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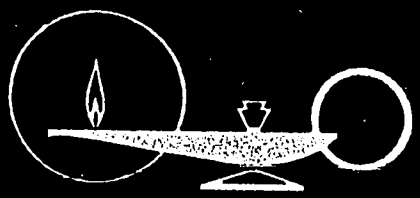
ABSTRACT

To determine the impact of vocational education research and related projects on educational practice in Pennsylvania since 1966, descriptive data were gathered on 115 Research Coordinating Unit (RCU) projects funded from 1966 through March 1972. Some general findings were: (1) Most projects were housed in public schools (Grades 9-12) serving large rural or urban communities, (2) Most targeted populations were "regular" students, but disadvantaged and handicapped students were represented, (3) Research, curriculum development, and training programs were the major face of most projects, (4) Impact in educational practices tended to be limited to local geographic areas, (5) Local vocational education advisory councils were little used, but when used, they proved to be effective, (6) Most trainees were white, with blacks accounting for 7.5 percent of all trainees, and (7) Adequacy of RCU funding, external and internal influences, and assistance received had the strongest influences on outcomes among all project. Based on these results, it was suggested that directors better utilize internal sources of influence (parents, students, advisory councils, and others) and that the role of the RCU be expanded, in terms of greater interaction with projects during and after funding. A formal and systematic model to enable such interaction is included in this report. (SB)



AN ASSESSMENT OF THE IMPACT OF VOCATIONAL EDUCATION RESEARCH AND RELATED PROJECTS ON EDUCATIONAL PRACTICE IN PENNSYLVANIA SINCE 1966

Conducted for:

THE STATE DEPARTMENT OF EDUCATION
RESEARCH COORDINATING UNIT
BUREAU OF VOCATIONAL-TECHNICAL & CONTINUING EDUCATION

Conducted by:

AMERICAN MANAGEMENT CENTER, INC.

AN ASSESSMENT OF THE IMPACT OF VOCATIONAL EDUCATION RESEARCH AND RELATED PROJECTS ON EDUCATIONAL PRACTICE IN PENNSYLVANIA SINCE 1966

August 1972

This research study was conducted by
A.M.C. under contract (project No. 19-1050)
with the Commonwealth of Pennsylvania,
Department of Education, for the
Research Coordinating Unit of the
Bureau of Vocational-Technical and
Continuing Education.

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AMERICAN MANAGEMENT CENTER, INC.
262 SOUTH 15th STREET • PHILADELPHIA, PA. 19102

August 15,1972

Dr. Ferman B. Moody, Director
Research Coordinating Unit
Bureau of Vocational-Technical
& Continuing Education
Department of Education
Box 911
Harrisburg, Pennsylvania 17126

Dear Dr. Moody,

The American Management Center, Inc., (AMC) is pleased to submit one hundred (100) copies of the final report on the "Assessment of the Impact of Vocational Education Research and Related Projects on Educational Practice in Pennsylvania since 1966."

This study was conducted according to our agreement and the study design approved by you and your associates. We feel certain, that you will find this study informative and of considerable assistance to you and those involved in vocational-technical education and its research in Pennsylvania.

We are grateful and appreciative for the cooperation and assistance extended to our personnel by you, your staff and other vocational educators throughout the conduct of this study.

It has been our pleasure to serve you and the Commonwealth and we hope to be of service to you in the near future.

Sincerely yours,

John F. Dzera

John F. Dzera, Ph.D.
President

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FOREWORD

The major thrust of this study was to assess the impact of projects funded through the Research Coordinating Unit (R.C.U.) on Vocational Education practice in Pennsylvania. Impact and factors affecting impact were the focus and design of the study.

Information and perceptions were collected from those closest to the projects, e.g. the project directors themselves and key Vocational Education personnel at the State level. Because of time constraints, as well as budgetary limitations, a more extensive study could not be undertaken. However, it was found that the project directors were quite direct and honest in their responding to the mailed questionnaire and the interviews.

The manuscript was designed in a manner that would hopefully encourage its complete reading. However, for those who wish not to "wade" through the data, Chapter 1 (Overview of the Study), Chapter 4 (Description of the Projects), Chapter 7 (General Findings, Conclusions and Recommendations), and Chapter 8 (Model for Monitoring R.C.U. Funded Projects) are a must and will give the reader a complete overview of the study and results.

All data analyses were run on an IBM 370/165 computer. The basic statistics were derived from Bromedical Computer Programs (Dixon, W. J. - BMD: Biomedical Computer Programs No. 2. Berkeley: University of California Press, 1970). The BMDO5M was used to analyze data reported in Chapter 5, while the BMDO3R was used to analyze data found in Chapter 6. Other programs from the BMD package were used to analyze data found in the remaining chapters.

Although specific suggestions were made concerning the focus, structure, and mission of the R.C.U., this was not the primary purpose of the study. These suggestions were "Satellite benefits" flowing from the results of studying the impact of the projects funded.

Given the amounts of monies expended by governmental agencies, the pressing needs of educational reform and the need to understand the interworkings that lead to success (or failure), we hope that this study will provide some of the needed information for dealing with these crucial issues.

ACKNOWLEDGEMENTS

It would have been difficult to conduct this study without the cooperation, assistance, encouragement, and support of a great many people.

We are greatly indebted to Dr. John W. Struck, Director for Vocational-Technical and Continuing Education for the State of Pennsylvania and Dr. Ferman B. Moody, Director of the Research Coordinating Unit, and his staff for their encouragement and support, from the very beginning to the completion of this study.

We are grateful to the following, who gave time from their very busy schedules to be interviewed by our staff, and provided invaluable assistance and insightful comments; Mr. Robert Jacoby, Dr. William Seldon, Mr. Steven Sworen, Mr. Robert Edwards, Dr. T. Dean Witmer, Ms. Margaret Horne, Ms. Blanche Curran, Ms. Carrol Kratz, Mr. Charles Lebo and other Vocational Educators.

The on-site visitations and interviews were conducted by: Mr. Curtis Bradeley, Mr. Timothy Carroll, Mr. Anthony Colistra, Mr. Herbert L. Keyser, and Mr. Hugh Swogger. These staff members travelled the width and breadth of the State of Pennsylvania and collected the data for this study. We are, indeed, thankful to them for their efforts and a job well done.

Invaluable assistance was provided by Mr. Raymond Webster and Ms. A. Poor in setting up the computer and analyzing the data collected for this study. Dr. George M. Parks and Mr. Dwight Stewart provided major support, encouragement and constructive criticism to the project team throughout the conduct of this study.

Recognition should also be given to all those who filled out the Questionnaire-Opinionnaire and/or were interviewed. They were the main source for the data--without them this study would not have been possible.

We are also thankful to Ms. Gertrude Tucker and Ms. Rosmaree Hauck who did a splendid job in typing the initial and final drafts of the study.

David Kapel
Project Director

7. Projects conducted by R. C. U. at the state level had positive influence on vocational-technical education practices in Pennsylvania.

8. Satisfaction, generated by the projects, on those who came into contact with them appeared to be quite positive. Those closest to the projects were more positive than those who had less to do with day-to-day operations.

9. There were slight positive changes in attitudes of participants in the projects. Intrapersonal changes were the most positive.

10. R. C. U. funding was considered almost adequate by the directors.

11. Directors requested and received assistance from the R. C. U. and the Vocational Education Bureau of the State. They requested, but received little assistance from their own school district personnel.

12. Directors would like to see more interaction between R. C. U. and themselves after funding has been approved.

13. Local Vocational Education Advisory Councils were little used; but when used they proved to be effective.

14. Few programs had any formal external evaluation. However, most evaluations were conducted internally.

15. Most trainees were White, with Blacks accounting for 7.5% of all trainees. There were almost no Puerto Rican trainees.

16. There were differences among projects when grouped in terms of; types of communities served; size of communities served; types of programs; degree of funding; ethnic identification of students trained; and whether programs trained teachers or students. There were no differences among one year, two year, and three year projects. The factors that were making differences among the groups were: prime objectives, unexpected outcomes, factors hindering success, influencing educational practices at the national level, internal influences, satisfaction generated by the programs, changes in attitudes, adequacy of R. C. U. funding, amount of assistance, and effectiveness of Vocational Education Advisory Councils. Projects serving large communities were different from other projects. Differences were also found in work study, equipment, and curriculum type projects.

17. Adequacy of R. C. U. funding, external and internal influences and assistance received, had the strongest influences on outcomes

ABSTRACT

This study was designed to determine the impact of vocational education research and related projects on educational practice in Pennsylvania since 1966. The study was divided into five basic phases:

1. identification of all R. C. U. funded projects from 1966 through March, 1972, and development of instruments to collect data on the projects;
2. piloting of the instruments and training interviewers;
3. data gathering;
4. analysis of the data; and
5. writing the report.

Appropriate statistical procedures (including Chi Squares, Multiple Discriminant Analysis, Multiple Regression Analysis) were used to analyze the data.

The general findings were:

1. Most projects were housed in public schools (grades 9-12) serving more often than not, large rural or urban communities.
2. Most targeted populations were "regular" students, while disadvantaged and handicapped students were well represented.
3. Research, curriculum development, and training programs were the major foci of most projects.
4. The projects generally were considered to be successful in meeting most of the prime objectives. The directors were quite positive in this area. Teachers and materials were major contributors to meeting such goals.
5. Impact in educational practices tended to be limited to local geographic areas. Curriculum and instructional procedures were the areas in which the projects had the most influence.
6. The directors, students, and teachers were the major source of internal influence on decision making, while state governmental policies and community were the strongest positive sources of external influence.

among all the projects. Per unit cost, effectiveness of Vocational Education Advisory Councils, and length of projects had the least influence on outcomes. Not all factors had the same effect on all groups of projects. R. C. U. funding variables had an effect on changing attitudes, while internal and external influences affected educational practices, satisfaction generated, and goals reached.

Based on the data collected and analyzed, additional suggestions and recommendations were made. These suggestions were centered on the roles of project directors and R. C. U. Primarily it was suggested that directors better utilize internal and external sources of influence (e.g. parents, community, Vocational Educational Advisory Councils, students, etc.). The suggestion that the role of R. C. U. be expanded, in terms of greater interaction with projects during and after their funding, was made. A formal and systematic model for this interaction was developed in the report.

CHAPTER 1

OVERVIEW OF THE STUDY

Introduction

This document constitutes the final report to the Pennsylvania Research Coordinating Unit (R. C. U.) for Vocational-Technical and Continuing Education of research performed by the American Management Center (A. M. C.) to meet and fulfill the stated goals and requirements of R. C. U. project number 10-1050.

As indicated in the initial proposal submitted by A. M. C., "few follow-up activities have been initiated to determine what happens once funding is over." It was for this express purpose, as well as to the question of impact, and factors affecting impact, that led to the development of a questionnaire - opinionnaire and a schedule for on-site interviews.

Procedures

The study was divided into five basic phases. The first phase (1) was concerned with: the careful identification of all R. C. U. funded projects conducted and completed from 1966 through March, 1972; the identification and acquisition of available data, proposals, objectives, final reports (e.g., P. A. R. M. S., reports from other states, data available through the ERIC system, E. T. S., and Ohio State Center for Vocational and Technical Education, etc.) for the purpose of instrument development; and conferences with R. C. U. personnel, vocational education and industrial arts teachers, and experts in vocational education and industrial arts at the university level.

In addition, Phase 1 included the initial development of two instruments that complemented each other - yet focused on different concerns. The questionnaire-opinionnaire (Appendix A) dealt with: impact questions, questions that were directly concerned with governmental (R. C. U., state, local, etc.) effects and interaction; general questions concerning the project and its structure and design; and demographic data collecting. A breakdown of questions by topic area is found in Table 1. The actual questionnaire had two major subdivisions - subdivision one (questions 1-26) was to be answered by all respondents; in addition those involved directly in training/educating students, adults, teachers or other professionals were to respond to subdivision two (questions 27-30). (Refer to Table 1.)

The major purpose of a site visit was to obtain additional information and to give the project personnel an opportunity to make comments and share information and thoughts that may or may not be brought out by the questionnaire-opinionnaire. The interview schedule was designed only to complement the written instrument - its intent was not to act as a substitute.

The schedule was so designed as to enable an interview to be completed within one to two hours. Specific directions for the interviewer were also included in the schedule. (The schedule appears in Appendix B of this final report.)

TABLE 1

Distribution of Questions by Topic Area in the Questionnaire-Opinionnaire Used in the Study

Topic Area	Question Numbers	Total Number of Questions
Impact	5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 28, 29, 30.	14
Governmental Effects	16, 19, 20, 21	4
General-Project Structure	3, 4, 17, 18, 22, 23, 24, 25, 26.	9
Demographic	1, 2, 27.	3
		30

The questions asked were: impact types (1, 2), general-project structure (3, 4), governmental effects (5), (plus an informal question asked at the end of the interview) physical identification (6), and a "good and welfare" type response (7).

Phase 1 also included the up-dating of addresses. This was accomplished by telephone from the A. M. C. offices in Philadelphia. It became apparent that several of the projects would be difficult to locate for varied reasons:

a. The project director was no longer employed by the agency;

b. The project was of the nature that it was quite transient or had little structure (e.g., doctoral study);

c. The project was completed so long ago that its effects no longer exist and/or assessing its effects at this time would be meaningless;

d. The name of the director on the final report was the chief administrator who had little or nothing to do with the project;

e. The actual director could not be located anywhere;

f. The actual project could not be located, or

g. Duplication - the same project having two or more different project numbers.

In some cases one or more of the above factors played a part in making the up-dating of all addresses impossible. Despite the above difficulties, questionnaires-opinionnaires were sent to the last known project address - in all 151 project numbers were included in the survey.

The initial instrument was piloted (in Phase 11) on several directors of projects for revision purposes. The instrument was revised several times, utilizing the varied input from teachers, directors, and university personnel. A conference was held on April 7, 1972 with several R. C. U. staff, including the R. C. U. Director, to allow for final revision before printing.

The identification and training of five interviewers to perform the interviews occurred during Phase 11. A stratified random selection of projects for on-site visitations was also completed. The projects were stratified according to vocational service areas and, where possible, by geographic regions. This was done to insure, to the best of our ability, representation of all service areas and geographic regions in the State. Because of the high cost of interviewing (travel, room, meals, etc.) all projects with funding below $1,000 were excluded. It was concluded that more meaningful data could be collected from larger projects, and that the time, effort, and costs would mitigate interviewing directors of projects below $1,000 total funding. Forty-five on-site visitations of projects was our goal. Because of time constraints and difficulty of locating older projects, it was difficult to guarantee a set figure for on-site visitation; however, each interviewer was given a listing of projects to contact in order to arrange for visitations. All interviewees were given a cut-off time by which they were requested to complete on-site visitations; this cut-off date was June 1st, 1972. The director of the project personally made on-site visitations to 19 projects, as well as interviewing key personnel in the Bureau of Vocational-Technical and Continuing Education in Harrisburg.

Phase III was designated the data gathering period. Printed instruments were sent to 151 projects funded by R. C. U. and completed by March, 1972. All mailings included self-addressed stamped envelopes to allow for ease of return. A return date of May 12th was established. Follow-up procedures included a second mailing (June 10th) to the non-respondents with an additional telephone reminder a week later. (Excluded were those projects from where an instrument had been returned to A. M. C. undelivered.) Phase III also included collecting data via the on-site visits. All interviewers returned completed interview schedules 24 hours after returning home, thus, all the interviews were completed by June 1st.

Because of the second mailing, Phase III was not completed until June 26th. The last two phases - IV (data analysis) and V (writing the report) were started. Data analyses included frequency counts, percents, means, standard directions, multiple discriminant analysis, and multiple regression analysis. The functions of discriminant analysis was to determine whether various types of projects were different from others on selected factors. The regression analysis was used to determine which variable, or variables, appeared to be most significant in determining, influencing, or predicting selected factors (e.g., success, influence, etc.).

Because of time constraints and significant cost factors, an in-depth study could not be considered in the design of this evaluation. The collection and analysis of in-depth census, economic, labor, and educational data in a meaningful manner related to the intent of this study would take one to two years with a staff many times larger than the eight personnel involved in this study. The study consequently focused on the perceptions of individuals directly related to R. C. U. funded projects, with regard to the impact such projects have had on their areas of education and society. The collected data was analyzed using descriptive and inferential statistics to answer not only the questions concerning the "what" of impact, but also the "how".

CHAPTER 2

THE NATURE OF THE PROJECTS FUNDED BY R.C.U.

In order to determine the types of instruments to be developed and used, A.M.C.'s participating personnel had to familiarize themselves with the types of programs funded by R.C.U. from 1966 through March, 1972. A wide variety of projects were funded, however, the projects as reflected by the final reports (as found in The Pennsylvania's Abstracts of Research and Related Materials in Vocational Education, Volumes I, II) tended to fall into only a few major or general areas, in spite of the many index descriptors found under each listing.

Other final reports reviewed included, planning vocational education programs in Pennsylvania, guidelines for the use of labor market data, follow-up documents, V.E.M.I.S. reports, the state plan, and certain other supply demand documents. Those studies completed after Volume II were published (1972) as well; they appeared in listing with little description. A survey of the returned instruments and on-site visitation schedules from projects completed after the publication of Volume II of the P.A.R.M.S., indicated that the general areas for those studies were identical to the studies found in the P.A.R.M.S. Thus the nature of the projects in 1971-72 were not dissimilar to those that preceded them.

Each of the final reports found in the Pennsylvania's Abstracts of Research and Related Materials in Vocational Education (1969-1971) were read and studied and it was found that most projects (1966-1970) focused on one major area of intent. Thus each project could be placed within a general category. Many of the index descriptors found in the P.A.R.M.S. did not reflect the major emphasis of a project.

The general categories that were established are as follows:

1. Curriculum Development - Scope and Sequence and Guidance Programs, this area reflects a programmatic approach with emphasis on cognitive, psychomotor, or affective content.

2. Research - this would primarily be doctoral studies and/or theoretical projects in nature. Surveys would also fall into this category.

3. Material Development would house those projects that would focus on materials to be used. Curriculum materials would also fall within the scope of this category. Any project whose major concern is developing transportable materials (e.g., booklets, A-V materials, books, computer programs, tapes, etc.) was included in this area.

4. Training Programs - Teacher/Other Professionals - those projects that concerned themselves with teacher/other professional training, were included in this area. Pre-service and in-service programs were typically found in the category.

5. Training/Education of Students and/or Adults were those projects that were directly involved in "on-hands" programs with students and/or adults

(non-professionals). Here, the project's major focus was in the immediate changing of the behavior (learning) of children, students, or adults, and they in turn comprised the major attention of the project.

6. Purchase and/or Updating of Equipment - is an area where the major purpose of the project was to acquire equipment. Although, at times, disguised under other objectives, it was quite easy to identify such projects.

7. Work Study - the traditional definition of work-study was used to include projects of this nature.

The general categories by year(s) of funding are found in Table 2. An analysis of the distribution of the types of projects funded indicate that earlier (1965, 1966) funding cut across all areas, however, there was more emphasis on equipment and material oriented projects and less funding of curriculum and research projects than in the latter years. Training programs were also well represented. The more recent and/or longer (covering multiple years) projects tended to focus on: curriculum and guidance; research; and training programs.

All training programs (teacher/other professionals/students/adults) comprised the largest number of projects funded from 1966-1970 - 48 or 36% of the total number were training programs. Teacher and other professional training programs were funded more than any other type of projects (20%), curriculum and guidance projects were the next largest number funded (17%), followed by research projects (17%), then training programs for students/adults (15%), and materials development (11%), and equipment purchase (11%). Work study projects (9%) were the least funded of the entire group.

It is also interesting to note that more projects were funded and/or received initial funding in 1966 (56 or 42%) than in any year between 1965-70. The year 1965 was the next largest year for project funding - 49 or 37% of the projects funded between 1965-70 were funded that year. It also appears that the year 1967 was the year with the least amount of projects funded for any 12 months period and/or initiated (only 3 projects were approved).

Because of a lack of description of those projects funded by R. C. U. between the years 1971 and 1972, it was decided to illustrate their distribution separately (refer to Table 3). It appears that training programs were not funded at the same rate as in previous years. In fact only 23% of the projects funded between 1971 and 1972 dealt with training and/or in-service programs. Conversely, curriculum development and research type projects were funded at a considerably higher rate -55%. When materials type projects are merged with curriculum and research categories, the rate of funding of those types reaches a level of 78%. Purchase and up-dating equipment and work study programs were not funded in either year.

A comparison of the data appearing in Table 2 and 3, indicates that the emphasis of the funding (type) from 1965-70 to that of 1971-72 did change. Training programs comprised the largest number (48 or 36%) of projects funded in the former years, while curriculum and research projects comprised the largest number (17 or 55%) of projects funded in the latter years.

TABLE 2

THE NUMBER OF PROJECTS FUNDED (BY YEARS) WITHIN SEVEN GENERAL CATEGORIES[1]

Years	Curr. Development Scope-Sequence And Guidance Programs	Research	Materials Development	Training-Teacher/ other Professionals	Training-Students/ Adults	Purchase and/or updating Equipment	Work Study	Total
1965–66	2	3	6	6	4	8	1	30
1966–67	2	4	2	4	3	5	8	28
1965–67	1			2	1		1	5
1967–68				1				1
1966–68	3	4	1	1	4		1	14
1965–68	6	2	2	2	2			14
1968–69	1	3		4	3	1		12
1967–69			1	1				2
1966–69	6	1	1	2	4			14
1969–70	2	5	2	4				13
Total Percentage[2]	23·17%	22·17%[3]	15·11%	27·20%	21·15%	14·11%[3]	11·9%[3]	133

1. Only those projects included in the *Pennsylvania's Abstracts of Research or Related Materials in Vocational Education (1969, 1971)* appear in the above table. Projects funded after the dates indicated, but are a part of this study, do not appear above.
2. All percenteges are based on N = 133
3. Rounded off to nearest percent

TABLE 3

THE NUMBER OF PROJECTS FUNDED (1971–72) WITHIN SEVEN GENERAL CATEGORIES[1]

Years	Curr. Development Scope-Sequence And Guidance Programs	Research	Materials Development	Training-Teacher/ other Professionals	Training-Students/ Adults	Purchase and/or updating Equipment	Work Study	Total
1970–71 (June)	3	2	3					8
1971–72 (June)	7	5	4	3	4			23
Total Percentage[2]	10·32%[3]	7·23%[3]	7·23%[3]	3·10%[3]	4·13%[3]			31

1. Not all the projects included in the above table are in this study because their completion dates are after March, 1972.
2. All percentages are based on N = 31
3. Rounded off to the nearest percent

TABLE 4

TOTAL NUMBER OF PROJECTS FUNDED (1965-72)
WITHIN SEVEN GENERAL CATEGORIES

Categories	Frequency	Percents
Curriculum Development, Scope-Sequence and Guidance Programs	33	20
Research	29	18
Materials	22	13
Training-Teacher/Other Professionals	30	18
Training - Students/Adults	25	15
Purchase and/or Updating Equipment	14	9
Work Study	11	7
Total	164	100

When merging the data of Table 2 and 3, it can be seen that (Table 4) one third of all the projects funded from 1965-72 were training programs. The distribution of funding among five of the seven categories was quite similar, but still not identical (ranging from 13 or 20% of the total). Purchase of equipment and work study programs were the least supported. They only accounted for 16% of the total number.

Although the funding patterns changed from 1965 to 1972, the overall distribution appears to be balanced among five of the seven categories. It appears that the emphasis of the funding is on programs that could have greater generalizability (e.g., curriculum, research, materials, training) to the field of vocational education than those with restrictive exportability (e.g., purchasing or equipment).

The above information is descriptive in nature. No inferences should be made concerning priorities of the R.C.U. and/or the State Department of Education during the period 1965-1972. The data might reflect the funding available to the State at that time, as well as the interests and concerns of those in the field (e.g., during 1965-66 there might have been a greater demand from the field for equipment and training programs than for research and curriculum development).

CHAPTER 3

INTERDEPARTMENTAL RELATIONSHIPS

The relationship and impact that the R. C. U. has had with and upon the Bureau of Vocational Education was examined. Since the R. C. U. is a division within the Bureau of Research, it operates in a staff capacity for the Bureau of Vocational Education. Any office operating under such conditions must establish communication lines that are constantly open in order for it to operate effectively, and perform the staff functions for which it was charged.

In order to examine the nature of R. C. U.'s relationship and impact within the Bureau of Vocational Education, interviews were held between A. M. C. and key vocational education personnel. The vocational educators were asked to cooperate with the interviewers and were informed of the purpose of the study. Interviews were conducted with persons from trade and industrial education, business education, administrative and planning services, program operations, health occupations, distributive education, home economics and agriculture.

Generally, vocational educators view the operations of the R. C. U. very favorably. They felt that the staff was most professional, helpful, tactful, innovative and open with them. Only in one case were apprehensions voiced regarding the activities of the R. C. U.

Other favorable comments of persons interviewed related primarily to certain studies conducted by or under the auspices of the R. C. U. that have had major impact on vocational education programs at the state level. Reference was made to such studies as the Arnold report, follow-up studies, Vocational Education Information Network (V. E. I. N.) supply demand studies and the V. E. M. I. S. system.

The Arnold study provided the basis for reorganizing of both the Harrisburg and field staffs of the Vocational Education Bureau and provided the rationale for a comprehensive approach to the operation of Vocational education. The follow-up studies apparently led to the development of a Vocational Education Management Information System which is currently operational in the state. V. E. I. N. is a centralized information dissemination system that seems effective and is used by many bureau persons.

It was also stated that the R. C. U. provided certain data needed for the State plan for Vocational Education.

The apprehensive areas involved a need for greater communications between the R. C. U., R. C. U. funded project personnel, and the Vocational Education Staff. The communications breakdown seems to result from a lack of adequate staff to facilitate more interaction between the two agencies. This problem suggests that expanding the R. C. U. may provide enough people to facilitate greater communication channels.

It was determined that the R. C. U. did not attend departmental or division meetings within the Bureau of Vocational Education on a regular basis. Since

program concerns are discussed at departmental meetings, it may be advisable for the R. C. U. to attend these meetings in an effort to keep the communication lines open.

It was suggested that the R. C. U. should be funding more solicited research; that is, after determining research priorities, have school systems, private agencies, colleges, universities bid on performing specific research projects.

It appears that the R. C. U. uses many program specialists as consultants to assess incoming proposals. This does establish some lines of communications, but under such conditions, the communication tends to be very task directed. Where a large network of field representatives exist (e.g. agriculture), two-way interaction and communication appear to exist. However, in departments that tend to be one man (or woman) operations, the need for two-way communication is crucial. These people still have to meet the needs of the educational community, and are looking for support. They see the R. C. U. as an agency to supply some support to augment their rather restrictive interaction with the educational community. It appears that they would welcome more such interaction. These groups see R.C.U.'s function as providing them with greater information; in essence, R. C. U. might be functioning as field representatives for them, yet at a broader level. They were almost unanimous in their desire to be involved to a greater degree with R. C. U. research projects.

CHAPTER 4

DESCRIPTION OF THE PROJECTS

Response Rate

In order to make this descriptive study more meaningful, with results being used to describe the nature of the R. C. U. funded projects from 1965-1972, an adequate response rate had to be reached. Thus it was quite important for an effort to be made to insure a high rate of response.

Cover letters from key State personnel, second mailings, and personal phone calls were the devices used. The data on the nature of the response to the instrument, sent via the mails, is displayed in Table 5.

TABLE 5

CATEGORIES OF SURVEY RETURN

Categories	Number	Per Cent[1]
Returned "No forwardable address"	4	2.7
Returned "Unable to Respond"[2]	12	8.1
Returned "Usable for analysis"	98	66.7
Two time non-respondents	33	22.5
Total	147	100
Duplication of project numbers	4	
	151[3]	

[1] Based on an N=147 because of duplication of project numbers

[2] Generally the project director could not be located because: he/she was no longer employed; moved with no forwarding address; or was deceased

[3] The initial mailing was 151

A total of 114 instruments were returned out of a total of 151 and the usable return rate reached a high of approximately 87%.

Given the nature of this project with the time-line of projects ranging from 1966 to March of 1972, the movement of staff personnel, changes in funding and directions over such a period, and unforeseen events that naturally occur over time, this rate of "usable instruments" was considered to be quite adequate.

The number of projects in the data analyses varies because not all questions were answered by all project directors, and/or not all questions were applicable

to all projects. Although the response rate is quite high, the reader is cautioned that this is a descriptive study of R. C. U. funded projects from 1965-1972, and that the data only reflects the 147 projects represented in this study. Inferences to all R. C. U. funded projects, or all projects funded by the Bureau of Vocational-Technical and Continuing Education should not be made.

Description of the Respondents

All data in this chapter was collected via the questionnaire-opinionnaire (Appendix A) and the schedule (Appendix B). Subsection titles are followed by identifying questionnaire-opinionnaire number (Q-O-) or schedule (S-). Please refer to either Appendix A or B.

Length of the Project (derived from the R. C. U. numbers)

Of those who responded, 65 or 66.5% were one year projects, 12 or 12.2% were two years in length, and 21 or 21.3% were three years of duration. Thus it is apparent that the majority of the responses was generated by directors who spent only twelve months or less with a funded program.

Agency Operating Project (Q-O#1)

Most projects were sponsored (were a part of) by a local public school system, while Area Vocational-Technical Schools and Universities or Colleges were the next largest sponsoring agencies (refer to Table 6) for programs.

TABLE 6

GROUP OR AGENCY OPERATING THE PROJECT

	f	%
Local Public School System	43	44.3
Area Vocational-Technical School	25	25.7
University/College	26	26.8
Non-Profit Private Organization	3	3.2
Other	0	0.0
$\leq$	97	100

Actually 68 or 70% of the programs were sponsored by public legal educational authorities (schools - elementary, secondary, and vocational-technical), while universities only accounted for about 27% of the projects, other non-profit organizations accounted for the remaining 3%. It can be stated that for the population involved in this study, R. C. U. supported more public school projects than any other type.

Populations Served (Q-O #2)

Respondents were asked to check the appropriate description of the population concentration (rural, suburban, urban) and size of the geographic community served. (The reader should be aware that not all directors responded to all questions, hence the N in the different questions in this study will vary.)

Although urban projects (Table 7) were the mode (largest percent) of the population concentration, the total rural (non-Appalachia plus Appalachia) was next largest with 36.2%. Suburban population concentrations were the least served. It should be noted that there appeared to be quite an even distribution of projects among rural, suburban, and urban communities.

TABLE 7

POPULATION AND GEOGRAPHIC COMMUNITY SERVED

Population Concentration			Size of the Community		
Type	f	%	Size	f	%
Rural (Non-Appalachia)	14	17.5	Over 100,000	41	45.6
Rural (Appalachia)	15	18.7	50,000 - 100,000	23	25.6
Suburban	20	25.0	25,000 - 49,999	13	14.4
Urban	31	38.8	10,000 - 24,999	7	7.8
			Under 10,000	6	6.6
Σ of those responding	80	100		90	100

The size of the communities served is quite different (Table 7); almost 46% of the projects served large communities - over 100,000. With regionalization and unionization of school districts in Pennsylvania, the size of communities served by legal educational authorities tend to be large. This coupled with the growth of the population of the State are reflected in the distribution of the sizes of the communities served in this study.

Description of the targeted population(s) serviced by the projects was elicited. Table 8 shows the results. Projects' targeted populations were mostly regular students, with disadvantaged students forming the next targeted group. Because of multiple responding, some programs serviced more than one group.

TABLE 8

TARGETED POPULATION(S) OF PROJECTS

Regular	79[1]
Disadvantaged	44
Handicapped	19

[1] Because of multiple responses, percentages have little meaning and hence were not calculated

TABLE 9

EDUCATIONAL LEVEL SERVED BY THE PROJECTS

Level	f[1]
Pre-School	1
K-3 Grades	1
4-6 Grades	3
7-8 Grades	6
9-12 Grades (comprehensive)	51
Special Education	4
Area Vocational-Technical School 9-12	23
Post High School (non-college)	14
Community/Jr. College	3
College/University (4 year)	13
Graduate School	7
In-Service Training (non-college credit)	9

[1]Because of multiple responses, percents were not calculated

Projects also serviced different educational levels (refer to Table 9), including pre-school. The most prevalent grades served were 9-12 grades (comprehensive and area vocational technical schools -- 74 projects). It is also interesting to note that post high school levels (non-college, graduate school, community college and college/university -- 37 projects) was the next largest level represented in this study. Programs for elementary level (K-6) were not common (4 projects).

Summary

Typically, the projects in this study were one year in duration, housed in public schools, serving either urban or rural areas with a large size population. They focus on regular students in grades 9-12.

Prime Administrator's Background (Q-O #3)

The backgrounds of the prime administrators of the project were surveyed (refer to Table 10). It was found that almost all who responded were college graduates with advanced degrees, had spent almost 15 years teaching, and seven years as an administrator. It appears that they spent more years in the classroom than in non-educational positions. The large number of doctoral degrees is reflective of the number of research and university projects, as well as the fact that many in administrative positions in large school systems have such degrees.

TABLE 10

ADMINISTRATOR'S BACKGROUND

Type of Background	f	%	Mean
Educational Level			
Non Degree	1	1.1	
B.S./B.A.	6	6.3	
M.S./M.A.	48	50.5	
Ed. D/Ph.D.	40	42.1	
	≤ 95	100	
Years of Teaching			14.14 years
Years of Supervision/Administration			6.45 years
Years of Non-Educational Experience			5.16 years

Elements That Compose Projects (Q-Q #4)

Most projects are made up of many elements, rather than being totally composed of one single thrust or effort. That is, a training program might include curriculum development, research, and materials development. In order to reflect the sundry parts of a project, a grid was developed to enable respondents to graphically, as well as quantitatively, describe their project. Another purpose of the grid was to keep the total of all the elements within a project to 100%. The subdivisions were: Curriculum development - scope and sequence/guidance; research; developing materials; training - teachers/other professionals; training-students/adults; equipment-purchase and/or upgrading; and work study. The means of the percentages are found in Table 11. In each category there was at least one project that was totally composed of that area, and likewise there were projects that were completely devoid of that area.

TABLE 11

PERCENTAGE OF THE ELEMENTS THAT PROJECTS WERE COMPOSED OF (FOR THE RESPONSE GROUP ONLY) N=98

Elements	Mean Percents	Standard Deviation
Curriculum Development - Scope and Sequence/Guidance	17.74	24.17
Research	19.50	31.35
Developing Materials	14.62	20.93
Training - Teachers/Other Professionals	15.97	31.42
Training - Students/Adults	16.27	26.34
Equipment - Purchase and/or Upgrading	9.14	21.66
Work Study	10.95	28.68

TABLE 12

THE NUMBER OF PROJECTS BY ELEMENTS OF THE TOTAL

Elements	Percentage of the Total Project 0-10 f	11-20 f	21-30 f	31-40 f	41-50 f	51-60 f	61-70 f	71-80 f	81-90 f	91-100 f	Mean Percents
Curriculum Development Scope and Sequence/Guidance	56	11	12	10	2	0	1	2	0	4	17.74
Research	63	13	2	3	6	0	0	0	2	9	19.50
Developing Materials	64	8	11	6	4	2	1	0	0	2	14.62
Training-teachers/ other Professionals	75	3	6	1	0	0	1	2	1	9	15.97
Training-Students/Adults	67	4	6	2	7	4	1	5	1	1	16.27
Equipment-Purchase and/or Upgrading	81	8	0	2	1	0	2	1	1	2	9.14
Work Study	84	1	0	1	2	0	0	1	1	7	10.95

It is quite evident that in all the projects (N=98), research comprised the largest block of effort (19.50%), with curriculum development the next largest (17.74%), followed by training - students/adults (16.27%) and training - teachers/other professionals (15.97%). Since these are means of the percentage of the elements of the projects, they represent the "typicalness" of the 98 projects. Thus it can be deduced that the projects of this study were composed of and represented many elements (curriculum, research, developing materials, and training). It is equally evident that equipment and work study did not represent large elements within the structure of the projects. The results also reflected the basic nature of the funding as found in Tables 2, 3, and 4.

The actual number of projects broken down by percents of elements of the total effort can be found in Table 12. Multiple responses are reflected in the distribution, hence totals would have little meaning and are not found in the Tables. A survey of the distributions indicates that the high mean for research was generated by the large number of projects (11) that was composed mostly of research activities (81-100% of the project). It would also appear that curriculum development was the most common element found in the projects. This is not surprising once research is held constant, since research projects tend to be quite directed and are generally not made up of the other elements listed. This situation is not usually true for other types of projects; as an example, training programs might be made up of curriculum development, material development, and research, etc.

Summary

The projects in this study have tended to be directed by highly educated personnel who have spent more years in teaching and supervision/administration than in non-educational experiences. These directors have dealt with projects that focus primarily on research, curriculum development-scope and sequence/guidance, and training (students/adults/teachers). Curriculum development efforts appear to be the most common element found in the projects.

Objectives Met (Q-O #5)

Respondents were asked to list the prime objectives of the project (as indicated in the proposal of their project) and to rate on a five point scale (1 - not at all; 2 - very little; 3 - somewhat; 4 - considerably; 5 - objectives were totally met) to what extent they were met.

In order to consider the effects of meeting multiple objectives, and to give such projects credit for meeting more than one objective, a transformation of the mean scaling was used. The mean of the ratings was calculated, then a ratio of number of objectives to the mean of the ratings was determined. Although this transformation tended to slightly depress the scale ratings, it did give credit for meeting multiple responses. No attempt was made to qualify the primary objectives; i.e., to assess qualifiably that meeting a particular objective was more significant than meeting any other, or combination of other objectives.

Objectives were also categorized into six general areas; administrative; program (curriculum); student directed; teacher/staff; materials; and an area

titled other. Table 13 illustrates the breakdown by classifications of the objectives. Table 14 contains the frequency of multiple listings and the mean of the transformed ratings.

TABLE 13

NUMBER OF PRIME OBJECTIVES BY GENERAL AREAS

General Areas	f	%
Administrative	2	0.2
Program (Curriculum)	113	36.8
Student Directed	42	13.6
Teacher/Staff	15	4.9
Materials	30	9.7
Other	107	34.8
	Σ 307	100

TABLE 14

NUMBER OF MULTIPLE PRIME OBJECTIVES LISTED

Number of Prime Objectives Listed	Number Who Responded f	%
One only	24	26.1
Two	15	16.3
Three	11	11.9
Four	16	17.3
Five	7	7.6
Six	10	10.8
Seven	9	10.0
	92	100
Mean of transformed scale	=	4.26

It is apparent that program objectives (36.8%) were the most noted, with "other" objectives (34.8%) being the second largest classification. Student directed objectives (objectives dealing specifically with students) was the third largest group (13.6%) listed.

