial Skills, and ITC Basic Skills) and $140 for the remaining courses. The number of months in repayment is variable, depending on the amount of the student residual. In addition to deferments for taking the next level of courses, reductions in payment amounts of forgiveness of late fees may be granted for family, illness, or unemployment circumstances.

To give the reader a sense of the scope of the loan fund, note that in FY 2002 (October 2001 through September 2002), a total of about $4.4 million in loans were made. Government invoices (typically cover on the order of 30 percent of tuition charges) in FY2002 were $1.25 million. During the fiscal year, about $90,000 was received in co-payments, and the total increase in student responsibility was a little over $3.1 million.[3] At the beginning of the fiscal year, total residual student responsibility was $6.21 million, of which $3.54 million was in default (57.0% on a dollar basis; 56.5% on an exited student basis). At the end of the fiscal year, total residual student responsibility was $9.34 million, of which $3.63 million was in default (38.9% on a dollar basis; 45.2% on an exited student basis).

Evaluation Goals and Proposed Methodology

We have designed an evaluation study that will be conducted over a three-year period (10/03–09/06).[4] We refer to these as Year 1, Year 2, and Year 3. The study will have several components that, when completed, will accomplish the following evaluation goals:

[3]Ignoring administrative costs, this is the amount of gross repayments that would need to be received in a year to achieve self-sustainability.

[4]The evaluation would be completed in three years in the ideal situation. Data delays or analytical complications may cause the analyses to stretch to as long as five years. Nevertheless, we have crafted this document to present the best case scenario of a three year scope.

- **Goal 1:** Improved accessibility to and utility of a student record data system in order to facilitate program management

- **Goal 2:** Review and assessment of the operations and outcomes of the student loan fund

- **Goal 3:** Evaluation of the net impacts of the adult training programs on labor market experiences such as employment spells and earnings, and on non-economic, qualitative outcomes such as family behaviors (second generation effects), employability skills, and psycho-social outcomes such as indicators of locus of control and self-esteem.

- **Goal 4:** Estimation of the benefits-to-cost ratio or return on investment for the Focus:HOPE adult training programs

- **Goal 5:** Dissemination of the results through a monograph

- **Goal 6:** Build evaluation capacity at Focus:HOPE

In the development of a pharmaceutical, companies go through rigorous experimentation to determine efficacy and safety. In simplest terms, these companies will recruit a test population that has a range of characteristics and health conditions, and they will randomly assign a portion of the test population to the drug being tested (the treatment group). The remainder of the sample will get a placebo (the control group). After the drug regimen has been followed, the companies can compare the health status of the two groups and attribute any differences to the pharmaceutical being tested.

If it were feasible and ethical to do so, Focus:HOPE could follow a similar protocol. A heterogeneous population of young adults encounters Focus:HOPE. These individuals have a range of characteristics and skills. Focus:HOPE could give them a random number as they walk through the door, and serve only those whose random number was less than .50 (the treatment group) and deny services to the others (control group). An evaluator could follow both groups, and the differences in outcomes between the two groups would be the net impact of the Focus:HOPE treatment. Such a random assignment experiment would provide the most rigorous estimate of the value-added of Focus:HOPE training programs, and it would provide excellent statistical estimators that can be used in a benefit-cost/return on investment framework.

But the issue of experimental design is moot because Focus:HOPE has a commitment to and tradition of serving all who come to its door. So given that a random assignment experiment is not feasible, the next best alternative is a quasi-experiment in which training participants are compared to a group of similar individuals who do not participate.

Comparison Group. We feel that the best approach for constructing a comparison group, if it turns out to be feasible, will be to use applicants who take and "pass" the placement tests, but who do not participate in the training. The advantages of using these individuals as a comparison group

are severalfold. They are aware of the Focus:HOPE programs and interested enough in a potential career in machining or IT to complete an application and take the assessment tests. They are comparable to the participants in basic skills because we will only select those that "pass" the tests. The disadvantages are that this group of individuals may be difficult to reach and to get to participate in any evaluation. Furthermore, there may be systematic differences from the participants. The potential comparison group members chose not to participate in training for reasons such as they didn't have the motivation, they couldn't make appropriate arrangements, or because they didn't believe that it suited their needs/interests.

During the design study phase of the project, we met with Jim Aho, who has been conducting a "6-sigma" project investigating the reasons for applicant nonparticipation.[5] The upshot of this meeting was that using this comparison group would be appropriate on *potential* sample size grounds because the number of individuals who "pass" the basic skills tests but who don't end up attending classes is about 50 percent larger than the number of ultimate program participants. However, finding these individuals and gaining their cooperation may be difficult. The "6-sigma" project was only able to interview approximately one-third of the individuals.

Our back-up option would be to use the participants themselves as a comparison group, by comparing their economic circumstances pre- and post-program. Weaknesses of this approach would include the fact that the pre-program data would be self-reported and of questionable validity and the fact that other things will change about the participants than just their program participation (such as aging and gaining maturity), which will correlate with program outcomes.[6]

Outcomes. The mission of Focus:HOPE is essentially to dignify the humanity of every person, so it is difficult to justify an evaluation of training programs that assesses success or failure based on their economic outcomes. Nevertheless, as a practical matter, we believe that the human capital framework captures the motivation of the trainees. These young adults want to achieve a high enough economic payoff in terms of earnings and stable employment to justify the time and expenses that they are investing in training. An additional reason to focus on earnings and labor market success is that these outcomes are highly correlated with loan repayments, so highly positive outcomes not only payoff for the individual, but they also improve the viability of the loan fund.

