

SAMPLE CASE ANALYSIS

This document consists of two parts: (1) a case study similar to those you will be discussing in class and analyzing in writing this semester, and (2) a sample case analysis. Its purpose is to assist you in satisfactorily completing the case analysis requirement of the course.

The sample case analysis is not perfect but its content and organization would likely earn an “A.” It exemplifies one way of analyzing a case that is clear, concise, and well-argued. There are other ways that are just as effective so this case analysis should not be viewed as the model to which your own analysis must conform. Use it as a stimulus rather than as a straitjacket.

CASE: THE JOB CORPS

In September 1966 a staff member of the Office of Research, Plans, Programs, and Evaluation (RPP&E) within the Office of Economic Opportunity (OEO) published a staff paper entitled “A Framework for the Evaluation of Training Programs.” Mr. Timothy O’Brien, an analyst in RPP&E, had been asked to decide if the method suggested in the paper might help RPP&E evaluate the Job Corps, one of OEO’s manpower training programs.

The author’s approach was to ascertain the current and projected costs of the different programs, their enrollee characteristics, and their expected yearly earnings flows, and then to calculate how much those flows would need to be altered, under differing circumstances, to justify the costs of the various programs.

The paper began with a discussion of the proper costs and benefits to be considered:

There has been considerable discussion about which costs and benefits ought to be included in evaluating a particular training program. An economist would include only the *real resources* expended and gained, omitting any transfer-type expenditures or savings due to the program. However, a bureaucrat administering a single-program budget would be tempted to include all *financial* costs, since any expenditures avoided in other sectors as a result of the program would not be added to his or her program’s budget.

Because this paper is written from a multiagency viewpoint, it will include only real resources, which means that all trainee remuneration is considered to be a transfer, not a direct cost, and no estimate of reduced transfer payments is made in computing benefits. It also implies that an opportunity cost of removing the trainees from the labor force must be included, based on expected trainee earnings over the period of program participation. Program costs, however, will be set forth in both real and financial terms for anyone desiring to perform computations on other bases.

The “Framework” paper presented the following summary of projected program and real resource costs for the Job Corps:

Program cost	\$5,625
Opportunity cost.....	743
Total cost.....	\$6,368
Less trainee remuneration	(1,080)
Real resource cost	\$5,288

The “program cost” of \$5,625 per trainee was derived as follows:

1. A figure of \$7,500 per “slot” was used as OEO’s *projection*¹ of average annual costs for the Job Corps.
2. Assuming an average enrollee stay of nine months, the Job Corps program per trainee was taken to be 75 percent of \$7,500, or \$5,625.

¹ Historically, as of September 1966, the Job Corps had spent \$499,923,000 and “affected” 44,531 individuals at a cost of \$11,226 per “affectee.”

The “opportunity cost” was the “expected earnings of a trainee over a nine-month span, the usual expected program enrollment period . . . calculated from Census data,” and represented the cost of removing the trainee from the labor force during the period of his or her enrollment.

The “Framework” paper recognized that “cost per enrollee data often do not give the most meaningful index to program impact.” Accordingly, figures were derived for program costs for Job Corps trainees, graduates, placements, and affectees. A summary of these costs is shown below:

<i>Cost per Trainee</i>	<i>Cost per Graduate</i>	<i>Cost per Placement</i>	<i>Cost per Affectee</i>
\$5,288	\$7,051	\$8,813	\$8,135

The derivation of the costs per Job Corps graduate, placement, and affectee were explained in the paper as follows:

Job Corps assumes a steady state cost of \$7,500 per slot or \$5,625 per enrollee based on a nine-month stay. Various completion assumptions are made with a 75 percent completion factor being a rough median of the different estimates. The Program Memorandum assumes an 80 percent success rate for graduates, with success defined as a steady job, returning to school, more advanced training, or military service. An estimated 20 percent of nongraduates are assumed to be affected by the program. Quite clearly these figures are sensitive to the assumptions and a more thorough investigation will require additional and more complete data.