The majority of respondents listed more than one objective as being met. In fact, almost 46% of the respondents listed from two to four prime objectives. Only 26.1% listed one objective as being met. The mean of the transformed scale was

4.26. This was just over the 4.00 scale (indicating that the prime objectives were met at the high end of the scale). As indicated earlier, the transformation tended to depress the actual scale, thus it could be concluded that the respondents felt that they generally met the prime objectives of their projects.

Unexpected Outcome (Q-O#6)

Respondents were asked to list unexpected outcomes (refer to Table 15) and rate them as either negative (0) or positive (1). Again the outcomes were classified, a transformed rating for each project was derived (as above) for further analyses, and frequency of multiple listings were calculated (Table 16).

TABLE 15

NUMBER OF UNEXPECTED OUTCOMES BY GENERAL AREAS

General Areas	f	%
Administrative	3	2.3
Program (Curriculum)	19	14.6
Student Directed	32	24.6
Teacher/Staff	17	13.1
Materials	2	1.5
Other	57	43.9
	$\leq$ 130	100

TABLE 16

NUMBER OF MULTIPLE OUTCOMES LISTED

Number of Outcomes Listed	Number Who Responded f	%
One Only	20	34.5
Two	20	34.5
Three	10	17.2
Four	3	5.1
Five	5	8.7
Six	0	0.0
Seven	0	0.0
	58	100
Positive Ratings	95	
Negative Ratings	35	
Mean of non-transformed scale = 0.730		

Fewer unexpected outcomes were listed than prime objectives with Other category comprising the largest group of responses (43.9%). Student directed outcomes were the next largest (24.6%) indicated. Fewer multiple responses were also listed. Sixty-nine percent listed only one or two outcomes. It would indicate that unexpected outcomes were rather unusual in their projects. A mean of 0.730 was reached. This mean reflected the listing of positive responses (195) than negative ones (35).

Major Factors Contributing and Hindering Projects (Q-O #7)

An attempt was made to determine the major factors (or elements) that contributed most (Table 17) to the success of the project, and those major factors (or elements) that hindered the director in meeting the goals of the project (Table 18). Directors were asked to give their perceptions as to the contributing and hindering elements.

TABLE 17

MAJOR FACTORS CONTRIBUTING TO MEETING GOALS OF THE PROJECT

Factors	f	Mean[1]
Administration	23	3.30
Program (Curriculum)	20	3.85
Student Directed	30	3.46
Teacher/Staff	49	4.06
Materials	8	4.00
Others	81	3.91
	$\leq$ 211	

[1] Based on 5: most significant contributor to 1: least significant. Not transformed means.

TABLE 18

MAJOR FACTORS HINDERING THE MEETING OF GOALS OF THE PROJECT

Factors	f	Mean[1]
Administration	4	4.75
Program (Curriculum)	12	4.16
Student Directed	12	3.83
Teacher/Staff	15	4.33
Materials	17	4.17
Others	58	4.32
	$\leq$ 118	

[1] Based on 5: most significant hinderer to 1: least significant hinderers. Not transformed means.

It appears that teacher/staff (4.06) contributes more to the success of the program than do other factors listed and categorized. Materials (4.00) was the next prized, although it was rarely listed, the "other" category appears to be the most prevalent one. More contributors (211) were listed than hinderers (118). Administration (4.75) appears to be the most significant hindrance in meeting the goals of the project. Factors listed as "others" (4.32) appears to be the next contributor to not meeting goals. It also appears that the respondents are much more definite in their feelings about those who interfere with meeting goals than with those who contribute to meeting goals.

Summary

Objectives of programs were categorized into six general areas. It was found that directors felt the prime objectives of projects were met, and that program type objectives were the most noted in this study. Also most directors listed more than one primary objective met by the project. Unexpected outcomes were also listed. Although fewer in number than prime objectives, the directors had similar positive feelings about the unexpected outcomes as they did about the objectives. Teachers/staff appeared to contribute most to the project, while administration appeared to hinder the project. There appeared to be more contributors than distractors, although directors appeared to be more definite about the distractors (e.g. rated the factors as being more significant or higher in their role as distractors than the ratings given those factors as contributors).

Impact on Educational Practices (Q-O#8)

One way to assess impact is to evaluate the effects such projects have on educational practices. Directors were asked to rate the impact using a seven point scale (7 - Extreme Positive Influence; 6 - Very Positive; 5 - Had Some Positive Influence; 4 - No Influence; 3 - Had Some Negative Influence; 2 - Very Negative Influence; 1 - Extreme Negative Influence). The data is shown in Table 19.

TABLE 19

INFLUENCE ON EDUCATIONAL PRACTICES AT SELECTED LEVELS

Levels	No. Responding	Mean
Building or Neighborhood	69	5.85
Local Community and/or District	77	5.85
County/Intermediate Unit	65	5.01
State	72	5.08
National	55	4.54
Global Rating		5.28

It can be seen that at the local levels (building, neighborhood, community), the directors felt that they had positive to very positive influence, while at the County and State they had some positive influence. They felt they had little influence at the national level. This can be explained in the nature of R. C. U. funding throughout the nation. R. C. U. funding is distributed via State Departments of Education, consequently programs are locally oriented rather than State, and rarely are national in scope. The low ratings at the national level could also be a factor of the lack of wide dissemination of information about projects.

Identification of Examples of Impact (Q-O #9)

Directors were also requested to identify specific examples of how they could determine their project's influence(s) and at what level(s) such examples were felt. The number of responses of specific examples X levels is found in Table 20. Many examples were listed (888), most of which were at the local level (Building district) - very few were at the county (105), state (96), or national level (35). Curriculum (138), instructional (126) and counseling (118) procedures were most numerous. Educational policies (99) and reduced dropout rate (85) were the next largest numbers cited by the directors. Again it is apparent that the nature of the R. C. U. funding for instructional purposes at the local level was a factor in the results. It is significant to note that revised educational policies (99) and revised administrative policies (72) were noted as examples. This might indicate subsequent, or ripple effect, of the projects - that is, as a consequence of projects, current practices were altered.

Summary

The results indicate that R. C. U. funded projects had definite and positive influence on educational practices - but more so on the local level than in the county, state, or national level. It was also apparent that the effects of such projects were felt in classroom related activities (e.g. curriculum, instructional procedures) rather than in non-educationally related activities.

Influencers On Decision Making (Q-O #10)

Directors were asked to rate, on a seven point scale (7 - Extreme positive influence;... 4 - No influence;... 1 - Extreme negative influence), sources of influences that affected their decisions. Global mean ($\bar{X}$) ratings for internal and external influence (refer to Table 21) were also calculated for subsequent analyses.

Directors felt that internal influences ($\bar{X}$=4.96) were stronger in decision making than were external influences ($\bar{X}$=4.32). It is interesting to note that directors felt themselves as being the strongest source of influence ($\bar{X}$=6.03) with students ($\bar{X}$=5.66), professional staff ($\bar{X}$=5.55), and immediate supervisor ($\bar{X}$=5.31), in that order, having some positive influence. School boards policies approached positive influence ($\bar{X}$=4.84); while unicns showed no influence. Restrictions of the proposal and secretaries approach neutrality, but on the negative side of the scale.

TABLE 20

NUMBER OF EXAMPLES $\bar{X}$ LEVEL WHERE INFLUENCES WERE FELT

Specific Examples	Totals	Level Where The Influence Was Felt: Building/ Neighbor-hood	Local/ Dist.	Inter-mediate unit/ County	State	National
New or revised curriculum	138	40	54	16	22	6
Classroom/shop instructional procedures	126	42	52	13	16	3
New or revised educational policies	99	27	43	9	13	7
New or revised administrative policies	72	24	35	4	7	2
New or revised counseling/guidance procedures	118	33	51	13	17	4
Changes in employment patterns	59	20	30	5	3	1
Decreased unemployment rates	56	18	25	9	2	2
Decrease in the number on welfare	35	11	13	7	2	2
Reduced dropout rate of your targeted population	85	30	39	12	2	2
Remain, or initial selection, in the area for which the targeted population was trained	47	18	19	7	2	1
Teachers/other professionals received certificates	21	6	7	4	4	0
Others	32	4	11	6	6	5
Totals	888	273	379	105	96	35

TABLE 21

SOURCES OF INFLUENCE ON DECISION MAKING

Sources	Means	
A. Internal Influence		
Professional staff/faculty	5.55	
Students	5.66	
Secretaries	3.91	Global Mean = 4.96
Unions	4.04	
School Board or University policies	4.84	
Restriction of the proposal	3.86	
Your immediate supervisor	5.31	
Yourself	6.03	
B. External Influence		
Parents	4.06	
Unions	4.09	
Community	4.91	
Local government policies	4.49	Global Mean = 4.32
State governmental policies	4.65	
U.S. governmental policies	4.37	
Political parties	3.70	
Pressure groups	3.77	

Although parent ($\bar{X}$=4.60) community ($\bar{X}$=4.91) and State government policies ($\bar{X}$=4.65) approached some positive influence, the directors viewed the external influences as being rather neutral. Political parties ($\bar{X}$=3.70) and pressure groups ($\bar{X}$=3.77) were on the negative side of the neutral point.

It is apparent that those closest to the project (professional staff, students, immediate supervisors, the director himself, parents, community, state governmental policies) had more influence on decision making than those outside the direct contact of the project.

Dissemination of the Project (Q-O#11)

It appears that final reports are the most prevalent technique for disseminating the results of the project (Table 22). Word-of-mouth is the next largest technique used to communicate with those not in the project. Thus it appears that aside from the final report, verbal means of communication (speeches, word-of-mouth) is the technique used to disseminate information about projects. It should be noted that all R.C.U. funded projects require a final report. The large number of publications might be a result of the university/college based projects, where directors traditionally write articles for journals. The use of in-service training after the project (29) indicates that the results are again having a ripple effect and would be in keeping with response indicating effects on educational practices.

TABLE 22

MEANS OF DISSEMINATING THE RESULTS OF THE PROJECT

Type	f
Final report	79
In-service training (after the project)	29
Publications (books)	15
Publications (articles)	36
Speeches and papers given at conferences	50
Speeches to local groups	45
Word-of-mouth	66
Others	20

Permanent Part of Programs (Q-O #12)

Whether the results of the projects became a permanent part of programs or policies was surveyed (Table 23) in this study. Although more responded in the negative (204) rather than positive (152), the negative results were generated by the limited effects the projects had at the county, state, and national levels. The university/college responses were generated by the uniqueness of university directed projects that tend to focus outside the institution. It appears that the results did become a permanent part of school building and school district programs or policies. Thus it can be concluded that the projects funded by R. C. U. have a good probability of becoming change agents, as time passes, at the local level - but not at the county, state, or national level.

TABLE 23

PERMANENT PART OF PROGRAMS - DID THE RESULTS BECOME A PART OF PROGRAMS OR POLICIES?

Source	Become a Part?			
School building	Yes	55	No	16
School district	Yes	55	No	22
County/Intermediate	Yes	15	No	40
State	Yes	14	No	45
National	Yes	4	No	40
University/college	Yes	9	No	41

Summary

Internal influence appears to be stronger on decision making than external influences, and the directors themselves, are the strongest influences.

Directors usually use verbal communication to disseminate the results of their projects (mostly one-to-one communication).

The ripple effect does appear to exist for the projects; in that, the results of the projects tend to become a part of the programs on policies of local school districts. However, this effect appears to be limited to only local districts, not even to county or intermediate levels.

Satisfaction Generated (Q-O#13), Attitude Changes (Q-O#14), Ultimate Outcomes (Q-O#15)

The assessment of the degree of satisfaction generated by the program within selected interested groups was undertaken (Table 24) on a five point scale (1 - No Satisfaction... 3 - Satisfied... 5 - Highly satisfied; 6 - Not applicable was treated as a no response).

TABLE 24

SATISFACTION GENERATED BY THE PROJECT

Groups	Mean Ratings
Trainees	4.01
Participants other than trainees (e.g., staff)	4.01
School building personnel	3.86
School system	4.07
County System/Intermediate Unit	3.69
R. C. U.	3.31
State Department of Education (other than R. C. U.)	3.63

The highest ratings (very satisfied) were generated within those closest to the projects - trainees, staff, school system, etc. It seems that directors perceived R. C. U. to be satisfied with their projects, but not as satisfied as other personnel (including State Department of Education). This might be generated by a lack of feed-back from R. C. U. on the status and ultimate outcome of funded projects. Dissatisfaction apparently was not perceived by the directors to be the feeling of the groups listed.

Changes in attitudes of those who participated in projects were also surveyed. The scale was again five points with ... 1 - representing considerable negative changes... 3 - No change... 5 - Considerable positive change (Table 25).

Generally there was slight positive changes towards all selected areas with the exceptions being Other (peers and non-peers). The peer relationship exhibited almost no change at all, and the non-peer relationship was between some negative change and no change. It appears that projects had slight positive effects on attitudes of participants towards the project, and vocational education. It did appear to generate positive self-image changes, but not positive changes towards others.

TABLE 25

ATTITUDE CHANGES OF PARTICIPANTS TOWARD SELECTED AREAS

Selected Areas	Mean Change
Purpose or thrust of the project	3.55
Voc. Ed. in General	3.55
Education in General	3.13
The World of Work	3.32
Themselves (the Participants)	3.80
Others (Peers)	2.95
Others (Non-Peers)	2.55
Global Rating	3.26

In general terms, the directors were asked to rate the ultimate effects the project had on students or targeted population. A five point scale was again used (1 - No effect... 3 - Some effect... 5 - Major effect). The mean reached was 3.80. This indicates that directors felt the projects' effects on targeted populations approached the considerable effect (4) level.

Summary

It is clear that the projects generated satisfaction among interested groups and had considerable effect on the targeted populations. The projects did not generate changes in attitudes (positive or negative) towards selected areas among the participants or targeted populations of the projects.

Monies Allocated (Q-O#16), Sources of Funding (Q-O#17), and Per Unit Costs (Q-O#18).

The project directors were asked to indicate the total cost of operating the project (includes: R.C.U. funding; other state, federal, and local funding). The range of total funding was from $298,000 to $400.00 with the mean being $79,909.64. The range for R.C.U. funding was from $253,904 to $217.00, with a mean of $44,568. It should also be noted, that in our on-site visitations, it became apparent that many directors were not able to identify their sources of funding, hence they were not able to break down their total budget sources. It is apparent that R.C.U. funding does account for a significant amount of the funding of the projects - but by no means does it account for all of the funding. Local self help and other funding are also part of the effort. The total cost of operating the projects (where indicated) was $6,073,132.80; the total R.C.U. funding received (where indicated) was $3,342,609.00.

When adequacy of R.C.U. funding was assessed, the directors felt that the R.C.U. funding was close to, but did not reach, the "somewhat adequate" level. The mean was 2.90 on a five point scale of 1 - not adequate at all, 2 - not very adequate, and 5 - extremely adequate.

The results are not surprising, since it is rare to find projects where directors feel the degree of funding is adequate.

Directors were also asked to indicate what they would have done with additional funding that they were not able to do with the funding received. The results are found in Table 26. Responses were categorized into six general areas.

TABLE 26

WHERE ADDITIONAL FUNDING WOULD BE SPENT

General Areas	f
Administrative	2
Program (Curriculum)	21
Students	4
Teachers/Staff	11
Materials	24
Other Areas	34

Project directors would have distributed additional monies, if they were available, among many areas ("other areas" - 34). However, within the specified areas, the directors would have invested in materials (24) and on the program (21). Additional staffing appeared to be the third specific area (teachers/staff - 11). Student and administrative areas were not highly selected by the directors for spending additional monies.

Sources of funding besides R.C.U. was requested (Table 27). It appears that the major source for the projects, aside from R.C.U., are school budgets (59), with other State funding being the next largest source (12). It is also interesting to note that 18 of those responding to the question indicated that R.C.U. was the sole funding source. It should also be noted that many projects had multiple funding beside R.C.U. monies (e.g. school budget U.S.O.E. and O.E.O). This is consistent with the differences found in the total funding and R.C.U. funding amounts.

Fifty-one directors were able to estimate the per unit costs of their projects, while six indicated they could not estimate the cost, four indicated the question doesn't apply to them, and the rest (37) did not respond.

They were asked to list the units within projects and to indicate their costs. Many projects trained individuals, produced materials, and completed a study - thus projects would have multiple listing. The per unit costs across the fifty-one projects were totaled and a mean was calculated. The mean per unit costs for all units listed was $1,806.78. Thus it cost almost two thousand dollars, on the average, to train a student, produce a curriculum material, or complete a study.

It is also interesting to note that only 52% of the directors responded to the request for per unit costs - one might assume that the other 48% could not readily

TABLE 27

ADDITIONAL SOURCES OF FUNDING OF PROJECTS

Sources	f
None	18
School Budget	59
Local Government	5
State - other than R. C. U.	12
Private Industry	6
U.S. Office of Education	8
Office of Economic Opportunity	2
Other U.S. Funding	2
Foundations	2

determine the amount because of the time span of this study (1965-1972); or they could not determine the amount because they don't have the information. The per unit costs within a project was totaled and averaged (the average per unit cost per project), these averages were then totaled and averaged - the final figure determined was $948.74. Typically, where responses were given, the average project spent about one thousand dollars on the unit items within the project. Because the average per unit cost per project reflects what individual projects spent, it was used in further analyses.

Summary

R. C. U. funding was considered to be slightly below the adequate level by the directors. If additional funds were available, directors would spend them generally on materials and program development. School budgets appear to be the major additional source of funding, besides R. C. U., for projects in the local school budget. It would seem that the average per unit cost within each project supplying the information is slightly less than $1,000.

Influence (Q-O#19), Assistance (Q-O#20), R. C. U. Interaction Desired (Q-O#21).

To what extent did others, besides the director, influence the creation of a proposal was investigated by the instrument (Table 28). Based on a five point scale (1 - Had no influence... 3 - Had some influence... 5 - Extremely influential), it appears that the R. C. U. and local Vocational Educational personnel were the most influential of those listed in creating the proposals (3.45 and 3.27 respectively). It should be noted that none of the groups listed appeared to be very influential. R.C.U. approached the level of having significant influence. State Department of Education and Teacher Education Institutions had the same degree of influence (2.76) on creating proposals.

TABLE 28

INFLUENCE ON CREATING THE PROPOSAL

Source	Mean
R. C. U.	3.45
State Department of Education (Non-Voc. Ed. Div.)	1.82
State Department of Education (Voc. Ed. Div.)	2.76
County level Vocational Education Personnel	2.33
Local Vocational Education Personnel	3.27
School Building Personnel	2.69
School District Personnel	2.91
Teacher Education Institution	2.76

The degree of assistance received from selected sources was also surveyed (Table 29); in addition requests for assistance from the sources was also questioned. A four point scale (1 - No assistance... 4 - Considerable assistance) was used to assess the degree of assistance received during the project.

TABLE 29

ASSISTANCE RECEIVED DURING PROJECT

Source	Mean Rating	Request for Assistance Yes	No
R. C. U.	3.03	58	24
State Department of Education (Vocational Education)	2.56	39	44
State Department of Education (Non-Vocational Education)	1.62	21	58
County Educational Personnel	1.89	29	49
District Personnel	1.39	45	35
School Building Personnel	2.48	43	
Teacher Education Institutions	2.18	31	48
Global	2.24	237	292

The R. C. U. appeared to give the most assistance to project directors (3.03 - "Some assistance"). State Department of Education (Vocational Education) assistance (2.56) received the second highest rating - its rating approached the "some assistance" level, followed by school building personnel (2.48). District personnel evidently gave the least amount of assistance to the directors. It should be noted that the R. C. U. and Vocational Education (State Department) received many requests for assistance (and evidently gave it), while district personnel also received many requests for assistance and either didn't give it and/or the level of assistance

given was inadequate. It also is apparent that assistance was not always requested by project directors.

To what extent should R. C. U. provide interaction (assumes assisting projects) after funding has been approved was considered (Table 30).

TABLE 30

R. C. U. INTERACTION AFTER FUNDING APPROVAL

Value	Degree of Interaction	f
(1)	No interaction between R. C. U. and the project after funding has been approved.	2
(2)	There should only be slight interaction between R. C. U. and the project after funding has been approved.	6
(3)	There should be some interaction between R. C. U. and the project after funding has been approved.	35
(4)	There should be considerable interaction between R. C. U. and the project after funding has been approved.	34
(5)	There should be constant interaction between R. C. U. and the project after funding has been approved.	10
	Mean - 3.48	

The results indicate that, of those who responded to the question (N=87), most believe that from some to considerable interaction should take place. Actually 44 of the 87 respondents believed there should be considerable to constant interaction. There is no question that the directors welcome R. C. U. interaction after funding.

Summary

R. C. U. personnel were the most influential in creating proposals funded and studied in this project. The State Department of Education (Vocational Education Division) also gave valuable assistance to the project directors.

R. C. U. interaction would be welcomed after funding approval by the directors, this was assumed to imply that R. C. U. would provide assistance to the project directors. However, expansion of R. C. U. personnel and facilities will be required to achieve the above stated objective and to provide personal attention to each project.

Other General Questions (Q-O #22, 23, 24, 25, 26)

Most directors (65 or 71.4% of those responding to the question) felt that their projects, as they were designed, should be repeated (Q-O #22). Most of those

responding negatively would repeat the project if it were to be significantly redesigned. Open-ended responses to the question were difficult to categorize, thus were not included in this report (all responses, however, will be given to R. C. U. for their use). Out of the 91 who did respond 88 gave reasons why they responded to question #22a; 65 also gave examples of what they would do differently (including "nothing") if their project were to be repeated as designed. Twenty-eight (out of 32 who indicated that they would repeat a significantly redesigned project) listed changes. Sixteen out of the twenty (who would not repeat a redesigned project) indicated their reasons for such a decision.

The vast majority of directors (84 or 92.3% of those responding to question(Q-O #23) felt that their agency (or institution) was the most appropriate one for the project. Of those who felt their agency was inappropriate, four would have had a school system perform the project, one would have had a university/college sponsor the project, and two listed "other".

Career advancement for the project director, as a consequence of the project, was investigated (Q-O #24). The results are displayed in Table 31.

TABLE 31

PROJECT DIRECTOR'S CAREER ADVANCEMENT AS A RESULT OF THE PROJECT

Career Advancement	f
Nothing	41
Received an advanced degree	6
Was promoted	8
Received certification	3
Given other projects to develop	30
Given administrative duties of position not held before the project (but not promoted)	15
Other	15

It seems that project directors were inclined to continue on in their capacity and/or were given other projects to develop. Only eight indicated that they were promoted as a result of the project they directed. Fifteen indicated that a horizontal move was made as a result of the project. It would appear that, in terms of promotion, the route of directing a project is not the approach to take.

Local Vocational Education Advisory Councils are quite common, yet the project directors did not (or were not able to) use them often in their projects (refer to Table 32). When they were used, the directors found them to be effective.

TABLE 32

LOCAL VOCATIONAL EDUCATION ADVISORY COUNCIL USE AND EFFECTIVENESS

Usage		f	
(1)	None of the time	34	
(2)	Very little	9	
(3)	At times	24	
(4)	A good bit of the time	19	
(5)	A considerable amount of the time	6	
		Σ 92	Mean = 2.50
Effectiveness			
(1)	Was not effective at all	1	
(2)	Had very little effect	5	
(3)	Had some effect	25	
(4)	Considerable effect	13	
(5)	Highly effective	11	
		Σ 55	Mean = 3.51

Of those who responded to the question on internal and external evaluations (Q-O #26), 54.1% or 46 indicated that the project had an internal evaluation. Thirty-four or 73.9% of the 46 indicated that a report was available.

Only 25 or 29.4% of those responding indicated that an external evaluation was completed, with 14 indicating that a report of the evaluation was available.

If one were to include all 98 projects in this particular analysis, it is apparent that only 46.9% of the projects in this study were internally evaluated, and only 25.4% had an external evaluation.

With educational and fiscal accountability existing today, such low figures appear to be quite surprising. Again this points out a need for more R.C.U. interaction with the projects in terms of: making sure that an evaluation component is part of initial proposals; seeing to it that evaluations are performed during the life of the project; and making sure that follow up evaluations are made by R.C.U. R.C.U. should also make sure that both internal and external evaluation are made.

Only those involved in training programs were asked to respond to questions 27, 28, 29, and 30 of the instrument.

Numbers and Types involved in Training (Q-O #27)

Not all projects were involved in training programs; however, out of the 98 projects participating in this study, 60 or 61.2% indicated that they were directly involved in some type of training program. Fifteen projects exclusively trained

TABLE 33

NUMBERS AND MEANS OF ETHNIC GROUP TRAINEES INVOLVED IN 60 TRAINING PROGRAMS

Ethnic Groups	Students (Up to 18 years of age)			Adults (Over 18 years)			Teachers/Other Professional Staff			Grand Total
	Total	Mean	Maximum Served by any one group	Total	Mean	Maximum Served by any one group	Total	Mean	Maximum Served by any one group	
American Indians	89	1.48	89	0	0.0	0	10	0.17	10	99
Blacks	1,426	23.77	491	55	0.92	30	240	4.00	126	1,721
Puerto Ricans	0	0.0	0	0	0.0	0	3	0.05	3	3
Whites	12,438	207.30	5,000	441	7.46	175	2,037	33.95	990	14,916
Orientals	137	2.28	135	0	0.0	0	10	0.17	10	174
Others	3,624	60.40	3,000	825	13.98	600	1,624	27.07	650	6,073
Totals	17,714	295.23	5,000	1,321	22.02	600	3,924	65.40	990	22,959

Mean = 382.65

students, one exclusively trained adults, and nineteen trained teachers only. Two projects trained all three groups, seventeen trained teachers plus students, two trained students and adults, and four trained teachers and adults. Using 60 as a base, the average number for each ethnic group of students, adults, and teachers were computed (refer to Table 33) to indicate the typicalness of the training programs found in this study.

The 60 programs in this study typically trained white children, adults, and teachers. Minorities (Blacks, Puerto Ricans, American Indians, and Orientals) were not well represented in the training programs. The number of Puerto Ricans were almost non-existent. They were much lower than American Indians and Orientals in the sample. They might have been represented in the "others" category, however, their ethnic identity has been established in our society, and the project directors should have had this information - if indeed they had been considered as "others". Only 7.5% of the trainees were identified by the project directors as Blacks. This is also a considerably low representation in the sample. Again Blacks might have been counted along with Puerto Ricans in the "others" category. Inspection of Table 33 also shows that the "other" category has been affected by large singular programs (3,000,600,650), which indicates that it represents primarily these programs and is not made up of input from many programs.

Whites make up 70.2% of the students, 33.4% of the adults, 51.9% of the teachers/other professionals and 64.9% of the total when "others" category is included in the calculation. However, when the "others" category is excluded from the calculation and subtracted from the totals, the percentages change considerably - Whites then comprised 88.3% of the students, 88.9% of the adults, 88.5% of the teachers/other professionals and 87.8% of the total.

If one can agree that the "others" category includes all those not included in the categories listed, then one can assume that when comparing the number of Whites to the numbers of American Indians, Blacks, Puerto Ricans, and Orientals, the inbalance which is in favor of Whites trained, is even greater than when comparing Whites to all groups.

The programs typically trained more students (77.6%) than teachers (16.6%) or adults (5.8%) although there were approximately an equal number or programs that exclusively trained students/adults and teachers, it would be expected that the numbers of participants would be inbalanced. Totally, there were 22,959 trainees broken down as follows: 0.4% American Indian; 7.5% Blacks; 0.01% Puerto Rican; 64.9% White; 0.6% Oriental; and 26.6% classified as "others". As indicated above, if the "others" category was excluded from all the calculations, the percentages for all remaining classifications would rise, but the percentage for the White classification would jump from 64.9% to 87.8%, while the percentage for Blacks would rise from 7.5% to 10.2%.

With the distributions of minorities found in the State of Pennsylvania, the percentages found in this study appear not to be representative of the minorities. Again the reader should be cautioned that the "others" category tends to be confounding the data, and that the minority trainees might be imbedded in that classification.

It is also interesting to note that 45% of the training programs indicated that the total cost of operating their projects was $3,035,868.13; an average of the 45 programs being $67,463.73. In addition, 45 of the training programs indicated that their R.C.U. funding was $2,419,830.26 allowing an average per project of $53,774.01. This indicates that R.C.U. played a major part in the funding of the projects. In terms of monies spent (as indicated by the respondents), training programs accounted for 49.9% of the monies spent for total costs (refer to Q-O #16); they used 72.3% of the monies allocated by R.C.U., as indicated by the respondents.

It is quite evident from the numbers of projects involved in training and the monies spent, that R.C.U. funding was heavily involved in training. Because not all directors responded to the questions of funding (Q-O #16) and the fact that some projects included other activities besides training, the cost per trainee could not be determined exactly. It was found that when all the per unit costs, within training programs only, was totaled and averaged, the resulting figure was $821.99. When the per unit cost for trainees was specified, totaled, and averaged, the resulting average was $508.65. It is apparent that most of the funding of training programs went directly to training people per se, as opposed to developing materials, equipment, etc., although some directors did include those expenses in their specific unit cost per trainee.

Follow-up of Participants (Q-O #28, #29, #30)

It was found that 48.8% of those responding, indicated that the majority of participants (students or adults) remained in school or went into another education/training program. Twenty-three or 51.2% of those responding went immediately into industry or business.

Most of the teachers, or other professionals, remained in the position or area that was the focus of the project (32 or 94.1% of those responding to the question). Only 2 or 5.9% moved into a position or area not related to the focus of the project.

The names and addresses of firms listed in question #29 will be made available to R.C.U. Eighteen directors listed 54 firms, while five indicated that the question did not apply because of the nature of their project (e.g. training junior high students); 37 did not respond at all to the question.

Selected rewards were listed in question #30 that might be earned by teachers or other professional participants in the projects. It appears that college credit is the most common reward earned by the professional participants (refer to Table 34). Although "None of the above" is the mode response, one might interpret such responses as indicating other rewards not listed were earned by the participants, or that participants received no tangible rewards. It is also interesting to note that only 8 directors indicated that credit towards salary advancement was given to participants.

TABLE 34

REWARD EARNED BY TEACHERS/OTHER PROFESSIONALS WHO WERE THE TRAINING PARTICIPANTS

Rewards	f
An initial degree	2
An advanced degree	3
An initial certificate	1
College credit	12
Credit towards salary advancement	8
None of the above	16

On-Site Visitations (S1-8)

As part of this study, and included in the initial proposal, on-site visits were made. Forty-seven or 31.9% of the initial sample were selected to represent all geographic, size (funding), and vocational service areas. One of the 47 projects selected had its funding returned to the State (17096), one director refused to cooperate (16052), one project could not be located (16040) or identified by the school district as having ever existed, and after arriving for the interviews four projects were found to be duplications (or extensions) of other programs (thus responses for one project would be applicable for its mate). In all, 40 (27.2%) different projects, or totally 44 (29.9%) projects were visited. The initial proposal indicated that 15% of the projects would be visited, thus almost twice the percentage of visits were made.

Again it should be noted that not all directors responded to all questions, thus the number who responded will not be consistent. All qualifiable data will be made available to R.C.U. for its consideration.

Almost all the directors enjoyed being involved in their projects (S1a). Thirty-five indicated with a positive response, only one gave a negative response, and four didn't respond at all.

Project Impact (S1b, 1-5)

Directors were asked to indicate how the projects had impact on students, adults, staff, creating materials, and new methods or approaches (refer to Table 35). Since the interest is on how the impact was felt, the number of different examples given (or shown) for each group or area would indicate the extent of the impact. Meeting the needs of adults and developing new approaches or methods were the weakest areas. Meeting the needs of students, professional growth of staff, and creating new materials were strongest.

TABLE 35

PROJECT IMPACT IN SELECTED GROUPS OR AREAS

Group or Area	Number of Different Examples Given 0	1	2	3	4	5
Meeting the Needs of Students	7	22	5	4	2	0
Meeting the Needs of Adults	24	12	3	1	0	0
Professional Growth of Staff	6	21	11	1	1	0
Creating New Materials	9	20	9	2	0	0
Developing New Methods or Approaches	17	17	4	2	0	0

Aside from not generally meeting the needs of adults and developing new approaches (which are consistent with the results of the questionnaire-opinionnaire), the project directors were able to establish for the interviewers how they, the directors, could provide impact information.

Ripple Effect (S2, 1-4)

Directors were asked to explain the ripple effect their project had on the educational system (Table 36). Again the number of different effects per area was tabulated.

The data indicated that the projects tend to have much less ripple effect than direct impact. This might be explained because: 1. ripple effect is difficult to establish, 2. ripple effect is hard to demonstrate; or 3. there just wasn't any such effect created by the projects.

It is interesting to note the lack of multiple examples given the interviewers by the directors. The definition of "community," as used by many directors, was the business, industrial, or commercial establishment - hence the number of responses given. When "community" was used in a sociological or political sense, most of the directors would have given zero response.

Continue or Discontinue The Project (S3a-e)

Although all projects were completed before the on-site visits, directors were asked to comment as to whether they would have liked the projects to have been continued. Thirty-five indicated that they would have liked to see the projects either repeated, continued, expanded, or revised. Four would have discontinued the project; one gave no response.

TABLE 36

PROGRAM'S RIPPLE EFFECT ON THE EDUCATIONAL SYSTEM

Effected Areas	Number of Different Examples Given					
	0	1	2	3	4	5
Students						
Achievement	20	14	4	2	0	0
Motivation	17	18	5	0	0	0
Awareness	20	14	5	1	0	0
Teachers Performance						
Teaching	40	0	0	0	0	0
Attitude	29	10	1	0	0	0
Curricular Improvements						
Direct	17	22	1	0	0	0
Indirect	24	15	1	0	0	0
Actual	27	11	2	0	0	0
Projected	17	17	6	0	0	0
Parental Involvement						
Community Reaction	21	18	1	0	0	0
Community Understanding	25	11	4	0	0	0
Community Cooperation	13	20	7	0	0	0

Elements That Could Improve The Projects (S4a-e)

If directors answered to continue the projects, they were then asked to indicate in selected areas, what they would like to see, do, or make suggestions to make the program more successful. The number of different responses given per area was tabulated rather than evaluating responses qualifiably (Table 37). Although almost half the directors did not give suggestion per each selected area, it is apparent that suggestions for improvement did not fall within curriculum or system improvement. No one area appears to stand out.

State Department of Education Help (S5a-e)

A question concerning possible aid by the State Department of Education in selected areas was asked. Again the number of different responses were tabulated per area (Table 38).

Additional funding, feedback on a regular basis, and more on-site visits appear to be the areas in which the State Department of Education could aid in making projects more successful. This would be in keeping with the need for R. C. U. to expand its interaction role with projects.

TABLE 37

NUMBER OF RESPONSES GIVEN PER SELECTED AREA TO MAKE PROJECTS MORE SUCCESSFUL

Selected Areas	Number of Different Examples Given					
	0	1	2	3	4	5
Students	20	17	1	2	0	0
Staff	18	18	4	0	0	0
Materials	18	19	3	0	0	0
Curriculum	24	12	4	0	0	0
System Improvement	22	13	5	0	0	0

TABLE 38

STATE DEPARTMENT OF EDUCATION HELP

Areas of Help From the State	Number of Different Examples Given					
	0	1	2	3	4	5
Additional Funds	11	17	7	5	0	0
Program Guidance	23	14	3	0	0	0
Professional Resources	21	14	4	1	0	0
On-Site Visits	19	20	1	0	0	0
Feedback on a Regular Basis	13	23	4	0	0	0

Physical Identification of Objectives (S6a-y)

Interviewers were requested to see or locate any tangible, or physical remains of projects. This was an attempt to establish whether the projects produced anything. The data is displayed in Table 39.

Reports and curricular materials appear to be the only physical remains of projects shown to the interviewers. In many cases "shop layouts" was not applicable to the projects, "student status after the programs" was found in either reports or articles; staff training and performance dealt with continued in-service programs that were off-growths of projects and/or the utilization of materials developed by such projects.

In any event, it does appear that there are physical demonstrations that the programs have had some lasting effect or influence on current educational practices.

Good and Welfare (S7, S8)

The last two questions of the schedule was written to generate any comments directors might like to share with the interviewer. Most comments reflected or

TABLE 39

PHYSICAL EXAMPLES OF PROJECTS

Examples	Were They Shown? Yes	No*
New Shop Layout	13	27
Staff Trained and Performing	20	20
Student Status after Program	20	20
Curricular Materials	24	16
Reports	31	9
In-house Evaluations	16	24
Other Items	6	34

*In some cases the examples are not applicable to a project.

repeated the responses that were given during the interview. Only twelve directors refused to share any "other" comments with the interviewer. Almost all comments were positive about the projects, and about the support directors received from many sources to make the projects successful.

The last question was used to determine, as unobtrusively as possible, whether the local Board of Education perceives the project favorably or not. It could also be considered an indication as to whether the Board of Education would have funded the project without R. C. U. help.

Eighteen indicated that they felt the local Board would use an increased amount of their operating budget for the project (if needed to continue the project). Sixteen indicated the School Board would not. Of the six remaining, four didn't respond and two were not sure.

Summary

The directors appeared to have enjoyed their experiences in their projects. The projects tended to have impact on students, staff, and material development. The projects tended to have little ripple effect beyond the immediate populations served, and even this was rather restrictive. Most directors would have liked to see their projects continued in some fashion.

Additional funding, regular feedback, and more on-site visits were areas where directors saw the State Department of Education aiding projects. However, in-service programs, etc., appear to also be examples of the continued effects of projects. It would appear that as many Boards of Education would use their own operating budgets to continue the projects as would not.

CHAPTER 5

COMPARISONS OF GROUPS

The following chapter is devoted to the comparison of groups in a more in-depth analysis of the data than in the preceding discussion.

Length of Project

The question of whether the population distributions, by length of projects, are the same was tested by the Chi Square (χ^2) analysis method. The three basic populations were: one year projects; two year projects; and three year projects. Table 40 is a summary of the χ^2 testing on selected variables utilizing the appropriate degrees of freedom. The rows were the length of the projects, and the columns were the types of responses found for a particular variable.

There didn't appear to be any significant differences among the projects in terms of: prime administrator's background; influencing educational practices at sundry levels; influences on project director's decisions; project's outcomes in terms of ultimate effect; rating of the adequacy of R. C. U. funding; knowledge of per unit costs (as reflected in responding and non-responding) to the question or the number of each type (ethnic identification) of trainee. Length of projects didn't appear to generate any different responding patterns with the variables just discussed.

There appeared to be a significant difference ($p<.05$) in the percentages devoted to developing materials among the one, two, and three year projects. It seems that the two and three year projects devoted more time to developing materials than did one year projects.