We therefore suggest that the primary evaluation focus will be on labor market outcomes. These would include employment, training-relatedness of the employment, unemployment, labor force participation, hours worked, wage rates, earnings, non-wage benefits, job retention/turnover, promotion, and on-the-job training. Two sources of data will be used. Wage record data from the Michigan Bureau of Workers & Unemployment Compensation (BWUC) will be used to measure employment and earnings. Surveys of participants and comparison group members will be used to measure wage rates, non-wage benefits, promotions, and on-the-job training

[5] The impetus for the 6-sigma project is that by determining reasons for nonparticipation, it may be possible to overcome some of the barriers/reasons and increase the take-up rate, which would increase program revenues and effectiveness.

[6] Members of the project advisory committee had strong objections to this option, so it should be considered as a last resort.

Other outcomes of interest that will be studied include additional education/training, receipt of income assistance, credit worthiness, health status, family/relationship status, criminal/dangerous behaviors, asset ownership (cars, large-budget items), and psycho-social outcomes such as self-efficacy. These will be collected by self-report through surveys of participants and comparison group members.

Work Statement

The evaluation will be comprised of six studies. The kernel of the evaluation will be a longitudinal student data set, in Access, that will be constructed from documents, administrative records including wage records, and survey responses. The observations in the data set will be categorized into six cohorts, defined by the date of first enrollment and by whether the individual is a treatment or comparison group member as follows:

Treatment Cohorts	Comparison Cohorts
1. All students who started their initial FH class in FY 2002 (10/01–09/02)	1. All individuals who tested during the same time period as the treatment students (07/01—06/02) and scored at a level high enough to be enrolled, but didn't show up
2. All students who started their initial FH class in FY 2003 (10/02–09/03)	2. All individuals who tested during the same time period as the treatment students (07/02—06/03) and scored at a level high enough to be enrolled, but didn't show up
3. All students who start their initial FH class in FY 2004 (10/03–09/04)	3. All individuals who test during the same time period as the treatment students (07/03—06/04) and score at a level high enough to be enrolled, but don't show up

Study 1: Construction of Core Data Set

The evaluation data set will use individuals as the unit of observation. For each individual in the treatment cohorts, the data base will be populated with information from three time periods: Pre-enrollment, Focus:HOPE program participation, and post-training. The individuals in the comparison cohorts will have data from pre-encounter and post-encounter time periods. Some variables will be time-invariant, and others will need to be dated. Our preliminary thinking about the design of this data set is that we will err on the side of inclusiveness, i.e., we will include as many variables as possible; even if there is a high level of item nonresponse.

The data blocks that will be in the pre-enrollment (for treatment cohort members) and pre-encounter (for comparison cohort members) will include demographics, information about childhood family(ies), high school(s) experiences, post-secondary educational experiences prior to encountering Focus:HOPE, current family status and relationships, health/disability status, sources and amounts of income.

The Focus:HOPE participation data for treatment cohort members will include academic information about courses taken and graded outcomes, and loan fund information. The loan fund information will include application information, credit histories, student account balances, and repayment/deferral histories.

The data blocks in the post-training (post-encounter) periods will include employment-related information (occupation, wage rate, hours, availability of insurance, training, etc.), current family(ies) information, further education or training, health status, and sources and amounts of income. Table 1 provides a detailed list of the variables comprising these data blocks.

Schedule. The core data set will be dynamic. As the individuals' life circumstances change and as they progress through their training experiences, the data will need to be updated. The data set will be designed and constructed, and then will be updated as new data are obtained. Because of the dynamic nature of the data, the design will have to address the issue of dating or archiving. That is, for fields that need to be changed, we will need to maintain dates for which the change occurs. This can be done on a master file through a "time stamp" approach, in which events are dated, or this can be done through an archiving system, where the overall file is dated, but the individual records simply stay constant or change values.

Because the data base is a key foundation for the study, it is important to invest some time and resources into developing its design. This task will be one of listing all of the potential variables that are of analytical interest, and determining where and how the information can be gathered. Many of the variables will not be available in existing sources of information, and so we will draft surveys or interview forms that will collect them. The data base system design will be completed within the first three–four months of the study and will culminate in a document that presents the structure of the data base and the details about the variables that will comprise the data base.

Once the data base is designed and structured, we will use it as a repository for administrative and survey data as they become available. So actual populating the data base will be an ongoing task throughout the course of the study.

Table 1. Detailed Variable List

Time Period/Variable	Treatment	Comparison
Pre-encounter		
Education		
HS Diploma/GED	X	X
HS GPA	X	X
College Prep/General/Vocational	X	X
HS(s) attended	X	X
Any postsecondary training?	X	X
If yes, school(s)/program(s)	X	X
If yes, certificate?	X	X
Labor Market		
No. quarters w/earnings	X	X
Earnings	X	X
Employer industry/business	X	X
OJT	X	X
Reasons for separation	X	X
Demographics		
Birth date	X	X
Race/ethnicity	X	X
Gender	X	X
Citizenship	X	X
Family Background		
Majority of time: 2-parent, 1-parent, guardian	X	X
Siblings	X	X
Mobility (categories)	X	X
Parent(s)/Guardian education	X	X
Parent(s)/Guardian occupation	X	X
Parent(s)/Guardian income	X	X
No. in household/total household income	X	X
Current Family/Living Arrangements		
Spouse/significant other	X	X
Own children	X	X
Mobility	X	X
Education skills		
FH (TABE) Test Scores	X	X
Credit Circumstances		
Assets	X	
Income	X	
Credit score	X	

Table 1. (Continued)