Turning to the discussion of *benefits* from the various training programs being considered, the “Framework” paper stated:

The benefits from any government program would be the discounted increase in the national product attributable to that program. In a manpower retraining program, the most obvious source of benefits is the differential earnings of the trainees after completion of a retraining program. Three problems, however, make the differential earnings of trainees a less than perfect measure of the benefits of a federal retraining program.

First, training takes time, and overall earnings during that time presumably rise in both real and nominal terms. Therefore, part of a trainee’s earnings differential may in reality be merely a secular increase in earnings, and thus not a program benefit.

Second, accepting earnings differential as a benefit implicitly assumes that the training program has not merely “shuffled the faces in the .job queue.” It must be recognized that, to some unknown extent, graduates from training programs do not obtain additional jobs, but simply take jobs away from other members of the labor force, most likely their socioeconomic peers. For the present calculations, no estimates are made of the magnitude of this problem.

Third, we don’t yet know whether the program provides skills and experience that will enhance the individual’s expected earnings for the rest of his or her life, or whether it merely provides a one-shot benefit and the trainee will shortly return to his or her old earnings pattern.

Two sets of calculations were made to account for this difficulty. In both sets, a 5 percent social rate of discount was used. As yet, the determination of a proper discount

rate is unresolved, but the selection of 5 percent can be justified on the grounds of reasonableness and workability. The conclusions of the analysis are sensitive to the choice of a discount rate.

The first set of calculations—the simple *annuity* approach—assumed that any earnings differentials that occurred would be constant over a finite time period. The annual earnings differential required to match the total cost of the program was calculated over two time horizons—15 and 30 years. The results for the Job Corps program are shown below:

	<i>Annual Earnings Differential</i>			
	<i>Per Trainee</i>	<i>Per Graduate</i>	<i>Per Success</i>	<i>Per Affectee</i>
15-year horizon . . .	508	675	847	772
30-year horizon . . .	343	456	572	522

The second and more ambitious analysis—the *enhanced educational characteristics* approach—attempted to correlate earnings with the level of education achieved, and then compute the educational level enrollees must achieve in order to realize earnings equal to the costs of the program.

Census data were obtained showing expected annual earnings by age and race for males aged 18 to 24 through 55 to 64, classified according to years of school. The paper stated:

The total expected earnings for someone with an 8th-grade education were then subtracted from those of someone with a 12th-grade education, and the remainder was divided by 4 to arrive at a rough approximation of the value (in terms of additional expected earnings) of a year's education at a given age level. The 1959 numbers were then inflated by the 1.22 coefficient to arrive at more realistic 1965 figures. Quite clearly other things such as intelligence, motivation, and family resources are interrelated with additional schooling so that it is unrealistic to attribute entire observed earnings differentials to education. At present, several attempts have been made to standardize for other characteristics; and while precise calculations are clearly untenable for the present study, the Denison 60 percent factor will be used as the coefficient of adjustment for differences in education levels, meaning that 60 percent of the observed higher income differences by education is attributable to the education and the other 40 percent is explained by other factors.

The increased annual earnings power of an additional year's schooling (at high school level) was then plotted against age for both whites and nonwhites. Then, using statistical correlation techniques, mathematical functions were found that would "fit" each of the observed plots. The value of an additional year's schooling was seen to be less at all ages for nonwhites than for whites. The paper made the assumption that "nonwhites received a lower return on time spent in school due to inferior education and not economic discrimination." It was also assumed that identical training would be provided to all enrollees in a particular program, and that this training would have the same payoff as white education for all participants regardless of race. Accordingly, the mathematical function for whites was adopted.