One and two year projects also devoted more time to training students/adults than did three year programs (the level reached was beyond .01).

Each year-group was then analyzed separately in terms of meeting objectives (Q-O#5) and how they viewed the adequacy of R. C. U. funding. The rows were the degrees of adequacy of R. C. U. funding and the columns were the ratings of meeting objectives. Because of the nature of the instrument and the statistical program used, the responses to meeting the objectives were analyzed per line on the instrument. That is, all responses to line one of question (Q-O#5) were tabulated by rating of meeting the objective (frequency table column) by adequacy of R. C. U. funding (frequency table row). It was assumed that any differences among the three year groups would be reflected in a pattern of significant χ^2 reached.

It would seem that the distributions of responses (objectives met adequacy of funding - Table 41) were not significantly different for all those in one year projects. The same was true for the two year and three year projects. The pattern of responses on meeting objectives for those who viewed R. C. U. funding as not very adequate, was similar to those who viewed the R. C. U. funding as very adequate, etc. There was no significant difference found, let alone a series of significant patterns.

Additional analyses were made utilizing length of program. They will be described later in this report. The data analyses indicate that length of the project doesn't appear to affect the patterns of responses found in this study. These one year, two year, and three year programs are not unique from each other.

Types of Responses, Ratings of Objectives, and Unexpected Outcomes

All responses to question (Q-O#5) were categorized into six general areas (administrative, program, student, teacher/staff, materials, and others). Did the type of response generate any differences in rating patterns was a question investigated. Chi squares were calculated (Table 42) in the same manner as was done for the data found in Table 41.

There were no significant differences generated in the patterns of rating objectives as a result of the types of objectives. Thus the pattern of administrative type objective ratings were similar to the rating patterns of student type objectives.

Unexpected outcomes (Table 43) were analyzed in the same manner. Again there were no significant differences in patterns of responses generated as a result of the types of responses. In summation, it can be stated that the directors rated the different objectives similarly - that is, the proportion of high ratings were similar (not necessarily identical) for each of the types, and it could be concluded that the nature of particular objectives did not generate more favorable (or negative) ratings than did other types of objectives.

TABLE 40

SUMMARY OF χ^2, TESTING THE POPULATION DISTRIBUTIONS (1 YEAR x 2 YEAR x 3 YEAR) ON SELECTED VARIABLES

Variables	χ^2	p*
Project Prime Administrator's Background (Q-O #3C)		
Educational Level	6.1682	n.s.
Number of years teaching	42.5961	n.s.
Number of years supervision/administration	33.1214	n.s.
Non-teaching experience	22.2662	n.s.
Percentages of the Elements of Programs (Q-O #4)		
Curriculum Development - Scope and Sequence/Guidance	20.1388	n.s.
Research	16.9312	n.s.
Developing Materials	34.9224	<.05
Training-teachers/other professionals	26.1376	n.s.
Training-students/adults	41.9745	<.01
Equipment	15.8741	n.s.
Work Study	20.5221	n.s.
Influencing Educational Practices (Q-O #8)		
Building or neighborhood	6.1088	n.s.
Local community and/or district	7.9722	n.s.
County/Intermediate Unit	6.7865	n.s.
State	12.0869	n.s.
National	6.6215	n.s.
Influencing Project Director's Decisions (Q-O #10)		
Sources of Internal Influence		
Professional staff/faculty	4.5098	n.s.
Students	7.6496	n.s.
Secretary	12.8101	n.s.
Unions	13.2437	n.s.
School Board or University Policies	10,5119	n.s.
Restriction of the Proposal	6.4649	n.s.
Your Immediate Supervisor	5.3041	n.s.
Yourself	6.8817	n.s.
Sources of External Influence		
Parents	11.0027	n.s.
Unions	12.4829	n.s.
Community	10.9594	n.s.
Local governmental policies	6.7552	n.s.
State governmental policies	16.9291	n.s.
U.S. governmental policies	14.4675	n.s.
Political parties	4.7731	n.s.
Pressure groups	6.4274	n.s.

(Continued)

TABLE 40 (continued)

Variables	χ^2	p*
Projects Outcomes in terms of Ultimate Effect (Q-O#15)		
	5.3041	n. s.
Rating of the Adequacy of R. C. U. Funding (Q-O#16c)		
	5.2889	n. s.
Number responding-not responding to per unit cost (Q-O#18)		
	5.1934	n. s.
Types of Trainees (Q-O#27)		
Students (number of)		
American-Indian	23.7288	n. s.
Blacks	16.5555	n. s.
Puerto Ricans	--	--
Whites	21.4053	n. s.
Orientals	0.8898	n. s.
Others	30.4641	n. s.
Adults		
American-Indian	--	--
Blacks	6.6638	n. s.
Puerto Rican	--	--
Whites	10.7872	n. s.
Orientals	--	--
Others	4.1910	n. s.
Teachers		
American-Indian	8.8983	n. s.
Blacks	2.4293	n. s.
Puerto-Rican	0.8898	n. s.
Whites	17.2990	n. s.
Orientals	0.8898	n. s.
Others	5.7511	n. s.

* based on appropriate d. f.

TABLE 41

MEETING OBJECTIVES IN TERMS OF ADEQUACY OF R.C.U. FUNDING FOR ONE YEAR, TWO YEAR, AND THREE YEAR PROJECTS

Meeting Objectives (Q-O#5)				Total Numbers Reaching Levels of Significant Differences
One Year Projects				
Objectives Met (Q-O#5) by Adequacy of R.C.U. Funding (Q-O#16c)				0
		χ^2	p*	
Lines on Instrument	- 1	9.1240	n.s.	
	2	4.4854	n.s.	
	3	8.9999	n.s.	
	4	8.8888	n.s.	
	5	2.4374	n.s.	
	6	3.4999	n.s.	
	7	1.8749	n.s.	
Two Year Projects				
Objectives Met (Q-O#5) by Adequacy of R.C.U. Funding (Q-O#16c)				0
		χ^2	p*	
Lines on Instrument	- 1	2.3333	n.s.	
	2	3.9583	n.s.	
	3	10.6666	n.s.	
	4	0.7499	n.s.	
	5	1.3333	n.s.	
	6	2.0000	n.s.	
	7	no responses	-	
Three Year Projects				
Objectives Met (Q-O#5) by Adequacy of R.C.U. Funding (Q-O#16c)				0
		χ^2	p*	
Lines on Instrument	- 1	2.0740	n.s.	
	2	7.7159	n.s.	
	3	0.7999	n.s.	
	4	1.0714	n.s.	
	5	3.9374	n.s.	
	6	8.6666	n.s.	
	7	2.9999	n.s.	

* based on appropriate d.f.

TABLE 42

MEETING OBJECTIVES BY TYPES OF RESPONSES (Q-O #5)

		χ^2	p*	Total Number of Significant Differences
Lines on Instrument -	1	9.4469	n.s.	
	2	22.9365	n.s.	
	3	13.2722	n.s.	
	4	17.1086	n.s.	
	5	3.6812	n.s.	
	6	7.3417	n.s.	
	7	6.4499	n.s.	
				≤ 0

TABLE 43

UNEXPECTED OUTCOMES (TYPES OF RESPONSES) BY POSITIVE/NEGATIVE RESPONSES (Q-O #6)

		χ^2	p*	Total Number of Significant Differences
Lines on Instrument -	1	3.7681	n.s.	
	2	10.8928	n.s.	
	3	1.4384	n.s.	
	4	0.0000	n.s.	
	5	5.9999	n.s.	
				≤ 0

* based on appropriate d.f.

Request for Assistance by Assistance Received

Of interest is whether those who requested assistance perceived the assistance they received as being higher than those who did not request assistance (Q-O#20).

The data displayed in Table 44 indicates that from all sources of assistance, those who requested assistance rated their assistance significantly different than those who did not. Those who requested assistance, in each case, rated the assistance received much higher than those who didn't request such aid. However, the results were expected, since one of the ratings (1) was for "no assistance". Thus many who didn't request assistance rated the response to the particular source with a "1". It is of interest to note that: out of 39 who did not request assistance from R. C. U., 17 rated R. C. U. help above 1; out of 20 who did not request assistance from State Department of Education (Voc. Ed.), 9 rated assistance received above 1; and out of 42 non requests for help, 10 rated help from teacher education institutions above 1. In all the other cases, almost all those who didn't request help from a source, were given no assistance. Thus it is evident that assistance was given to those who asked for it, and that many who did not request help from R.C.U., Vocational Education Department (State), and teacher education institutions, received it anyway.

TABLE 44

REQUEST FOR ASSISTANCE BY RATING ASSISTANCE RECEIVED FROM SOURCES (Q-O#20)

	χ^2	p*
R. C. U.	36.8004	.001
State Department of Education (Voc. Ed.)	50.9016	.001
State Department of Education (Non-Voc. Ed.)	42.7182	.001
County Educational Personnel	50.3305	.001
District Personnel	49.2390	.001
School Building Personnel	47.3937	.001
Teacher Education Institution	51.1739	.001

* based on appropriate d.f.

Multiple Discriminant Analysis

In order to determine to what extent various classifications and groups can and are different among each other, and on what variables the differences can be established (maximizing the differences), a multiple discriminant analysis approach was used. The B M D 0 5 M (Dixon's Biomedical Computer Program No. 2) was the computer program utilized.

TABLE 45

LISTING OF DISCRIMINANT ANALYSIS

General Area	Groups
Length of Projects	1 year; 2 year; 3 year
Population Concentration	Urban; Suburban; Rural
Geographic Community	Under 25,000; 25-50,000; 50,001-100,000; over 100,000
Types of Activities (over 50%)	Work Study; Equipment/Development Material; Training; Research; Curriculum
Total Funding Levels	Under 10,000; 10-30,000; 30,001-75,000; over 75,000.
R. C. U. Funding Levels	Under 5.000; 5,000-9,999; 10,000-50,000; over 50,000
Students (over 50%)	Minority; White
Type of Training (over 50%)	Teachers; Students

TABLE 46

DISCRIMINANT ANALYSIS KEY - VARIABLES USED IN THE ANALYSIS

Variable Name	Number Used under Mean Score and Coefficient
Number of Years Teaching (Q-O#3B)	1
Number of Years Supervision/Administration (Q-O#3b)	2
Number of Years of Non-Educational Experience (Q-O#3c)	3
Transformed Rating of Prime Objectives (Q-O#5)	4
Transformed Rating of Unexpected Outcomes (Q-O#6)	5
$\bar{X}$ of Factors Contributing to Success (Q-O#7a)	6
$\bar{X}$ of Factors Hindering Success (Q-O#7b)	7
Influencing Educational Practices at (Q-O#8):	
Building Level	8
Local Level	9
County/Intermediate Level	10
State	11
National	12
$\bar{X}$ Extent of Internal Influence (Q-O#10a)	13
$\bar{X}$ Extent of External Influence (Q-O#10b)	14
$\bar{X}$ Satisfaction Generated (Q-O#13)	15
$\bar{X}$ Attitude Changes (Q-O#14)	16
Ultimate Outcome on Targeted Population (Q-O#15)	17
Adequacy of R. C. U. Funding (Q-O#16c)	18
$\bar{X}$ per Unit Cost per Project (Q-O#18)	19
$\bar{X}$ Assistance Received (Q-O#20)	20
Effectiveness of Voc. Ed. Adv. Council (Q-O#25c)	21

A survey of Tables 45 and 46 should give the reader an overview of the thrust of the analysis. The groups are those generally found as classifications in most formal structures or organizations. The variables investigated focused on: administrative input, objectives, attitudes, effects, assistance, and influences. All twenty-one variables were used in each discriminant analysis. The discriminant analyses are found in Tables 47 to 54; a summary of the variables with the heaviest loadings (coefficients) per discriminant function is found in Table 55. The reader may use Table 46 as a key to identify the variables in the sundry analyses.

The generalized Mahalanobis D^2 is used to determine if the mean values are the same in all groups for all the same variables in composite. If the D^2 reaches the level of statistical significance ($p<.05$), then it can be assumed that there are significant differences among the groups in terms of the variables; if not, we don't go any further. The coefficient loadings can be considered as weights for each variable in order to maximize the differences among the means of the composites derived from the groups relative to the variance within the groups. Thus large positive or negative weights help to maximize the separation among the groups. The heavier the loading of a variable, the more influence (either positive or negative) it has on the uniqueness of that particular group. The classification matrix is a summary of how many projects found in the original groups (rows) would be placed in the maximized groups (columns). This placement is based on the largest probability of membership for each project in a particular group (column).

Because of the volume of data, the evaluation of classification functions for each case is not presented. Mean scores are found in each table. The reader may survey the mean scores to determine existing differences among the groups for a particular variable; however, this analysis is focusing on relationships between and within groups.

Since the Mahalanobis D^2 (in Table 47) did not reach the .05 level of significance, it can be assumed that there are chance differences among the three length of projects. We can assume that the one, two and three year projects can not be separated along the twenty-one variables (Table 46) used in the analysis.

Urban, Suburban, and Rural projects can be separated. The classification of urban projects is stronger than suburban, and suburban is stronger than rural, in terms of the variables. That is, the separation is greater for urban than suburban, which in turn, is greater than rural. The strongest factors for the urban group are $\bar{X}$ satisfaction generated and adequacy of R. C. U. funding. The heaviest loaders for suburban are unexpected outcomes, influences of education practices at the county level, and $\bar{X}$ satisfaction generated. The rural loads high on $\bar{X}$ satisfaction generated and adequacy of R. C. U. funding. It is apparent that $\bar{X}$ satisfaction generated is a strong influence in separating the three groups; to a lesser degree, the adequacy rating of R. C. U. funding is a factor.

Projects serving various size communities appear to be quite different in this study. Those in projects serving communities of 50,000-100,000 are much different than those serving communities of over 100,000, both are different from the other two groups (under 25,000; 25,000-50,000). Meeting prime objectives, internal influence, $\bar{X}$ satisfaction generated, and attitude changes have strong effects on projects serving small communities. The projects serving 25,000-50,000 people are affected

by internal influence, and $\bar{X}$ satisfaction generated. The next size group is influenced by meeting prime objectives, unexpected objectives, internal influence, and $\bar{X}$ satisfaction generated. The projects serving the largest populations are affected by (or different because of) internal influence and $\bar{X}$ satisfaction generated. It appears that all four groups are affected by $\bar{X}$ satisfaction generated. It also appears that $\bar{X}$ satisfaction is a stronger discriminator for the projects serving the top three population communities than it does for the projects serving communities under 25,000. The extent of internal influence also appears to be good discriminator among the groups. Meeting prime objectives is a lesser effective factor.

Projects whose major (50% or more) focus is on a particular area (e.g. work study; curriculum-scope and sequence/guidance; training; research; equipment and developing materials) appear to be quite different from projects focusing on other major areas. Because of cell size limitations, all training programs were combined. Equipment was merged with developing materials for the same reason. Projects focusing on work study, equipment and developing materials, and curriculum-scope and sequence/guidance are quite distinctive and are quite different from each other and from those involved in training and research. The latter two areas projects can also be separated, but not as clearly. All five areas can be separated from each other - thus they are quite different.

Work study programs are influenced most positively by the extent of internal influence and negatively by ultimate outcomes on targeted populations. Equipment and developing material projects were separated from the others by: influence on the educational practices at the county level; satisfaction generated; very heavily by attitude changes; very negatively, by ultimate outcome on targeted population; adequacy of R.C.U. funding; and assistance received.

Training programs were affected by: unexpected outcomes; extent of internal influence; satisfaction generated; and attitude changes. Variables influencing research projects were: meeting prime objectives; unexpected outcomes; satisfaction generated; and adequacy of R.C.U. funding. The projects involved in curriculum were separated from the others primarily by: unexpected outcomes; quite heavily by the extent of internal influences; by the extent of external influences (negatively); heavily by satisfaction generated; attitude changes (negatively); heavily by both ultimate outcomes and adequacy of R.C.U. funding; and assistance received.

It would appear that in separating the various groups, the following factors were most influential; degree of unexpected outcomes; extent of internal influence; satisfaction generated by the projects, attitude changes; ultimate outcomes; and the degree of adequacy of R.C.U. funding.

Programs were broken down into four groups according to total funding size. They were: under $10,000; $10,000-30,000; $30,000-75,000; over $75,000. There were significant differences among the four groups in terms of the twenty-one composite variables. The under $10,000 group of projects is most distinctive. The over $75,000 is the next most distinctive group. It is most difficult to separate the projects falling into the $10,000-30,000 and $30,000 to $75,000 categories. Thus the two extreme funded groups are the most separated.

Under $10,000 funded projects are separated best by ratings on meeting prime objectives, unexpected outcomes (in a negative way) influencing educational practices at the county level, extent of internal influence (highest factor), satisfaction generated, adequacy of R. C. U. funding, and assistance received.

$10,000 to 30,000 level projects were influenced most by: ratings of prime objectives; factors hindering success; extent of internal influence; satisfaction generated; and adequacy of R. C. U. funding.

$30,001 - 75,000 funded programs were separated from the others primarily by: ratings of prime objectives; factors hindering success; influencing educational practices at the county level; extent of internal influence; satisfaction generated; attitude changes; and adequacy of R. C. U. funding.

The most costly programs (over $75,000) were affected by: prime objectives; unexpected outcomes (negatively); factors hindering success; influencing educational practices at the county level; satisfaction generated; attitude changes; adequacy of R. C. U. funding; assistance received; and most heavily by the extent of internal influences.

It is apparent that several factors have the most influence in separating the projects that were divided according to total funding. These factors are: meeting prime objectives; factors hindering success; influencing educational practices at the county level, extent of internal influence; and the degree of adequacy of R. C. U. funding.

The programs were then looked at according to the level of R. C. U. funding (under $5,000; $5,000-9,999; $10,000-50,000; over $50,000). The separation among the groups was not as pronounced as the separation according to total funding (the D^2 for R. C. U. reached only the .025 level of significance; the D^2 for total funding was beyond the .001 level). Although there appears to be strong separation among the three top funded classifications, none of the groups are particularly unique.

Meeting prime objectives, unexpected objectives (negatively), factors hindering success, extent of internal and external influence, satisfaction generated, attitude changes, and adequacy of R. C. U. funding, all help to separate the under $5,000 R. C. U. funded projects from the others.

Those factors helping to make the $5,000 to 9,999 unique are: prime objectives; contributions to success (negatively); hindrance to success; influencing the educational practices at the building level (negatively); very heavily by the extent of internal influence; satisfaction generated; attitude changes; adequacy of R. C. U. funding; and assistance received (negatively).

The $10,000 to $50,000 group was affected by: factors contributing to success (negatively); factors hindering success; extent of internal influence; satisfaction generated (extremely heavy weights); attitude changes; and adequacy of R. C. U. funding.

The highest funded group (over $50,000) was generally separated by: extent of internal influence; heavily by satisfaction generated; attitude changes; and adequacy of R. C. U. funding.

It would appear that the major contributors to the separation of the four classifications are: the degree of hindrance received from sundry sources; the extent of internal influence on decision making; satisfaction generated by the programs, attitude changes, and adequacy of R. C. U. funding.

Training programs were then analyzed according to whether they trained whites or minority students. Only those programs where over 50% of the participants were white or were either American Indian, Black, Puerto Rican, Oriental were selected ("others" was excluded).

The separation between the programs training whites and those training minorities was extreme. The strongest separation among all the groups in all the discriminant analyses was found here. This means that when considering all twenty-one variables, the two classifications are quite different.

The minority programs were separated from the other programs by: non-educational experience of the director (heavily); ratings of prime objectives (extremely heavily); unexpected outcomes (heavy); factors contributing to success; factors hindering success; influencing building educational policies (negatively); influencing local educational policies (heavily); influencing national educational policies (very heavily negative); extent of internal influence; extent of external influence (negative); satisfaction generated (negative); attitude changes (heavily negative); ultimate outcomes (heavy); adequacy of R. C. U. funding; assistance received (heavily negative); and effectiveness of Vocational Education Advisory Councils.

Programs involved primarily with white participants were influenced by: negatively, number of years of supervision/administrative experience of director; negatively by non-educational experience of the director; very heavily by meeting prime objectives; heavily negative unexpected outcomes; factors hindering success; heavily by influencing educational practices at the local district level, negatively at the county level, heavily at the state level, very negatively heavy at the national level; extent of internal influence; negatively, extent of external influence; satisfaction generated; negatively, attitude changes; very heavily negative ultimate outcomes; very heavy adequacy of R. C. U. funding; very heavily assistance received; and effectiveness of Vocational Education Advisory Councils.

Of considerable interest here are the factors (variables) that appear to have opposite effects on the two groups. These factors are: number of years of non-educational experience - with a negative effect on the white group; rating of unexpected outcomes - with a negative effect on the white group; the degree of influencing educational practices at the building level - with negative effect on the minority group; the degree of influencing educational practices at the county/intermediate level - with negative effect on the white group; satisfaction generated by the project - with negative effect on the minority group; ultimate outcome on targeted population - with negative effect on the white group; degree of assistance received - with negative effect on the minority group.

Also of interest is where there are similar effects (in terms of direction): the degree of effect is worth noting. The following had significant effects on both groups, with the group receiving the strongest effect indicated: rating of prime objectives

(minority strongest); factors hindering success (minority strongest); influencing educational practices at the local level (white strongest); influencing educational practices at the national level - negative effect (white strongest); extent of internal influence (white strongest); extent of external influence - negative effect (white strongest); attitude changes - negative effect (minority strongest); adequacy of R. C. U. funding (white strongest); and effectiveness of Vocational Educational Advisory Councils (white strongest).

It appears that the strongest factor generating the separation between the two groups for minority programs is meeting the prime objectives (extreme high positive weight of 26.29979). The extreme negative factors for minority programs are: influencing practices at the national level; attitude changes; and assistance received.

The strongest factor generating the separation for the white student programs is amount of assistance received (high positive weight of 19.69264). Two other factors had strong positive weights. They were: meeting prime objectives (13.45496); influencing educational practices at the state level (14.88105); and adequacy of R. C. U. funding. There were several highly negative factors. They were: unexpected outcomes; influencing educational practices at the county and national levels; extent of external influence; and ultimate outcomes of targeted population (ultimate outcomes generated almost as high a weight as did amount of assistance).

At best, it appears that the twenty-one variables affected each group differently. There are many significant reversals of effects, as well as many variables having different strengths when there are similar effects. However, it does appear that meeting the prime objectives of the projects is more important and significant to programs dealing with minorities than with whites. It appears that assistance received is much more significant and important for white programs than minority programs. The ultimate outcomes on targeted population appears to have a significant negative effect on programs dealing primarily with whites. Training programs were then analyzed according to whether they taught primarily teachers or whether they taught primarily students. The separation was not as strong as the previous analysis; however, the separation was quite strong.

The teacher group was separated by: meeting prime objectives, unexpected outcomes (negative); factors contributing to success; factors hindering success; educational practices at the local, state, and national (negative) levels; extent of internal influence; satisfaction generated (negative); ultimate outcomes on targeted population; adequacy of R. C. U. funding; assistance received (negative); and effectiveness of Vocational Education Advisory Council.

Groups serving primarily students were separated from the teacher group by: meeting prime objectives; unexpected outcomes (negative); factors contributing to success; factors hindering success; educational practices at local, state, and national (negative); extent of internal and external (negative) influence; satisfaction generated (negative); attitude changes (negative); adequacy of R. C. U. funding; assistance received; and effectiveness of Vocational Education Advisory Councils.

The strongest influences for teachers were: meeting the prime objectives of the project (20.86571); influencing educational practices at the national level (-11.71726); and adequacy of R. C. U. funding (14.27347).

The major factors for students appear to be: meeting the prime objectives of the project; influencing educational practices at the national level (-10.91530); and adequacy of R. C. U. funding (11.80378).

There was only one significant reversal effect generated by a variable - that was assistance received, with teachers group having a negative loading.

The groups appeared to be quite similar in terms of what variable affected them and which ones helped to separate the two groups. There were six variables that did appear to have a different degree of effect on the two groups. They were: unexpected outcomes - negative effect (students stronger); influencing educational practices at the local level (students stronger), the state level (students stronger), and national level - negative effect (teachers stronger); satisfaction generated - negative effect (teachers stronger) and adequacy of R. C. U. funding (teachers stronger).

It would appear that meeting the prime objectives, influencing educational practices at the national level (negative), and adequacy of R. C. U. funding are the factors that are separating the two groups.

Summary of the Discriminant Analysis

It was found that there are significant differences among the projects in terms of: rural, urban, suburban; size of communities served; types of primary activities; degrees of total funding; degrees of R. C. U. funding; ethnic identification of students trained; and focusing on training teachers or students. Length of project (one year, two years, three years) did not generate any differences. The groups were analyzed in terms of a multivariate space (21 variables) utilizing the discriminant analysis approach.

It was found that different factors had different effects on the groups, depending on the nature of the group. It would appear that in one situation a particular variable would have a strong positive effect in separating a group, and in another situation the same variable would have a strong negative effect. It is for this reason, that factors that consistently influenced separations (regardless of direction), or are extremely powerful, should be considered as being significant for the purposes of this study.

The following variables appear to have the most influence in separating the many groups in the analyses just described:

The most powerful and significant variable appears to be meeting the prime objectives of the program. This variable generated the highest weights - particularly with the training programs. This means that meeting goals and objectives is quite important, generates differences and therefore much value should be placed here.

The effects of unexpected outcomes appears to be mixed - with both positive and negative effects on the groups. But unexpected outcomes appear to be a major factor. The effects of factors hindering success appears to be important. Factors that hinder success must be considered as a major element in this study.

Influencing the educational practices at the national level had significant effect in training programs only. The effect was negative. Generally the effect on educational practices at the national level would not be a significant thrust of such programs, which most likely explains the lack of effect nationally. Obviously, groups of training programs tended to generate dissimilar but negative effects at the national level.

The effect of internal influence on decision-making appeared to be a significant factor in this study and played a major role in discriminating among the groups. Mean satisfaction generated by the program on interested and concerned personnel was the one variable that generated the largest number of significant weights. It appeared more times than any other variable in helping to discriminate among the groups. Changes in attitude among participants toward selected stimuli was another significant discriminator. The degree of adequacy of R. C. U. funding also was an important discriminator. The amount of assistance had positive and negative effects in separating the groups. In programs for teachers and minorities, the amount of assistance received had a negative effect. It appeared to be highly important (positive) for programs dealing with white students. Only the training programs appeared to consider the effectiveness of Vocational Education Advisory Council as being important (positive). The programs dealing primarily with whites valued their effectiveness more than the others.

Urban, Suburban, and Rural projects were easily separated. Programs serving larger communities were easier to distinguish than those serving smaller communities. Training and Research programs were not as easily identified as work study, equipment-developing materials, and curriculum. The extremes in total funding were quite different; the two middle groups were not. The low R.C.U. funded projects were not easily separated as were the other levels of R.C.U. funding. Training programs were the easiest to separate of all the classifications. It would also appear that more factors (variables) influence the separation than any of the other groupings.

It can be concluded that the training projects are more sensitive to the variables studied than any other grouping of projects. It is also interesting to note that goals and goal-related variables played a major role in separating the groups, and that several non-goal oriented factors played a part as well. The nature of the directors of projects and per unit costs were not factors.

TABLE 47

DISCRIMINANT ANALYSIS – LENGTH OF PROJECT

GROUP	1 YEAR	2 YEARS	3 YEARS	TOTAL
SAMPLE SIZE	65	12	21	98
MEAN SCORES				
1	13.07692	11.16667	15.42857	
2	6.47692	5.91667	4.33333	
3	4.36923	3.25000	4.76190	
4	3.99876	3.49416	4.12524	
5	0.35031	0.88917	0.50476	
6	3.18923	3.25000	3.28571	
7	2.53846	3.43333	3.38095	
8	3.73846	5.00000	4.80952	
9	4.24615	5.50000	5.19048	
10	3.04615	3.75000	3.95238	
11	3.52308	4.08333	4.19048	
12	2.32308	2.83333	3.09524	
13	4.85983	5.11000	5.16761	
14	3.77692	4.09583	4.28143	
15	4.45414	3.97666	4.49000	
16	3.78646	4.17666	4.06857	
17	3.64615	4.16667	4.04762	
18	2.75385	3.50000	3.00000	
19	948.04614	452.66650	1234.38086	
20	2.13953	2.34333	2.48571	
21	1.58461	2.50000	2.85714	

Generalized Mahalanobis $D^2 = 42.27213$
d.f. 42, n.s.

FUNCTION	1	2	3
COEFFICIENT			
1	0.07195	0.08964	0.13552
2	−0.06325	−0.08636	−0.13847
3	−0.01067	−0.02840	−0.02414
4	1.31465	0.90251	1.38833
5	−0.15872	2.11217	0.08719
6	−0.15335	−0.43668	−0.45754
7	0.69582	0.77192	0.92043
8	−0.22651	0.10728	−0.14116
9	−0.18715	−0.02662	−0.21434
10	0.90525	0.55512	1.07696
11	−0.29320	−0.08910	−0.34120
12	−0.13041	−0.44989	−0.22547
13	1.78038	1.77116	2.03898
14	−0.04517	−0.13372	−0.15096
15	2.12513	1.74391	1.97162
16	0.72821	0.59257	0.75777
17	−0.06654	0.60435	0.02079
18	0.97954	1.31829	1.03207
19	0.00009	0.00002	0.00012
20	−0.28780	−0.44345	−0.27750
21	−0.10669	0.01375	0.23050
CONSTANT	−14.60364	−15.77071	−17.10745

CLASSIFICATION MATRIX

FUNCTION	1	2	3	TOTAL
GROUP				
1	38	10	17	65
2	4	6	2	12
3	5	3	13	21

TABLE 48

DISCRIMINANT ANALYSIS – POPULATION CONCENTRATION

GROUP	URBAN	SUBURBAN	RURAL	TOTAL
SAMPLE	31	20	29	80
MEAN SCORES				
1	15.32258	12.90000	12.03448	
2	6.74193	4.05000	5.65517	
3	4.29032	5.20000	4.13793	
4	4.32548	3.60100	3.83931	
5	0.30645	0.66350	0.53793	
6	2.95161	3.30000	3.50000	
7	2.08710	3.55000	3.13793	
8	3.83871	5.05000	4.93103	
9	3.93548	4.70000	5.41379	
10	2.25806	4.45000	4.06896	
11	3.67742	4.15000	3.96552	
12	1.83871	3.60000	3.20690	
13	5.12096	4.70099	4.97689	
14	4.15451	4.17900	4.02758	
15	4.83290	4.08499	4.45586	
16	4.11161	3.65050	4.04517	
17	4.16129	3.55000	3.93103	
18	2.67742	2.45000	3.37931	
19	1033.03223	1719.75000	574.17236	
20	2.31645	2.49049	2.27241	
21	1.58064	2.35000	2.27586	

Generalized Mahalanobis $D^2 = 65.06439$
d.f. 42, $p < .01$

FUNCTION	1	2	3
COEFFICIENT			
1	0.02341	0.06707	0.02929
2	– 0.09133	– 0.11921	– 0.08603
3	– 0.00755	0.00643	– 0.01913
4	0.79628	0.49826	0.76950
5	0.71010	1.22720	0.68200
6	0.03269	– 0.14523	– 0.04076
7	0.32027	0.51220	0.51853
8	– 0.02717	0.12996	– 0.22059
9	0.27478	– 0.65018	0.18314
10	– 0.07287	1.02479	0.59170
11	0.26363	– 0.27776	0.04493
12	– 0.52606	– 0.00437	– 0.33347
13	0.55594	0.80492	0.81441
14	0.73847	0.49095	0.30320
15	2.76380	2.53838	2.69663
16	0.22388	0.39051	0.31701
17	0.59488	0.16113	0.48606
18	1.07255	0.52448	1.09750
19	0.00001	0.00008	– 0.00002
20	0.01564	0.42037	– 0.42815
21	– 0.50204	0.07955	– 0.14320
CONSTANT	–14.87447	–13.10416	–14.44636

CLASSIFICATION MATRIX

FUNCTION	1	2	3	TOTAL
GROUP				
1	21	4	6	31
2	1	15	4	20
3	7	4	18	29

TABLE 49

DISCRIMINANT ANALYSIS – GEOGRAPHIC COMMUNITY

	UNDER 25,000	25,000-50,000	50,001-100,000	OVER 100,000	
GROUP	1	2	3	4	TOTAL
SAMPLE	13	13	23	41	90
MEAN SCORES					
1	13.84615	13.30769	9.13043	16.00000	
2	3.15385	6.46154	5.21739	6.07317	
3	2.76923	3.76923	4.91304	4.95122	
4	3.97000	3.53384	4.02913	4.10536	
5	0.35385	0.42308	0.71087	0.31512	
6	3.23077	3.96154	3.73913	2.70244	
7	3.07692	3.69231	3.28261	2.16341	
8	4.92308	5.23077	5.08696	3.39024	
9	4.92308	5.76923	5.52174	3.70732	
10	3.84615	4.30769	4.34783	2.53658	
11	3.76923	3.76923	4.69565	3.36585	
12	3.46154	3.46154	3.95652	1.58537	
13	4.76307	4.96231	5.18130	4.80073	
14	4.03384	4.48230	4.14304	3.72683	
15	4.06153	4.57999	4.28217	4.67561	
16	3.75538	4.08461	4.04087	3.93780	
17	3.38461	4.00000	3.82609	4.02439	
18	3.15385	2.61538	3.60870	2.36585	
19	784.23071	513.53833	1032.82593	1172.92676	
20	2.24307	2.46153	2.57521	2.05877	
21	2.15385	1.46154	2.95652	1.51219	

Generalized Mahalanobis D^2=122.95631
d.f. 63, p <.001

FUNCTION	1	2	3	4
COEFFICIENT				
1	0.06360	0.01893	-0.18579	0.03195
2	-0.09907	0.04438	0.16553	-0.02942
3	-0.06629	-0.06151	0.08460	0.00149
4	1.16284	0.13060	1.27500	0.89569
5	-0.63503	-0.11157	1.80781	0.67984
6	-0.20294	0.13147	-0.09700	-0.12720
7	0.75928	0.78474	0.60696	0.61079
8	-0.10451	-0.18570	-0.52488	-0.14999
9	-0.20023	0.18545	0.25542	-0.14747
10	0.91992	0.68344	0.46424	0.66285
11	-0.41233	-0.31819	0.39479	-0.25283
12	0.22003	0.26059	0.30283	-0.15917
13	1.74201	1.32199	1.74062	1.17394
14	-0.13093	-0.00821	-0.79907	-0.08731
15	1.70212	2.65350	2.68391	2.55797
16	1.26460	0.95932	0.01434	0.63609
17	-0.32070	0.28341	-0.07271	0.74304
18	0.76272	0.23827	0.78670	0.65838
19	0.00014	0.00012	0.00001	0.00009
20	-0.17657	0.56333	0.36871	-0.33973
21	0.01907	-0.43334	0.75684	-0.00247
CONSTANT	-14.10403	-16.02614	-17.23055	-14.22687

CLASSIFICATION MATRIX

FUNCTION	1	2	3	4	TOTAL
GROUP					
1	7	3	2	1	13
2	3	8	1	1	13
3	4	1	17	1	23
4	6	5	3	27	41

TABLE 50

DISCRIMINANT ANALYSIS – TYPES OF ACTIVITIES (50% or more concentration)

GROUP	WORK STUDY	EQUIPMENT/ DEVELOPMENT MATERIALS	TRAINING-STUDENTS/ TEACHERS	RESEARCH	CURRICULUM DEVELOPMENT	TOTAL
SAMPLE	9	8	23	11	7	58
MEAN SCORES						
1	8.11111	12.37500	15.21739	11.54545	9.00000	
2	3.33333	8.87500	8.86957	5.81818	4.28571	
3	4.55556	5.37500	3.17391	2.18182	4.42857	
4	3.74333	3.54125	4.21304	3.23000	4.40714	
5	0.55556	0.31250	0.44217	0.27273	0.25000	
6	2.94444	2.81250	2.86957	2.95455	3.57143	
7	2.63333	2.43750	2.19565	2.81818	1.42857	
8	5.55556	2.87500	3.43478	2.63636	4.00000	
9	5.77778	4.12500	4.47826	3.63636	3.28571	
10	4.33333	2.37500	2.60870	1.90909	2.00000	
11	4.22222	1.62500	4.00000	2.63636	2.14286	
12	3.55556	1.62500	1.78261	1.63636	2.00000	
13	4.66444	4.59250	5.15043	4.40364	5.40571	
14	4.33666	3.42250	3.57695	3.81909	2.73857	
15	4.32333	4.21875	4.48434	3.76909	4.86857	
16	4.24555	4.15750	4.15261	2.86273	3.06143	
17	3.77778	3.12500	4.00000	3.09091	4.14286	
18	3.22222	3.12500	2.34783	3.27273	3.71428	
19	187.33333	110.50000	272.00000	9.09091	5147.42578	
20	2.48111	2.62500	2.05912	1.84363	2.59428	
21	1.44444	2.00000	1.39130	1.81818	1.85714	

Generalized Mahalanobis D^2 = 195.98706
d.f. 84, p < .001

FUNCTION	1	2	3	4	5
COEFFICIENT					
1	– 0.01518	0.31638	0.11809	0.14504	– 0.09620
2	– 0.18494	– 0.01466	– 0.11847	–0.00181	– 0.03391
3	0.33247	– 0.05456	– 0.08544	–0.03578	0.26219
4	0.26462	– 0.73790	0.85194	1.20976	0.19886
5	0.28617	– 0.57112	1.08162	1.04675	1.23136
6	– 0.34224	0.62854	– 0.01656	0.20678	– 0.00915
7	0.11979	0.21255	0.41644	0.49208	– 0.20395
8	0.00329	– 0.52418	– 0.37939	–0.46712	0.49222
9	0.79739	– 0.49179	0.32978	–0.67626	– 0.92148
10	0.59965	1.34656	0.78778	0.84627	– 0.06108
11	0.64052	– 0.66076	0.39247	–0.66787	– 0.34581
12	– 0.48735	– 0.03227	– 0.64751	–0.07800	0.38000
13	1.05687	0.62390	1.31846	0.69521	2.41935
14	– 0.06080	0.45248	– 0.29653	0.57900	– 1.68422
15	0.85317	1.72639	1.31341	1.17906	2.23790
16	2.43666	3.96730	1.78248	0.06122	– 1.71858
17	– 1.26318	– 3.12265	– 0.97667	0.43139	2.34299
18	0.73433	1.01975	0.37429	1.51336	2.07695
19	0.00068	0.00089	0.00049	0.00002	0.00074
20	0.65706	1.06893	– 0.09361	–0.94483	1.64529
21	– 0.92174	– 0.20753	–0.29084	–0.02444	– 0.83651
CONSTANT	–13.07406	–12.81569	–11.79199	–9.10264	–18.95578