Time Period/Variable	Treatment	Comparison
Focus:HOPE Experience		
Courses	X	
Attendance	X	
Grades	X	
Completion/noncompletion	X	
Seriousness (self-reported)	X	
Seriousness (teacher reported)	X	
Co-pay experience	X	
Reasons for non-participation		X
Other education/training		X
Post-training (post-encounter for comparison)		
Labor Market		
No. quarters w/earnings	X	X
Earnings	X	X
Industry/type of business	X	X
OJT	X	X
Promotion	X	X
Turnover	X	X
Reasons for separation	X	X
Fringe benefits/insurance	X	X
Social insurance/income support		
TANF receipt	X	X
Food Stamps receipt	X	X
Medicaid enrollment	X	X
UI benefits	X	X
Health		
Health status (self-reported)	X	X
Socio-psychological		
Self-efficiency	X	X
Credit-worthiness		
Asset ownership	X	
Debt	X	
Self-report	X	
Career aspirations	X	X

Study 2: Use of the Core Data Set for Program Management

The major purpose of the core data set will be analyses. However, it may be the case that it can be used for program management purposes. During the design phase of the project, we have interviewed the training department directors, who have consistently indicated that getting more student information accessed in an easier and integrated way is an important programmatic need. Focus:HOPE is investing in a new student record information system, so many of these issues may be resolved in the next several months as that system comes on line.

Nevertheless, it will be important to re-interview these folks during the data base design task to get a sense of what monthly reports could be generated to help them administer their departments.

Schedule and deliverables. As noted above, the core data base design will be completed within the first three–four months of the contract. The interviews with the program managers will be completed during this time frame. During the life of the contract, we will automatically generate reports for the program managers on a monthly basis.

Study 3: Review/Assessment of Student Loan Fund Operations and Results

Analysis of the loan fund and its impact on the Focus:HOPE programs is an important part of the proposed study, but it is separate from the quasi-experimental evaluation. The focus of the analyses will be on the repayment behavior of program participants, ***not*** comparing them to members of the comparison group cohorts. The status of the loan fund is that it is fully operational and is allowing Focus:HOPE to extend training services to a broader audience of students. But it is experiencing high default rates and is far from self-sustaining. The purposes of our examination of the loan fund will be to review carefully the processes and policies to see if there are ways to enhance its fiscal viability and to determine whether the existence of the loan fund is affecting the number of or characteristics of training program participants.

There seems to be two potential approaches to this study.[7] The first approach may be described as ***pragmatic***. It suggests that the loan fund is losing a serious amount of money and that there are actions that can and should be adopted immediately to ameliorate the situation. These actions include denying loans to individuals who falsify information on their application, requiring noncreditworthy individuals to have a co-signer, increasing the co-pays, and mandating credit/budget counseling.

The second approach is more ***analytic.*** This approach suggests that Focus:HOPE would benefit from more fact-finding and analyses before it alters the loan fund. This is our preferred approach. In it, we propose a series of four substudies as follows:

- Substudy 3.1: Loan Fund Financial Self-Sustainability
- Substudy 3.2: Analyses of Who Repays

[7] There may be compromises that combine features of both approaches.

- Substudy 3.3: Impact of Loan Fund on Participation
- Substudy 3.4: Administrative Recommendations

Each of these will be described in turn.

Substudy 3.1: Loan Fund Financial Self-Sustainability The Loan Fund was designed in 1995 and first implemented in July 1998. The purpose of this substudy is to build a computer simulation of the loan fund and to analyze the impacts of various potential policies on self-sustainability. In simplest terms, each year the Loan Fund tenders student loans equal to the total face value of the tuition charges for the year. Some students drop their courses and receive full or partial credit, so the aggregate level of loans is reduced to a figure denoted Earned Tuition (ET). Governmental and private support is received for about one-third of the earned tuition. The remainder of the ET is Student Responsibility (SR), which is scheduled to be repaid partially while the student is in the program (co-pays), and partially after the student has completed their last class at Focus:HOPE.

In order for the loan fund to be self-sustaining, the amount that it loans out in a year must be less than the amount it receives in repayments. If loans exceed receipts, there is a cash flow gap. Many variables affect this cash flow gap such as number of students who enroll, repayment schedules, government support, number of students in repayment and in deferral, and so forth. This substudy will develop an accounting model that will simulate the influence of each of these factors on the Loan Fund.

Substudy 3.2: Analyses of Who Repays. The financial viability of the loan fund is an important operational issue for Focus:HOPE, but also we need to recognize that one of the reasons that the loan fund was instituted was to give the participants the opportunity to develop (or improve) their creditworthiness. Thus this substudy invests project resources into efforts to explain and to increase the rates and levels of student repayments. A two-pronged approach is suggested. In the first year, we will conduct preliminary analyses. We will examine historical data since the inception of the loan fund to examine who pays and how much. For example, we will examine explanators such as presence of a co-signer, previous loan payment defaults, falsification on the application, or credit score. Also during the first year, we will do limited testing of credit criteria used to determine the risk associated with each student. Finally, in the first year, we will undertake a number of informal interviews or focus groups with participants and staff to address some of the repayment variables.

The second prong of this substudy will comprise a more rigorous analysis of the substantial share of students who have paid or are paying on their loans. We will use quantitative data from the data base to estimate (via probit or logit) who repays their loans. The dependent variables of interest include a discrete 0–1 variable for "in repayment (=1) or not (=0)" and a continuous variable, percentage repaid. With a "spike" at 0.0 repaid, the appropriate econometric estimation technique is Tobit. The independent variables would include borrower characteristics such as credit history, educational experiences, sources of family income, and so forth. To the extent that these statistical models can be estimated, we can generate reliable predictors of repayment. In the second year of the

project, we will continue to collect qualitative data from students and loan administrators to supplement the quantitative analyses.