This function was refined in several respects. For example, it was modified to enable the analyst to compute the present value of an incremental year's education for an individual, given the individual's age and the age at which training occurred. This permitted the calculation of data such as the following:

<i>Trained at Age</i>	<i>Work until Age</i>	<i>Present Value of One Year's Education</i>
18	65	\$4,279
30	65	3,528
45	65	1,872
55	65	1,198

The final step was to divide the real resource program costs of the programs by the value of a year's education to arrive at an estimate of the degree to which enrollee characteristics would have to be changed to justify the costs of each program. For the purposes of calculation, the average entrant into the Job Corps was assumed to be 18 years old. The results for the Job Corps program are summarized below:

<i>Degree of Change of Enrollee Characteristics to Justify Cost</i>							
<i>Per Trainee</i>		<i>Per Graduate</i>		<i>Per Placement</i>		<i>Per Affectee</i>	
<i>A*</i>	<i>B*</i>	<i>A*</i>	<i>B*</i>	<i>A*</i>	<i>B*</i>	<i>A*</i>	<i>B*</i>
1.24	—	1.65	—	2.06	—	1.90	—

* All adult programs are composed on the assumption of a 30-year-old and 45-year-old input, corresponding to columns A and B.

Questions

1. Analyze the methodology of the study.
2. Suggest alternative approaches which might improve the evaluation of anti-poverty programs such as Job Corps.

CASE ANALYSIS
Job Corps

Ed Student
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ANALYSIS

1. ANALYZE THE METHODOLOGY OF THE STUDY.

Job Corps provides examples for examining alternative purposes and approaches of evaluating ongoing programs. There are two basic approaches to the review of ongoing programs: (1) the analysis of performance, and (2) the review of the investment decision.

The analysis of performance focuses on operating management. Its methodology is to compare the actual performance of an organization or organizational unit with its planned performance as defined in a previously-determined budget. The analysis compares outputs and achievements of the organization as well as the cost of inputs. The comparison should take into account whether the circumstances affecting actual performance are significantly different from circumstances assumed in the formulation of the budget. The focus of the analysis or performance tends to be short term. Its goal is to insure that operating managers are implementing programs according to the plan of top management; in addition, this type of analysis reports to top management whether a program is producing the expected results.

The review of the investment decision is a process aimed at thoroughly examining all the programs and operations of an organization over a period of several years. This process is sometimes called zero-based review, and it relies on the analytical tools of capital budgeting. It seeks to determine whether the objectives of a given program are still consistent with the goals and policies of the organization and whether the current form of the program is the most effective and efficient means of attaining these objectives.

“A Framework for the Evaluation of Training Programs” provides the type of analysis appropriate for investment decision making and for a review of the investment decision, though it does explicitly report on the performance of antipoverty programs. It begins with a digression

on the point of reference on the analyst, making a distinction between the financial resources available to a particular agency and the real resource costs to society. Since the U.S. Government and all its agencies exist to promote the general welfare, the appropriate point of reference for the analyst is one based on the real resource costs to the society. Therefore, sound analysis should always consider the real resource costs and benefits in evaluating alternative courses of action instead of taking a parochial approach that seeks to maximize the financial resources available to a particular agency. This study, in fact, does use a real resource approach in its evaluation.

Consistent with a real resource approach to analysis, an agency must consider both out-of-pocket costs and opportunity costs in its definition of costs. “A Framework” underscores both the conceptual issues involved in determining opportunity costs and the technical problems of measuring out-of-pocket costs.

Transfer payments are not a real cost of the OEO programs. Transfer payments simply redistribute the consumption of real resources within the private sector; transfer payments do not withdraw real resources from private use and reallocate them to public use. The opportunity costs to the society of the OEO programs are the wages foregone by the enrollees during their training period. These opportunity costs, however, may be less than the market price of labor if OEO programs are drawing from a chronically unemployed or underemployed labor pool. I believe that this study is conceptually correct in its understanding of opportunity costs, but that it probably overestimates their value.

The measurement of out-of-pocket costs in “A Framework,” however, is very crude. The study divides a project of total program costs for the Job Corps by an estimate of the number of annual “slots” available in the Job Corps; it then adjusts this cost per slot for the average enrollee

stay of nine months. More information is needed to determine the validity of these cost estimates; in particular, the nature of the costs (fixed vs. variable) and the capacity utilization of the slots available would be critical information in estimating the cost per enrollee.