CLASSIFICATION MATRIX

FUNCTION GROUP	1	2	3	4	5	TOTAL
1	7	2	0	0	0	9
2	1	5	1	1	0	8
3	3	1	15	4	0	23
4	0	2	1	8	0	11
5	1	0	0	1	6	7

TABLE 51

DISCRIMINANT ANALYSIS – TOTAL FUNDING LEVELS

GROUP	UNDER 10,000	30,001–75,000	10,000–30,000	OVER 75,000	TOTAL
SAMPLE	22	16	15	23	76
MEAN SCORES					
1	16.86363	8.50000	10.33333	13.34783	
2	6.31818	5.12500	3.73333	6.00000	
3	4.27273	3.56250	4.00000	4.26087	
4	4.13409	4.05375	3.48933	4.22087	
5	0.21591	0.54812	0.73333	0.47913	
6	2.88636	3.68750	3.46667	3.69565	
7	1.52273	3.90625	3.73333	3.16087	
8	2.45455	4.81250	4.20000	5.52174	
9	3.00000	5.43750	4.93333	5.91304	
10	2.09091	3.75000	3.53333	3.91304	
11	3.77273	3.75000	3.20000	3.65217	
12	1.95455	2.62500	3.13333	2.95652	
13	5.24772	4.74250	4.46533	5.29999	
14	3.52000	4.25937	4.07733	4.57782	
15	4.39090	4.32750	4.06866	4.53130	
16	3.57727	3.76312	3.82333	4.43000	
17	3.40909	3.62500	3.73333	4.47826	
18	3.09091	3.43750	3.00000	3.08696	
19	604.68164	1850.75000	2041.06665	695.86938	
20	2.09227	2.24375	2.20066	2.73087	
21	1.27273	2.50000	2.26667	2.65217	

Generalized Mahalanobis $D^2 = 123.28867$
d.f. 63, $p < .001$

FUNCTION	1	2	3	4
COEFFICIENT				
1	0.18172	– 0.00692	0.05517	0.08651
2	– 0.12449	– 0.00575	– 0.07856	– 0.09699
3	– 0.09291	– 0.13436	– 0.11077	– 0.14209
4	1.67089	2.17377	1.27772	1.76444
5	– 2.53206	– 0.29502	0.18028	– 1.43968
6	0.34578	– 0.14091	– 0.02189	0.06586
7	– 0.82426	1.43454	1.12382	1.21200
8	– 0.38177	– 0.11761	– 0.23338	0.00154
9	– 0.74564	– 0.07544	– 0.26133	– 0.25665
10	1.16564	0.87922	1.01228	1.18659
11	0.55554	0.40289	– 0.25119	– 0.11831
12	– 0.41187	– 0.69091	– 0.09937	– 0.43936
13	3.69866	2.28413	2.29518	3.02631
14	– 0.15600	0.25537	0.48903	0.28419
15	1.49984	2.44242	2.07889	1.50096
16	0.58743	0.58503	1.33447	1.12114
17	– 0.47300	– 0.43921	– 0.14758	0.21512
18	2.72860	2.28599	1.79853	1.94831
19	– 0.00001	0.00001	0.00020	0.00002
20	1.15369	0.86383	0.72015	1.36902
21	– 0.46641	0.02111	– 0.14563	– 0.33605
CONSTANT	–23.61496	–24.07538	–20.52734	–25.57607

CLASSIFICATION MATRIX

FUNCTION GROUP	1	2	3	4	TOTAL
1	15	1	2	4	22
2	1	9	4	2	16
3	1	4	7	3	15
4	1	4	4	14	23

TABLE 52

DISCRIMINANT ANALYSIS – R.C.U. FUNDING LEVELS

GROUP	UNDER 5,000 1	5,000–9,999 2	10,000–50,000 3	OVER 50,000 4	TOTAL
SAMPLE	15	10	29	20	74
MEAN SCORES					
1	14.20000	10.30000	12.72414	10.20000	
2	5.53333	4.80000	4.68965	4.65000	
3	5.60000	3.40000	4.17241	4.20000	
4	3.92000	4.05500	3.78724	3.77350	
5	0.33333	0.51000	0.55483	0.56250	
6	3.80000	2.90000	3.56896	3.55000	
7	2.90000	2.80000	3.46552	2.73500	
8	3.73333	2.90000	4.55172	5.30000	
9	4.20000	4.60000	4.93103	5.35000	
10	2.86667	2.40000	3.10345	4.40000	
11	3.06667	3.10000	3.41379	3.95000	
12	2.60000	1.90000	2.65517	3.35000	
13	4.92533	5.14400	4.99689	4.73950	
14	4.02866	3.63900	4.03620	3.83300	
15	4.10000	4.23800	4.61344	4.32050	
16	3.28000	3.98500	4.14103	3.90749	
17	3.06667	3.70000	3.89655	4.15000	
18	3.60000	3.90000	3.27586	3.40000	
19	930.00000	35.29999	1173.13770	1756.29980	
20	2.20599	2.06100	2.44655	2.34750	
21	2.00000	1.60000	3.06896	1.60000	

Generalized Mahalanobis $D^2 = 88.29533$
d.f. 63, $p < .025$

FUNCTION COEFFICIENT	1	2	3	4
1	0.12355	0.05708	0.09542	0.06767
2	0.02255	– 0.01042	0.08733	– 0.00776
3	0.11654	– 0.08172	– 0.13684	– 0.06609
4	1.01766	1.11312	0.37893	0.60347
5	– 1.03595	– 0.72647	– 0.10533	– 0.22004
6	– 0.30225	– 1.05297	– 1.16166	– 0.61308
7	1.08795	1.20855	1.29126	0.80326
8	– 0.59839	– 1.08218	– 0.57214	– 0.56182
9	– 0.67916	– 0.33509	– 0.67402	– 0.49329
10	0.74596	0.75341	0.56019	0.97069
11	0.11244	0.41139	0.35128	0.11698
12	– 0.11180	– 0.44378	– 0.19271	– 0.09910
13	2.47835	3.04648	2.36611	2.45811
14	1.08986	0.86439	0.67458	0.61473
15	2.52313	2.97273	4.11975	3.03234
16	1.17321	1.77035	2.11683	1.83249
17	– 0.76448	0.18516	– 0.25969	0.12942
18	2.65257	2.20511	1.72180	1.64538
19	0.00014	0.00018	0.00030	0.00035
20	– 0.71042	– 1.56257	– 0.96798	– 0.62917
21	0.28689	0.38037	0.97564	0.01279
CONSTANT	–21.21201	–23.72177	–23.58893	–20.44304

CLASSIFICATION MATRIX

FUNCTION GROUP	1	2	3	4	TOTAL
1	7	1	3	4	15
2	1	7	1	1	10
3	3	3	18	5	29
4	0	2	2	16	20

TABLE 53

DISCRIMINANT ANALYSIS – STUDENT CLASSIFICATION

(over 50%)

GROUP	MINORITIES 1	WHITES 2	TOTAL
SAMPLE	6	23	29
MEAN SCORES			
1	11.16667	17.43477	
2	7.66667	8.08696	
3	5.50000	2.95652	
4	4.05833	4.15522	
5	0.43333	0.20652	
6	3.33333	2.71739	
7	3.08333	1.91304	
8	3.33333	2.78261	
9	3.33333	3.65217	
10	2.83333	2.69565	
11	3.00000	4.17391	
12	2.83333	2.00000	
13	5.04333	5.00826	
14	2.73000	3.83217	
15	3.98666	4.82130	
16	4.01500	3.76391	
17	3.33333	3.60870	
18	3.50000	2.73913	
19	898.33325	378.43457	
20	1.69167	2.09912	
21	1.16667	1.43478	

*Does not include those in "other" classification

Generalized Mahalanobis D^2 = 233.53700

d.f. 21, p < .0001

FUNCTION COEFFICIENT	1	2
1	– 0.20600	0.62604
2	– 0.79516	– 1.85415
3	5.29127	– 1.88985
4	26.29979	13.45496
5	6.07137	– 6.59140
6	3.01355	0.56168
7	4.08961	2.45071
8	– 2.67666	0.10406
9	5.18965	7.42285
10	0.93933	– 5.68102
11	– 0.07100	14.88105
12	– 7.75260	–12.83148
13	3.00289	6.48774
14	– 1.19807	– 5.81814
15	– 2.85073	4.35807
16	– 7.32387	– 2.24064
17	5.52600	–15.11925
18	2.11500	10.90640
19	0.00146	0.00108
20	– 7.56655	19.69264
21	3.82187	6.26914
CONSTANT	–65.73798	–74.22903

CLASSIFICATION MATRIX

FUNCTION GROUP	1	2	TOTAL
1	6	0	6
2	0	23	23

TABLE 54

DISCRIMINANT ANALYSIS – TYPES OF TRAINING

(over 50% concentration)

GROUP	TEACHERS 1	STUDENTS 2	TOTAL
SAMPLE	19	16	35
MEAN SCORES			
1	12.00000	18.37500	
2	8.15789	6.18750	
3	3.26316	4.31250	
4	3.82631	4.56375	
5	0.54053	0.15625	
6	3.18421	2.56250	
7	2.86842	1.96875	
8	3.26316	2.81250	
9	4.68421	2.87500	
10	3.10526	2.31250	
11	3.21053	4.43750	
12	2.42105	2.50000	
13	5.10894	4.96062	
14	3.42158	4.13375	
15	4.31052	4.74999	
16	3.88526	3.67812	
17	3.84210	3.50000	
18	3.78947	2.25000	
19	672.94727	1697.37500	
20	1.96526	2.25062	
21	1.94737	1.25000	

Generalized Mahalanobis $D^2 = 92.19011$

d.f. 21, $p < .001$

FUNCTION COEFFICIENT	1	2
1	0.78726	0.81976
2	– 0.81817	– 0.97260
3	– 0.36139	– 0.32550
4	20.86571	20.45409
5	– 5.51720	– 7.88904
6	3.13368	3.68335
7	4.74252	4.68469
8	0.04150	– 0.70895
9	1.86123	2.31297
10	0.54702	0.18412
11	3.34805	4.98900
12	–11.71726	–10.91530
13	4.72185	4.59262
14	– 0.82189	– 1.28558
15	– 3.63883	– 2.04769
16	– 0.99439	– 1.30544
17	4.74967	– 0.05298
18	14.27347	11.80378
19	– 0.00039	0.00011
20	– 1.50342	2.92002
21	2.84880	2.57522
CONSTANT	–85.69731	–78.81743

CLASSIFICATION MATRIX

FUNCTION GROUP	1	2	TOTAL
1	18	1	19
2	0	16	16

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SUMMARY MATRIX OF HEAVIEST OISCRIMI

VARIABLES	Length of Project 1 2 3	POPULATION CONCENTRATION			GEOGRAPHIC COMMUNITY				TYPES OF ACTIVITIES (OVER 50%)				
		Urban	Suburban	Rural	Under 25,000	25-50,000	50,001–100,000	Over 100,000	W.S.	Eq. & O.M.	Training	Research	Cu
No. of Years teaching (3B)[1]													
Supervision/administrating (3B)													
Non. Ed. Experience (3C)													
Prime Objective (5)					1.16284		1.27500					1.20976	
Unexpected Objective (6)			1.22720				1.80781				1.08162	1.04675	1.23
Factors contributed (7A)													
Factors Hindering (7B)													
Influencing Educational Practices – Building level (8a)													
Local Level (8b)													
County Level (8c)			1.02479							1.34656			
State Level (8d)													
National Level (8e)													
$\bar{X}$ Extent of internal influence (10a)					1.74201	1.32199	1.74062	1.17394	1.05687		1.31846		2.419
$\bar{X}$ Extent of external influence (10b)													
$\bar{X}$ Satisfaction Generated (13)		2.76380	2.53838	2.69663	1.70212	2.65350	2.68391	2.55797		1.72639	1.31341	1.17906	2.237
$\bar{X}$ Attitude changes (14)					1.26460					3.96730	1.78348		1.711
Ultimate outcomes on targeted Population (15)									-1.263				
Adequacy of R.C.U. funding (16c)		1.07255		1.09750					18	-3.12265			2.342
$\bar{X}$ Per unit cost of project (18)										1.01975		1.51336	2.076
$\bar{X}$ Assistance received (20)										1.06893			1.645
Effectiveness of Voc. Ed. Adv. Council (25b)													
Generalized Mahalanobis O^2	42.27		65.06			122.96				195.98			
Levels of Significance	n.s.		<.01			<.001				<.001			

1. Refers to Q-O numbers.

TABLE 55

IX OF HEAVIEST DISCRIMINANT COEFFICIENTS FOUND IN TABLES 47 TO 54

ACTIVITIES (OVER 50%)			TOTAL FUNDING LEVELS				R.C.U. FUNDING LEVELS				STUDENTS		TYPE OF TRAINING	
Training	Research	Curr.	Under 10,000	10,000–30,000	30,001–75,000	Over 75,000	Under 5,000	5,000 to 9,999	10,000–50,000	Over 50,000	Minor.	White	Teacher	Students
												-1.85415		
											5.29127	-1.8898		
	1.20976		1.67089	2.17377	1.27772	1.76444	1.01766	1.11312			26.2997	13.4549	20.86571	20.45409
1.08162	1.04675	1.23136	2.5326			-1.43968	-1.03595				6.07137	-6.5914	-5.51720	-7.88904
								-1.05297	-1.16166		3.01355		3.13368	3.68335
				1.43454	1.12382	1.21200	1.08795	1.20855	1.29126		4.0896	2.45071	4.74252	4.68469
								1.08218			-2.6766			
											5.18965	7.42285	1.86123	2.31297
			1.16564		1.01228	1.18659						-5.68102		
												14.88105	3.34805	4.98900
											-7.75260	-12.83148	-11.71726	-10.91530
1.31846		2.41935	3.69866	2.28413	2.29518	3.02631	2.47835	3.04648	2.36611	2.45811	3.00289	6.48774	4.72185	4.59262
											-1.19807	-5.81814		-1.28558
1.31341	1.17906	2.23790	1.49984	2.44242	2.07889	1.50090	2.52313	2.97273	4.11975	3.03234	-2.85073	4.35807	-3.63883	-2.04769
1.78348		1.711858			1.33447	1.1211	1.7321	1.77035	2.11683	1.83249	-7.32387	-2.74064		-1.30544
		2.34299									5.52600	-15.11925	4.74967	
	1.51336	2.07695	2.72860	2.28599	1.79853	1.94831	2.65257	2.20511	1.72180	1.64138	2.11500	10.9064	14.2734	11.80378
		1.64529	1.15369			1.36902		-1.56757			-7.56655	19.69264	-1.50342	2.92002
											3.82187	6.26914	2.84880	2.57522
			123.29				88.29				233.54		92.19	
			<.001				<.025				<.0001		<.001	

CHAPTER 6

RELATIONSHIPS

Relationships

Initially, zero-order Pearson Product Moment Correlations were calculated to assist relationships that might exist between selected variables. A correlation matrix is found in Table 56.

TABLE 56

CORRELATION MATRIX OR SELECTED VARIABLES

	Length of Project	Meeting Prime Obj.	Total Funding	R. C. U. Funding
Length of Project	1.0000	-0.0109	0.0554	0.2292
Meeting Prime Objectives		1.0000	-0.0405	-0.0191
Total Funding			1.0000	0.7305b
R. C. U. Funding				1.0000

a. $p < .01$ d.f. 96
b. $p < .01$ d.f. 96

Only one correlation reached a level of significance.

The relationship between R. C. U. funding and total funding ($r = .7305$) reached a highly significant level ($p < .01$). The amount of variance accounted for was 53.4%. This variance is quite significant in terms of educational importance. It should be noted that the two variables (R. C. U. and Total funding) are not independent of each other. R. C. U. funding is a part of the total funding. Hence a large amount of R. C. U. funding will also contribute to a large total funding figure.

It would appear that meeting project objectives is independent of length of project and amounts of funding. Initially, the argument that more time and/or more money will increase the probability of meeting goals appears not to be valid. Further analyses had been run to test this and will be discussed later. Other factors, besides time and money, must be given consideration when assessing prospective proposals. This puts an additional burden on the funding agency when considering proposals, since length of projects and level of funding are relatively easy factors to identify, while other factors are more difficult to identify and assess.

Because of the significant relationship between total funds expended and R.C.U. funding, and the fact that they are not independent of each other, R.C.U. funding will be used in further analyses as either independent or dependent variables. When used, total funding figures will be used as classification variables.

A correlation matrix (Table 57) was developed to display the zero-order Pearson Product Moment Correlations that were calculated on selected variables. The purpose of the Table is to give the reader an overview of relationships among variables. The reader should be cautioned that these are zero-order correlations and do not account for any linear relationships.

A review of the data in Table 57 indicates that there are 52 correlations that reached the .05 significance level (92 d.f.), 123 correlations reached the .01 level of significance but were not underlined, and an additional 43 correlations that were significant ($<.01$ level) and accounted for at least 25% of the variance. It is interesting to note that the relationship between satisfaction generated by the project in the school system and satisfaction generated in school building personnel was quite high ($r = 0.8439$); however, the amount of variance was only 70.47%. This was the highest correlation generated from this data. In all, 218 significant correlations were found. Of these, most were relationships within areas that would naturally generate significant correlations (e.g. - Table 57, degree of influence in educational practices (4) x (5) = .6831; (4) x (6) = .7230; (6) x (5) = .6398 - all three variables are within the same construct). Variables concerned with attitudes, influencing educational practices, and satisfaction appear to be significantly related.

In order to get a better picture of relationships and how variables affect specific results in this study, multiple regression analyses were performed utilizing the BMD 03R computer program by W. T. Dixon. The listing of the variables used as either dependent or independent variables are found in Table 58. The data was analyzed for the: total group; size of the community served; type of community served (rural, suburban, urban); type of training (teacher, students). Because of the limitations of the computer program and of the data available, other regression analyses were not performed.

As a result of the volume of data produced, summary tables will appear in this chapter. The actual tables displaying the results of the analyses appear in Appendix C of this report.

Total Group (Table 59)

Table 59 is a summary of the regression analyses performed on all the data in this study. It is apparent from the analyses, that the amount of variance (out of 100%) accounted for by the various independent variables listed in Table 58 never rises above 38.36%. Four regressions did not reach levels of significance, therefore it would not be safe to use the results from the four in prediction.

It would appear that the degree of internal and external influence on decision making would be good predictors in this study. This is particularly true when the dependent variables are influencing educational policies, objectives, and satisfaction generated. Factors related to funding are good predictors of attitude change, as related to: purpose or thrust; vocational education; education in general; and the world of work. One might conclude that internal and external influences are more philosophical in nature and affect those areas related to philosophy (e.g. - goals, objectives, satisfaction). It is also possible that internal and external influences have more immediate effect, and that in most cases the goals of projects are also

TABLE 57

CORRELATION MATRIX OF SELECTED

				INFLUENCING EDUCATIONAL PRACTICES AT:							SATISFACTION GENERATED BY THE PROJECT					
	Length of Project	Meeting Prime Objectives	Unexpected Outcomes	Building Level	Local Community	County/ Intermediate	State	National	Mean Internal Influence	Mean External Influence	Trainees	Staff	School Bldg. Personnel	School System	County System	R.C.U.
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)
(1)	1.0000	0.0109	0.1736	0.1771	0.1744	0.1566	0.1181	0.1372	0.0978	0.1278	0.1377	0.1020	-0.0677	-0.0599	0.0765	0.0948
(2)		1.0000	-0.0437	0.0772	0.0284	-0.0678	0.1911	0.0789	0.3073**	0.1719	0.3035**	0.2325	0.2328*	0.2819**	0.1871	0.2324*
(3)			1.0000	0.1883	0.1800	0.3019**	0.1977	0.3000**	0.1558	0.1514	-0.0038	-0.0967	-0.2041	0.1558	-0.0742	-0.0397
(4)				1.0000	0.6831**	0.7230**	0.3124**	0.5582**	0.1613	0.4621**	0.1791	0.1259	0.1945	0.2419*	0.1242	0.1855
(5)					1.0000	0.6398**	0.1115	0.4670**	0.1984	0.4091**	0.2060*	0.0836	-0.0166	0.0127	-0.0448	0.1337
(6)						1.0000	0.4479**	0.5471**	0.0115	0.3769**	0.0836	0.0506	0.0067	0.0307	0.0111	0.1609
(7)							1.0000	0.5213**	0.1704	0.3590**	0.1407	0.2610*	0.1163	0.1674	0.2295*	0.3573**
(8)								1.0000	0.0357	0.2896**	0.0919	-0.0258	0.0213	0.1455	0.1049	0.2908**
(9)									1.0000	0.4374**	0.2713**	0.2291	0.1984	0.2334*	0.1253	0.2234**
(10)										1.0000	0.1978	0.2772**	0.3455**	0.4248**	0.2171*	0.4118**
(11)											1.0000	0.7252**	0.5364**	0.5324**	0.3148**	0.3355**
(12)												1.0000	0.5842**	0.5686**	0.4105**	0.3501**
(13)													1.0000	0.8439**	0.5865**	0.4080**
(14)														1.0000	0.5381**	0.4759**
(15)															1.0000	0.5379**
(16)																1.0000
(17)																
(18)																
(19)																
(20)																
(21)																
(22)																
(23)																
(24)																
(25)																
(26)																
(27)																
(28)																
(29)																
(30)																

*p<.05, d.f. 92

**p<.01, d.f. 92

Correlations that generate over 25% of the variance are in bold type.

TABLE 57

ATION MATRIX OF SELECTED VARIABLES

ERATED BY THE PROJECT				CHANGES IN ATTITUDES OF THOSE WHO PARTICIPATED													
School System	County System	R.C.U.	Dept. of Ed.	Purpose Or Thrust	Voc. Ed.	Ed. In General	The World Of Work	Themselves	Others (Peers)	Others (Non-Peers)	Outcome Targeted Population	R.C.U. Funding	Adequacy of R.C.U. Funding	Per Unit Cost	Mean Assistance Received	Effectiveness of Voc. Ed. Adv. Council
(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)	(23)	(24)	(25)	(26)	(27)	(28)	(29)	(30)
0.0599	0.0765	0.0948	0.1368	0.2096*	0.0656	0.1302	0.1963	0.1859	0.1875	0.2027*	0.1507	0.2292*	0.0869	0.0228	0.1440	0.2871**
0.2819**	0.1871	0.2324*	0.2132*	0.0828	0.0459	0.0783	0.1180	0.3354**	0.1785	0.1506	0.3720**	-0.0191	-0.0075	0.0876	0.3250**	0.0060
0.1558	-0.0742	-0.0397	-0.0895	0.1979	0.1877	0.2581*	0.3825**	0.2042*	0.2678**	0.2591*	0.0416	0.1523	0.1444	-0.0187	0.1803	0.1294
0.2419*	0.1242	0.1855	0.0959	0.2878**	0.4106**	0.4945**	0.5745**	0.2754**	0.6110**	0.5716**	0.3092**	0.2165*	0.2343	0.1225	0.2940**	0.4239**
0.0127	-0.0448	0.1337	0.1400	0.4477**	0.5042**	0.5611**	0.6348**	0.3603**	0.5673**	0.5091**	0.3691**	0.1752	0.3538**	-0.0727	0.2913**	0.4513**
0.0307	0.0111	0.1609	0.0492	0.1751	0.2753**	0.3229**	0.4254**	0.1499	0.4193**	0.2978**	0.2042*	0.1647	0.1854	0.0376	0.2104	0.2567*
0.1674	0.2295*	0.3573**	0.3307**	-0.0155	-0.1371	0.0623	0.1562	0.3341**	0.1080	0.0479	0.3321**	0.0245	-0.0801	-0.0134	0.0738	0.0732
0.1455	0.1049	0.2908**	0.1949	0.2958**	0.3420**	0.4420**	0.3944**	0.1797	0.4253**	0.3881**	0.1773	0.1492	0.2784**	-0.0406	0.2494	0.2179*
0.2334*	0.1253	0.2234**	0.2208*	0.0762	0.1199	0.1937	0.1804	0.3799**	0.1097	0.1403	0.3385**	0.0500	0.0364	-0.0565	0.1649	0.1707
0.4248**	0.2171*	0.4118**	0.3671**	0.1161	0.0822	0.2741**	0.2844**	0.3321**	0.4313**	0.3559**	0.3382**	0.0332	0.0082	0.0340	0.2710**	0.2929**
0.5324**	0.3148**	0.3355**	0.2420*	0.3006**	0.3175**	0.3009**	0.4081**	0.6072**	0.4027**	0.3566**	0.4482**	0.1548	0.0145	-0.1951	0.2346*	0.0896
0.5686**	0.4105**	0.3501**	0.4082**	0.1667	0.1540	0.1566	0.1765	0.5292**	0.2781**	0.2520*	0.4139**	0.1569	0.0498	-0.1102	0.2057*	0.1047
0.8439**	0.5865**	0.4080**	0.3503**	0.0607	0.1090	0.1894	0.0789	0.3405**	0.2915**	0.2499*	0.2297*	0.0628	-0.1415	0.0200	0.0760	-0.1398
1.0000	0.5381**	0.4759**	0.4194**	0.0160	0.1497	0.2421*	0.0875	0.3481**	0.3409**	0.2734**	0.2894**	0.0662	-0.0787	-0.0370	0.1964	-0.0759
	1.0000	0.5379**	0.5352**	0.0916	-0.0103	0.0523	0.0447	0.2496*	0.3183**	0.3552**	0.0945	-0.0092	-0.0888	0.1052	-0.1221	-0.0577
		1.0000	0.7213**	-0.0825	-0.0686	-0.0111	0.0918	0.2393*	0.2120*	0.2583*	0.2172*	0.0213	-0.1340	0.0601	0.0740	0.0609
			1.0000	0.0542	-0.0299	0.0145	0.1762	0.2751**	0.2051*	0.2220*	0.1942	0.0810	0.0261	0.0419	0.0913	0.0488
				1.0000	0.6910**	0.7569**	0.6165**	0.3342**	0.5948**	0.4837**	0.2765**	0.2283	0.3899**	-0.1419	0.3192**	0.3523**
					1.0000	0.7504**	0.6043**	0.2837**	0.5419**	0.4949**	0.1556	0.2298	0.3989**	-0.2636	0.3956**	0.3048**
						1.0000	0.7138**	0.4779**	0.6948**	0.5795**	0.2506*	0.2773**	0.3187**	-0.2410	0.2994**	0.2971**
							1.0000	0.6035**	0.6943**	0.5991**	0.2493*	0.3044**	0.2960**	-0.1129	0.2927**	0.3890**
								1.0000	0.5681**	0.4845**	0.5039**	0.2119	0.0115	-0.1641	0.2645**	0.1295
									1.0000	0.8179**	0.2424	0.2193	0.2888**	-0.0945	0.3079**	0.2409
										1.0000	0.1916	0.2315	0.2530	0.1128	0.3031**	0.2851**
											1.0000	0.1701	0.0349	0.0686	0.3988**	0.2247*
												1.0000	0.2200	0.0478	0.1456	0.0073
													1.0000	0.0407	0.3684**	0.2818**
														1.0000	-0.0382	0.0756
															1.0000	0.4454**
																1.0000

TABLE 58

LISTING OF VARIABLES UTILIZED IN THE MULTIPLE REGRESSION ANALYSIS

Variables (I)[1] or (D)[2]	Q-O#
Length of Project (I)	
$\bar{X}$ of Prime objectives (D)	5
$\bar{X}$ of Unexpected outcomes (D)	6
Influence Educational Practices in:	8
Building or neighborhood (D)	a
Local Community and/or district (D)	b
County/Intermediate Unit (D)	c
State (D)	d
National (D)	e
$\bar{X}$ Internal influence (I)	10A
$\bar{X}$ External influence (I)	10B
Satisfaction Generated in:	13
Trainee (D)	a
Participants other than trainees (D)	b
School Building Personnel (D)	c
School System (D)	d
County System/Intermediate Unit (D)	e
R. C. U. (D)	f
State Department of Ed. (other than R. C. U.) (D)	g
Changes in Attitude towards:	14
Purpose or thrust (D)	a
Vocational Education in General (D)	b
Education in General (D)	c
The World of Work (D)	d
Themselves (D)	e
Others (peers) (D)	f
Others (non-peers) (D)	g
Ultimate Effects on Targeted Populations (D)	15
R. C. U. Funding (I)	16B
Adequacy of R. C. U. Funding (I)	16C
Per Unit Cost (I)	18
$\bar{X}$ Assistance Received (I)	20
Effectiveness of Voc. Ed. Advisory Council (I)	25B

[1] (I) = independent or predictor variable

[2] (D) = dependent or predicted variable

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TABLE 59

SUMMARY OF MULTIPLE REGRESSION ANALYSES FOR TOTAL GROUP

Dependent Variable	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
$\bar{X}$ Prime Objectives	$\bar{X}$ Internal Influence (.09468) $\bar{X}$ Assistance Received (.10142)	24.19
$\bar{X}$ Unexpected Outcomes	---	n.s.
Influencing Educational Practices - Building Level	$\bar{X}$ External Influence (.17804) Effectiveness of Voc. Ed. Adv. Council (.05212)	36.64
- Local Community	$\bar{X}$ External Influence (.11918) Adequacy of R.C.U. Funding (.10199) Effectiveness of Voc. Ed. Adv. Council (.06747)	38.36
- County Level	$\bar{X}$ External Influence (.16043)	23.83
- State Level	---	n.s.
- National Level	$\bar{X}$ External Influence (.08596) Adequacy of R.C.U. Funding (.06350)	19.60
Satisfaction Generated		
- Trainees	$\bar{X}$ Internal Influence (.06712) (Negative) Per Unit Cost (.03742)	17.19
- Participants other than trainees	---	n.s.
- School Building Personnel	$\bar{X}$ External Influence (.08845) Effectiveness of Voc. Ed. Adv. Council (.04733)	21.53
- School System	$\bar{X}$ Internal Influence (.05780) $\bar{X}$ External Influence (1.3576)	27.53
- County System	---	
R.C.U.	$\bar{X}$ Internal Influence (.04631) $\bar{X}$ External Influence (.11822)	19.99
State Dept. of Ed. (other than R.C.U.)	$\bar{X}$ Internal Influence (.04343) $\bar{X}$ External Influence (.08475)	15.92
Attitude Changes		
- Purpose or Thrust	Length of Project (.04394) Adequacy of R.C.U. Funding (.11720)	28.56
- Voc. Ed. in General	Adequacy of R.C.U. Funding (.12600) (Negative) Per Unit Cost (.08030) $\bar{X}$ Assistance Received (.05115)	34.79

TABLE 59 (continued)

Dependent Variable	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Attitude Changes (cont'd)		
- Education in General	R. C. U. Funding (. 06299) Adequacy of R. C. U. Funding (. 06810) (Negative) Per Unit Cost (. 07153)	32.30
- World of Work	R. C. U. Funding (. 06964) Adequacy of R.C.U. Funding (. 05278) Effectiveness of Voc. Ed. Advisory Council (. 05785)	31.81
- Themselves	$\bar{X}$ Internal Influence (. 13211)	27.63
- Others (peers)	$\bar{X}$ External Influences (. 16916) Adequacy of R.C.U. Funding (. 06037)	33.11
- Others (non-peers)	$\bar{X}$ External Influence (. 09667)	27.01
- Effects on Targeted Population	$\bar{X}$ Internal Influence (. 10685) $\bar{X}$ Assistance Received	29.06

more immediate in nature; while attitudes might be more difficult to alter, and that such alterations take time and money.

The effectiveness of Vocational Education Advisory Councils appears to manifest itself - particularly with regards to influencing educational practices. The adequacy of R. C. U. funding also appears to be a general predictor across the variables.

Summary

The degree of internal and external influences on project directors' decisions are good predictors on the dependent variables used in this study. Funding factors also appear to be good predictors (adequacy of R. C. U. funding, R.C.U. funding, per unit costs). Assistance received and the effectiveness of Vocational Education Council are also important factors when studying the total group.

Size of the Community Served

Projects were divided by the size of the community served (less than 25,000, 25-50,000, 50-75,000, over 75,000). The intent of the following analyses was to determine whether projects serving different size communities had selected variables, affecting (in this case predicting) the outcomes of the projects (refer to

Table 58). It was hoped that independent (predictors) variables could be identified. Only multiple regression analyses that reach the .05 or above level will be reported; all the analyses can be found in Appendix C.

Less than 25,000 (Table 60)

The variables that best predict outcomes for this group appear to be: the degree of internal and external influence on project directors decisions, per unit costs (negatively), effectiveness of the Vocational Education Advisory Councils, and length of the project. It also appears that these predictors are rather strong. The total percents of variance accounted for in the significant regressions were very high (92.60% - 99.37%) and hence the relationships appear to be quite meaningful. The strongest (or most powerful) are the internal and external influence variables. Thus predicting the degree of meeting goals, influencing educational practices at the building level, satisfaction generated in trainees, and changing attitudes were influenced most (in terms of the variables used) by internal and external influences on director's decisions.

25,000 - 50,000 (Table 61)

Only four dependent variables could be significantly predicted by the other variables used in the analyses - they were: satisfaction of trainees; satisfaction in county/intermediate unit; change in attitude about vocational education; and ultimate effects in targeted population. Factors related to R.C.U. funding appear to be the most frequent important predictors, however, adequacy of R.C.U. funding had a negative effect. It is interesting to note that internal influence on project director's decisions appeared to be the most significant factor on reaching the ultimate goals of targeted populations. Again the amount of variance accounted for was extremely high (93.28 - 99.11).

50,000 - 100,000 (Table 62)

In the two cases where the variables could be predicted, the factors were the same and accounted for almost the same amount of variance. It also appears that adequacy of R.C.U. funding and $\bar{X}$ assistance received, has almost equal weights for predicting changing attitudes. What is interesting is that they had opposite effects (positive for purpose or thrust, negative for education in general). Thus it appears that the adequacy of R.C.U. funding and assistance received are positive forces in changing attitudes towards purpose or thrust of the project, and they are negative forces in changing attitudes towards education in general. The total amounts of variance accounted for was not as high for the 50,000 - 100,000 group, as the variances accounted for within the other two population groups.

TABLE 60

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS LESS THAN 25,000

Dependent Variable	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
$\bar{X}$ Prime Objectives	$\bar{X}$ Internal Influence (.54449) (Negative) Effectiveness of Voc. Ed. Advisory Council (.28798)	92.60
Influencing Educational Practices - Building Level	$\bar{X}$ External Influence (.50794) Effectiveness of Voc. Ed. Adv. Councils (.17737)	93.58
Satisfaction Generated In - Trainees	$\bar{X}$ External Influence (.27396) Adequacy of R.C.U. Funding (.16721) (Negative) Per Unit Cost (.32416) $\bar{X}$ Assistance received (.10188)	96.52
Changes in Attitudes - The World of Work	(Negative) $\bar{X}$ Internal Influence (.12374) $\bar{X}$ External Influence (.37483) (Negative) Per Unit Costs (.29986)	99.37
- Themselves	$\bar{X}$ External Influence (.35178) (Negative) Per Unit Costs (.44781)	99.02
- Others (peers)	Length of Project (.123121) $\bar{X}$ External Influence (.306791) (Negative) Per Unit Costs (.39105)	97.07
- Others (non-peers)	Length of Project (.123121) $\bar{X}$ External Influence (.306791) (Negative) Per Unit Costs (.39105)	97.07

TABLE 61

SUMMARY OF MULTIPLE REGRESSION ANALYSIS
REACHING SIGNIFICANT LEVELS
25,000 - 50,000

Dependent Variables	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Satisfaction Generated in Participants (other than trainees)	R.C.U. funding (.14021) (Negative) Adequacy of R.C.U. Funding (.53509) $\bar{X}$ Assistance received (.20815)	93.28
County System/Intermediate Unit	(Negative) $\bar{X}$ External Inf. (.35023) (Negative) Adequacy of R.C.U. Funding (.15802) (Negative) $\bar{X}$ Assistance Received (.21643) Effectiveness of Voc. Ed. Advisory Council (.17968)	97.32
Changes in Attitude Voc. Ed. in General	(Negative) Length of Project (.2776) R.C.U. Funding (.22619) (Negative) Adequacy of R.C.U. Funding (.18358) Per Unit Costs (.14563)	94.78
Ultimate Effects on Targeted Population	$\bar{X}$ Internal Influence (.37994) (Negative) $\bar{X}$ External Influence (.11480) (Negative) Adequacy of R.C.U. Funding (.16959) Per Unit Cost (.11766) $\bar{X}$ Assistance Received (.16769)	99.11

TABLE 62

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
50,000 - 100,000

Dependent Variable	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Changes in Attitudes: Purpose or Thrust	Adequacy of R.C.U. Funding (.20784) $\bar{X}$ Assistance Received (.24344)	71.49
Education in General	(Negative) Adequacy of R.C.U. Funding (.20784) (Negative) $\bar{X}$ Assistance Received (.24344)	61.20

Over 100,000 (Table 63)

R. C. U. funding factors appear to be the best predictors for this group of projects. Internal influence (mostly negative) and external influence are next largest predictors. Assistance received during the projects is also a significant variable to be considered. Although the R. C. U. funding variables appear throughout the analyses, they appear to be particularly strong in the areas of changing attitudes towards selected stimuli.

It should be noted that internal influence was the strongest (and positive) factor in predicting the ultimate effects of the program on targeted populations. Adequacy of R. C. U. funding and assistance received also played a major role. The amount of variances accounted for in this group is less than the other three groups. Actually the figures (percent of variance accounted for) for the "over 100,000" group approach those for the total group (refer to Table 59). This might be caused by the fact that 41 projects fell into that group, while 23 were in the "50-100,000," 13 in the $25-50,000," and another 13 in the "under-25,000" group. Thus the "over 100,000" was the largest group affecting the result found in the total group. If this is the case, then the "over 100,000" group becomes even more significant in this study.

Summary

Although more variables could be predicted in the "over 100,000" group, the smallest two groups had factors that were almost totally accounted for by the variables used as predictors. This would indicate that when variables did have an effect, for those in the two lower population size groups, the effect or influence was quite strong. The number of significant regressions might be a function of the size of each group - with the "over 100,000" having so many more than the others, thus its data would generate more significant regressions because the degrees of freedom are greater. It is also possible that the variables used as predictors in this study were more influential with the projects serving 100,000 and over communities than those serving smaller communities.