Substudy 3.3: Impact of Loan Fund on Participation. Perhaps the most important question concerning the loan fund is the extent to which it affects the participants in the training programs. Are there groups of individuals who are not enrolling because of the loans? If the loan fund is constraining the training or participant population, then major restructuring should be considered. This study will necessarily rely on qualitative data that are collected by interviews of staff and training program participants. If possible, we will also contact prior participants and individuals who apply and are tested prior to entrance, but who decide not to attend, to garner their opinions.

Substudy 3.4: Administrative Recommendations The last substudy will involve a thorough review of the processes that are followed under the current Loan Fund operational model with an eye toward improving the effectiveness of those procedures. The task will involve examination of policy parameters such as interest rates and repayment terms, as well as "nuts and bolts" items such as software, document management, data integration, hardware, and credit checks. As part of this substudy, we will design and implement at least one administrative "experiment" in the first year. For example, we may devise a "loan application counseling" intervention. This intervention would involve having Focus:HOPE staff review carefully a student's loan application and also review with the applicant his/her credit history. Our experiment would be to randomly select students to receive this intervention and then compare co-pay and repayment outcomes to the other students who follow the status quo procedures.

Schedule. The first substudy does not depend on the individual student data and can build on the existing accounting software, so we should be able to complete that model-building substudy during the first year of the project. The preliminary analyses that we have proposed in substudy 3.2, i.e., analysis of historical data, limited testing of credit criteria, and qualitative data collection, will also be done in the first year. The rigorous statistical analyses proposed in substudies 3.2 and 3.3 depend on accessiblility to the core student data base, and so they can proceed only after the data base has been completed. We have planned for them to be part of the second year's scope. The last substudy will proceed over the first two years of the study.

Study 4: Net Impact Evaluation

Approach. The gist of the net impact analyses will be to determine the difference in outcomes between individuals who received Focus:HOPE training and the comparison group members. Because individuals were not randomly assigned to be in the participant group or in the comparison group, there may be systematic (nonrandom) differences between them. The statistical estimators used to calculate the net impact analyses must attempt to control for those differences in order to get an unbiased estimate of the training's net impact.

Let *T* (for treatment) denote the data for the individuals who participated in the Focus:HOPE training, and let *C* (for comparison group) denote the comparison group that will be used in the net impact analyses. There are many potential estimators that have different properties and that make

different assumptions about the data. Let us start the discussion with simple (unconditional) differences in outcome means. This nonparametric approach suggests that the net impact can be estimated by the differences in average outcomes for each individual in *T* and *C*. Suppose that average quarterly earnings is one of the outcome variables of interest. Then the net impact per participant would be estimated as follows for each cohort:

$$(1) \qquad Y = \sum_i \frac{ET_i}{n_T} - \sum_j \frac{EC_j}{n_C}$$

where ET_i = the average quarterly earnings (adjusted to constant $) after exiting training for the *i*th individual

EC_j = the average quarterly earnings (adjusted to constant $) for the jth individual in the comparison group*j*

n_T, n_C = the number of individuals in training and in the comparison groups, respectively

This estimate of the program's net impact may be biased if there are systematic differences between the comparison group and the training group in terms of pre-program levels of earnings. For example, suppose that only the individuals who had suffered long stretches of unemployment or very low earnings chose to participate in the training. Then the unconditional difference in means may overestimate program impact. A second approach would be to estimate difference-in-differences in (unconditional) means. That is, we can estimate the program's net impact as follows:

$$(2) \qquad Y = \sum_i \frac{(ETPOST_i - ETPRE_i)}{n_T} - \sum_j \frac{(ECPOST_j - ECPRE_j)}{n_C}$$

where, $ECPRE_j$, $ETPRE_i$ = average quarterly earnings of the i,*j*th individuals prior to encountering Focus:HOPE

$ECPOST_j$, $ETPOST_i$ = average quarterly earnings of the i,*j*th individuals after participating or encountering Focus:HOPE

This is again a nonparametric approach that makes few assumptions about the data or earnings mechanisms. The estimator in (2) obviously relies on longitudinal data for the outcome variables of interest. For youth training programs, we may not have reasonable pre-program data, and so the difference-in-differences estimator (2) may not be feasible.

The difference in means approaches in equations (1) and (2) assume that there are no systematic differences between the treatment and comparison sets of individuals. This is a strong assumption, since there are probably systematic differences. Consequently, we may wish to estimate regression-adjusted differences in means. This parametric approach assumes that we can use

observed variables to control for differences between the observations. A very simple regression model is displayed in the following equation:

$$(3) \qquad Y_j = a + B' X_j + c T_j + u_j$$

where, Y_j = outcome for individual *j* such as $ETPOST_j$, or $ECPOST_j$
X_j = vector of variables describing individual *j* that are thought to be correlated to the outcome Y_j
T_j = 1 if individual *j* is in the treatment sample and 0 if not
u_j = error term, usually assumed to have a mean of 0 and standard deviation of 1.

The parameter estimate c would be the net impact of participation in the training program(s). Equation (3) can be estimated for outcomes when there is no longitudinal pre-program observations. If we can obtain appropriate pre-program data, then we would make (3) slightly more general, as in (3').

$$(3') \qquad Y_j = a + B' X_j + C'\left(X_j * Post\right) + dT_j + e\left(T_j * Post\right) + u_j$$

where, *Post* = 1 for quarters of data that occur after individual *j* has left; 0 otherwise. This specification has a fixed effect for program participation, i.e. *d*, and the per participant net impact estimator is *e*. Another advantage to specification (3') is that we can use pre- and post-changes in the outcomes as dependent variables. That is, the Y_j could equal ($ETPOST_j - ETPRE_j$) or ($ECPOST_j - ECPRE_j$).

We will use the general framework laid out in equations (1) – (3') to analyze labor market-related outcomes and other outcomes. The labor market-related outcomes will be measured by available UI wage records following exit or placement and from personal surveys. The other outcomes will be derived from administrative records and personal surveys.