Even if accurate total cost data were available, the relevant information is not the cost per enrollee. Rather, the cost per success would give a better measure of the inputs utilized by these programs. “A Framework” attempts to provide this information by making several heroic assumptions concerning the definition of success and the success rate of the programs (assumed to be 80 percent of graduates). Since these assumptions are unsubstantiated by research and data, they cannot be used to generate reliable unit cost data. However, the 80 percent success rate may be interpreted as a commitment by OEO management to produce these results (i.e., as a measure of output). Failure to perform according to these results can serve as a signal of problems within the Job Corps.

This study defines program benefits (i.e., output) in terms of increase in earnings of trainees. Its approach is to determine what level of benefits will justify program costs under different assumptions. It recognizes three problems in the measurement of benefits:

1. It is necessary to separate out the impact of inflation and the secular increase in real wages from the effect of OEO training.
2. A test must be made to determine the extent to which OEO training actually improves the employment level of the disadvantaged or simply redistribute an unchanged number of jobs among the disadvantaged. I may note that in the strong economy of the 1960s, the reshuffling effect was probably minimal. In the difficult economic times of the 1980s, this reshuffling is very likely. Some claim, however that the shuffling is useful, in and of itself, for people who would otherwise be unemployed.
3. It is necessary to project the permanence of the earning increase and its behavior into the future. There are not data which directly provide information on this question.

This study also presents methods for measuring benefits: (1) the annuity method and (2) the enhanced educational characteristics (EEC) method. The annuity method presented in the case text is simple and straightforward. The EEC method attempts a more complex measurement. Using census data, it estimates the effect in terms of increased earnings of an additional year of education at a given age level. The analyst attempts to correct for the influence of noneducational factors on earnings by assuming that sixty percent of the changes in income are due to education. The study then uses this projected relationship between education and earnings to estimate what change in the educational characteristics of enrollees OEO must cause in order to generate the required change in earnings that will justify program costs.

The major flaw in “A Framework” is its assumptions concerning the causal link between inputs and results. The annuity method simply reports what effect an OEO program must have without offering any evidence supporting the validity of the causal link between the program and the change in earnings. The EEC method uses a very crude data base and very crude methods in order to estimate the very complex relationship between education and earnings; the use of the Denison Factor is a highly vulnerable assumption. Neither approach is credible.

2. SUGGEST ALTERNATIVE APPROACHES WHICH MIGHT IMPROVE THE EVALUATION OF ANTI-POVERTY PROGRAMS SUCH AS THE JOB CORPS.

The review process in the private sector can serve as a model for developing general procedures for the evaluation of ongoing programs. Conceptually there are two types of review: (1) operational review and (2) a strategic review of the viability of major product lines.

Operational review focuses on the performance of operating management. It requires a definition of standards of measure and a plan which defines goals and inputs for achieving these goals in terms of the standards. Operational review consists of both comparing the actual

performance of operating management with the expected performance according to the plan and analyzing the causes and managerial implications of variance or differences. In a manufacturing environment where a considerable portion of costs are engineered costs, highly developed standard-cost systems can be used for the purposes of control and evaluation. Most of the costs in the OEO environment are comparable in nature to the discretionary costs of a private firm. Top managers of OEO should negotiate and develop an agreement with program managers concerning a level of expenditure and the appropriate goals given this level expenditure. An example of such a goal would be an agreement that a certain program (with a given budget) would accept X number of trainees and that Y percent of these will have jobs with a Z percent increase in hourly wages within six months after training. This type of planning makes individual managers accountable for their programs and informs top management of the progress (success or failure) of each program. This type of information is totally absent from the OEO review process.

The strategic review of programs or product lines as a formalized practice is not widespread in either the public or private sector. Strategic review analyzes the objectives of a program to insure that they remain consistent with the overall strategy of the organization and examines the return in order to insure that the program is a worthwhile undertaking. Strategic review is an intensive evaluation of a program. It is neither feasible nor desirable to review all the programs of an organization within a given year. Strategic review should be part of the budget process and seek to evaluate several major programs each year so that all product lines of the organization are reviewed every four or five years.

Finally, it should be noted that there is a structural flaw in the organization of OEO. The Office of RPP&E has responsibility for evaluating programs as well as planning and developing

programs. Since planners and programmers are likely to be committed to the programs they develop, they are not likely to produce objective evaluations of those programs.