It is apparent that the influence from internal and external sources are quite important when looking at them in combination. The most significant (in terms of numbers) factors are those related to R. C. U. funding - with the rating of the adequacy of R. C. U. funding being the largest factor. Assistance received from various sources also appears to be quite important. It also appears that R. C. U. funding is more important in attitude changing than in other areas. This effect appears to exist in all groups except the "under 25,000." In fact, the lowest group appears to be more affected by internal and external factors than by anything else. Per unit costs tend to have a negative effect on the predicted variables, while the effectiveness of Vocational Education Advisory Councils and length of the programs have isolated effect.

Type of Community Served (Urban, Suburban, Rural)

Projects were then broken down into three groups (urban, suburban, and rural), and the data was reanalyzed utilizing the regression analyses approach as

TABLE 63

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
OVER 100,000

Dependent Variables	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
$\bar{X}$ Prime Objectives	$\bar{X}$ Internal Influence (.18486)	45.05
Influencing Educational Practices - Building Level	$\bar{X}$ External Influence (.13942) R.C.U. funding (.14037) Adequacy of R.C.U. funding (.10080	48.36
- County/Intermediate Unit	Adequacy of R.C.U. funding (.20986)	42.52
- National Level	Adequacy of R.C.U. funding (.22505)	45.83
Satisfaction Generated In: - Trainees	$\bar{X}$ Internal Influence (.11491) Adequacy of R.C.U. funding (.11631)	39.99
- Participants (Other than trainees)	$\bar{X}$ Assistance Received (.11291)	43.22
- School Building Personnel	(Negative) $\bar{X}$ Internal Influence (.11057) $\bar{X}$ External Influence (.15107)	40.09
- School System	(Negative) $\bar{X}$ Internal Influence (.12207) $\bar{X}$ External Influence (.19599) $\bar{X}$ Assistance Received (.12667)	47.74
- County System/ Intermediate Unit	$\bar{X}$ Assistance Received (.16842)	40.73
- R.C.U.	(Negative) $\bar{X}$ Internal Inf. (.14674) $\bar{X}$ External Influence (.18947) $\bar{X}$ Assistance Received (.16673)	56.83
- State Dept. of Education (Other than R.C.U.)	$\bar{X}$ Internal Influence (.14400) $\bar{X}$ External Influence (.13446) $\bar{X}$ Assistance Received (.14441)	45.03
Changes in Attitude Towards: - Purpose or Thrust	Adequacy of R.C.U. funding (.32861) $\bar{X}$ Assistance Received (.16057)	62.09

TABLE 63 (continued)

Dependent Variables	Independent Variable Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Changes in Attitude Towards:		
- Voc. Ed. in General	R. C. U. funding (. 11319) Adequacy of R. C. U. funding (. 28535)	54. 37
- Education in General	R. C. U. funding (. 10913) Adequacy of R. C. U. funding (. 16341) $\bar{X}$ Assistance Received (. 19618)	70. 35
- The World of Work	R. C. U. funding (. 11108) Adequacy of R. C. U. funding (. 20407)	49. 77
- Themselves	$\bar{X}$ Internal Influence (. 37232)	53. 88
- Others (peers)	$\bar{X}$ External Influence (. 24253) R. C. U. funding (. 10631) Adequacy of R. C. U. funding (. 11928)	57. 21
- Others (non-peers)	$\bar{X}$ External Influence (. 13843) R. C. U. funding (. 10946) Adequacy of R. C. U. funding (. 1661)	57. 16
- Ultimate Effects on Targeted Population	$\bar{X}$ Internal Influences (. 264271) Adequacy of R. C. U. funding (. 11145) $\bar{X}$ Assistance Received (. 19570)	66. 72

described before. There were 31 projects in the urban group, 20 in the suburban group, and 29 in the combined rural group. Appalachia and non-Appalachia were merged to increase the sample size for analyses purposes.

Urban (Table 64)

Satisfaction and attitude variables were the ones that could best be predicted in this group. The adequacy of R. C. U. funding appears to be consistently the best and most reliable predictor of outcomes. Internal influence was the next largest predictor. Per unit costs again had negative effects. The degree of R. C. U. funding appeared to be most influential with attitude changes, while internal influence had its effects on satisfaction generated by projects, and ultimate effects of the projects on targeted population. The amounts of variance accounted for appears to be quite high, although the range is quite wide (47. 56 to 90. 02).

TABLE 64

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
URBAN

Dependent Variables	Independent Variables Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Influencing Educational Practices	R. C. U. funding (. 13458)	
- Building Level	Adequacy of R. C. U. funding (. 30123) $\bar{X}$ Assistant Received (. 14059)	76. 66
- Local Level	Adequacy of R. C. U. funding (. 40648)	72. 54
Satisfaction Generated In:		
- Trainee	$\bar{X}$ Internal Influence (. 24346) (Negative) Per Unit Costs (. 17814)	50. 48
- Participants (other than Trainee)	$\bar{X}$ Internal Influence (. 34622)	48. 43
Changes in Attitude Towards:		
- Purpose or Thrust	Adequacy of R. C. U. funding (. 39690)	65. 92
- Voc. Ed. in General	Adequacy of R. C. U. funding (. 58068)	83. 73
- Education in General	Adequacy of R. C. U. funding (. 55140)	83. 69
- The World of Work	R. C. U. funding (. 11075) Adequacy of R. C. U. funding (. 65097)	90. 02
- Themselves	$\bar{X}$ Internal Influence (. 35402) (Negative) Per Unit Costs (. 25214)	69. 67
- Others (peers)	Adequacy of R. C. U. funding (. 53177)	75. 36
- Others (non-peers)	Adequacy of R. C. U. funding (. 42304)	74. 09
- Ultimate Effects on Targeted Population	$\bar{X}$ Internal Influence (. 29552)	47. 56

Suburban (Table 65)

For all four variables that can be predicted, length of the project, internal influence (either positive or negative), and assistance received appear to be the most influential. Factors concerned with influencing educational practices and ultimate effects were influenced by the three variables just listed. Much of the four variables' variances appeared to be accounted for by the independent factors in the analysis (variances accounted for ranged from 72.46 to 82.59) quite evenly.

Rural (Table 66)

It appears that the amount of external influence has an effect on rural projects as it relates to influencing educational policies at the building, local, and county levels. This appears to be particularly true at the local (district) level. Attitudes towards vocational education appear to be affected by the length of the projects and assistance received by the project directors. These independent factors also appear to be quite strong in the prediction model.

TABLE 65

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
SUBURBAN

Dependent Variables	Independent Variables Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Influencing Educational Practices - Building Level	Length of Project (.28267) $\bar{X}$ Internal Influence (.26987) $\bar{X}$ Assistance Received (.20407)	82.59
- Local Community	Length of Project (.13858) (Negative) $\bar{X}$ Internal Inf. (.21218) $\bar{X}$ Assistance Received (.24673)	73.23
- County Level	Length of Project (.18014) (Negative) $\bar{X}$ Internal Inf. (.15327) $\bar{X}$ Assistance Received (.26951)	72.46
- Ultimate Effects in Targeted Population	Length of Project (.20614) $\bar{X}$ Internal Influence (.27783) $\bar{X}$ Assistance Received (.13190)	76.89

TABLE 66

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
RURAL

Dependent Variables	Independent Variables Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Influencing Educational Practices		
- Building	$\bar{X}$ External influence (.41576)	55.80
- Local Community	$\bar{X}$ External influence (.78176)	82.10
- County Level	$\bar{X}$ External influence (.43789)	57.51
Changes in Attitude Towards:	Length of Project (.33939)	66.71
- Voc. Ed. in General	$\bar{X}$ Assistance Received (.10880)	

Summary

The results indicate that projects in urban communities are more sensitive to the effects of the selected variables, used in this study, than are projects from either rural or suburban communities. These results are in keeping with the results found when comparing projects according to the size of community served - since urban communities also tend to be large in population.

Internal influence appears to be quite important to urban and suburban projects, while external influence is only important to rural projects. R.C.U. funding appears to be only a factor to urban projects, while assistance received appears to be a significant factor to the suburban group. Length of the project also appears to be influential within the suburban projects. Across all groups, internal and external influence and R.C.U. funding appear to be factors in predicting outcomes; but as just indicated, these factors have different effects on the different groups.

Types of Training

All training programs that dealt primarily (over 50%) with students, and those that dealt primarily with teachers were analyzed. Since few programs dealt with "adults," these programs were not considered in the analyses. There were 19 programs that trained/educated teachers/other professionals, and 16 programs that trained students.

Teachers/Other Professionals (Table 67)

The independent variables used in the analyses were only effective in predicting outcomes for those variables concerned with influencing educational practices (building, county, state). Again internal and external factors played a major role, however, the effectiveness of vocational education advisory councils were the most significant. It would appear that there is a strong relationship among training teachers, the Advisory Councils, and influencing educational practices. The responses to question Q-O#8 (incluencing educational practices) might have been answered in terms of vocational education. Thus the influences at the county/intermediate unit and state levels might be directed towards vocational education teaching, while the local or district level implies non-vocational education practices. Hence, directors responding to the question felt their projects' influence was being felt only in vocational education domains closest to them (this would be particularly relevent to training programs).

TABLE 67

SUMMARY OF MULTIPLE REGRESSION ANALYSES
REACHING SIGNIFICANT LEVELS
TEACHERS/OTHER PROFESSIONALS

Dependent Variable	Independent Variables Contributing the largest amount of the Variance Accounted for	Per Cent of the Variance Accounted for
Influencing Educational Practices	$\bar{X}$ External Influence (.10043)	
- Building Level	R.C.U. funding (.16023) Effectiveness of the Voc. Ed. Advisory Councils (.40373)	78.07
- County Level	(Negative) $\bar{X}$ Internal Influence (.18457) Effectiveness of the Voc. Ed. Advisory Councils (.39230)	74.16
- State	$\bar{X}$ External Influence (.24056) Effectiveness of the Voc. Ed. Advisory Councils (.29045)	77.43

Students

Although several regression analyses approached levels of significance, none did - hence they are not being reported in this chapter. The actual analyses appears in Appendix C.

It is obvious that the independent variables were not strong enough to predict, beyond the chance level, the dependent variables for those programs dealing primarily with students. This appears to be in keeping with the results of the discriminant analyses, where so many factors sensitized the training groups, thus it would be difficult to isolate any one, or group of factors.

Chapter Summary

The purpose or function of this chapter was to look at meaningful relationships that might exist among the variables. It also had another important thrust, and that was to look at selected variables, in linear relationship with each other, that could be used in predicting effects.

Since the unit of analysis was the project, sample size per cell of analyses became a limiting factor. This required merging of groups to enable analysis, and at times analysis that might have been of interest could not be attempted.

Initially there were many statistically significant relationships among the variables - very few might be considered educationally significant (e.g., high correlations). Factors within the same family of variables appeared to be related. There also appeared to be relationships among changing attitudes, influencing educational practices, and satisfaction generated by the projects. To get a more accurate picture of how selected variables interrelated and functioned within specific groups of projects, a multiple regression analyses approach was used. To be consistent, the same set of variables was used as independent factors on twenty-two different dependent variables. The goal of the many analyses was to identify those variables of interest that might consistently play a role in determining outcomes.

Within groupings there were many differences in the ability of variables to be good predictors. However, there did appear to exist important and consistent relationships.

Within the "total" group, R. C. U. funding variables (R. C. U. funding and adequacy of R. C. U. funding) had a significant effect on changing attitudes (the relationships were positive). Although it would be difficult to prove at this point, it does appear that more R. C. U. funding (which should raise the level of adequacy) would have a positive effect on attitude changes. Internal and external influences in decision making, plus Advisory Councils, appear to influence educational practices outside the projects (e.g. the ripple effect on other areas). This information recognizes the interrelationship of other factors on projects. Thus it would appear that project directors desiring to have an effect in education should recognize and utilize these factors. It would also seem desirous to have such factors built into proposals. Directors should be sensitive enough to use these factors constructively, otherwise they might be limiting the projects' effects and effectiveness.

When the projects were broken down according to the size of community served, types of communities, and types of programs, differences did appear. A complete description preceded this summary and will not be covered again, however, we will discuss the major findings.

Again R. C. U. funding variables appear to be a major influence on outcomes when the total group was broken down by size of community served. R. C. U. funding variables appear to have the greatest effect on attitudes. Internal and external influence factors were also important - they were particularly strong in projects serving the smallest size communities. Assistance received from various sources was also influential. Projects serving the largest size communities appear to be more sensitive to the variables studied. It does appear that variables within the domains of satisfaction generated by the projects and attitude changes can be predicted, and hence are related to the input data studied.

The degree of R. C. U. funding appears to affect attitudes and influence educational practices of the projects in urban communities. This effect was not apparent at the suburban and rural levels. Length of projects, internal influences, and assistance received were the strongest factors at the suburban level. External influences were important at the rural level. Projects in urban communities appear to be more sensitive to the variables studied, than projects in either the suburban and rural area. Therefore, proposals from urban communities should consider this fact in their designs.

As stated earlier, external influence played a major role in rural projects. Whether this is a function of smaller projects, the less complex organizational structure usually found in rural communities, the nature of vocational programs geared to rural communities, or closer "power" lines, is rather moot. However, the lines of external communication must be considered when looking at projects in rural communities. The ability of suburban projects to influence educational practices (ripple effect) appears to be affected by the length of the project, assistance received, and negatively by internal influence. Thus longer projects that received outside support influenced some educational practices within this group, Internal influences had a negative effect, thus as the internal influence decreased, the ripple effect increased. One could conclude that internal influence interferred with extending the influence of projects.

Programs concerned with training/educating teachers were affected by internal and external influences and the effectiveness of Vocational Education Advisory Councils on influencing educational practices. Given that, training programs for teachers would hopefully influence educational practices, this information is extremely critical. Designing of such programs should therefore be cognizant of these relationships; or when evaluating such programs, these factors should be considered.

Length of projects, internal and external influence, R. C. U. funding, adequacy of such funding, per unit costs, assistance received, and the effectiveness of Vocational Education Advisory Councils did not appear to be the significant predictors of outcomes for programs involved in training students. Other factors related to outcomes may be playing a role in training programs for students, but not the ones used in the analyses.

In terms of numbers alone (refer to Table 68) the adequacy of R. C. U. funding is the major factor, followed by external and internal influence in that order. If one were to consider both external and internal influence in combination, it is apparent that influence outside the project director himself play a major role in outcomes.

Assistance received from various sources also are significant. R. C. U. funding should be considered an extension of an adequacy of R. C. U. funding. This, in combination with the adequacy measure, makes the R. C. U. funding variables very significant.

TABLE 68

NUMBER OF TIMES THE VARIABLES WERE THE MOST SIGNIFICANT CONTRIBUTORS TO PREDICTING DEPENDENT VARIABLES

Rank	Variables	f
1	Adequacy of R. C. U. funding	32
2	$\bar{X}$ External Influence	30
3	$\bar{X}$ Internal Influence	27
4	$\bar{X}$ Assistance Received	23
5	R. C. U. Funding	14
6	Per Unit Costs	10
7.5	Effectiveness of Voc. Ed. Adv. Council	9
7.5	Length of Projects	9

Per Unit Costs tends to have a negative effect. This effect might be a function of: the inaccurate estimations of per unit costs; the lack of such information for data analysis; per unit costs might be meaningless in a project that must be considered a totality by the director; or in the nature of projects, this factor is just not a significant consideration. The effectiveness of Advisory Councils tended to be felt by training programs and/or projects serving small populations. The influence of the length of the project appears to be felt by projects serving suburban communities, as well as in terms of changing or affecting attitudes. However, it does appear, along with Vocational Education Advisory Councils to be the least effective of the predictor variables studied.

It should be noted again, that this study was based on a questionnaire - opinionnaire and interviews, thus the information supplied were perceptions of project directors. Aside from the on-site visitations, no attempt was made to varify the data out in the community. The major function of the multiple regression analyses was to help establish relationships that existed in R. C. U. funded projects from 1966 to March of 1972, so as to shed light on the innerworkings of such projects and what factors might lead to, or influence, success.

CHAPTER 7

GENERAL FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

Introduction

The purpose of this chapter is to review the major findings of this study - it is not to review all the findings, the preceding pages has done this in depth.

The reader again is cautioned that the data used in this study comes directly from project directors. As indicated earlier, a total impact study would have to include: surveying trainees, the business community, and school personnel; and analyses of census data collected by local, state and national governmental agencies. This should be done over the life of projects, as well as after their completion. This project didn't attempt to do this, rather it attempted to focus on the perceptions of project directors and key State Department Vocational Educators as they perceived their project, its outcomes and operations of R. C. U. The projects were confined to all R. C. U. funded projects from 1965 to March of 1972. An opinionnaire-questionnaire and on-site visitations were the techniques used to collect all the data.

General Findings

Data Sources

Although there were many reports and documents describing individual projects, the Pennsylvania's Abstracts of Research and Related Materials in Vocational Education, Volumes I, II, was the major source of project descriptions. The projects described in this document were categorized in seven general areas. These areas were: Curriculum Development - Scope and Sequence and Guidance: Research: Material Development: Training Programs - Teacher/Other Professionals; Training Programs - Students and/or Adults; Purchase and/or Updating of Equipment; and Work Study. Also studied were the Arnold Report, Labor Market Studies, V. E. M. I. S. Reports, V. E I. N. and certain other follow-up studies as conducted by R. C. U.

Interdepartmental Relationships

1. The interdepartmental relationships between R. C. U. and other departments within the Bureau of Vocational Education appears to be quite relaxed and good. Excelient personnel relations appear to exist.

2. There seems to be a need to extend more formal and structured lines of communications between R. C. U. and other departments, rather than the relying on informal and formal ones that now exist.

3. Solicited projects originating from departments outside of R. C. U. also seems to be desirous. It would appear that many departments are brought in as consultants on projects already proposed, the department of vocational education would therefore like to see more requests for solicited proposals from R. C. U. workirg in consort with other departments.

4. The impact of R. C. U. at the state level was evidenced through such studies as Arnold report, supply demand studies, V. E. M. I. S., V. E. I. N. and the data input to the state plan for vocational education.

Description of The Respondents and Impact

Populations

1. The largest number of projects went to local legal educational authorities (school districts), while Area Vocational-Technical Schools received about 25% of all the projects.

2. The funded projects were almost evenly distributed between rural and urban population concentrations. Suburban communities appeared to receive fewer. While over 71% of the projects served communities of 50,000 and above (45.6% of the projects served populations over 100,000).

3. Most targeted populations were "regular" students, with those classified as disadvantaged being well represented. There were a surprisingly large number of projects serving handicapped students. With the recent State court rulings concerning handicapped students and education, this becomes very meaningful.

4. Secondary students were the populations most served; with post-high school programs being the next largest area served. Programs for lower grade students were few (11).

Director's Background

All but one of the directors were college graduates, with many more years of teaching experience than supervision/administration or non-educational experience.

Elements of the Projects

The major efforts of the projects, in order of the largest part of the whole, are; research, curriculum development, training students, and training teachers. Curriculum development was the element most often found in projects. Sixty of the projects were involved to some degree in training.

Objectives Met

1. Program-type objectives were the most noted prime objectives. With the majority of projects dealing with more than one objective. Most directors felt that their projects were quite effective, although not totally effective.

2. Few unexpected outcomes were identified by the directors, those noted appeared to be quite positive.

3. Teachers and materials were major contributors to meeting the goals of the projects; however, project directors felt that administration and teachers hindered them.

Impact on Educational Practices

Directors felt that their projects had some positive impact on educational practices at all geographic levels of education. They appear to be most effective at the county, state, and national levels. Curriculum and instructional procedures were the areas that they felt they had the most influence.

Sources of Influence on Decision Making

Directors felt that they themselves were the strongest source of internal influence, followed by students and teachers. State governmental policies and community were the strongest sources of external influence. They also felt that generally internal influence was stronger than external - both being on the positive side of neutral.

Becoming Permanent Parts of Educational Programs

Results of the projects appeared to become permanent parts of school buildings or school districts - but not at any other level. These results are in keeping with the limited ripple effect of the R. C. U. funded projects found elsewhere in this study.

Satisfaction Generated by The Project

School systems, participants (other than trainees), and trainees were most satisfied by the projects. Those further away from the projects were less satisfied. R. C. U. satisfaction was the lowest of the group, but it was still on the positive side of satisfaction.

Attitude Changes

There was little positive change in participants towards the stimuli (concepts) provided. The strongest positive change in them was towards the participants themselves. Purpose or thrust and Vocational Education in general were the next highest areas for change. Attitudes towards others appeared to be changed negatively.

Monies Allocated and Adequacy

1. The average total cost reported for the projects was $79,909, while the average R. C. U. funding was $44,568. The total amounts used (where reported) was $6,073,132; the total R. C. U. funding (where reported) was $3,342,609. It

was apparent the R. C. U. funding was a major source. School budgets were the primary source for non-R. C. U. funding.

2. R. C. U. funding was considered almost adequate.

Additional Monies

If additional monies were available, the directors would have spent it on materials and program (curriculum).

Per Unit Costs

1. Totally it cost $1,806 on the average to train a student, produce a curriculum material, etc. When considering the average per projects, the cost was reduced to $948.74.

2. Only 51 were able to give a figure response.

Assistance Received During Projects

1. The R. C. U. and Vocational Education Bureau of the State Department of Education appeared to give assistance to directors. It is also important to note, that directors also requested the assistance.

2. Directors did not request much assistance from R. C. U., but did receive valuable assistance when requested. They received more assistance from R. C. U. than would be expected, given the amount requested.

3. They tended to receive little assistance from school district personnel, although they did request it.

4. They also received slight assistance from teacher education institutions.

R. C. U. Interaction

Project directors would like to see R. C. U.'s role increased after initial funding. This is in keeping with their needs for greater communications, feedback, and assistance.

General Responses

Most were happy with the design of their projects, thought their agency appropriate, remained active with other projects, but few were promoted or received other advancements.

Local Vocational Education Advisory Councils

These councils were little used; but when used, they proved to be effective.

Project Evaluations

Less than 50% of the directors indicated that an internal evaluation had been made on their projects, and only 25% indicated an external evaluation.

Training Programs

1. Of those reporting the information they totally spent $3,035,863 for an average of $67,463; they spent $2,419,830 of R.C.U. funds for an average of $53,774 (this was 72.3% of all monies, as indicated by respondents, spent by R.C.U.).

2. When per unit costs for training was specified, the average cost was $508.65 per trainee, while the average per unit costs for training and other activities was $821.99.

3. Programs trained more students than teachers or adults - with the majority of trainees being white.

4. Blacks (7.5%) make the next largest group of trainees, Orientals (6.6%), American Indians (0.4%), and last, Puerto Rican (0.0%).

On-Site Visitations

1. Project directors were able to establish that their projects did, indeed, have impact.

2. The ripple effect on the project in different areas was not established or demonstrated to interviewers.

3. Most would have continued their project if given the opportunity.

4. Additional funding, feedback on a regular basis, and more on-site visits should be provided the State Department of Education and R.C.U.

5. Of those who responded, about 50% indicated that their local boards would use their own operating budgets to continue the projects.

Comparisons

1. Little difference existed on the factors studied among the one year, two year, and three year projects.

2. Types of prime and unexpected objectives did not generate different rating patterns (in terms of meeting them) among the directors. Those who requested assistance perceived the assistance received higher than those who didn't request assistance but got it.

3. Table 55 is a matrix of the heaviest discriminant coefficients found when maximizing differences among groups on the variables. There were differences among: rural, suburban, and urban groups; sizes of communities; types of programs; degrees of total funding; degree of R. C. U. funding; ethnic identification of students trained; and teachers trained-students trained. The variables that appear to be separating the groups are: meeting prime objectives, unexpected outcomes; factors hindering success; influencing educational practices at the national level; internal influence on decision making; satisfaction generated by the program; changes in attitude; adequacy of R. C. U. funding; amount of assistance; and effectiveness of Vocational Education Advisory Councils. They had different effects on different groups. Approximately half the variables used had some effect on separating groups - thus they had different effects on the groups.

4. It appears that projects serving larger communities were different from other groups. Work study, equipment and curriculum type projects were also quite different. Extreme funded projects were also different from each other. Training programs were quite different from each other, and were affected by more variables than any other grouping.

Relationships

1. There were many variables that could be predicted within different subgroups studied (refer to Table 69 found in this chapter). Again the larger groups (total groups, over 100,000, urban) tended to be more sensitive to factors than those serving smaller areas or communities. The factors studied in training programs for students were not affected by the variables, this was not true for teacher training programs.

2. Attitude changes could be predicted more often than influencing educational practices at different levels, which in turn was predicted more than satisfaction generated by the project in various areas.

3. As before, the lack of the ripple effect is demonstrated by the fact that the further away from the project one gets, the harder it is to effect change. Satisfaction generated in trainees and participants could be predicted more often than in personnel further from the project. Influencing educational practices at the building level and local level is easier to predict than at the state or national level.

4. In descending rank order of influence we find: 1. Adequacy of R. C. U. funding; 2. $\bar{X}$ External influence; 3, $\bar{X}$ Internal influence; 4. $\bar{X}$ Assistance received; 5. R. C. U. funding; 6. Per unit cost; 7.5 Effectiveness of Vocational Education Advisory Councils; 7.5 Length of projects. It is also interesting to note that R.C.U. funded variables have greater influence on changing attitudes, while internal and external influence had greater effect on influencing educational practices, satisfaction generated, and goals reached. Interestingly, suburban programs appeared to be affected more by Vocational Education Advisory Councils than any other group.

TABLE 69

MATRIX LISTING OF DEPENDENT VARIABLES PREDICTED, SEPARATED BY THE GROUPING OF PROJECTS – PERCENT OF TOTAL VARIANCE ACCOUNTED FOR INDICATED

	Groups										
Dependent Variables	Total Group	Less Than 25,000	25-50,000	50-100,000	Over 100,000	Urban	Suburban	Rural	Teachers/ other Profes-sionals	Students	Total
$\bar{X}$ of Prime Objectives	24.19	92.60	—	—	45.05	—	—	—	—	—	3
$\bar{X}$ of Unexpected Outcomes	—	—	—	—	—	—	—	—	—	—	0
Influence Educational Practices in:											
Building or Neighborhood	36.64	93.58	—	—	48.36	76.66	82.59	55.80	78.07	—	7
Local Community and/or District	38.36	—	—	—	—	72.54	73.23	82.10	—	—	4
County/ Intermediate Unit	23.83	—	—	—	42.52	—	72.46	57.51	74.16	—	5
State	—	—	—	—	—	—	—	—	77.43	—	1
National	19.60	—	—	—	45.83	—	—	—	—	—	2
Satisfaction Generated in:											
Trainee	17.19	96.52	—	—	39.99	50.48	—	—	—	—	4
Participants (other than Trainees)	—	—	93.28	—	43.22	48.43	—	—	—	—	3
School Building Personnel	21.53	—	—	—	40.09	—	—	—	—	—	2
School System	27.53	—	—	—	47.74	—	—	—	—	—	2
County System/ Intermediate Unit	—	—	97.32	—	40.73	—	—	—	—	—	2
R.C.U.	19.99	—	—	—	56.83	—	—	—	—	—	2
State Dept. of Ed. (other than R.C.U.)	15.92	—	—	—	45.03	—	—	—	—	—	2
Changes in Attitude Towards:											
Purpose of Thrust	28.56	—	—	71.49	62.09	65.92	—	—	—	—	4
Voc. Ed. in General	34.79	—	94.78	—	54.37	83.73	—	66.71	—	—	5
Education in General	32.30	—	—	61.20	70.35	83.69	—	—	—	—	4
The World of Work	31.80	99.37	—	—	49.77	90.02	—	—	—	—	4
Themselves	27.63	99.02	—	—	53.88	69.67	—	—	—	—	4
Others (Peers)	33.11	97.07	—	—	57.21	75.36	—	—	—	—	4
Others (Non-Peers)	27.01	97.07	—	—	57.16	74.09	—	—	—	—	4
Ultimate Effects on Targeted Population	29.06	—	99.11	—	66.72	47.56	76.89	—	—	—	5
Totals By Groups	18	7	4	2	19	12	4	4	3	0	73

CONCLUSIONS/RECOMMENDATIONS

1. The index descriptors presently used in the P. A. R. M. S. tend to mask the real thrust of the programs. It is suggested that the authors of the P. A. R. M. S. not only list the projects by vocational area (as is presently done), but that they also list them by the major type of program for easier identification. The index descriptors may then be a separate heading.

2. Interdepartmental ties can be strengthened through more formal contact with departments. The various departments felt that more solicited proposals should be sought, thus inferring a research and program leadership role being increased for R. C. U. and the various State Vocational Education Departments.

3. R. C. U. did not appear to show favoritism in its funding - with most projects found in institutions below the college level. However, smaller size communities were underrepresented in the funding. This could be a function of the nature of population distributions in the State, a function of school district boundaries, or the fact that smaller schools did not submit proposals. Regardless, it would seem appropriate that smaller size communities be better represented. This might mean direct solicitation by R. C. U. from such schools or school districts.

4. With the introduction of Career Education in the schools, it would appear that projects serving lower grade students (1 - 8) should be solicited or encouraged. This could be a thrust or goal for R. C. U.

5. The make up of all the projects appear to be quite evenly divided among research, curriculum and training. Materials, equipment, and work study did not make up large portions of the efforts of the projects. Thus, student oriented efforts appeared to be the thrust of the projects.

6. The projects were multi-objective in nature, with most prime objectives being met. It could be concluded from the data that not all objectives were met. Whether any project can do this is difficult to state, however, the directors appeared to feel that of the prime objectives they listed, most were to a great extent satisfied by the projects. Projects tended to generate few, but positive, unexpected outcomes. Generally it would appear that the projects achieved the objectives stated in the original proposals.

7. Teachers/staff play a major role in the success or failure of programs. Therefore, directors must utilize their staff effectively if they wish to meet the projects' goals.

8. Educational practices at building and local levels appeared to be affected by the projects. The ripple effect beyond the immediate geographic localities was not apparent. Thus, effective educational practices appear to be quite limited. The need to communicate successes of projects to other communities and beyond appears to be needed. This function might be assumed by R. C. U. The establishment of better communications between project directors, school districts, state, and national groups might facilitate this. Final reports,

although heavily used to disseminate information, evidently are not very effective as change agents. R. C. U. could play a major role in this area as a disseminator of information and consequently help to be a stronger change agent.

9. Aside from the project directors' own values and concerns, he/she must consider the influences generated by professional staff, students, the community, and state governmental policies on his or her decision making. Thus, the director is not alone when making decisions, and these sources of influence should be considered in projects to facilitate the use of their input and effect.

10. Those most closely related to projects appear to be most satisfied by the projects. The low ratings on R. C. U. satisfaction might be generated by a lack of feedback from R. C. U. on what the projects accomplished. This might be caused by a lack of manpower to do this on the part of R. C. U. Many in the interviews indicated that they would like this information from the agency.

    It is recommended that post evaluation of projects, and subsequently informing project directors of the results, become a function of R. C. U.

11. The projects had little effect on changing attitudes of participants. Where attitudes were changed, they tended to be towards the participants themselves, the purpose of the project, or vocational education. There were negative changes too. If projects (or education in general) are to be considered effective, there should be considerable positive attitudes towards other factors besides the individual himself. Improved self-images are significant and should be stressed by projects, but interpersonal relations are also significant. Projects should be designed to improve interpersonal as well as intrapersonal relations. Given the slight positive attitude changes, projects should also be designed to stress more changes in attitudes.

12. R. C. U. was a major source for funding of projects; school budgets were the major source for non-R. C. U. funding. Thus the interrelationship of R. C. U. and school budgets is apparent. Consideration of this fact by directors and R. C. U. must be built into the total budget of projects - for many of these projects owe their existence to both sources.

13. Accounting does not appear to be a major area of competency for project directors, just over half were able to give per unit costs. In some cases the costs were "rough" estimates. The per unit costs appears to be the weakest data supplied by directors in this study. It would seem the project directors should be more aware of Management By Objectives, P. P. B. S., or other systems for accounting purposes. With the large amounts of monies they spent, this information should help for accountability purposes. R. C. U. should require an accounting system to be built into each project. Leadership in developing such accounting systems within projects should come from R. C. U.

14. Directors appeared to look towards R. C. U. and the State Vocational Education Bureau for assistance during their project. They also received some assistance from them. Little assistance came from other areas.

Making R. C. U. a major source of assistance, might help to facilitate R.C.U.'s role in working with project directors. Directors indicated that they desire more interaction with R. C. U. during funding, thus R. C. U. has a willing group to work with.

15. Project directors were pleased with the project design and would do little to change it. They also received little material rewards for their efforts.

16. Vocational Education Advisory Councils were little used, but proved to be effective when used. Given the effectiveness of Advisory Councils, their subsequent influence on outcomes, and sources of external influences on decision making, these Councils should be better developed, expanded, and above all used by project directors. If these Councils are not used by the directors, then proposals should be structured to guarantee their use. It is suggested that R. C. U. play a leadership role in helping project directors utilize the Vocational Education Advisory Councils in meeting the goals of projects.

17. Formal evaluations of the projects appear to be lacking - less than 50% had any type of evaluation (internal or external), and only 25 had an external evaluation. This lack of evaluation might be adding to the lack of dissemination of results, because many projects can not provide data (in form of evaluations) that looks at the quality of the project. Project directors would also be hard put to provide data on results without some type of evaluation.

    Here R. C. U. could be providing a service by either requiring a formal evaluation, or as will be suggested in the following chapter, a formal post-project evaluation.

18. Since "other" category is a rather meaningless classification in terms of ethnic identification, the numbers were excluded from calculations. When this was done, the inbalance between whites and all minorities becomes very great when looking at the nature of trainees. Puerto Ricans are almost non-existent in this study.

    It can be safely stated that minorities are not well represented in the training programs of this study. The one major minority group not represented is the Puerto Rican. Attempts should be made to solicit training programs that will give a better ethnic balance of those being trained - particularly Puerto Ricans.

    Even when the "other" category is considered in the calculations, the inbalance between whites and specified minorities is still considerable. Many of the minorities may be hidden in the "other" categories. Given the ethnic identification situation today, project directors should be aware of such information and not combine specified minorities in the "other" category. The participation of all minorities in training programs should be expanded and encouraged. Solicited programs might be one approach that R. C. U. may use to correct this inbalance.

19. Projects are unique to each other, but the length of the projects doesn't appear to be a factor in such uniqueness. Thus projects should be evaluated on other factors besides length.

20. Not surprising is the fact that directors who requested assistance rated such assistance higher than those who received assistance but did not ask for it. To be of more effective assistance, request for such assistance should originate with the directors, and not an outside party.

21. Looking at programs in terms of just the length of the projects would not appear to be beneficial. There were little total differences among one year, two year, and three year projects, although the length of projects did influence specific outcomes and specific groups.

22. There are differences among groups other than that generated by the length of projects, and such differences are generated by many factors. Not all factors operate on all groups, nor do they affect them in the same way. Training programs were the most sensitive to the variables.

    Directors of projects and funding agencies must be aware of these differences and not treat all proposals alike. They must be able to isolate those factors that make differences and treat them accordingly. Further research is needed in this area to establish why these differences exist and how to handle them. Evaluations of the effectiveness of proposals must also take into account the fact that differences occur among projects, and that such differences must be built into any evaluative instruments or procedures to be used.

23. Again large projects are more sensitive to factors than are smaller projects, and that training programs for students were not sensitive. R. C. U. type variables had a strong influence on attitude outcomes, while internal and external factors appeared to affect educational practices, satisfaction, and goals.

    Although it would be dubious to establish a cause-effect relationship, it does appear that attitudes were positively affected by the degree (as perceived in adequacy) of R. C. U. funding. This might mean that if one were to increase the R. C. U. funding, one might be able to increase (to some extent) positive attitudes towards the variables studied.

    It also appears that the amount of internal and external influence will affect goals, satisfaction, and educational practices. Thus if programs were designed to increase either internal or external (which ever is appropriate) influences, the degree of satisfaction generated by the project, the ripple effect by influencing educational practices, or meeting goals would be enhanced.

    The other factors discussed have an effect on the variables studied, thus like a chemist, the project director must be able to balance and mix the appropriate amount of effects to increase the ultimate goals of the project. It does appear that he can increase his effectiveness as a director, consequently increase the probability of meeting the project's goals, if he identifies and understands such relationships.

# # #

In summation, the R. C. U. funded projects have had significant impact on vocational education. The R. C. U. staff is well received at all levels. Given the funding tasks, the budget constraints, and the educational needs, the R. C. U.

funding programs have had noteworthy effect on education. Changes have been suggested that should increase R. C. U.'s effectiveness.

The data points to a need for greater R. C. U. input at all levels; certainly R. C. U. funding has made a unique contribution to vocational education. This study has pointed out a need for more interaction between R. C. U. and many levels of the educational community. R. C. U. should also be involved at various levels of project development, implementation, guidance, review, and evaluation. In order to do this, the systematic approach must be developed to implement many of the suggestions made in this report. The following and final chapter includes a model for monitoring R. C. U. funded projects. Its sole purpose is to facilitate R. C. U.'s mission, and hopefully to maximize and/or minimize those relationships and factors found in this study.

CHAPTER 8

MODEL FOR MONITORING R. C. U. FUNDED PROJECTS

The results of this study indicated a need for greater and more effective control of funded projects in a systematic manner by R. C. U.

The following few pages are a description of a possible model (refer to Figure I) that could be used by R. C. U. in monitoring its funded projects. The model should be viewed as a whole, but at the same time, as two sub-models operating simultaneously. The sub-model blocks for grantee functions is illustrated with screen in the background. The sub-model blocks for R. C. U. functions does not have the screen background. Together both models flow through and at times parallel the same points. Totally they can be considered a model, since they interact with, and are not independent of each other; they also work simultaneously.

First, R. C. U. must continue to establish priorities. These priorities might be established in concert with others, originate at higher levels, (State, Federal Government), a product of research, community demands, needs as seen by R. C. U. staff, etc. Regardless of their origins, the priorities must be established in order to guarantee the logic of the dispersion of funds. R. C. U. should continue to make these priorities known to the various interested publics.

Next a grantee submits a proposal. This proposal might have been solicited, or it might have been unsolicited. Regardless, the proposal is submitted according to proper submission procedures established by R. C. U.

R. C. U. staff then evaluates the proposal in terms of the priorities and the stated goals of the proposal. A cost analysis is conducted by R. C. U. to determine the cost efficiency and cost effectiveness of the proposed research or project. This is done, even if the proposal does include cost efficiency data of its own.

A decision concerning the status of funding is made. If a negative decision is reached, the reasons for not funding the proposal is returned with the original proposal. If the decision is positive, then the grantee is informed that a preliminary affirmative decision has been made, pending an on-site visitation by R. C. U. staff personnel to review procedures to be used by the grantee as well as the facilities available to perform the project. If all is in accordance with R. C. U. priorities, cost efficiency and effectiveness, then the project may begin as submitted. If there is a need for alterations of the proposal, but there are no major revisions, the grantee may wish to amend the proposal accordingly and await final decision (refer to the feedback loop). If there are major revisions, the grantee may wish to revise and resubmit as if it were a new proposal. The proposal may also be rejected outright.