Sample sizes and Data Collection Plan. We estimate that each of the treatment cohorts will have a total population of 720 students (inflow of 60 students per month). Based on the "6-sigma" project, which found a nonenrolled-to-enrolled ratio of about 3:2, we estimate that each of the comparison group cohorts will have a universe of 1,000 individuals. We will be making quarterly requests for wage record data from the Michigan BWUC, and for purposes of planning, we have assumed a 75 percent match rate for participants and a 60 percent match rate for the comparison groups.[8]

Table 2 gives us wage record requests and expected matches for the first year of the project, by cohort.

[8] We assume a lower match rate for comparison students for two reasons: (1) we suspect that Focus:HOPE training will result in a higher employment rate, and (2) we will have more difficulty tracking down non-matches that may occur due to misspellings or typo's or due to use of different versions of first names.

Table 2. Wage Record Requests and Matches in First Year, by Cohort

Cohort	Population		Nov. '03	Feb. '04	May '04	Aug. '04	TOTAL
Cohort 1	Treatment	Requests	720	720	720	720	2,880
		Matches	540	540	540	540	2,160
	Comparison	Requests	1,000	1,000	1,000	1,000	4,000
		Matches	600	600	600	600	2,400
Cohort 2	Treatment	Requests	720	720	720	720	2,880
		Matches	540	540	540	540	2,160
	Comparison	Requests	1,000	1,000	1,000	1,000	4,000
		Matches	600	600	600	600	2,400
Cohort 3	Treatment	Requests				540	540
		Matches				405	405
	Comparison	Requests				750	750
		Matches				450	450
TOTAL		Requests	3,440	3,440	3,440	4,730	15,050
		Matches	2,280	2,280	2,280	3,135	9,975

In order to get the self-reported data that will be used for regression-adjusting the outcomes and for outcomes other than employment or earnings, we will conduct semi-annual surveys of the treatment and comparison group members. We suggest that these surveys will be conducted in January and July. The universes for the surveys will be 720 treatment cases per cohort and 1,000 comparison group members per cohort. We have assumed a response rate of 50 percent for the treatment group from the first cohort and a 10 percent response rate for the comparison group. We have assumed a 60 percent response rate from the treatment group in the second and third cohorts (more likely to be current students) and a 30 percent response rate from the comparison groups. These assumptions give us the sample sizes in table 3.

Schedule. Wage record data are usually available with a six-month lag. For purposes of planning, assume that most Focus:HOPE trainees complete their formal training in 12–18 months. That means that treatment participants in cohort 1 entered Focus:HOPE between October 2001 and September 2002, and by assumption would have taken their last course between September 2002 and

Table 3. Survey Response in First Year, by Cohort

Cohort	Population		Jan. '04	Jul. '04	TOTAL
Cohort 1	Treatment	Universe	720	720	1,440
		Completions	360	360	720
	Comparison	Universe	1,000	1,000	2,000
		Completions	100	100	200
Cohort 2	Treatment	Universe	720	720	1,440
		Completions	432	432	864
	Comparison	Universe	1,000	1,000	2,000
		Completions	300	300	600
Cohort 3	Treatment	Universe		540	540
		Completions		324	324
	Comparison	Universe		750	750
		Completions		235	235
TOTAL		Universe	3,440	4,730	8,170
		Completions	1,192	1,751	2,943

March 2003. By the beginning of year 2 of the study, wage record data through calendar 2003 will be available, and so we will be able to examine outcomes for the first year after training for that cohort during the second year of the study. Additionally, we will examine non-labor market variables such as mobility, health status, family status, asset ownership, and so forth for the first two cohorts during year 2.

In year 3, we will examine labor market-related outcomes for the first two cohorts and non-labor market-related outcomes for all three cohorts.

Study 5: Return on Investment/Benefit-Cost Ratio

The essential task of a benefit-cost analysis (BCA) is to measure the benefits and costs of an action, place weights on each, and arrive at a conclusion as to the net benefits of the action. To conduct a BCA, it is necessary to measure the outcome (benefits) and benefits in a common unit, usually dollars. Note that the benefits and costs may differ depending on the decisionmaking groups whose interests are affected by the action. In considering whether the Focus:HOPE programs are cost beneficial, four groups should be considered: the program participants, employers, government, and the rest of society.

Table 4 presents the components of a full BCA for Focus:HOPE's training programs. The final row of the table represents the net benefits to each of the parties and is derived by summing the columns. The final column of the table represents the total net benefits in society and is derived by

summing across the rows. The entries in the table represent the expected costs (–) or benefits (+) to the group.

Table 4. Benefit-Cost Framework

Benefit or Cost	Trainees	Employers	Government	Rest of Society	All
1. Training Cost	–	0	–	–	–
2. Higher earnings	+	–	0	0/+	0/+
3. Fringe benefits	+	–	+	+	+
4. Increased productivity	0	+	0	+	+
5. Less unemployment	–	0	+	+	0
6. Lower turnover	+	+	0	0	+
7. Lower income maintenance transfer	–	0	+	+	0
8. Higher taxes	–	–	+	+	0
9. Net benefits	+	+	+	+	+

Training costs are in the first row. Participants must pay tuition and fees, and forego earnings while they are participating in the training. The government bears some costs for the training. For example, Pell grants or WIA training vouchers may pay for the classroom training. The rest of society pays for training to the extent it is subsidized by taxpayers.