During the life of the project, R. C. U. will be in constant contact with the grantee in order to give advice, information and support. There are very formal definite procedures that must be followed during the life of the project. The grantee will be requested to prepare and submit quarterly status and evaluation reports. These reports are to be submitted directly to R. C. U.

R. C. U. conducts quarterly on-site visitations to assess the progress of the project in its environment. The grantee-submitted quarterly reports are also reviewed by the R. C. U. staff. After the information from the on-site visitations and the review of the quarterly report are considered, a decision as to whether to continue the project is made. If the project is terminated (for which R. C. U. must show cause, and the grantee may appeal), all unused funds are collected, a review is conducted, and a report is prepared. A project may be continued without any revisions, or recommendations for changes in procedure, design, or thrust may be made. [The grantee may accept the changes or jointly decide on changes needed.] R. C. U. then reviews changes made based on recommendations, and then feeds back in the loop to quarterly reports - thus establishing a more accurate base for which a decision may be made on whether to continue the project.

The quarterly review loop is not made in a vacuum, R. C. U. is in constant contact with the grantee for information, input, and reactions. While the review is in process, the program is continuing. The program can only stop when R. C. U. makes the decision to terminate it - with stated justifications. The review procedure is formally performed after each quarterly report.

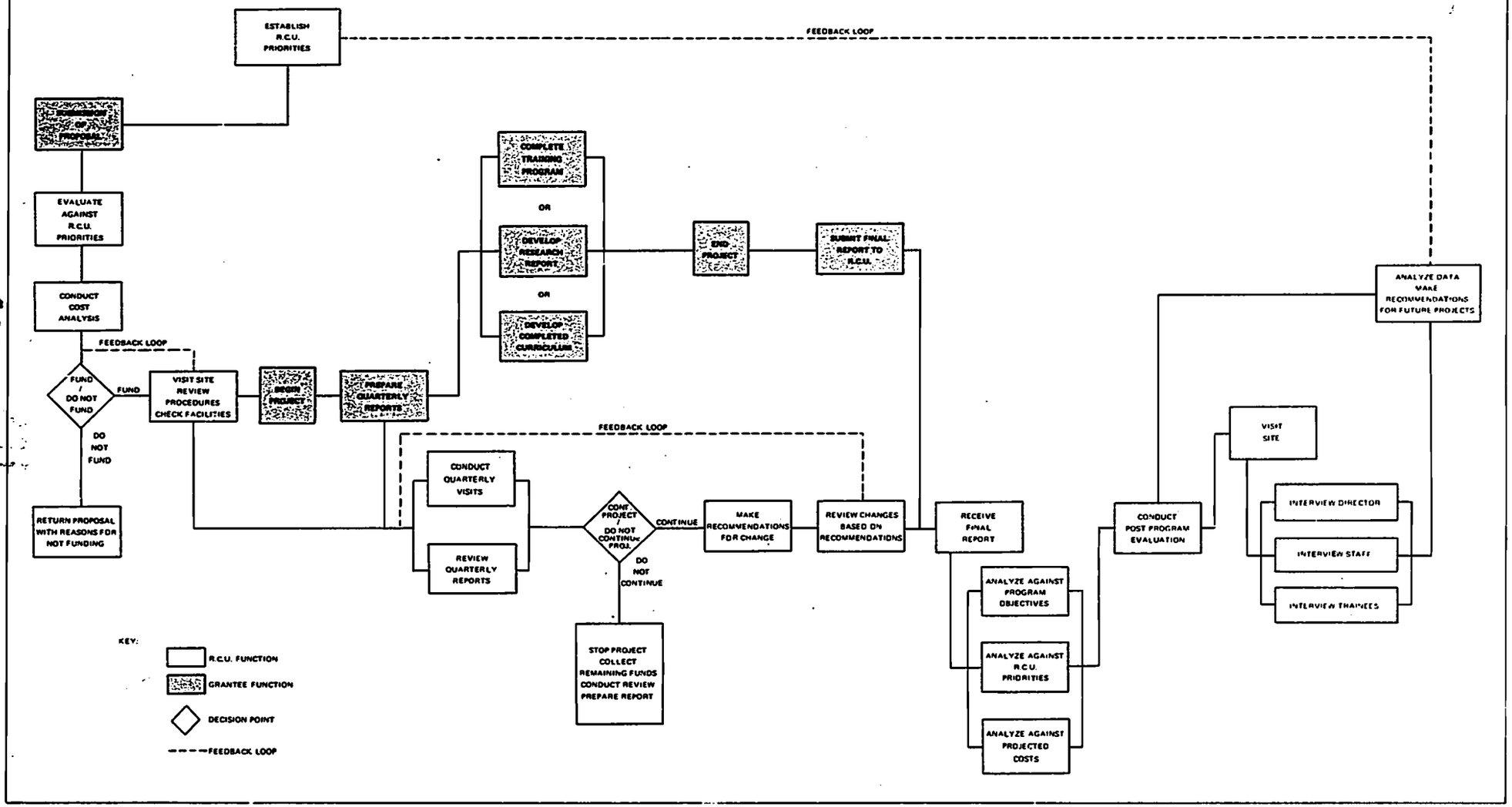
If there are no revisions, or acceptable revisions are made, the project continues until completion. The project ends and a final report to R. C. U. is made by the grantee. The grantee's formal functions thus end. The final report is then analyzed by R. C. U. staff and/or consultants in terms of: meeting program objectives; R. C. U. stated priorities; cost efficiency; and cost effectiveness.

R. C. U. then performs a post program evaluation. Depending on the nature of the project, R. C. U. staff may perform on-site visitations, interview the project director, interview staff, interview trainees, include visitations and surveying the needs of industry, commerce, and the community(ies) served by the project, or test and research materials developed.

The post program evaluation thus results in a final overall analysis of all the data collected on the project from its very beginning. This is part of an evaluation for R. C. U. From this data should follow recommendations for future projects as well as possible additions, omissions, or revisions of R. C. U.'s own priorities.

This proposed model will enable R. C. U. to monitor and evaluate R. C. U. funded projects. However, the implementation of this model would entail an increase in the present R. C. U. staff and an increase in the support capabilities of the present R. C. U. operation. In the long run, a system that is flexible and allows for changes, that is constantly apprized of its present situation, that gives constant support to the grantee when needed, that demands continued fiscal and educational responsibility and accountability of the grantee, and that demands continual fiscal and educational responsibility and accountability of itself, must, by its very nature, put demands on all of its elements, and in turn it will increase the efficiency and effectiveness of the Research Coordinating Unit to meet its goals and missions.

A MODEL FOR MONITORING R.C.U.-FUNDED PROJECTS



APPENDIX A

215-KI 6-3200

AMERICAN MANAGEMENT CENTER, INC.
262 SOUTH 15th STREET • PHILADELPHIA, PA. 19102

Dear Respondent:

The American Management Center has been funded by the Research Coordinating Unit, of the Department of Education, to assess the impact of RCU funded projects on educational practices in Pennsylvania. The enclosed questionnaire - opinionnaire has been developed as one part of the project.

As an individual involved in a funded project, you can provide us with important information that will help to determine the degree of impact RCU funding - in general, has had in vocational education areas. We are interested in identifying the strong and weak areas in the RCU funded program, so please answer with complete candor. All information will be held in strictest confidence, with general trends and results appearing in a culminating report written by the American Management Center.

We are aware that the instrument appears to be quite lengthy, but most of the questions require checking - type responses; the total instrument should not take too much of your time. Thank you very much for contributing to this important research effort.

Sincerely yours,

American Management Center

COMMONWEALTH OF PENNSYLVANIA
DEPARTMENT OF EDUCATION
BOX 911, HARRISBURG, PA. 17126

Dear Vocational-Education Researcher:

The Research Coordinating Unit and The Bureau of Vocational-Technical and Continuing Education are having a study conducted of past vocational education research efforts to determine the impact of this research and related activities on vocational programs in Pennsylvania. The American Management Center (AMC) in Philadelphia has been selected as the outside agency to conduct this study.

In the very near future, AMC will be contacting former vocational education research project directors that have conducted projects since 1966. The work of AMC will be greatly facilitated and in turn, bureau services may be improved if AMC receives your fullest cooperation with this study.

Thanks in advance for your full cooperation.

Sincerely,

John W. Struck, State Director
of Vocational Education

IMPACT ASSESSMENT OF RCU FUNDED PROJECTS

Survey Form

American Management Center

Please fill out this form and return by May 12th in the self-addressed envelope provided. In order to make this study meaningful and to give us needed information, we will need your cooperation in providing complete and objective responses. All information will be treated confidentially and anonymously. We are concerned with surveying all the programs and not focusing on a particular project.

This survey instrument is divided into two sets of questions. Questions 1 - 26 cover information for all projects; Questions 27 - 30 deal specifically with training (students/adults/teachers/other professionals). We ask that everybody respond to questions 1 - 26, and in addition those involved in training programs respond to questions 27 - 30.

We are aware of the imposition we are placing upon your busy schedule, that is why the instrument was designed with a minimum of open-ended responses.

Thank you for the time and effort that you will expend in responding.

American Management Center

Date filled out _____ RCU Project Number _____

1. Please check the appropriate classification of the group or agency operating the project.

   a. Local public school system ____
   b. Area Vocational-Technical School ____
   c. University/College ____
   d. Non-Profit private organization ____
   e. Other (please explain) _____

2. Check the appropriate area(s) that your project served or serviced.

   A. Population Concentration
      1. Rural (Non-Appalachia) ____
      2. Rural (Appalachia) ____
      3. Suburban ____
      4. Urban ____

   B. Population of the Geographic community served:
      1. over 100,000 ____
      2. 50,000 - 100,000 ____
      3. 25,000 - 49,999 ____
      4. 10,000 - 24,999 ____
      5. Under 10,000 ____

C. Targeted Population(s) of the Project

1. Regular ____
2. Disadvantaged ____
3. Handicapped ____

D. Education Levels

1. Pre-School ____
2. K-3 grades ____
3. 4-6 grades ____
4. 7-8 grades ____
5. 9-12 grades (comprehensive) ____
6. Special Education ____
7. Area Voc-Tech School 9-12 ____
8. Post-High School (Non-College) ____
9. Community/Jr. College (A.A., Transfer, Terminal) ____
10. College/University (4 year institutes) ____
11. Graduate School ____
12. In-Service Training (Non-College Credit) ____

3. The Project Prime Administrator's Background

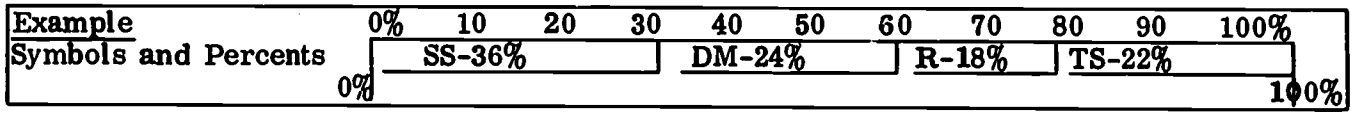
A. Educational Level (check highest level reached)
Non-Degree___ B.S./B.A.___ M.S./M.A./M.Ed___ Ed.D/Ph.D___

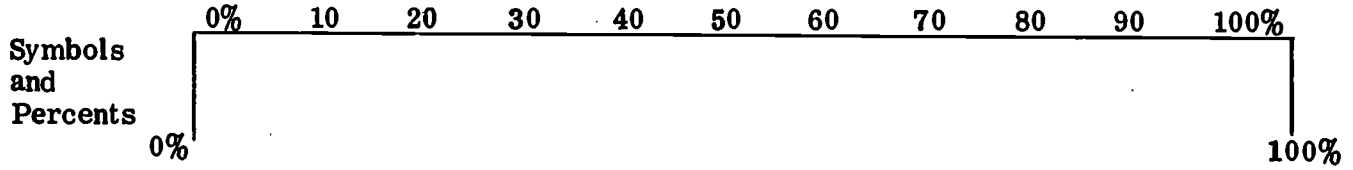
B. Number of years: Teaching___ Supervision/Administration ___

C. Non-Educational Experience (business/industry, on-the-job training) Number of years ___

4. If you were to divide your total project into its elements, illustrate below, within the grid, the percentage of the total project that was devoted to:

	Use These Symbols
Curriculum development - scope and sequence/guidance	(SS)
Research	(R)
Developing Materials	(DM)
Training - Teachers/other professionals	(TT)
Training - students/adults	(TS)
Equipment - purchase and/or upgrading	(E)
Work study	(WS)





5. List the prime objectives of the project (as indicated in the proposal for the project), and indicate to what extent they were met. Use the following rating scale:
Not at all - 1; Very little - 2; Somewhat - 3; Considerably - 4; Objective was totally met - 5.

A. Primary Objectives	Rating
1. _____	____
2. _____	____
3. _____	____
4. _____	____
5. _____	____
6. _____	____

6. List unexpected outcomes - indicate with a check if they were positive or negative.

Unexpected Outcomes	Negative	Positive

7. A. What major factors (or elements) contributed most to the success of your project? List them with the most significant first, the second most, then the third, and so on...

(Most Significant)

(Least Significant)

B. What major factors (or elements) hindered you most in meeting the project's objectives: List them with the most significant first, the second most, then the third, and so on...

(Most Significant)

(Least Significant)

8. Rate how successfully your project was able to influence educational practices at the following levels. Use the following ratings:

Extreme Negative Influence	Very Negative Influence	Had Some Negative Influence	No Influence	Had Some Positive Influence	Very Positive Influence	Extreme Positive Influence
1	2	3	4	5	6	7

Levels:	Rating
a. Building or neighborhood	
b. Local community and/or district	
c. County/Intermediate Unit	
d. State	
e. National	

9. Which of the following can be identified as specific examples of how you could determine your project's influence? Indicate by placing a check in the appropriate column(s) where the influence was felt.

Specific Examples	Level Where The Influence Was Felt: Building/ Neighborhood	Local/ Dist.	Intermediate/ Unit County	State	National
a. New or revised curriculum					
b. Classroom/shop instructional procedures					
c. New or revised educational policies					
d. New or revised administrative policies					
e. New or revised counseling/guidance procedures					
f. Changes in employment patterns					
g. Decreased unemployment rates					
h. Decrease in the number on welfare					
i. Reduced dropout rate of your targeted population					
j. Remain, or initial selection, in the area for which the targeted population was trained					
k. Teachers/other professionals received certificates					
l. Others (explain)					
_____					
_____					

10. To what extent did the following influence your decision making while director of the project? Please insert appropriate rating in space provided:

Ratings: Extreme negative influence - 1; Very negative influence - 2; Had some negative influence - 3; No influence - 4; Had some positive influence - 5; Very positive influence - 6; Extreme positive influence - 7.

A. Sources of Internal Influence

1. Professional staff/faculty ____
2. Students ____
3. Sect'y ____
4. Unions ____
5. School Board or University policies ____
6. Restriction of the proposal ____
7. Your immediate supervisor ____
8. Yourself ____

B. Sources of External Influence

1. Parents ____
2. Unions ____
3. Community ____
4. Local governmental policies ____
5. State governmental policies ____
6. U. S. governmental policies ____
7. Political parties ____
8. Pressure groups ____

11. How did you disseminate the results of this project? Check the appropriate one(s)

a. Final report ____
b. In-service training (after the project) ____
c. Publications (books) ____
d. Publications (articles) ____
e. Speeches and papers given at conferences ____
f. Speeches to local groups ____
g. Word-of-mouth ____
h. Others (explain) ____

12. Did the results, or product, become a permanent part of the program/policy for:

a.	School building	Yes ____	No ____
b.	School district	Yes ____	No ____
c.	County/Intermediate	Yes ____	No ____
d.	State	Yes ____	No ____
e.	National	Yes ____	No ____
f.	University/college	Yes ____	No ____

13. As director, what are your feelings about the satisfaction generated by the project for; (Please insert appropriate rating in space provided)

Ratings: No Satisfaction - 1; Little Satisfaction - 2; Satisfied - 3; Very Satisfied - 4; Highly Satisfied - 5; Not Applicable - 6.

a. Trainees ____
b. Participants other than trainees (e.g., staff) ____
c. School building personnel ____
d. School system ____
e. County system/Intermediate Unit ____
f. RCU ____
g. State Department of Education (other than RCU) ____

14. Rate the changes in attitudes of those who partipated in your project. (Please insert appropriate rating in space provided.

Ratings:	Considerable Negative Change - 1	Some Negative Change - 2	No Change - 3	Some Positive Change - 4	Considerable Positive Change - 5
a. Purpose or thrust of the project					
b. Voc. Ed in general					
c. Education in General					
d. The world of work					
e. Themselves					
f. Others (peers)					
g. Others (non-peers)					

15. Rate the project's outcomes in terms of its ultimate effect on students or targeted population. (Please encircle proper rating)

No effect.	Little effect.	Some effect.	Considerable effect.	It had a major effect.
1	2	3	4	5

16. A. Total cost of operating the project $_____
B. RCU Funding $_____
C. Rate the adequacy of the RCU Funding by encircling the appropriate description:

Extremely adequate.	Very adequate.	Somewhat adequate.
5	4	3

Not very adequate.	Not adequate at all.
2	1

D. If more money had been allocated, what would you have done with it that you were not able to do with the funding received?

_____
_____
_____
_____
_____

17. In addition to RCU funding, what other sources of funding were used to support the project? Please check the appropriate source(s).

A. None ____
B. School budget ____
C. Local government ____
D. State - other than RCU ____ (List) _____
E. Private industry ____ (List) _____
F. U. S. Office of Education ____
G. Office of Economic Opportunity ____
H. Other U. S. funding (indicate) _____
I. Foundation: please name _____

18. Estimate the per unit cost for your project. That is - how much did it cost to train/ educate an individual, or produce a curriculum material, or complete a study, etc., etc.

List Unit	Per Unit Cost
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

19. How much influence did the following have on creating the proposal? Please insert appropriate rating in space provided:

Ratings: Had no influence - 1; Had very little influence - 2; Had some influence - 3; Very influential - 4; Extremely influential - 5.

A. RCU ____
B. State Dept. of Ed. (Non-Voc. Ed. Div.) ____
C. State Dept. of Ed. (Voc. Ed. Div.) ____
D. County level Voc. Ed. personnel ____
E. Local Voc. Ed. personnel ____
F. School building personnel ____
G. School district personnel ____
H. Teacher education institution ____

20. How much assistance did you receive, or have, during your project from: (Please insert appropriate rating in space provided)

No assistance - 1; Slight assistance - 2; Some assistance - 3; Considerable assistance - 4.

	Rating	Did you request assistance? Yes	No
a. RCU	____	____	____
b. State Dept. of Ed. (Voc. Ed.)	____	____	____
c. State Dept. of Ed. (Non-Voc. Ed.)	____	____	____
d. County Educational Personnel	____	____	____
e. District Personnel	____	____	____
f. School building personnel	____	____	____
g. Teacher Educational Institutions	____	____	____

21. Do you believe there should be: (check only one)

a. No interaction between RCU and the project after funding has been approved. ____
b. There should only be slight interaction between RCU and the project after funding has been approved. ____
c. There should be some interaction between RCU and the project after funding has been approved. ____
d. There should be considerable interaction between RCU and the project after funding has been approved. ____
e. There should be constant interaction between RCU and the project after funding has been approved. ____

22. Should your project, as designed, be repeated?

a. Yes ____ (go to b. and c.) No ____ (go to b. and d.)
b. Why? _____

c. What would you do differently, if the project, as now designed, were to be repeated?

d. Would you repeat the project, if you were to significantly redesign it? Yes ____ No ____. If yes, how and in what way would you change it?

If no, why?

23. Now that you have completed the project, do you feel that your agency (or institution) was the most appropriate one for this project?

a. Yes ____, b. No ____, if not, which one of the following would be best suited?

1. Local school system ____
2. Area Voc-Tech. School ____
3. State department ____
4. University/college ____
5. Private industry ____
6. Local governmental agency ____
7. Other _____

24. As a result of this project, what happened to you - in terms of career advancement? Please check the appropriate response(s).

a. Nothing ____
b. Received an advanced degree ____
c. Was promoted ____
d. Received certification ____
e. Given other projects to develop ____
f. Given administrative duties or position not held before the project (but not promoted) ____
g. Other (please describe) _____

25. a. To what extent did you use a local Voc. Ed Advisory Council for this project? Encircle the appropriate rating.

None of the time. 1 Very little. 2 At times. 3 A good bit of the time. 4
A considerable amount of the time. 5

b. If you used them at all, rate their effectiveness - in terms of your project only.

Was not effective at all. 1 Had very little effect. 2 Had some effect. 3
Considerable effect. 4 Highly effective. 5

26. a. Has the program had an internal evaluation?

1. Yes ____ (go to 2 and 3) No ____
2. Is a report available Yes ____ No ____
3. Who, or what unit within your organization, was responsible for designing and conducting the evaluation ?

_____

_____

b. Were there any external evaluations done on your project?
Yes ____ No ____ If so, by whom?
(Title and address) _____
Check here if a report is available ____

IF YOUR PROJECT WAS DIRECTLY INVOLVED IN TRAINING/EDUCATING STUDENTS, ADULTS (NON-PROFESSIONAL), OR TEACHERS/OTHER PROFESSIONALS (e.g., IN-SERVICE, WORKSHOPS, TEACHER TRAINING, ETC.) PLEASE RESPOND TO QUESTIONS 27-30.
(IF NOT DIRECTLY INVOLVED IN TRAINING, THANK YOU FOR YOUR TIME AND EFFORT AND PLEASE RETURN THE INSTRUMENT IMMEDIATELY IN THE ENVELOPE PROVIDED.)

27. If the project was directly involved in training/educating, please give the numbers involved under the appropriate categories (A, B, C).

Number of Participants:	A. Students (Up to 18 years of age)	B. Adults* (Over 18 years)	C. Teachers/other Professional Staff (Workshops, teacher training, in-service etc.)
Total	____	____	____
American Indians	____	____	____
Blacks	____	____	____
Puerto Ricans	____	____	____
Whites	____	____	____
Orientals	____	____	____
Others (explain)	____	____	____

*Do not include teachers or other professionals in section B. Professionals who participated in teacher training programs, workshops, in-service programs, etc., should be included in section C.

28. Did the majority of the participants after leaving your program – (check the appropriate response)

a. If students or adults:
1. Remain in school, or in another program, for further training/education? ____ or
2. Go immediately into industry/business: ____

b. If teachers or other professionals:
1. Remain in the position or area that was the focus of your project ____ or
2. Moved immediately into a position or area not related to the focus of your projects ____

29. If the participants went immediately into industry/business, list the business or industries in your area where the largest numbers were employed.

Name of Firm	Address

30. If a program for teachers or other professionals, did they receive: (please check the appropriate responses)

a. An initial degree ____
b. An advanced degree ____
c. An initial certificate ____
d. College credit ____
e. Credit towards salary advancement ____
f. None of the above ____

THANK YOU FOR YOUR TIME AND EFFORT. PLEASE RETURN THIS INSTRUMENT IMMEDIATELY IN THE ENVELOPE PROVIDED.

APPENDIX B

AMERICAN MANAGEMENT CENTER

PROJECT NO. PA. _____ DATE _____
(R. C. U.)

TITLE: _____

INTERVIEWER _____

PERSON INTERVIEWED:

NAME _____

TITLE _____

LOCATION _____

NOTES

The person interviewed may not be the same person who filled out the questionnaire.

In any event, indicate that the purpose of the site visit is to gain additional information and to give the project personnel an opportunity to make comments and share information and thoughts that may or may not be brought out by the questionnaire.

Be sure to indicate that the personal interview is not a substitute for the questionnaire or vice versa.

Assume that the person being interviewed has actually only allocated, in his schedule for that day, one to two hours that you asked for. Therefore, do not use up a lot of time with small talk, such as the weather, traffic, countryside, the buildings, his/her office, etc. They will be waiting for and expecting you to get to the point.

Don't allow yourself to be interrupted by a phone call for you. Make sure that, if and only absolutely necessary, messages are left for you to be picked up after interview.

A friendly smile may help to set the tone instead of the small talk routine. Use a friendly and relaxed style. Do not act as an interrogator. If the person being interviewed shows the slightest indication of getting up tight from a certain question then take another route or drop it.

Opening questions are extremely important. Although you are seeking specific data the person being interviewed should feel free to talk and not feel restricted to certain responses. He should feel that you are listening to, concerned about or interested in the things he feels like talking about.

Nonetheless, within this framework, get the data you need.

Good luck and happy interviewing!

Opening (suggested)

1. Mr./Mrs. _____ I have read the abstract of your program (P. A. R. M.) and I wonder if you would mind sharing with me some of your personal feelings concerning the program.

   (a) Did you enjoy being involved in this project?

   (b) Do you think it had any impact in (depends on type of project)

      (1) Meeting the needs of students (How?)

      (2) Meeting the needs of adults (How?)

      (3) Professional growth of staff persons (How?)

      (4) Creating new materials (How?)

      (5) Developing new methods or approach (How?)

2. In what areas do you feel the program made a ripple effect on the educational system (Please explain) -

      (1) Student-achievement

         - Motivation

         - Awareness

      (2) Teacher performance (teaching)

         - Attitude (ask for indicators of change)

(Cont'd. on next page)

(3) Curricular improvements

Direct

Indirect

Actual

Projected

(4) Parental involvement

Community Reaction

Community Understanding

Community Cooperation

3. Would you like to see this program

(a) Repeated

(b) Continued

(c) Expanded

(d) Revised

(e) Discontinued

(Cont'd. on next page)

IF ANSWER TO NO. 3 IS A, B, C OR ESPECIALLY D, THEN ASK:

4. What would you like to see to make the program more successful re:

   (a) Students

   (b) Staff

   (c) Materials

   (d) Curriculum

   (e) System improvement

5. How could State Department of Education help in this effort

   (a) Additional funds - for what purpose(s)

   (b) Program guidance

   (c) Professional resources

   (d) More on-site visits

   (e) Department of Education (State-R. C. U. and others) feedback on regular basis

6. Physical identification of objectives
   (if not, reasons if in objectives of the proposal)

   (a) New shop layout

   (b) Staff trained and performing

(Cont'd. on next page)

(c) Student status after program

(d) Curricular materials

(e) Report

(f) In house evaluations

(g) Other

7. Do you have any other comments that you would like to share with us?

After formal part of interview is over, close up material, etc. Before leaving, like after handshake, casually ask: WHAT WOULD BE THE REACTION OF THE LOCAL SCHOOL BOARD TOWARDS USING AN INCREASED AMOUNT OF THEIR OPERATING BUDGET FOR THIS PROJECT. (Just a measure of how program is perceived by local Board.)

Write the answer to this one later on, out of sight of interviewee.

APPENDIX C

MULTIPLE REGRESSION ANALYSES

Note: Please use the appropriate key found in Table 1.

The proper key number is found directly under the group identification listing that is located under the table number.

Content	Tables
Total Group	2 - 23
Size of Community	24 - 112
Type of Community	113 - 178
Type of Program	179 - 222

TABL

KEYS TO BE USED TO IDENTIFY INDEPENDENT AND DEPENDENT VA

Variable Titles	Key #1			Key #2			Key #3			Key #4			Key #5			Key #6			Key
	Var. #	Ind.	Dep.	Var. #	Ind.	Dep.	Var. #	Ind.	Dep.	Var. #	Ind.	Dep.	Var. #	Ind.	Dep.	Var. #	Ind.	Dep.	Var. #	Inc
Q–0#																				
Length of Project	1		X	1	X		1	X		1	X		1	X		1	X		1	X
5 Mean of Prime Objectives	2	X		2		X				2		X								
6 Mean of Unexpected Outcomes	3	X		3		X				3		X								
8 Influencing Educational Practices																				
a Building	4	X		4		X				4		X								
b Local Community	5	X		5		X				5		X								
c County Level	6	X		6		X				6		X								
d State	7	X		7		X							2		X					
e National	8	X		8		X							3		X					
10a Mean Source of Internal Influence	9		X	9	X		2	X		7	X		4	X		2	X		2	X
10b Mean Source of External Influence	10		X	10	X		3	X		8	X		5	X		3	X		3	X
13 Satisfaction Generated in:																				
a Trainee	11	X		11		X							6		X					
b Participants – other than trainee	12	X		12		X							7		X					
c School Building Personnel	13	X		13		X							8		X					
d School System	14	X		14		X										4		X		
e County System	15	X		15		X										5		X		
f R.C.U	16	X					4		X							6		X		
g State Department of Ed.	17	X					5		X							7		X		
14 Changes in Attitude																				
a Purpose or Thrust	18	X					6		X							8		X		
b Voc. Ed. in General	19	X					7		X										4	
c Education in General	20	X					8		X										5	
d The World of Work	21	X					9		X										6	
e Themselves	22	X					10		X										7	
f Others (peers)	23	X					11		X										8	
g Others (non-peers)	24	X					12		X											
15 Ultimate Effects in Targeted Population –	25	X					13		X											
16b R.C.U. Funding	26		X	16	X		14	X		9	X		9	X		9	X		9	X
16c Adequacy of R.C.U. Funding	27		X	17	X		15	X		10	X		10	X		10	X		10	X
18 Per Unit Costs	28		X	18	X		16	X		11	X		11	X		11	X		11	X
20 Mean Assistance Received.	29		X	19	X		17	X		12	X		12	X		12	X		12	X
25B Effectiveness of Voc. Ed. Advisory Council	30		X	20	X		18	X		13	X		13	X		13	X		13	X

1. Keys 12–19 Not Used. Only Variable Numbers Used In Keys 20–27.

TABLE 3 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.0862
MULTIPLE CORR. COEFFICIENT 0.2935

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P.
DUE TO REGRESSION.....	8	2.65436	0.31179	1.0488	n.s.
DEVIATION ABOUT REGRESSION...	89	26.45740	0.29727		
TOTAL...	97	28.95177			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.07689	0.07216	1.06557	0.11223	0.87263	0.03014
9	4.95640	1.36724	0.03618	0.04531	0.79859	0.08435	0.56305	0.01945
10	3.92406	1.66624	0.02320	0.03889	0.59673	0.06313	0.17560	0.00607
26	34108.25391	53618.60547	0.00000	0.00000	0.83087	0.08773	0.36543	0.01262
27	2.89796	1.65280	0.02639	0.03751	0.70369	0.07438	0.32764	0.01132
28	548.74487	3313.11328	-0.00000	0.00002	-0.22283	-0.02361	0.02288	0.00079
29	2.23867	1.00744	0.04665	0.06588	0.70817	0.07485	0.16714	0.00577
30	1.96939	1.89657	0.00003	0.03530	0.00078	0.00008	0.00000	0.00000
3	0.44939	0.54633						

TABLE 4 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.3664
MULTIPLE CORR. COEFFICIENT 0.6053

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	273.53223	34.19153	6.4335	<.01
DEVIATION ABOUT REGRESSION...	89	472.99854	5.31459		
TOTAL...	97	746.53076			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.00242	0.30512	0.00792	0.00084	23.41930	0.03137
9	4.95640	1.36724	-0.14509	0.19158	-0.75734	-0.08002	15.62826	0.02093
10	3.92406	1.66624	0.66658	0.16442	4.05417	0.39483	132.91206	0.17804
26	34108.25391	53618.60547	0.00001	0.00000	1.94934	0.20235	24.31644	0.03257
27	2.89796	1.65280	0.18515	0.15859	1.16749	0.12282	26.89192	0.03602
28	548.74487	3313.11328	0.00006	0.00007	0.83715	0.08839	5.57724	0.00747
29	2.23867	1.00744	0.02971	0.27854	0.10667	0.01131	5.87507	0.00787
30	1.96939	1.89657	0.40387	0.14926	2.70589	0.27571	38.91264	0.05212
4	4.12245	2.77420						

TABLE 5 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.3836
MULTIPLE CORR. COEFFICIENT 0.6194

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	239.95547	29.99443	6.9244	<.01
DEVIATION ABOUT REGRESSION...	89	385.52417	4.33173		
TOTAL...	97	625.47974			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.01163	0.27547	0.04222	0.00448	19.01337	0.03040
9	4.95640	1.36724	-0.03063	0.17296	-0.17707	-0.01877	20.77205	0.03321
10	3.92406	1.66624	0.51432	0.14844	3.46484	0.34476	74.54187	0.11918
26	34108.25391	53618.60547	0.00001	0.00000	1.33293	0.13990	11.73689	0.01876
27	2.89796	1.65280	0.40380	0.14317	2.82036	0.28643	63.79105	0.10199
28	548.74487	3313.11328	-0.00010	0.00006	-1.51274	-0.15833	6.89960	0.01103
29	2.23867	1.00744	-0.14319	0.25147	-0.56941	-0.06025	0.99769	0.00160
30	1.96939	1.89657	0.42060	0.13475	3.12136	0.31412	42.20351	0.06747
5	4.60204	2.53934						

TABLE 6 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.2383
DEPENDENT VARIABLE IS NOW NO. 6 MULTIPLE CORR. COEFFICIENT 0.4881

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	144.28383	18.03548	3.4799	<.01
DEVIATION ABOUT REGRESSION...	89	461.26709	5.18278		
TOTAL...	97	605.55103			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.15296	0.30132	0.50764	0.05373	14.85270	0.02453
9	4.95640	1.36724	-0.38364	0.18919	-2.02781	-0.21015	0.00890	0.00001
10	3.92406	1.66624	0.63175	0.16237	3.89090	0.38128	97.14598	0.16043
26	34108.25391	53618.60547	0.00001	0.00000	1.22601	0.12887	11.23050	0.01855
27	2.89796	1.65280	0.18612	0.15661	1.18846	0.12499	14.47611	0.02391
28	948.74487	3313.11328	-0.00001	0.00007	-0.09581	-0.01015	0.00460	0.00001
29	2.23867	1.00744	0.02136	0.27507	0.07765	0.00823	1.00932	0.00167
30	1.96939	1.89657	0.15261	0.14739	1.03557	0.10909	5.55595	0.00918
6	3.32653	2.49856						

TABLE 7 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.1440
DEPENDENT VARIABLE IS NOW NO. 7 MULTIPLE CORR. COEFFICIENT 0.3795

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	84.84033	10.60504	1.8717	n.s.
DEVIATION ABOUT REGRESSION...	89	504.26172	5.66586		
TOTAL...	97	589.10205			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.25625	0.31507	0.81338	0.08590	8.21396	0.01394
9	4.95640	1.36724	0.02642	0.19787	0.13354	0.01415	15.01593	0.02549
10	3.92406	1.66624	0.51833	0.16977	3.05319	0.30791	55.90181	0.09489
26	34108.25391	53618.60547	0.00000	0.00000	0.10818	0.01147	0.01139	0.00002
27	2.89796	1.65280	-0.12838	0.16374	-0.78404	-0.08282	4.89753	0.00831
28	948.74487	3313.11328	-0.00002	0.00007	-0.20623	-0.02186	0.30976	0.00053
29	2.23867	1.00744	0.02158	0.28760	0.07503	0.00795	0.00282	0.00000
30	1.96939	1.89657	-0.04520	0.15411	-0.29327	-0.03107	0.48729	0.00083
7	3.73469	2.46439						

TABLE 8 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.1960
DEPENDENT VARIABLE IS NOW NO. 8 MULTIPLE CORR. COEFFICIENT 0.4427

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	108.22324	13.52790	2.7115	<.01
DEVIATION ABOUT REGRESSION...	89	444.02173	4.98901		
TOTAL...	97	552.24512			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.15036	0.29563	0.50862	0.05384	10.39787	0.01883
9	4.95640	1.36724	-0.24516	0.18562	-1.32075	-0.13865	0.27681	0.00050
10	3.92406	1.66624	0.44567	0.15930	2.79760	0.28431	47.47299	0.08596
26	34108.25391	53618.60547	0.00000	0.00000	0.77647	0.08203	8.36441	0.01515
27	2.89796	1.65280	0.32570	0.15365	2.11971	0.21922	35.06853	0.06350
28	948.74487	3313.11328	-0.00005	0.00007	-0.77650	-0.08203	3.12547	0.00566
29	2.23867	1.00744	0.14443	0.26988	0.53518	0.05664	2.56942	0.00465
30	1.96939	1.89657	0.06304	0.14461	0.43591	0.04616	0.94799	0.00172
8	2.55102	2.38605						

TABLE 9 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.1719
MULTIPLE CORR. COEFFICIENT 0.4146

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	51.75041	6.46880	2.3099	<.05
DEVIATION ABOUT REGRESSION...	89	249.23958	2.80044		
TOTAL...	97	300.98999			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.16043	0.22149	0.72434	0.07655	5.71021	0.01897
9	4.95640	1.36724	0.25412	0.13907	1.82733	0.19016	20.20224	0.06712
10	3.92406	1.66624	0.06551	0.11935	0.54884	0.05808	1.81838	0.00604
26	34108.25391	53618.60547	0.00000	0.00000	1.20614	0.12682	4.33059	0.01439
27	2.89796	1.65280	-0.08703	0.11512	-0.75598	-0.07988	0.24797	0.00082
28	948.74487	3313.11328	-0.00010	0.00005	-1.84515	-0.19195	11.26383	0.03742
29	2.23867	1.00744	0.34126	0.20219	1.68776	0.17611	7.92456	0.02633
30	1.96939	1.89657	-0.03255	0.10835	-0.30046	-0.03183	0.25281	0.00084
11	4.01020	1.76153						

TABLE 10 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 12

COEFFICIENT OF DETERMINATION 0.1392
MULTIPLE CORR. COEFFICIENT 0.3731

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	42.18698	5.27337	1.7996	n.s.
DEVIATION ABOUT REGRESSION...	89	260.80298	2.93037		
TOTAL...	97	302.98999			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.06175	0.22657	0.27252	0.02888	3.15164	0.01040
9	4.95640	1.36724	0.14329	0.14226	1.00725	0.10617	14.68989	0.04848
10	3.92406	1.66624	0.20949	0.12209	1.71589	0.17895	10.94215	0.03611
26	34108.25391	53618.60547	0.00000	0.00000	1.24617	0.13096	5.33115	0.01760
27	2.89796	1.65280	-0.02352	0.11776	-0.19976	-0.02117	0.03676	0.00012
28	948.74487	3313.11328	-0.00006	0.00005	-1.16748	-0.12282	4.70540	0.01553
29	2.23867	1.00744	0.21758	0.20683	1.05197	0.11082	3.23345	0.01067
30	1.96939	1.89657	-0.02013	0.11083	-0.18166	-0.01925	0.09670	0.00032
12	4.01020	1.76737						

TABLE 11 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 13

COEFFICIENT OF DETERMINATION 0.2153
MULTIPLE CORR. COEFFICIENT 0.4640

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	83.37277	10.42160	3.0520	<.01
DEVIATION ABOUT REGRESSION...	89	303.90283	3.41464		
TOTAL...	97	387.27563			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR CUM.
1	1.55102	0.82640	-0.17106	0.24457	-0.69940	-0.07393	1.77272	0.00458
9	4.95640	1.36724	0.10826	0.15356	0.70501	0.07452	16.43123	0.04243
10	3.92406	1.66624	0.43205	0.13179	3.27824	0.32824	34.25320	0.08845
26	34108.25391	53618.60547	0.00000	0.00000	0.73242	0.07740	2.31469	0.00598
27	2.89796	1.65280	-0.16188	0.12712	-1.27344	-0.13377	9.45926	0.02443
28	948.74487	3313.11328	0.00002	0.00006	0.42571	0.04508	0.10747	0.00028
29	2.23867	1.00744	0.26526	0.22327	1.18806	0.12495	0.70345	0.00182
30	1.96939	1.89657	-0.27720	0.11964	-2.31697	-0.23851	18.33092	0.04733
13	3.86735	1.99813						

TABLE 12 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 14

COEFFICIENT OF DETERMINATION 0.2753
MULTIPLE CORR. COEFFICIENT 0.5247

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	90.99001	11.37375	4.2264	<.01
DEVIATION ABOUT REGRESSION...	89	239.50999	2.69112		
TOTAL...	97	330.50000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	-0.18548	0.21712	-0.85426	-0.09018	1.18417	0.00358
9	4.95640	1.36724	0.08613	0.13633	0.63176	0.06682	19.10402	0.05780
10	3.92406	1.66624	0.46662	0.11700	3.98825	0.38939	44.86925	0.13576
26	34108.25391	53618.60547	0.00000	0.00000	0.62211	0.06580	2.04249	0.00618
27	2.89796	1.65280	-0.11211	0.11285	-0.99343	-0.10472	2.83284	0.00857
28	948.74487	3313.11328	-0.00001	0.00005	-0.18009	-0.01909	0.68269	0.00207
29	2.23867	1.00744	0.41458	0.19821	2.09165	0.21646	5.22767	0.01582
30	1.96939	1.89657	-0.25114	0.10621	-2.36461	-0.24313	15.04704	0.04553
14	4.07143	1.84586						

TABLE 13 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 15

COEFFICIENT OF DETERMINATION 0.1055
MULTIPLE CORR. COEFFICIENT 0.3247

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	65.67778	8.20972	1.3115	n.s.
DEVIATION ABOUT REGRESSION...	89	557.13843	6.25998		
TOTAL...	97	622.81641			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.28877	0.33115	0.87201	0.09204	3.64110	0.00585
9	4.95640	1.36724	0.10619	0.20792	0.51074	0.05406	8.73042	0.01402
10	3.92406	1.66624	0.37896	0.17844	2.12371	0.21962	19.11116	0.03069
26	34108.25391	53618.60547	-0.00000	0.00001	-0.18848	-0.01998	0.53224	0.00085
27	2.89796	1.65280	-0.02301	0.17211	-0.13371	-0.01417	5.29476	0.00850
28	948.74487	3313.11328	0.00008	0.00008	0.99681	0.10508	6.79169	0.01090
29	2.23867	1.00744	-0.38974	0.30230	-1.28924	-0.13540	17.16301	0.02756
30	1.96939	1.89657	-0.13602	0.16199	-0.83967	-0.08865	4.41354	0.00709
15	3.69388	2.53393						

TABLE 14 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 16

COEFFICIENT OF DETERMINATION 0.1999
MULTIPLE CORR. COEFFICIENT 0.4471

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	96.17815	12.02227	2.7791	<.01
DEVIATION ABOUT REGRESSION...	89	385.01587	4.32602		
TOTAL...	97	481.19409			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.15818	0.27529	0.57462	0.06080	4.32085	0.00898
9	4.95640	1.36724	0.10132	0.17285	0.58619	0.06202	22.28285	0.04631
10	3.92406	1.66624	0.51330	0.14834	3.46026	0.34435	56.88887	0.11822
26	34108.25391	53618.60547	0.00000	0.00000	0.17165	0.01819	0.00567	0.00001
27	2.89796	1.65280	-0.19663	0.14308	-1.37426	-0.14415	10.19499	0.02119
28	948.74487	3313.11328	0.00004	0.00006	0.62108	0.06569	1.41499	0.00294
29	2.23867	1.00744	0.06526	0.25130	0.25970	0.02752	0.04894	0.00010
30	1.96939	1.89657	-0.06543	0.13466	-0.48586	-0.05143	1.02120	0.00212
16	3.31633	2.22728						

TABLE I5 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 17

COEFFICIENT OF DETERMINATION 0.1592
MULTIPLE CORR. COEFFICIENT 0.3990

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	61.26535	7.65817	2.1068	<.05
DEVIATION ABOUT REGRESSION...	89	323.51025	3.63495		
TOTAL...	97	384.77563			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.25220	0.25234	0.99943	0.10535	7.19830	0.01871
9	4.95640	1.36724	0.10960	0.15844	0.69174	0.07313	16.71236	0.04343
10	3.92406	1.66624	0.41789	0.13598	3.07326	0.30974	32.60994	0.08476
26	34108.25391	53618.60547	0.00000	0.00000	0.31927	0.03382	0.87562	0.00228
27	2.89796	1.65280	0.03923	0.13115	0.29911	0.03169	0.00471	0.00001
28	948.74487	3313.11328	0.00002	0.00006	0.37998	0.04025	0.36180	0.00094
29	2.23867	1.00744	0.00522	0.23036	0.02267	0.00240	0.32752	0.00085
30	1.96939	1.89657	-0.11537	0.12344	-0.93463	-0.09859	3.17526	0.00825
17	3.63265	1.59167						

TABLE I6 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 18

COEFFICIENT OF DETERMINATION 0.2856
MULTIPLE CORR. COEFFICIENT 0.5344

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	89.74493	11.21812	4.4473	<.01
DEVIATION ABOUT REGRESSION...	89	224.50018	2.52247		
TOTAL...	97	314.24512			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.17133	0.21021	0.81506	0.08608	13.80887	0.04394
9	4.95640	1.36724	-0.02905	0.13199	-0.22012	-0.02333	0.98293	0.00313
10	3.92406	1.66624	0.02907	0.11327	0.25666	0.02720	1.67677	0.00534
26	34108.25391	53618.60547	0.00000	0.00000	1.54815	0.16194	10.68359	0.03400
27	2.89796	1.65280	0.28949	0.10926	2.64968	0.27040	36.82967	0.11720
28	948.74487	3313.11328	-0.00010	0.00005	-1.96361	-0.20378	8.93464	0.02843
29	2.23867	1.00744	0.13543	0.19190	0.70575	0.07460	5.53247	0.01761
30	1.96939	1.89657	0.21760	0.10283	2.11619	0.21888	11.29629	0.03595
18	3.55102	1.79990						

TABLE I7 TOTAL GROUP KEY 1

SAMPLE SIZE 98
DEPENDENT VARIABLE IS NOW NO. 19

COEFFICIENT OF DETERMINATION 0.3479
MULTIPLE CORR. COEFFICIENT 0.5898

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	104.44862	13.05608	5.9347	<.01
DEVIATION ABOUT REGRESSION...	89	195.79649	2.19996		
TOTAL...	97	300.24512			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	-0.15404	0.19631	-0.78468	-0.08289	1.29025	0.00430
9	4.95640	1.36724	0.05598	0.12326	0.45420	0.04809	3.90531	0.01301
10	3.92406	1.66624	-0.03623	0.10579	-0.34244	-0.03627	0.23663	0.00079
26	34108.25391	53618.60547	0.00001	0.00000	1.90524	0.19796	14.23551	0.04741
27	2.89796	1.65280	0.26811	0.10203	2.62770	0.26832	37.83173	0.12600
28	948.74487	3313.11328	-0.00015	0.00005	-3.27500	-0.32795	24.10977	0.08030
29	2.23867	1.00744	0.33902	0.17921	1.89176	0.19661	15.35625	0.05115
30	1.96939	1.89657	0.17711	0.09603	1.84435	0.19187	7.48349	0.02492
19	3.55102	1.75935						

TABLE 18 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.3230
DEPENDENT VARIABLE IS NOW NO. 20 MULTIPLE CORR. COEFFICIENT 0.5684

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	91.51006	11.43876	5.3088	<.01
DEVIATION ABOUT REGRESSION...	89	191.76558	2.15467		
TOTAL...	97	283.27563			

VARIABLE NO.	MEAN	STO. DEVIATION	REG. COEFF.	STO.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	-0.04536	0.19428	-0.23347	-0.02474	4.80272	0.01695
9	4.95640	1.36724	0.04656	0.12198	0.38173	0.04043	9.36257	0.03305
10	3.92406	1.66624	0.20175	0.10469	1.92709	0.20014	11.43835	0.04038
26	34108.25391	53618.60547	0.00001	0.00000	2.51108	0.25722	17.84485	0.06299
27	2.89796	1.65280	0.21906	0.10098	2.16936	0.22410	19.29134	0.06810
28	948.74487	3313.11328	-0.00014	0.00005	-3.13641	-0.31548	20.26154	0.07153
29	2.23867	1.00744	0.06756	0.17736	0.38094	0.04035	2.15046	0.00759
30	1.96939	1.89657	0.16326	0.09504	1.71785	0.17915	6.35849	0.02245
20	3.13265	1.70891						

TABLE 19 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.3181
DEPENDENT VARIABLE IS NOW NO. 21 MULTIPLE CORR. COEFFICIENT 0.5640

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	97.08539	12.13567	5.1900	<.01
DEVIATION ABOUT REGRESSION...	89	208.10870	2.33830		
TOTAL...	97	305.19409			

VARIABLE NO.	MEAN	STO. DEVIATION	REG. COEFF.	STO.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.03495	0.20239	0.17269	0.01830	11.76604	0.03855
9	4.95640	1.36724	0.02706	0.12708	0.21297	0.02257	8.01096	0.02625
10	3.92406	1.66624	0.19348	0.10906	1.77404	0.18481	13.76885	0.04512
26	34108.25391	53618.60547	0.00001	0.00000	2.82644	0.28700	21.25259	0.06964
27	2.89796	1.65280	0.16804	0.10519	1.59742	0.16695	16.10809	0.05278
28	948.74487	3313.11328	-0.00009	0.00005	-1.79385	-0.18680	6.12321	0.02006
29	2.23867	1.00744	0.01052	0.18476	0.05692	0.00603	2.40085	0.00787
30	1.96939	1.89657	0.27204	0.09900	2.74779	0.27965	17.65501	0.05785
21	3.31633	1.77379						

TABLE 20 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.2763
DEPENDENT VARIABLE IS NOW NO. 22 MULTIPLE CORR. COEFFICIENT 0.5257

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	69.61732	8.70217	4.2484	<.01
DEVIATION ABOUT REGRESSION...	89	182.30113	2.04833		
TOTAL...	97	251.91846			

VARIABLE NO.	MEAN	STO. DEVIATION	REG. COEFF.	STO.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	0.82640	0.18513	0.18943	0.97733	0.10305	8.70987	0.03457
9	4.95640	1.36724	0.30587	0.11894	2.57169	0.26300	33.27979	0.13211
10	3.92406	1.66624	0.16185	0.10207	1.58559	0.16575	7.37649	0.02928
26	34108.25391	53618.60547	0.00001	0.00000	1.80882	0.18831	6.87327	0.02728
27	2.89796	1.65280	-0.09480	0.09845	-0.96287	-0.10154	0.55812	0.00222
28	948.74487	3313.11328	-0.00007	0.00004	-1.66431	-0.17373	6.82403	0.02709
29	2.23867	1.00744	0.29274	0.17292	1.69290	0.17663	5.78518	0.02296
30	1.96939	1.89657	-0.02972	0.09266	-0.32079	-0.03398	0.21078	0.00084
22	3.79592	1.61155						

TABLE 21 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.3311
DEPENDENT VARIABLE IS NOW NO. 23 MULTIPLE CORR. COEFFICIENT 0.5754

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	109.52153	13.69019	5.5077	<.01
DEVIATION ABOUT REGRESSION...	89	221.22359	2.48566		
TOTAL...	97	330.74512			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.17338	0.20867	0.83088	0.08773	11.62877	0.03516
9	4.95640	1.36724	-0.18128	0.13102	-1.38362	-0.14511	2.78565	0.00842
10	3.92406	1.66624	0.49932	0.11244	4.44056	0.42588	55.94852	0.16916
26	34108.25391	53618.60547	0.00000	0.00000	1.50129	0.15716	10.99402	0.03324
27	2.89796	1.65280	0.24898	0.10846	2.29571	0.23645	19.96555	0.06037
28	948.74487	3313.11328	-0.00007	0.00005	-1.51924	-0.15899	6.16127	0.01863
29	2.23867	1.00744	0.14735	0.14049	0.77352	0.08172	1.94707	0.00589
30	1.96939	1.89657	0.01952	0.10207	0.19123	0.02027	0.09090	0.00027
23	2.94898	1.84655						

TABLE 22 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.2701
DEPENDENT VARIABLE IS NOW NO. 24 MULTIPLE CORR. COEFFICIENT 0.5197

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	90.81671	11.35209	4.1166	<.01
DEVIATION ABOUT REGRESSION...	89	245.42841	2.75762		
TOTAL...	97	336.24512			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.17156	0.21579	0.78054	0.08246	13.80887	0.04107
9	4.95640	1.36724	-0.08184	0.13800	-0.59302	-0.06274	4.92626	0.01465
10	3.92406	1.66624	0.35348	0.11844	2.98458	0.30163	32.50450	0.09667
26	34108.25391	53618.60547	0.00001	0.00000	1.73266	0.18064	12.08128	0.03593
27	2.89796	1.65280	0.17386	0.11423	1.52196	0.15927	13.92887	0.04142
28	948.74487	3313.11328	-0.00008	0.00005	-1.61749	-0.16899	7.16718	0.02132
29	2.23867	1.00744	0.14705	0.20064	0.73292	0.07746	3.52178	0.01047
30	1.96939	1.89657	0.10984	0.10751	1.02163	0.10766	2.87820	0.00856
24	2.55102	1.86184						

TABLE 23 TOTAL GROUP KEY 1

SAMPLE SIZE 98 COEFFICIENT OF DETERMINATION 0.2906
DEPENDENT VARIABLE IS NOW NO. 25 MULTIPLE CORR. COEFFICIENT 0.5391

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	43.57094	5.44637	4.5580	<.01
DEVIATION ABOUT REGRESSION...	89	106.34752	1.19492		
TOTAL...	97	149.91846			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.55102	C.82640	0.06122	0.14468	0.42311	0.04481	3.40578	0.02272
9	4.95640	1.36724	0.20090	0.09084	2.21156	0.22824	15.86930	0.10585
10	3.92406	1.66624	0.09795	0.07796	1.25631	0.13200	6.06369	0.04045
26	34108.25391	53618.60547	0.00000	0.00000	1.26830	0.13324	2.60765	0.01739
27	2.89796	1.65280	-0.10639	0.07520	-1.41482	-0.14831	0.01898	0.00013
28	948.74487	3313.11328	0.00003	0.00003	0.97675	0.10298	0.66031	0.00440
29	2.23867	1.00744	0.43645	0.13208	3.30454	0.33059	14.93152	0.09960
30	1.96939	1.89657	0.00761	0.07077	0.10754	0.01140	0.01382	0.00009
25	3.79592	1.24320						

TABLE 24 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 24
COEFFICIENT OF DETERMINATION 0.5716
MULTIPLE CORR. COEFFICIENT 0.7561

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	99.71220	12.46403	5.3374	
DEVIATION ABOUT REGRESSION...	32	74.72682	2.33521		<.01
TOTAL...	40	174.43903			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	-0.50565	0.31839	-1.58818	-0.27030	0.12315	0.00073
9	4.80073	1.87261	0.02390	0.17664	0.13529	0.02391	9.65355	0.05534
10	3.72683	1.90072	0.28935	0.18074	1.60093	0.27231	24.14700	0.13843
26	42789.24219	62973.77344	0.00001	0.00000	1.83693	0.30985	19.09410	0.10946
27	2.36585	1.94623	0.28954	0.18681	1.54988	0.26425	28.97679	0.16611
28	1172.92676	4743.44531	-0.00002	0.00005	-0.41169	-0.07258	0.40305	0.00231
29	2.05377	1.16737	-0.04463	0.35777	-0.12474	-0.02205	4.89744	0.02808
30	1.51219	1.98899	0.43361	0.18808	2.30549	0.37742	12.41229	0.07116
24	2.19512	2.08829						

TABLE 25 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 23
COEFFICIENT OF DETERMINATION 0.5721
MULTIPLE CORR. COEFFICIENT 0.7564

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	106.53123	13.31640	5.3490	
DEVIATION ABOUT REGRESSION...	32	79.66408	2.48950		<.01
TOTAL...	40	186.19531			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	-0.40948	0.32874	-1.24561	-0.21504	0.26421	0.00142
9	4.80073	1.87261	-0.12398	0.18238	-0.67980	-0.11932	9.80808	0.05268
10	3.72683	1.90072	0.56110	0.18661	3.00675	0.46934	45.15750	0.24253
26	42789.24219	62973.77344	0.00001	0.00000	1.73468	0.29318	19.79454	0.10631
27	2.36585	1.94623	0.36020	0.19288	1.86743	0.31348	22.20938	0.11928
28	1172.92676	4743.44531	-0.00005	0.00005	-0.95205	-0.16597	1.73651	0.00933
29	2.05877	1.16737	-0.25135	0.36940	-0.68043	-0.11943	0.31512	0.00169
30	1.51219	1.98899	0.33130	0.19419	1.70607	0.28875	7.24616	0.03892
23	2.53658	2.15752						

TABLE 26 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 22
COEFFICIENT OF DETERMINATION 0.5388
MULTIPLE CORR. COEFFICIENT 0.7340

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	C.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	66.70044	8.33755	4.6722	
DEVIATION ABOUT REGRESSION...	32	57.10449	1.78452		<.01
TOTAL...	40	123.80493			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	0.12647	0.27832	0.45440	0.08007	1.53545	0.01240
9	4.80073	1.87261	0.58401	0.15441	3.78212	0.55581	46.09537	0.37232
10	3.72683	1.90072	-0.12531	0.15800	-0.79312	-0.13885	0.00075	0.00001
26	42789.24219	62973.77344	0.00000	0.00000	0.90388	0.15776	3.49609	0.02824
27	2.36585	1.94623	-0.05174	0.16331	-0.31682	-0.05592	2.56394	0.02071
28	1172.92676	4743.44531	-0.00005	0.00005	-0.99090	-0.17254	4.07066	0.03288
29	2.05877	1.16737	0.67949	0.31275	2.17260	0.35853	7.80392	0.06303
30	1.51219	1.98899	-0.13109	0.16441	-0.79733	-0.13957	1.13447	0.00916
22	3.82927	1.75930						

TABLE 27 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 25

COEFFICIENT OF DETERMINATION 0.6672
MULTIPLE CORR. COEFFICIENT 0.8168

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	43.35057	5.41882	8.0185	
DEVIATION ABOUT REGRESSION...	32	21.62526	0.67579		<.01
TOTAL...	40	64.97583			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	0.08916	0.17128	0.51472	0.09062	1.06628	0.01641
9	4.80073	1.87261	0.29922	0.09502	3.14884	0.48637	17.17110	0.26427
10	3.72683	1.90072	-0.01145	0.09723	-0.11775	-0.02081	2.19320	0.03375
26	42789.24219	62973.77344	-0.00000	0.00000	-1.17541	-0.20344	0.00081	0.00001
27	2.36585	1.94623	0.01073	0.10050	0.10680	0.01888	7.24142	0.11145
28	1172.92676	4743.44531	0.00006	0.00003	2.08404	0.34570	0.81006	0.01247
29	2.05877	1.16737	0.88168	0.19246	4.58105	0.62934	12.71582	0.19570
30	1.51219	1.98899	-0.18054	0.10118	-1.78445	-0.30084	2.15188	0.03312
25	4.02439	1.27452						

TABLE 28 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 21

COEFFICIENT OF DETERMINATION 0.4977
MULTIPLE CORR. COEFFICIENT 0.7055

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	82.00676	10.25084	3.9629	
DEVIATION ABOUT REGRESSION...	32	82.77376	2.58668		<.01
TOTAL...	40	164.78052			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	-0.35428	0.33509	-1.05727	-0.18372	1.47911	0.00898
9	4.80073	1.87261	0.36185	0.18591	1.94637	0.32535	13.34797	0.08100
10	3.72683	1.90072	-0.07876	0.19022	-0.41406	-0.07300	0.97947	0.00594
26	42789.24219	62973.77344	0.00001	0.00000	1.40604	0.24122	18.30405	0.11108
27	2.36585	1.94623	0.49110	0.19661	2.49781	0.40393	33.62715	0.20407
28	1172.92676	4743.44531	-0.00007	0.00006	-1.25016	-0.21575	2.73561	0.01660
29	2.05877	1.16737	-0.44571	0.37654	-1.18370	-0.20482	0.09155	0.00001
30	1.51219	1.98899	0.41795	0.19784	2.11145	0.34969	11.53207	0.06998
21	3.07317	2.02966						

TABLE 29 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 20

COEFFICIENT OF DETERMINATION 0.7035
MULTIPLE CORR. COEFFICIENT 0.8387

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	113.79269	14.22409	9.4900	
DEVIATION ABOUT REGRESSION...	32	47.96341	1.49886		<.01
TOTAL...	40	161.75610			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	-0.76715	0.25508	-3.00753	-0.46944	0.11534	0.00071
9	4.80073	1.87261	0.14785	0.14152	1.04478	0.18162	11.95299	0.07390
10	3.72683	1.90072	0.25200	0.14480	1.74036	0.29405	10.38457	0.06420
26	42789.24219	62973.77344	0.00001	0.00000	2.32522	0.38018	17.65236	0.10913
27	2.36585	1.94623	0.52756	0.14967	3.52493	0.52886	26.44852	0.16351
28	1172.92676	4743.44531	-0.00015	0.00004	-3.61217	-0.53819	12.28257	0.07593
29	2.05877	1.16737	-1.09726	0.28663	-3.82814	-0.56046	3.22308	0.01993
30	1.51219	1.98899	0.69331	0.15068	4.60127	0.63101	31.73337	0.19618
20	2.60976	2.01095						

TABLE 30 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 19

COEFFICIENT OF DETERMINATION 0.5437
MULTIPLE CORR. COEFFICIENT 0.7374

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	98.29849	12.28731	4.7673	
DEVIATION ABOUT REGRESSION...	32	82.48203	2.57756		< 01
TOTAL...	40	180.78052			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	-0.62893	0.33450	-1.88020	-0.31541	0.70536	0.00390
9	4.30073	1.87261	0.15101	0.18558	0.81370	0.14238	1.36922	0.00757
10	3.72683	1.90072	-0.13575	0.18988	-0.71492	-0.12536	0.85294	0.00472
26	42789.24219	62973.77344	0.00001	0.00000	1.24293	0.21460	20.46191	0.11319
27	2.36585	1.94623	0.53715	0.19627	2.73634	0.43552	51.58626	0.28535
28	1172.92676	4743.44531	-0.00013	0.00006	-2.41397	-0.39249	15.07504	0.08339
29	2.05877	1.16737	-0.11713	0.37588	-0.31161	-0.05500	1.44331	0.00798
30	1.51219	1.98899	0.32105	0.19759	1.62478	0.27606	6.80459	0.03764
19	2.92683	2.12591						

TABLE 31 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 18

COEFFICIENT OF DETERMINATION 0.6209
MULTIPLE CORR. COEFFICIENT 0.7880

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	114.93604	14.36700	6.5504	
DEVIATION ABOUT REGRESSION...	32	70.18604	2.19331		<.01
TOTAL...	40	185.12207			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	-0.32695	0.30856	-1.05927	-0.18406	5.03646	0.02721
9	4.30073	1.87261	0.24078	0.17119	1.40653	0.24129	2.42945	0.01312
10	3.72683	1.90072	-0.14924	0.17516	-0.85200	-0.14893	0.40591	0.00219
26	42789.24219	62973.77344	0.00000	0.00000	0.96431	0.15112	12.23278	0.06608
27	2.36585	1.94623	0.65970	0.18105	3.64382	0.54152	60.83304	0.32861
28	1172.92676	4743.44531	-0.00009	0.00005	-1.81084	-0.30488	4.26320	0.02303
29	2.05877	1.16737	-0.74666	0.34673	-2.15342	-0.35577	0.00964	0.00005
30	1.51219	1.98899	0.67102	0.18227	3.68142	0.54545	29.72575	0.16057
18	3.14634	2.15129						

TABLE 32 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 17

COEFFICIENT OF DETERMINATION 0.4503
MULTIPLE CORR. COEFFICIENT 0.6710

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	79.75476	9.96935	3.2764	
DEVIATION ABOUT REGRESSION...	32	97.36731	3.04273		<.01
TOTAL...	40	177.12207			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.53611	0.36343	1.47514	0.25233	3.59260	0.02028
9	4.30073	1.87261	0.08016	0.20163	0.39753	0.07010	25.50537	0.14400
10	3.72683	1.90072	0.50703	0.20631	2.45765	0.39848	23.81558	0.13446
26	42789.24219	62973.77344	-0.00000	0.00001	-0.38811	-0.06345	0.46495	0.00263
27	2.36585	1.94623	0.03986	0.21324	0.18695	0.03303	0.08532	0.00048
28	1172.92676	4743.44531	0.00003	0.00006	0.53538	0.09422	0.03352	0.00019
29	2.05877	1.16737	0.83370	0.40839	2.04143	0.33945	0.67999	0.00384
30	1.51219	1.98899	-0.62244	0.21469	-2.89933	-0.45612	25.57767	0.14441
17	3.85366	2.10429						

TABLE 33 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 16

COEFFICIENT OF DETERMINATION 0.5683
MULTIPLE CORR. COEFFICIENT 0.7539

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	124.03281	15.50410	5.2662	
DEVIATION ABOUT REGRESSICN...	32	94.21133	2.94410		<.01
TOTAL...	40	218.24414			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.29128	0.35749	0.81479	0.14256	0.26894	0.00123
9	4.80073	1.87261	-0.05720	0.19834	-0.28839	-0.05092	32.02513	0.14674
10	3.72683	1.90072	0.74346	0.20294	3.66350	0.54359	41.35106	0.18947
26	42789.24219	62973.77344	-0.00000	0.00001	-0.04488	-0.00793	0.02050	0.00009
27	2.36585	1.94623	-0.34766	0.20976	-1.65744	-0.28118	10.60193	0.04858
28	1172.92676	4743.44531	0.00006	0.00006	0.98404	0.17138	0.44780	0.00205
29	2.05877	1.16737	1.13439	0.40171	2.82367	0.44664	2.92884	0.01342
30	1.51219	1.98899	-0.74243	0.21118	-3.51567	-0.52785	36.38893	0.16673
16	3.51219	2.33583						

TABLE 34 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 15

COEFFICIENT OF DETERMINATION 0.4073
MULTIPLE CORR. COEFFICIENT 0.6382

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	113.58144	14.19768	2.7485	
DEVIATION ABOUT REGRESSICN...	32	165.29674	5.16552		<.05
TOTAL...	40	278.87817			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.25541	0.47353	0.53937	0.09492	1.01017	0.00362
9	4.80073	1.87261	-0.02263	0.26271	-0.08612	-0.01522	18.76300	0.06728
10	3.72683	1.90072	0.60853	0.26881	2.26381	0.37154	23.25415	0.08338
26	42789.24219	62973.77344	0.00000	0.00001	0.21229	0.03750	0.82857	0.00297
27	2.36585	1.94623	-0.23462	0.27784	-0.84443	-0.14764	15.01766	0.05385
28	1172.92676	4743.44531	0.00012	0.00008	1.52289	0.25995	7.65511	0.02745
29	2.05877	1.16737	0.85855	0.53211	1.61349	0.27429	0.08556	0.00031
30	1.51219	1.98899	-0.84347	0.27972	-3.01537	-0.47039	46.96742	0.16842
15	3.68293	2.64045						

TABLE 35 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 14

COEFFICIENT OF DETERMINATION 0.4774
MULTIPLE CORR. COEFFICIENT 0.6909

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	96.22350	12.02794	3.6539	
DEVIATION ABOUT REGRESSICN...	32	105.33754	3.29180		<.01
TOTAL...	40	201.56104			

VARIABLE NO.	MEAN	STD. OEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.08492	0.37801	0.22439	0.03964	0.92881	0.00461
9	4.80073	1.87261	-0.07567	0.20972	-0.36083	-0.06366	24.60411	0.12207
10	3.72683	1.90072	0.69610	0.21459	3.24395	0.49747	39.50346	0.19599
26	42789.24219	62973.77344	0.00000	0.00001	0.39975	0.07049	2.11181	0.01048
27	2.36585	1.94623	-0.12566	0.22180	-0.56657	-0.09966	1.75357	0.00870
28	1172.92676	4743.44531	-0.00001	0.00006	-0.09399	-0.01661	0.93606	0.00464
29	2.05877	1.16737	0.85226	0.42477	2.00638	0.33428	0.85427	0.00424
30	1.51219	1.98899	-0.62189	0.22330	-2.78499	-0.44169	25.53174	0.12667
14	4.24390	2.24478						

TABLE 36 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 13
COEFFICIENT OF DETERMINATION 0.4009
MULTIPLE CORR. COEFFICIENT 0.6332

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	88.16577	11.02072	2.6770	
DEVIATION ABOUT REGRESSION...	32	131.73682	4.11678		<.05
TOTAL...	40	219.90259			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	C.02709	C.42274	0.06407	0.01133	1.28499	0.00584
9	4.80073	1.87261	-0.03105	0.23453	-0.13239	-0.02340	24.31470	0.11057
10	3.72683	1.90072	0.64926	0.23997	2.70556	0.42147	33.22171	0.15107
26	42789.24219	62973.77344	0.00000	0.00001	0.41735	0.07358	1.49592	0.00680
27	2.36585	1.94623	-0.18959	0.24804	-0.76435	-0.13390	4.74343	0.02157
28	1172.92676	4743.44531	0.00006	C.00007	0.83437	0.14592	1.06406	0.00484
29	2.05877	1.16737	C.75638	0.47503	1.59650	0.27161	0.52363	0.00238
30	1.51219	1.98899	-0.57091	0.24572	-2.23622	-0.37471	21.51749	0.09785
13	4.04878	2.34469						

TABLE 37 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 12
COEFFICIENT OF DETERMINATION 0.4322
MULTIPLE CORR. COEFFICIENT 0.6574

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	66.37459	8.29682	3.0452	
DEVIATION ABOUT REGRESSION...	32	87.18645	2.72458		<.05
TOTAL...	40	153.56104			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.36174	0.34391	1.05186	0.18281	1.67502	0.01091
9	4.80073	1.87261	0.07839	0.19380	0.41086	0.07244	12.32869	0.08029
10	3.72683	1.90072	0.21332	0.19522	1.09270	0.18966	11.94007	0.07775
26	42789.24219	62973.77344	-0.00000	0.00000	-0.28752	-0.05076	1.55505	0.01013
27	2.36585	1.94623	0.04127	0.20179	0.20451	0.03613	7.25355	0.04724
28	1172.92676	4743.44531	-0.00000	C.00006	-0.02631	-0.00465	1.51687	0.00988
29	2.05877	1.16737	1.24307	0.38645	3.21665	0.49430	12.76654	0.08314
30	1.51219	1.98699	-0.51249	0.20315	-2.52267	-0.40729	17.33890	0.11291
12	4.24390	1.95934						

TABLE 38 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 11
COEFFICIENT OF DETERMINATION 0.3999
MULTIPLE CORR. COEFFICIENT 0.6324

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	48.47186	6.05898	2.6652	
DEVIATION ABOUT REGRESSION...	32	72.74786	2.27337		<.05
TOTAL...	40	121.21973			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	C.84030	0.13361	C.31414	0.42531	0.07497	0.51919	0.00428
9	4.80073	1.87261	0.37555	0.17429	2.15477	0.35596	13.92896	0.11491
10	3.72683	1.90072	-0.16054	0.17833	-0.90028	-0.15717	0.05693	0.00047
26	42789.24219	62973.77344	-0.00000	0.00000	-0.63780	-0.11204	0.89617	0.00739
27	2.36585	1.94623	0.22964	0.18432	1.24587	0.21505	14.09856	0.11631
28	1172.92676	4743.44531	-0.00007	0.00005	-1.26252	-0.21783	7.17554	0.05919
29	2.05877	1.16737	0.76341	0.35300	2.16263	0.35710	4.25872	0.03513
30	1.51219	1.98899	-0.33790	0.18557	-1.82091	-0.30641	7.53785	0.06218
11	4.34146	1.74083						

TABLE 45 OVER 100,000 KEY 1

SAMPLE SIZE 41
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.4505
MULTIPLE CORR. COEFFICIENT 0.6712

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	37.47807	4.68476	3.2797	
DEVIATION ABOUT REGRESSION...	32	45.70943	1.42842		<.01
TOTAL...	40	83.18750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51219	0.84030	0.03665	0.24901	0.14717	0.02601	0.02542	0.00031
9	4.80073	1.87261	0.31257	0.13315	2.26249	0.37135	15.37812	0.18486
10	3.72683	1.90072	-0.02312	0.14156	-0.16339	-0.02859	0.67137	0.00807
26	42789.24219	62373.77344	-0.00001	0.00000	-1.87617	-0.31480	1.76740	0.02125
27	2.36585	1.94623	0.01611	0.14611	0.11028	0.01949	3.57705	0.04300
28	1172.92676	4743.44531	0.00007	0.00004	1.74937	0.29524	1.69522	0.02038
29	2.05877	1.16737	0.87628	0.27981	3.13164	0.48434	7.48182	0.08994
30	1.51219	1.98899	-0.32286	0.14710	-2.19492	-0.36174	6.86168	0.08272
2	4.10536	1.44211						

TABLE 46 50-100,000 KEY 8

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.2635
MULTIPLE CORR. COEFFICIENT 0.5133

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	7.19358	0.89920	0.6260	n.s.
DEVIATION ABOUT REGRESSION...	14	20.11086	1.43649		
TOTAL...	22	27.30444			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	-0.05896	0.42255	-0.13954	-0.03727	0.00535	0.00020
2	5.18130	0.78644	0.54339	0.40359	1.34639	0.33359	3.61994	0.13258
3	4.14304	1.51938	0.17957	0.23462	0.76538	0.20041	0.91565	0.03353
6	39223.60547	57478.90625	0.00000	0.00001	0.46166	0.12244	1.40301	0.05138
7	3.60870	1.07615	-0.14280	0.30098	-0.47445	-0.12580	0.03457	0.00127
8	1032.82593	2029.29370	0.00006	0.00016	0.38705	0.10289	0.11204	0.00410
9	2.57521	0.63795	-0.19317	0.56736	-0.34048	-0.09062	0.00534	0.00020
10	2.95652	1.55149	-0.18928	0.21553	-0.87816	-0.22750	1.09769	0.04020
5	3.82609	1.11405						

TABLE 47 50-100,000 KEY 8

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.5248
MULTIPLE CORR. COEFFICIENT 0.7244

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.71100	2.33887	1.9328	n.s.
DEVIATION ABOUT REGRESSION...	14	16.94135	1.21010		
TOTAL...	22	35.65234			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.62492	0.38730	1.61344	0.39555	4.41343	0.12379
2	5.18130	0.78644	-0.64473	0.37042	-0.12075	-0.03225	0.31349	0.00879
3	4.14304	1.51908	-0.07311	0.21534	-0.33955	-0.09037	0.01892	0.00053
6	39223.60547	57478.90625	-0.00000	0.00001	-0.54555	-0.14427	0.00572	0.00016
7	3.60870	1.07615	-0.71966	0.27625	-2.60511	-0.57139	10.04073	0.28163
8	1032.82593	2029.29370	-0.00011	0.00014	-0.77094	-0.20150	1.46514	0.04110
9	2.57521	0.63795	-0.14938	0.52073	-0.28686	-0.07644	0.03909	0.00110
10	2.95652	1.55149	-0.23073	0.16574	-1.41255	-0.35319	2.41452	0.06772
4	3.43478	1.27301						

TABLE 48 50-100,000 KEY 7

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.3658
MULTIPLE CORR. COEFFICIENT 0.6048

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	8.49196	1.06149	1.0092	n.s.
DEVIATION ABOUT REGRESSION...	14	14.72556	1.05183		
TOTAL...	22	23.21753			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.37669	0.29023	1.29799	0.32774	2.52393	0.10871
2	5.18130	0.78644	0.07712	0.31619	0.24393	0.06505	0.16966	0.00731
3	4.14304	1.51908	-0.19317	0.18649	-1.03581	-0.26650	0.00107	0.00005
9	3.60870	1.07615	-0.50143	0.25275	-1.98406	-0.46645	3.32602	0.16479
10	2.17391	1.33662	-0.22921	0.18872	-1.21455	-0.30874	1.44147	0.06209
11	2.73913	1.32175	-0.02259	0.20999	-0.10755	-0.02873	0.01010	0.00044
12	0.02957	0.01551	-8.67549	15.71734	-0.55211	-0.14590	0.36727	0.01582
13	3.86957	18.55777	0.00468	0.01809	0.25874	0.06783	0.15249	0.00657
8	3.65217	1.02730						

TABLE 49 50-100,000 KEY 7

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.3070
MULTIPLE CORR. COEFFICIENT 0.5540

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	13.18571	1.64821	0.7751	
DEVIATION ABOUT REGRESSION...	14	29.77083	2.12649		n.s.
TOTAL...	22	42.95654			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.27757	0.41267	0.67263	0.17693	1.96155	0.04566
2	5.18130	0.78644	0.43771	0.44959	0.97359	0.25182	1.14867	0.02674
3	4.14304	1.51908	-0.16625	0.26516	-0.62699	-0.16526	0.07477	0.00174
9	3.60870	1.07615	-0.44119	0.35935	-1.22776	-0.31178	1.72441	0.04014
10	2.17391	1.33662	-0.50948	0.26834	-1.89867	-0.45252	7.28464	0.16958
11	2.73913	1.32175	-0.13888	0.29857	-0.46515	-0.12337	0.44116	0.01027
12	0.02957	0.01551	-9.66415	22.34230	-0.43255	-0.11484	0.44223	0.01029
13	3.86957	18.55777	0.00420	0.01861	0.22571	0.06021	0.10033	0.00252
7	3.95652	1.39734						