Rows 2–8 of the table represent potential benefits from the training. Because individuals are trained, they become more productive workers, have less unemployment and job turnover, and need fewer social supports. In rows 2 and 3, we show that trainees benefit by earning more and also receiving higher fringe benefits. The entry in the 2nd row for participants will be estimated in the net impact analysis. Employers pay this compensation, so it is a cost to them. The rest of society benefits indirectly because trainees will spend their increased earnings in the economy. In row 3, we posit that concomitant with increases in compensation will be increases in fringe benefits, specifically health insurance. The insurance is a benefit to the worker and a cost to the employer. The government and the rest of society will benefit to the extent there are lower Medicaid enrollments and to the extent that "sticker prices" for insured patients are reduced because there are fewer uninsured or Medicaid-covered individuals. Row 4 shows that employers benefit (and are willing to pay higher wages) because the participants are more productive. Society benefits because of the increased availability of goods and services.

After participation in the Focus:HOPE programs, we would hypothesize that the trainees would suffer less unemployment and job turnover. The 5th row of the table shows that less unemployment is actually a cost to the participants because of loss of unemployment benefits and loss of leisure time. The reduction in unemployment benefits is a "+" for the government and taxpayers, however. Lower turnover (row 6) is a benefit to participants and to employers. Participants will have lower job search time and costs; and employers will have lower recruitment and hiring costs.

In the 7th row, we indicate that participating in the training may end up reducing income maintenance transfers for trainees. This is a cost to them and an offsetting benefit to the government and taxpayers. Finally, in the eighth row, we show that the increased earnings will result in higher payroll and income taxes. This is a cost for the trainees and employers (payroll taxes) and an offsetting benefit to the government and taxpayers.

The bottom row of the table shows that net benefits are expected to be positive for all parties. For trainees, the increase in earnings and fringe benefits will outweigh any reductions in income maintenance program benefits and increased taxes. For employers, the increase in productivity and reduced turnover costs will outweigh the increased compensation costs. For the government and the rest of society, we expect that increased taxes and reduced transfers will offset any training subsidies that are provided to the Focus:HOPE students.

The rate of return for the Focus:HOPE training will come directly from the BCA. Rate of return is precisely the ratio of benefits-to-costs minus 1. So, assuming that we are able to get defensible estimates for the entries in table 1, we can calculate rates of return for each column.

Schedule. The benefit-cost analyses and rate of return estimates will be derived after the net impact estimates are calculated. That is, they are unlikely to be meaningfully estimated until the last few months of Year 3.

Study 6: Manuscript, Dissemination, and Capacity Building

The last study to be accomplished will be the preparation of a manuscript that tells the Focus:HOPE training and Loan Fund story. We will prepare a draft of this manuscript during the third year of the study. We anticipate having it peer-reviewed and published by the Upjohn Institute. Then it would be marketed and disseminated through their publication marketing and distribution network. Additionally, chapters would be available on the Upjohn Institute website.

As we proceed with the study, we will be carefully documenting all of the procedures and data collection modalities. To the extent that they are interested, we will train staff from Focus:HOPE to be able to replicate and continue the analyses undertaken.

Workplan

Figure 1 provides a schematic diagram of the flow of work over the three-year period. (As noted in footnote 4, the project may actually stretch out over five years if there are data or other delays.) In year 1, we would focus to a large extent on the development of the analytical database. The first few months would be in design phase, and then we would populate the data base with individual's data. Also in year 1, we would develop the simulation model described in substudy 3.1 and would do the preliminary analyses described in substudy 3.2. The net impact analysis task would focus mainly on recruitment of the comparison group(s) and on development of the data

Figure 1
Year-by-Year Scope of Work

Year 1	Year 2	Year 3
Database development ➢ Design includes mgmt reports ➢ Construction includes WR data	Enter data	Enter data
Loan Fund Substudy 3.1 Accounting model		Loan Fund — Analyses of changes
Loan Fund Substudy 3.2 ⟶ Historical data analyses	Loan Fund Substudy 3.2 Probit analysis	
	Loan Fund Substudy 3.3 Interaction study	
Loan Fund Substudy 3.4 ⟶ Loan Fund process review and assessment Administrative experiment	Loan Fund Substudy 3.4	
Net Impact ➢ Recruit comparison group ➢ Develop surveys	Net Impact Labor-market (Cohort 1) Non-economic (Cohorts 1-2)	Net Impact Labor-market (Cohorts 1-2) Non-economic (All)
— —	— —	Benefit-Cost/Return on Investment
Focus groups/class observation	Focus groups/class observation	Focus groups/class observation
— —	Monograph outline/plan	Monograph development

collection instruments. Finally, in the first year, we would be conducting monthly site visits to collect qualitative data.

In year 2, the emphasis would switch from database development to initiation of the quantitative analyses. The loan fund analyses tasks would involve econometric (probit) analyses of repayment and the qualitative analysis of the interaction of the loan fund with program participation. The net impact analyses would commence by examining labor market outcomes for the 1st cohort and non-economic outcomes for the first two cohorts. We would continue the monthly site visits, and we would begin to plan the study monograph.

In the final year, we would complete the loan fund and net impact analyses. We would convert the net impact results into benefit-cost and rate of return calculations. Toward the end of the third year, we would draft the monograph and develop a dissemination plan.

Design Report Activities

This penultimate section of the report documents the activities that Upjohn Institute staff undertook during the design phase of the study. The section describes the activities that were undertaken and indicates how these activities influenced the study design that is being proposed.

Site visits. Staff conducted three visits to the Focus:HOPE campus during the design phase of the study. We interviewed/conversed with the following individuals:

Ken Kudek, Assistant Director, Education
Julian Pate, Director, Education Programs
JoannaWoods, Manager, CAT
Brian Meriweather, Manager, MTI
Linda Hanks, Manager, ITC
Thomas Murphy, Manager, First Step and Fast Track
Martha Schultz, Director, Finance
Mari Hadley, Business Manager
Pamela Givant, Supervisor, Repayments

The site visits were, of course, extremely important for developing the study design. Touring the facility helped to gain an understanding of the training programs, and such factors as enrollment sizes, equipment, and class schedules. Conversations with the staff in the Repayments and Placement Office were invaluable for understanding the loan fund processes. The program managers' concerns about accessibility of consistent student information led to the notion of expanding the utility of the data base to include report functions. In short, it would have been impossible to design the study without having talked to these individuals.

In addition to site visits to the Focus:HOPE campus, we also visited GreenPath, which is a credit counseling agency in Southeast Michigan, and Shermeta, Chimko, & Adams, PC which is a law firm that is undertaking collections for Focus:HOPE loan defaults. The staff at GreenPath were very gracious in sharing with us highlights of their counseling/budgeting approaches and suggesting

variables for the study. At Shermeta, we toured their collections operation, and got a sense of their collections philosophy.

Six Sigma Project. Early in the design phase, we determined that an appropriate comparison group would be comprised of individuals who applied and were tested, but who did not enroll. Major questions were the size of this group (would it be large enough to be statistically valid?) and how easy it would be to gain access to these individuals. A fortunate coincidence was that Jim Aho was conducting his six sigma project to follow up on individuals who qualified for Fast Track, but did not enroll. We interviewed Jim to get details about how many individuals might comprise the comparison groups and to learn from his experiences in trying to interview them.

Literature Review. Upjohn Institute staff were well-versed in training program expertise (and have actually contributed significantly to that literature), but needed to "get up to speed" on student loan issues. Consequently, we reviewed a substantial literature in that area.[9] The specific documents that were reviewed are listed in the Appendix to this report. In fact, we reviewed literature in five areas: (i) training program evaluation, (ii) background documents on Focus:HOPE training programs and loan fund, (iii) postsecondary student loans, (iv) financial aid at historically Black colleges and universities, and (v) microenterprise loan funds.

The following paragraphs summarize how this literature affected the study design. (i) First, in the area of **training program evaluation**, we reviewed an article suggested to us by a member of the advisory committee. Leuven and Oosterbeek (2002) describe a new twist on training program evaluation that they claim is superior to quasi-experimentation. They had a data set that provided reasons for not participating in a training program given application to the program, and they classified the reasons as essentially random or non-random. The authors argued that using the individuals who did not participate because of a random event were a much better comparison group than all nonparticipants. They more closely emulated a true random assignment control group. Indeed, the estimated impacts of the training were quite different depending on which group was used as the comparison group. The implication of this article is that we should query the comparison group members about the reasons for their nonparticipation, and perform a subgroup analysis using only individuals whose reason(s) for nonparticipation were essentially random.

(ii) The **background documents about Focus:HOPE** were helpful in developing the evaluation design. Kudek, Ferguson, and Sase (2003) provided considerable data about the overall condition of the loan fund and its operation. Note that this report had the following specific recommendations about loan fund changes:

- extend co-pays to all Focus:HOPE programs
- increase tuitions to include co-pay obligations
- invest in software for the Focus:HOPE collections unit

[9] We also interviewed the Director of Financial Aid at a local liberal arts college in Kalamazoo to get advice about potential sources of literature and web sites.

Sase (1994) analyzed MTI graduation determinants through a probit analysis. In specification testing, he determined that the most parsimonious model included family income prior to enrollment, lathes unit grade, highest grade completed prior to enrollment, and attendance.[10] Interestingly, previous OJT, race, gender, Bennett mechanical competency, and recipient of a DSS program grant dropped out of the models during the specification testing suggesting that they were not strong explanators of graduation.

Focus:HOPE Research Department (n.d.) followed up the graduation analyses just described with an roi (or cost/benefit) analysis. This paper has a framework and empirical strategies that will be useful in the proposed cost/benefit study.

(iii) In reviewing the **literature on student loans** (Dynarski 1994; Volkwein and Szelest 1995; Gladieux and Hauptman 1995; Flint 1997; Volkwein et al. 1998; Monteverde 2000; Christman 2000; Woo 2002; Steiner and Teszler 2003; Texas Guaranteed 2003), we mainly focused on studies that econometrically estimated loan repayment behavior. That is, we looked for studies where the author(s) had individual-level data and attempted to estimate statistically models of who repaid (or defaulted). A consistent finding throughout this literature is that individual characteristics are much more important in explaining default behavior than are institutional characteristics. In other words, if one institution has a higher default rate than another, it is most likely because of the characteristics of the students—not the policies or practices of the institution.

So what are the individual-level characteristics associated with default? After reading this literature, we suggest that they fit into three categories: pre-loan characteristics, program performance, and post-program circumstances. Most of the literature focuses on post-program circumstances because it takes time for a default to occur and by that time, the data collector or researcher has observed the individuals' characteristics. This may be best analytically, but from the point of view that we want to predict default/repayment, it is of little value. The post-program characteristics that are correlated with defaults are low family income, filing for unemployment benefits, being a single parent, low wages/earnings, having dependent children, and age. The latter factor (being older increases the probability of default) was the only surprise among the group. And, in fact, it contradicts anecdotal evidence from the Focus:HOPE loan staff. The explanation given in the literature is that older students have weakened ties to their families and therefore are less likely to be able to tap into family resources for repayment purposes.

Many studies indicated that students' poor effort or performance while in their educational programs are strong indicators of default. In particular, the following variables are predictive of default: noncompletion of program or degree, number of courses failed, low GPA, and low attendance. An idea that came out of the literature that may be exportable to Focus:HOPE is provision of extra counseling when certain (negative) thresholds are reached. For example, if grades or attendance dropped below some level, then students would have to participate in mandatory budgeting or credit counseling. Christman (2000) was the only study reviewed that had qualitative evidence. She interviewed students in and not in default to ask for their perceptions about why

[10] Note that in the summaries below, attendance is also a strong correlate of loan repayment.

students default on their loans. The key determinants were bad attitude, ignorance about repayment terms and conditions, dissatisfaction with the institution, and misperceptions of the consequences of defaulting.

A number of the studies looked at background (pre-loan) characteristics of students to analyze correlates of default. The studies identified the following: low family income, male, not having a high school diploma, ACT < 16, having a GED, and family size. Two credit history characteristics were found to correlate; neither result being very surprising.. First, a prior default was found to be correlated with a student loan default. Second, Monteverde (2001) found that a student's credit score was (inversely) related to default. He used TransUnion's Empirica service and found that these scores were predictive of default. Woo (2002) found that 3/4ths of defaults went into default with the first three years of repayment.

Note that race (minority status) has not been consistently shown to be correlated with defaults. Knapp and Seaks (1992) found it to be correlated, but Steiner and Teszler (Texas Guaranteed 2003) did not.

(iv) A number of articles have looked at **student loan results at Historically Black Colleges and Universities** (HBCU's) because there was some concern that if the federal government "tightened" regulations, then these institutions would be hurt the most, given the relatively low-income status of their students (see Blakey 2000). The GAO (1998) says

> HBCU's have enrolled a higher percentage of freshmen who, compared with their peers at all institutions, are less prepared academically and come from more disadvantaged socioeconomic backgrounds...Students at HBCU's were twice as likely to come from a home where parents were divorced or separated, and their parents generally had lower education and income levels than parents of students at all colleges and universities. When the analysis is narrowed to only HBCU's the same pattern is found: In general, HBCU's with lower default rates enrolled students with more academic preparation and higher socioeconomic levels. (pp. 2–3)

An article that is often referenced in this literature is Galloway and Swail (1999). They analyzed the default rates at the HBCU's and found that student retention was the key factor to reducing default rates. They examined various institutional strategies intended to increase retention, which they lumped into five categories: (1) stiffer admissions criteria, (2) more proactive academic advising, (3) improved instruction (more one-on-one and practical instruction), (4) additional financial aid resources, and (5) enhanced student services, such as dormitory improvements and student counseling. Of these five strategies, this study found that instructional improvements and additional financial aid resources were the only strategies to be effective. Interestingly, stiffer entrance criteria and more proactive academic counseling were not effective in improving retention or decreasing default rates.

The last type of literature that we reviewed was on (v) **microenterprises**. Microenterprise loans are a form of economic development used mainly in developing countries. Individuals are

provided small loans, which are generally not collateralized, to start businesses. The most successful of these are programs using the Grameen Bank (see Yunus 1999), a program targeted on women loan recipients. This program is successful because prior loan recipients control loan approval and do not lend until sufficient repayments have been made. Programs in U.S. inner cities were reviewed by Servon (1997). In general, we found that while these loans were technically unsecured loans, their relevance to the Focus:HOPE student loans was not immediate. Principals were smaller, and some sources of collateral were used (office machines, inventories, etc.)

Consultations with Government Lenders. Recognizing that some government programs involve educational or other types of loans to disadvantaged populations, we contacted a few agencies to learn of their experiences and advice. We decided not to contact the Department of Housing and Urban Development because their loans are secured by real property.

We contacted the Michigan Higher Education Authority, and learned that they have data files with information on the demographics of loan recipients. They thought that it would be feasible, but expensive, to draw a comparison group that would match the demographic characteristics of Focus:HOPE clients. We have not pursued this option given the preferred design of using nonattending Focus:HOPE applicants as the comparison group.

We contacted the Michigan Department of Treasury and the U.S. Department of Education regarding the "lender of last resort" (LLR) program. The purpose of the LLR program is to serve students who are eligible for a subsidized Stafford loan, but has been rejected by at least two lending institutions. The student then contacts the State Guarantee agency, who designates for the student an LLR. According to staff, being willing to be a lender of last resort is an obligation of lending institutions that want to participate in the Stafford program, and institutions are "randomly" assigned by the State. Similar to the Michigan Higher Education Agency, the U.S. DOE offered to investigate the feasibility and cost of "pulling" a cohort of comparison records. However, we again decided that we had a better option.

Review and Refinement of Evaluation Design. Perhaps the largest share of time and effort in the design study went into development and review of the study design. This report represents a third draft of the design. We did a first draft and shared it with the advisory committee in April. Members of the committee made a number of very useful comments and questions, which led to a second draft That draft was reviewed by Focus:HOPE staff, and was submitted to Ford in support of Year 1 funding. Based on further site visits, another review by the Project Advisory Committee, and findings from the literature review, this draft was completed.

Interaction with the Michigan Bureau of Workers & Unemployment Compensation. The last activity to be described here is interaction with the Michigan Bureau of Workers & Unemployment Compensation (BWUC). Ken Kudek and Upjohn Institute staff have been in negotiations to purchase the wage record data that are required for the evaluation study. A draft contract has been drafted, and it appears as though there will be no problems in getting the data.

Year 1 Budget

The budget for the first year of the project follows:

Personnel			$129,778
Hollenbeck, Prin. Invest.	600 hours	$42,442	
Analyst (Loan Fund model)	1,000 hours	45,000	
Research Analyst (Database)	900 hours	27,000	
Clerical	400 hours	10,336	
Fringe Benefits (0.35 of personnel)			45,422
Overhead (0.10 of personnel plus fringes)			17,500
Direct Costs			
Data acquisition			30,000
Computer time, storage			6,000
Travel			5,000
Supplies, telephone, report preparation			5,000
Consultants (tbd)			5,000
TOTAL COST			**$243,700**

Appendix

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