TABLE 50 50-100,000 KEY 7

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.4374
MULTIPLE CORR. COEFFICIENT 0.6614

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	17.66689	2.21086	1.3607	
DEVIATION ABOUT REGRESSION...	14	22.74792	1.62485		n.s.
TOTAL...	22	40.43481			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.20683	0.36072	0.57338	0.15148	2.79659	0.06916
2	5.18130	0.78044	0.17190	0.39300	0.43742	0.11611	0.00056	0.00001
3	4.14304	1.51908	0.08001	0.23179	0.34520	0.09187	5.15527	0.12750
9	3.60870	1.07615	-0.52805	0.31412	-1.68108	-0.40933	3.17990	0.07864
10	2.17391	1.33662	-0.46678	0.23456	-1.99003	-0.46958	5.85109	0.14470
11	2.73913	1.32175	-0.12747	0.26093	-0.48839	-0.12943	0.47951	0.01186
12	0.02957	0.01551	-2.40136	19.53004	-0.12296	-0.03284	0.03937	0.00097
13	3.86957	18.55777	0.00549	0.01627	0.33712	0.08973	0.18466	0.00457
6	3.73913	1.35571						

TABLE 51 50-100,000 KEY 7

SAMPLE SIZE 23 COEFFICIENT OF DETERMINATION 0.6120
DEPENDENT VARIABLE IS NOW NO. 5 MULTIPLE CORR. COEFFICIENT 0.7823

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	16.44470	2.05559	2.7605	
DEVIATION ABOUT REGRESSION...	14	10.42493	0.74464		<.05
TOTAL...	22	26.86963			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.86688	0.36745	0.24420	1.50474	0.37312	1.93239	0.07192
2	5.18130	0.78644	0.34819	0.26604	1.30876	0.33017	0.80310	0.01128
3	4.14304	1.51908	-0.11525	0.15691	-0.73451	-0.19263	0.13296	0.00495
9	3.60870	1.07615	-0.37179	0.21264	-1.74842	-0.42335	0.80871	0.03010
10	2.17391	1.33662	-0.43002	0.15879	-2.70814	-0.58632	5.58470	0.20784
11	2.73913	1.32175	-0.09681	0.17668	-0.54793	-0.14469	0.32834	0.00105
12	0.02957	0.01551	-41.21269	13.22114	-3.11713	-0.64013	7.50315	0.27924
13	3.86957	18.55777	0.00497	0.01102	0.45094	0.11965	0.15142	0.00564
5	3.69565	1.10514						

TABLE 52 50-100,000 KEY 7

SAMPLE SIZE 23 COEFFICIENT OF DETERMINATION 0.4420
DEPENDENT VARIABLE IS NOW NO. 4 MULTIPLE CORR. COEFFICIENT 0.6648

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	5.26560	0.65820	1.3862	
DEVIATION ABOUT REGRESSION...	14	6.64748	0.47482		n.s.
TOTAL...	22	11.91309			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.92609	0.88688	-0.40822	0.19500	-2.09346	-0.48827	0.26229	0.02202
2	5.18130	0.78644	0.22725	0.21244	1.06968	0.27487	0.24198	0.02031
3	4.14304	1.51908	0.13060	0.12530	1.04228	0.26834	1.52991	0.12842
9	3.60870	1.07615	0.13469	0.16930	0.79321	0.20737	0.46566	0.03909
10	2.17391	1.33662	-0.23201	0.12680	-1.82975	-0.43931	1.09093	0.09157
11	2.73913	1.32175	0.08395	0.14109	0.59526	0.15706	0.02280	0.00191
12	0.02957	0.01551	5.21089	10.55750	0.49357	0.13078	0.04881	0.00410
13	3.86957	18.55777	0.01616	0.00880	1.83752	0.44081	1.60323	0.13458
4	4.21739	0.73587						

TABLE 53 50-100,000 KEY 6

SAMPLE SIZE 23 COEFFICIENT OF DETERMINATION 0.7149
DEPENDENT VARIABLE IS NOW NO. 8 MULTIPLE CORR. COEFFICIENT 0.8455

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	80.49979	10.06247	4.3874	
DEVIATION ABOUT REGRESSION...	14	32.10892	2.29349		<.01
TOTAL...	22	112.60870			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.43478	0.78775	-0.00700	0.55672	-0.01258	-0.00336	0.12462	0.00111
2	4.98217	1.81456	-0.33697	0.25259	-1.34467	-0.33823	5.25663	0.04704
3	3.62087	1.85099	0.49850	0.22742	2.19192	0.50547	6.60334	0.05864
9	44387.51953	61053.81250	0.00000	0.00001	0.46748	0.12393	9.85254	0.08749
10	2.43473	1.80469	0.17580	0.27968	0.62857	0.16567	30.24146	0.26855
11	0.01652	0.01465	-80.18996	30.04602	-2.66393	-0.58071	0.92577	0.00822
12	1.04826	1.10370	1.61131	0.47784	3.37207	0.66947	27.41350	0.24344
13	1.56522	0.84348	0.07349	0.54240	0.13550	0.03619	0.04211	0.00037
8	2.36957	2.26243						

TABLE 54 50-100,000 KEY 6

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.2252
MULTIPLE CORR. COEFFICIENT 0.4746

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	16.04143	2.00518	0.5083	
DEVIATION ABOUT REGRESSION...	14	55.17610	3.94115		n.s.
TOTAL...	22	71.21753			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.43478	0.78775	0.09464	0.72979	0.12968	0.03464	0.19829	0.00087
2	4.88217	1.81456	-0.08885	0.32650	-0.27046	-0.07219	2.00303	0.02813
3	3.62087	1.85099	0.25341	0.29813	0.85002	0.22153	5.53056	0.07766
9	44387.51953	61053.81250	-0.00000	0.00001	-0.51171	-0.13550	0.07325	0.00103
10	2.43478	1.80469	0.01983	0.36663	0.05410	0.01444	0.53781	0.00755
11	0.01652	0.01465	6.46591	39.35672	0.16427	0.04336	2.53402	0.03556
12	1.84826	1.10370	0.49927	0.62639	0.79706	0.20835	1.72719	0.02425
13	1.56522	0.84348	0.42939	0.71102	0.60391	0.15934	1.43735	0.02018
7	3.65217	1.79921						

TABLE 55 50-100,000 KEY 6

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.5054
MULTIPLE CORR. COEFFICIENT 0.7109

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	55.59544	6.94943	1.7383	
DEVIATION ABOUT REGRESSION...	14	54.40456	3.88604		n.s.
TOTAL...	22	110.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.43478	0.78775	-0.19379	0.72467	-0.26742	-0.07129	0.29299	0.00266
2	4.88217	1.81456	-0.11963	0.32619	-0.36676	-0.09755	0.12302	0.00112
3	3.62087	1.85099	0.23726	0.29603	0.80146	0.20545	16.65576	0.15142
9	44387.51953	61053.81250	-0.00000	0.00001	-0.18521	-0.04944	0.00000	0.00000
10	2.43478	1.80469	-0.26460	0.36406	-0.72680	-0.19063	9.74705	0.08861
11	0.01652	0.01465	69.69501	39.11037	1.78201	0.42999	21.76247	0.19784
12	1.84826	1.10370	0.17878	0.62200	0.28742	0.07659	0.01711	0.00016
13	1.56522	0.84348	0.94739	0.70603	1.34137	0.33751	6.99723	0.06361
6	3.00000	2.23607						

TABLE 56 50-100,000 KEY 6

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.4180
MULTIPLE CORR. COEFFICIENT 0.6466

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	58.46193	7.30649	1.2570	
DEVIATION ABOUT REGRESSION...	14	81.37424	5.81244		n.s.
TOTAL...	22	139.83617			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.43478	0.78775	-0.68516	0.88627	-0.77308	-0.20234	0.05539	0.00040
2	4.88217	1.81456	-0.15701	0.39893	-0.39357	-0.10461	0.01389	0.00010
3	3.62087	1.85099	0.40480	0.36205	1.11819	0.28631	20.22794	0.14466
9	44387.51953	61053.81250	0.00000	0.00001	0.31789	0.08465	5.04288	0.03607
10	2.43478	1.80469	-0.72832	0.44524	-1.63577	-0.40057	12.98694	0.09289
11	0.01652	0.01465	-40.68628	47.83191	-0.85061	-0.22169	0.00462	0.00003
12	1.84826	1.10370	1.10291	0.76070	1.45003	0.34376	8.84008	0.06322
13	1.56522	0.84348	1.20279	0.86347	1.39297	0.34385	11.27826	0.08066
5	3.91304	2.52106						

TABLE 57 50-100,000 KEY 6

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.4966
MULTIPLE CORR. COEFFICIENT 0.7047

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	60.07025	7.50878	1.7265	
DEVIATION ABOUT REGRESSION...	14	60.88629	4.34902		n.s.
TOTAL...	22	120.95654			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.43478	0.78775	-0.83699	0.76653	-1.09178	-0.28011	0.86416	0.00714
2	4.88217	1.81456	-0.09660	0.34538	-0.27994	-0.07481	1.10456	0.00913
3	3.62087	1.85099	0.45254	0.31317	1.44532	0.36027	25.17398	0.20812
9	44387.51553	61053.81250	0.00000	0.00001	0.44877	0.11903	3.71450	0.03071
10	2.43478	1.80469	-0.64511	0.38514	-1.67502	-0.40359	9.76115	0.08070
11	0.01652	0.01465	-6.72276	41.37462	-0.16249	-0.04338	4.50393	0.03724
12	1.84826	1.10370	1.08886	0.65831	1.65478	0.40447	8.25907	0.06828
13	1.56522	0.84348	0.92630	0.74690	1.24019	0.31462	6.68908	0.05530
4	4.04348	2.34479						

TABLE 58 50-100,000 KEY 5

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.2651
MULTIPLE CORR. COEFFICIENT 0.5149

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	13.48716	1.68589	0.6314	
DEVIATION ABOUT REGRESSION...	14	37.28246	2.67018		n.s.
TOTAL...	22	50.86963			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.32609	0.88688	-0.07520	0.57607	-0.13054	-0.03437	5.01025	0.05918
4	5.18130	0.78644	0.85503	0.55025	1.60351	0.39444	4.99502	0.09821
5	4.14304	1.51908	-0.28339	0.31988	-0.88593	-0.23040	0.39519	0.00777
9	39223.60547	57478.90625	-0.00000	0.00001	-0.01234	-0.00326	0.36007	0.00708
10	3.60870	1.07615	-0.18424	0.41036	-0.44917	-0.11914	0.38235	0.00752
11	1032.82593	2029.29370	0.00022	0.00021	1.02944	0.26527	1.54017	0.03045
12	2.57521	0.63795	0.67957	0.77353	0.87859	0.22856	2.67450	0.05258
13	2.95652	1.55149	-0.08249	0.29582	-0.27869	-0.07340	0.11965	0.00235
6	3.69565	1.52061						

TABLE 59 50-100,000 KEY 5

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.3522
MULTIPLE CORR. COEFFICIENT 0.5934

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	22.53804	2.81726	0.9513	
DEVIATION ABOUT REGRESSION...	14	41.46196	2.96157		n.s.
TOTAL...	22	64.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.09756	0.68669	0.14498	0.03572	0.05779	0.00090
4	5.18130	0.78644	1.28480	0.57949	2.21710	0.53977	20.67226	0.32300
5	4.14304	1.51908	0.04065	0.33688	0.12066	0.03023	0.28021	0.00438
9	39223.60547	57478.90625	-0.00000	0.00001	-0.54311	-0.14363	1.36937	0.02139
10	3.60870	1.07615	-0.63475	0.43217	-0.88037	-0.02145	0.04797	0.00074
11	1032.82593	2029.29370	0.00001	0.00022	0.04971	0.01229	0.01570	0.00025
12	2.57521	0.63795	0.07139	0.81464	0.08762	0.02341	0.00303	0.00005
13	2.95652	1.55149	0.05511	0.31091	0.17726	0.04733	0.09306	0.00145
7	4.00000	1.78600						

TABLE 60 50-100,000 KEY 5

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.4395
MULTIPLE CORR. COEFFICIENT 0.6629

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	25.48569	3.18621	1.3721	
DEVIATION ABOUT REGRESSION...	14	32.51431	2.32224		n.s.
TOTAL...	22	58.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.11896	0.53722	0.22126	0.05903	0.23116	0.00399
4	5.18130	0.78644	1.08982	0.51514	2.11384	0.49364	12.50284	0.21798
5	4.14304	1.51908	0.13806	0.29836	0.46282	0.12276	0.00109	0.00002
9	39223.60547	57478.90625	-0.00000	0.00001	-0.12221	-0.03305	0.01418	0.00024
10	3.60870	1.07615	-0.17396	0.38268	-0.45459	-0.12061	0.01756	0.00030
11	1032.82593	2029.29370	0.00000	0.00029	0.01794	0.00477	0.00665	0.00012
12	2.57521	0.63795	-0.73396	0.72136	-1.01747	-0.26240	1.69368	0.02920
13	2.95652	1.55149	-0.17918	0.27531	-0.54720	-0.14044	0.97269	0.01677
6	4.00000	1.62369						

TABLE 61 50-100,000 KEY 5

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.2772
MULTIPLE CORR. COEFFICIENT 0.5265

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	25.21031	3.15129	0.6710	
DEVIATION ABOUT REGRESSION...	14	65.74623	4.69616		n.s.
TOTAL...	22	90.95654			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.76824	0.76397	1.00559	0.25955	11.04698	0.12145
4	5.18130	0.78644	-0.43673	0.72973	-0.59848	-0.15754	3.31492	0.03643
5	4.14304	1.51908	0.05704	0.42421	0.13446	0.03591	0.04457	0.00049
9	39223.60547	57478.90625	0.00001	0.00001	0.60656	0.16002	5.86095	0.06442
10	3.60870	1.07615	-0.07904	0.54420	-0.14524	-0.03879	0.41011	0.00451
11	1032.82593	2029.29370	0.00020	0.00028	0.71012	0.18646	1.95504	0.02149
12	2.57521	0.63795	-0.31305	1.02584	-0.30517	-0.08139	0.02318	0.00025
13	2.95652	1.55149	-0.28988	0.39151	-0.73706	-0.19348	2.55674	0.02811
3	3.95652	2.01322						

TABLE 62 50-100,000 KEY 5

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.3843
MULTIPLE CORR. COEFFICIENT 0.6199

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	23.38945	2.92368	1.0921	
DEVIATION ABOUT REGRESSION...	14	37.48018	2.67716		n.s.
TOTAL...	22	60.86963			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.75664	0.57682	1.31170	0.33066	17.62838	0.20747
4	5.18130	0.78644	-0.07458	0.55097	-0.13536	-0.03619	0.24065	0.00395
5	4.14304	1.51908	0.40317	0.32029	1.25876	0.31386	8.27589	0.13588
9	39223.60547	57478.90625	0.00000	0.00001	0.04334	0.01159	0.13513	0.00222
10	3.60870	1.07615	-0.24245	0.41089	-0.59005	-0.15577	0.19649	0.00323
11	1032.82593	2029.29370	0.00013	0.00021	0.61744	0.16262	1.29289	0.02290
12	2.57521	0.63795	-0.33501	0.77454	-0.43253	-0.11483	0.38472	0.00632
13	2.95652	1.55149	-0.06746	0.25560	-0.22323	-0.06018	0.13944	0.00229
2	4.69565	1.66337						

TABLE 63 50-100,000 KEY 4

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.2835
MULTIPLE CORR. COEFFICIENT 0.5325

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	15.08689	1.88611	0.6925	
DEVIATION ABOUT REGRESSION...	14	38.12863	2.72347		n.s.
TOTAL...	22	53.21753			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.38496	0.55179	0.66158	0.17414	3.15709	0.05932
7	5.18130	0.78644	-0.32453	0.55571	-0.58398	-0.15421	3.10033	0.05826
8	4.14304	1.51908	0.19293	0.32305	0.59720	0.15761	5.00620	0.09407
9	39223.60547	57478.90625	0.00000	0.00001	0.32226	0.08581	0.71098	0.01336
10	3.60870	1.07615	-0.24284	0.41443	-0.58595	-0.15472	0.33253	0.00625
11	1032.32593	2029.29370	0.00021	0.00021	0.96393	0.24945	2.75717	0.05181
12	2.57521	0.63795	0.06834	0.78121	0.08748	0.02327	0.01361	0.00026
13	2.95652	1.55149	0.01697	0.29815	0.06362	0.01700	0.01162	0.00021
6	4.34783	1.55551						

TABLE 64 50-100,000 KEY 4

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.5355
MULTIPLE CORR. COEFFICIENT 0.7318

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	23.42401	2.92800	2.0178	
DEVIATION ABOUT REGRESSION...	14	20.31525	1.45109		n.s.
TOTAL...	22	43.73926			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	0.49576	0.42467	1.16741	0.29785	8.44265	0.19302
7	5.18130	0.78644	-0.09872	0.40563	-0.24334	-0.06491	0.00092	0.00002
8	4.14304	1.51908	0.31446	0.23591	1.33356	0.33572	8.65113	0.19779
9	39223.60547	57478.90625	0.00000	0.00001	0.11016	0.02943	0.16756	0.00383
10	3.60870	1.07615	-0.29420	0.30251	-0.97255	-0.25157	0.92787	0.02121
11	1032.32593	2029.29370	0.00009	0.00016	0.58032	0.15327	1.79753	0.04110
12	2.57521	0.63795	-0.42964	0.57024	-0.75345	-0.19740	1.90905	0.04365
13	2.95652	1.55149	0.22328	0.21763	1.02598	0.26444	1.52747	0.03492
5	5.52174	1.41002						

TABLE 65 50-100,000 KEY 4

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.3504
MULTIPLE CORR. COEFFICIENT 0.5919

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	24.46671	3.05834	0.9439	
DEVIATION ABOUT REGRESSION...	14	45.35947	3.23996		n.s.
TOTAL...	22	69.82617			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.88688	1.09657	0.63456	1.72809	0.41929	8.81103	0.12619
7	5.18130	0.78644	-0.18585	0.60612	-0.30662	-0.08167	0.19594	0.00281
8	4.14304	1.51908	0.13800	0.35236	0.39165	0.10413	2.69248	0.03856
9	39223.60547	57478.90625	-0.00001	0.00001	-0.81045	-0.21169	0.62437	0.01323
10	3.60870	1.07615	-0.73127	0.45202	-1.61777	-0.39686	3.72892	0.05340
11	1032.32593	2029.29370	0.00027	0.00023	1.17448	0.29849	5.92126	0.08480
12	2.57521	0.63795	-0.67293	0.85207	-0.78963	-0.20649	1.46502	0.02098
13	2.95652	1.55149	-0.15416	0.32519	-0.47407	-0.12570	0.72815	0.01043
4	5.08696	1.78155						

TABLE 66 50-100,000 KEY 4

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.1902
MULTIPLE CORR. COEFFICIENT 0.4361

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	1.86378	0.23297	0.4110	
DEVIATION ABOUT REGRESSION...	14	7.93601	0.56686		n.s.
TOTAL...	22	9.79979			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.86688	0.01372	0.26542	0.05171	0.01332	0.16573	0.01691
7	5.18130	0.78644	-0.05468	0.25353	-0.21556	-0.05754	0.03213	0.00328
8	4.14304	1.51908	0.10897	0.14738	0.73937	0.19386	0.13665	0.01394
9	39223.60547	57478.90625	0.00000	0.00000	0.21753	0.05804	0.24175	0.02457
10	3.60870	1.07615	-0.03428	0.18907	-0.18131	-0.04840	0.04327	0.00441
11	1032.82593	2029.29370	-0.00007	0.00010	-0.73619	-0.19305	0.59309	0.06052
12	2.57521	0.63795	-0.03488	0.35641	-0.09788	-0.02615	0.03626	0.00370
13	2.95652	1.55149	-0.14178	0.13602	-1.04237	-0.26837	0.61591	0.06285
3	3.71087	0.66742						

TABLE 67 50-100,000 KEY 4

SAMPLE SIZE 23
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.2085
MULTIPLE CORR. COEFFICIENT 0.4567

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	6.71274	0.83909	0.4611	
DEVIATION ABOUT REGRESSION...	14	25.47719	1.81980		n.s.
TOTAL...	22	32.18994			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.82609	0.86688	0.60852	0.47557	1.28018	0.32372	0.70249	0.02182
7	5.18130	0.78644	0.22219	0.45426	0.48912	0.12362	0.00506	0.00016
8	4.14304	1.51908	-0.21895	0.26407	-0.82914	-0.21035	0.09109	0.00283
9	39223.60547	57478.90625	-0.00000	0.00001	-0.56318	-0.14384	0.03000	0.00000
10	3.60870	1.07615	-0.39491	0.33877	-1.16574	-0.29746	2.38164	0.07399
11	1032.82593	2029.29370	0.00015	0.00018	0.84283	0.21975	0.36918	0.01147
12	2.57521	0.63795	0.51344	0.63858	0.80403	0.21009	2.19715	0.06826
13	2.95652	1.55149	-0.17758	0.24371	-0.72863	-0.19115	0.96615	0.03001
2	4.02913	1.20962						

TABLE 68 25-50,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.9911
MULTIPLE CORR. COEFFICIENT 0.9956

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	5.94679	0.74335	55.8771	
DEVIATION ABOUT REGRESSION...	4	0.05321	0.01330		<.001
TOTAL...	12	6.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.91074	0.13295	-6.85027	-0.95990	0.0	0.0
2	4.96231	0.88709	0.61110	0.08427	7.25200	0.96399	2.27962	0.37994
3	4.48230	0.81937	-0.92776	0.19877	-4.66752	-0.91913	0.68882	0.11480
7	20745.46094	22886.03906	0.00003	0.00000	7.60138	0.96707	0.17490	0.02915
8	2.61538	1.60927	-0.67648	0.09665	-6.99959	-0.96150	1.01757	0.16959
9	513.53833	742.02246	0.00059	0.00017	3.48950	0.86754	0.70597	0.11766
10	2.46153	0.51350	0.65697	0.08987	7.31040	0.96454	1.00613	0.16769
11	1.46154	1.71345	-0.09130	0.03878	-2.35434	-0.76204	0.07373	0.01229
6	4.00000	0.70711						

TABLE 69 25-50,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.8144
MULTIPLE CORR. COEFFICIENT 0.9024

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.16701	2.27088	2.1937	
DEVIATION ABOUT REGRESSION...	4	4.14069	1.03517		n.s.
TOTAL...	12	22.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	C.96077	1.37305	1.17277	1.17078	0.50520	1.33547	0.05987
2	4.96231	0.88709	1.14090	0.74332	1.53486	0.60881	0.41145	0.01844
3	4.48230	C.81937	0.44384	1.75338	0.25313	0.12557	2.28727	0.10253
7	20745.46094	22886.C3906	-0.00003	0.00003	-0.92842	-0.42106	1.15969	0.05199
8	2.61538	1.60927	0.54903	0.85253	0.64400	0.30650	4.97186	0.22288
9	513.53833	742.02246	-0.00276	0.00150	-1.84570	-0.67819	0.18222	0.00817
10	2.46153	0.51350	-0.20873	0.79275	-0.26330	-0.13052	1.51507	0.06792
11	1.46154	1.71345	0.84413	0.34207	2.46774	0.77689	6.30394	0.28259
5	2.76923	1.36344						

TABLE 70 25-50,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7230
MULTIPLE CORR. COEFFICIENT 0.8503

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	4.33829	0.54229	1.3054	
DEVIATION ABOUT REGRESSION...	4	1.66171	0.41543		n.s.
TOTAL...	12	6.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	C.96077	-1.43853	0.74294	-1.93627	-0.69557	0.36111	0.06019
2	4.96231	0.88709	0.17248	0.47089	0.36628	0.18014	0.35787	0.05964
3	4.48230	0.81937	-1.95971	1.11075	-1.76431	-0.66154	0.33071	0.05512
7	20745.46094	22886.C3906	0.00004	0.00002	2.26539	0.74965	0.74712	0.12452
8	2.61538	1.60927	-1.08705	0.54007	-2.01279	-0.70936	0.03342	0.00557
9	513.53833	742.02246	0.00192	0.00095	2.02144	0.71087	1.79410	0.29902
10	2.46153	C.51350	-0.03454	0.50220	-0.05878	-0.03437	0.06536	0.01089
11	1.46154	1.71345	-0.27076	0.21670	-1.24951	-0.52985	0.64855	0.10809
4	4.00000	0.70711						

TABLE 71 25-50,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.8156
MULTIPLE CORR. COEFFICIENT 0.9031

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.57022	2.32128	2.2113	
DEVIATION ABOUT REGRESSION...	4	4.19902	1.04976		n.s.
TOTAL...	12	22.76924			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-1.30573	1.18100	-1.10561	-0.48380	0.54701	0.02402
2	4.96231	0.88709	1.08357	0.74854	1.44757	0.58632	0.26062	0.01145
3	4.48230	0.81937	-2.61527	1.76569	-1.48116	-0.59514	1.04448	0.04587
7	20745.46094	22886.03906	0.00005	0.00003	1.47453	0.59342	3.75723	0.16501
8	2.61538	1.60927	-0.81767	0.85851	-0.95242	-0.42995	1.14287	0.05019
9	513.53833	742.02246	0.00192	0.00151	1.27525	0.53764	5.92824	0.26036
10	2.46153	0.51350	-1.43267	0.79831	-1.79463	-0.66786	5.19251	0.22805
11	1.46154	1.71345	0.28072	0.34447	0.81493	0.37735	0.69722	0.03062
6	3.69231	1.37747						

TABLE 72 25-50,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.5314
MULTIPLE CORR. COEFFICIENT 0.7290

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	1.55341	0.19418	0.5671	
DEVIATION ABOUT REGRESSION...	4	1.36967	0.34242		n.s.
TOTAL...	12	2.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD. ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.58754	0.67450	-0.87107	-0.39930	0.03419	0.01170
2	4.96231	0.88709	0.41240	0.42751	0.96464	0.43442	0.24497	0.08380
3	4.48230	0.81937	-0.80041	1.00844	-0.79377	-0.36887	0.10033	0.03432
7	20745.46094	22886.03906	0.00001	0.00002	0.79422	0.36907	0.00042	0.00014
8	2.61538	1.60927	-0.45442	0.49032	-0.92678	-0.42044	0.41021	0.14034
9	513.53833	742.02246	0.00039	0.00086	0.45979	0.22358	0.47368	0.16205
10	2.46153	0.51350	0.37848	0.45594	0.83010	0.38334	0.28751	0.09836
11	1.46154	1.71345	-0.01537	0.19674	-0.07814	-0.03904	0.00209	0.00071
5	3.92308	0.49355						

TABLE 73 25-50,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.9478
MULTIPLE CORR. COEFFICIENT 0.9735

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	2.91639	0.36455	9.0706	
DEVIATION ABOUT REGRESSION...	4	0.16076	0.04019		<.05
TOTAL...	12	3.07715			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD. ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.52582	0.23108	-2.27548	-0.75111	0.85471	0.27776
2	4.96231	0.88709	0.64902	0.14546	4.43126	0.91146	0.22209	0.07217
3	4.48230	0.81937	-1.26556	0.34549	-3.66313	-0.87770	0.09649	0.03136
7	20745.46094	22886.03906	0.00003	0.00001	4.80257	0.92315	0.69602	0.22619
8	2.61538	1.60927	-0.57213	0.16798	-3.40591	-0.86231	0.56491	0.18358
9	513.53833	742.02246	0.00052	0.00029	1.76757	0.66222	0.44813	0.14563
10	2.46153	0.51350	-0.10136	0.15620	-0.64887	-0.30859	0.02815	0.00915
11	1.46154	1.71345	0.02573	0.06740	0.38179	0.18751	0.00586	0.00190
4	4.61538	0.50639						

TABLE 74 25-50,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.7580
MULTIPLE CORR. COEFFICIENT 0.8707

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	3.84849	0.48106	1.5664	
DEVIATION ABOUT REGRESSION...	4	1.22845	0.30711		n.s.
TOTAL...	12	5.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD. ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.06602	0.63878	-0.10335	-0.05161	0.10470	0.02062
2	4.96231	0.88709	0.20130	0.40487	0.49718	0.24125	0.41747	0.08223
3	4.48230	0.81937	0.14599	0.95503	0.15286	0.07620	0.06155	0.01212
7	20745.46094	22886.03906	0.00002	0.00002	1.19822	0.51394	0.99800	0.19658
8	2.61538	1.60927	-0.13578	0.46436	-0.29240	-0.14466	1.47440	0.29041
9	513.53833	742.02246	-0.00058	0.00082	-0.71449	-0.33642	0.09877	0.01945
10	2.46153	0.51350	-0.33945	0.43179	-0.78613	-0.36582	0.43257	0.08520
11	1.46154	1.71345	0.17177	0.18632	0.92194	0.41863	0.26104	0.05142
6	4.38461	0.65044						

TABLE 75 25-50,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.9105
MULTIPLE CORR. COEFFICIENT 0.9542

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	56.45386	7.05673	5.0895	
DEVIATION ABOUT REGRESSION...	4	5.54614	1.38654		n.s.
TOTAL...	12	62.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR CUM.
1	1.61538	0.96077	1.69087	1.35728	1.24577	0.52870	9.02777	0.14561
2	4.96231	0.88709	2.50299	0.86028	2.90952	0.82408	0.19098	0.00308
3	4.48230	0.81937	-1.77236	2.02925	-0.87341	-0.40020	29.36279	0.47359
7	20745.46094	22886.03906	-0.00004	0.00004	-1.12939	-0.49171	4.13043	0.06662
8	2.61538	1.60927	0.51079	0.98666	0.51770	0.25058	0.75662	0.01220
9	513.53833	742.02246	-0.00177	0.00173	-1.02022	-0.45439	0.32590	0.00526
10	2.46153	0.51350	-1.50430	0.91747	-1.63961	-0.63398	8.17617	0.13187
11	1.46154	1.71345	0.71184	0.39589	1.79809	0.66857	4.48292	0.07231
5	3.00000	2.27303						

TABLE 76 25-50,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.8026
MULTIPLE CORR. COEFFICIENT 0.8959

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	35.31622	4.41453	2.0336	
DEVIATION ABOUT REGRESSION...	4	8.68378	2.17094		n.s.
TOTAL...	12	44.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	0.00799	1.69836	0.00470	0.00235	5.77777	0.13131
2	4.96231	0.88709	1.54802	1.07646	1.43807	0.58379	3.03644	0.06901
3	4.48230	0.81937	-2.03165	2.53919	-0.80012	-0.37144	2.45574	0.05581
7	20745.46094	22886.03906	-0.00002	0.00005	-0.38072	-0.18700	1.54005	0.03500
8	2.61538	1.60927	-0.19869	1.23460	-0.16094	-0.08021	1.30631	0.02969
9	513.53833	742.02246	-0.00100	0.00217	-0.46266	-0.22538	9.63663	0.21901
10	2.46153	0.51350	0.33195	1.14803	0.28915	0.14309	0.62791	0.01416
11	1.46154	1.71345	1.11203	0.49537	2.24485	0.74666	10.94045	0.24865
4	3.00000	1.91485						

TABLE 77 25-50,000 KEY 23

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.9732
MULTIPLE CORR. COEFFICIENT 0.9865

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	86.68767	10.83596	18.1411	
DEVIATION ABOUT REGRESSION...	4	2.38927	0.59732		<.01
TOTAL...	12	89.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.21379	0.89086	-0.23999	-0.11916	2.32693	0.02612
2	4.96231	0.88709	3.90781	0.56464	6.92085	0.96069	0.00111	0.00001
3	4.48230	0.81937	-4.18762	1.33190	-3.14409	-0.84377	31.19734	0.35023
7	20745.46094	22886.03906	0.00000	0.00002	0.21073	0.10480	2.14410	0.02407
8	2.61538	1.60927	-0.66124	0.64760	-1.02106	-0.45473	14.07621	0.15802
9	513.53833	742.02246	-0.00183	0.00114	-1.60878	-0.62479	1.65761	0.01861
10	2.46153	0.51350	-2.10431	0.60219	-3.49446	-0.86791	19.27881	0.21643
11	1.46154	1.71345	1.34504	0.25084	5.17639	0.93280	16.00563	0.17968
6	3.61538	2.72453						

TABLE 78 25-50,000 KEY 23

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.6861
MULTIPLE CORR. COEFFICIENT 0.8283

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	3.37772	0.42222	1.0928	
DEVIATION ABOUT REGRESSION...	4	1.54537	0.39634		N.S.
TOTAL...	12	4.92310			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.57338	0.71646	-0.80030	-0.37151	0.17308	0.03516
2	4.96231	0.88709	0.80649	0.45411	1.77599	0.66399	0.02309	0.00469
3	4.48230	0.81937	-1.24662	1.07117	-1.16380	-0.50295	1.08166	0.21971
7	20745.46094	22886.03906	0.00000	0.00002	0.16758	0.08350	0.09774	0.01985
8	2.61538	1.60927	-0.27196	0.52082	-0.52217	-0.25262	0.20605	0.04185
9	513.53833	742.02246	0.00072	0.00091	0.78281	0.36449	0.41850	0.08501
10	2.46153	0.51350	-0.77451	0.49430	-1.56724	-0.62452	1.32279	0.26869
11	1.46154	1.71345	0.07870	0.20997	0.37459	0.18504	0.05480	0.01113
5	4.92308	0.64051						

TABLE 79 25-50,000 KEY 23

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7366
MULTIPLE CORR. COEFFICIENT 0.8582

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	6.11941	0.76493	1.3981	
DEVIATION ABOUT REGRESSION...	4	2.18846	0.54711		N.S.
TOTAL...	12	8.30786			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.47420	0.85260	-0.55619	-0.26793	1.55768	0.18750
2	4.96231	0.88709	0.63110	0.54039	1.16785	0.50425	0.01272	0.00153
3	4.48230	0.81937	-0.58134	1.27470	-0.45606	-0.22233	0.06772	0.00815
7	20745.46094	22886.03906	-0.00001	0.00002	-0.65823	-0.31262	2.08353	0.25079
8	2.61538	1.60927	-0.14756	0.61979	-0.23807	-0.11829	0.04436	0.00534
9	513.53833	742.02246	-0.00001	0.00109	-0.00468	-0.00234	0.25176	0.03030
10	2.46153	0.51350	-0.67765	0.57632	-1.17581	-0.50681	1.49433	0.17987
11	1.46154	1.71345	0.26200	0.24868	1.05355	0.46606	0.60730	0.07310
4	4.76923	0.83206						

TABLE 80 25-50,000 KEY 22

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.9328
MULTIPLE CORR. COEFFICIENT 0.9658

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	9.61465	1.20183	6.9366	
DEVIATION ABOUT REGRESSION...	4	0.69304	0.17326		<.05
TOTAL...	12	10.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-1.15656	0.47979	-2.41053	-0.76960	0.00214	0.00021
3	4.96231	0.88709	0.49874	0.30410	1.64002	0.63409	0.10593	0.01028
4	4.48230	0.81937	-1.59919	0.71733	-2.22936	-0.74436	0.05541	0.00538
7	20745.46094	22886.03906	0.00005	0.00001	3.77152	0.88347	1.44528	0.14021
8	2.61538	1.60927	-0.90812	0.34878	-2.60370	-0.79305	5.51557	0.53509
9	513.53833	742.02246	0.00023	0.00061	0.37795	0.18569	0.06709	0.00651
10	2.46153	0.51350	0.92360	0.32432	2.84779	0.81835	2.14556	0.20815
11	1.46154	1.71345	-0.17716	0.13994	-1.26597	-0.53485	0.27767	0.02694
6	4.23077	0.92681						

TABLE 81 25-50,000 KEY 22

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.8386
MULTIPLE CORR. COEFFICIENT 0.9158

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	2.32240	0.29030	2.5994	
DEVIATION ABOUT REGRESSION...	4	0.44689	0.11172		n.s.
TOTAL...	12	2.76929			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.21555	0.38528	-0.55947	-0.26939	0.01923	0.00694
3	4.96231	0.88709	0.07265	0.24420	0.29752	0.14714	0.10859	0.03921
4	4.48230	0.81937	-0.01533	0.57602	-0.02662	-0.01331	0.60493	0.21844
7	20745.46094	22886.03906	0.000001	0.000001	1.36032	0.56239	0.20665	0.07462
8	2.61538	1.60927	-0.23511	0.28007	-0.83944	-0.39700	0.99698	0.35998
9	513.53833	742.02246	-0.000228	0.000409	-0.55520	-0.27195	0.13227	0.04774
10	2.46153	0.51350	0.34651	0.24043	1.33050	0.55388	0.11980	0.04001
11	1.46154	1.71345	0.12715	0.11238	1.13150	0.40240	0.14304	0.05165
5	4.69231	0.48039						

TABLE 82 25-50,000 KEY 22

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.7161
MULTIPLE CORR. COEFFICIENT 0.8462

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	36.68423	4.58553	1.2609	
DEVIATION ABOUT REGRESSION...	4	14.54654	3.63663		n.s.
TOTAL...	12	51.23077			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	1.90814	2.19914	0.86758	0.39038	0.59187	0.18723
3	4.96231	0.88709	-0.79337	1.39323	-0.56945	-0.27385	1.04661	0.02043
4	4.48230	0.81937	2.50057	3.28640	0.76098	0.35558	9.56757	0.16723
7	20745.46094	22886.03906	-0.000004	0.000006	-0.70425	-0.33214	0.17534	0.00342
8	2.61538	1.60927	0.97213	1.59791	0.54579	0.26327	0.46803	0.00914
9	513.53833	742.02246	-0.000260	0.000290	-0.92851	-0.42109	4.45144	0.08689
10	2.46153	0.51350	1.95044	1.49596	1.25143	0.53044	1.75015	0.03416
11	1.46154	1.71345	1.00631	0.64114	1.70003	0.64084	10.63310	0.20755
2	3.46154	2.06621						

TABLE 83 25-50,000 KEY 21

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7250
MULTIPLE CORR. COEFFICIENT 0.8515

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	42.27557	5.28445	1.3195	
DEVIATION ABOUT REGRESSION...	4	16.03212	4.00803		n.s.
TOTAL...	12	58.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	1.61877	2.30766	0.70146	0.33007	12.66980	0.21727
5	4.96231	0.88709	-0.37354	1.46264	-0.25538	-0.12667	1.19809	0.02055
6	4.48230	0.81937	1.75041	3.45013	0.50735	0.24589	5.46818	0.09378
7	20745.46094	22886.03906	-0.000003	0.000006	-0.54496	-0.26290	0.30944	0.00531
8	2.61538	1.60927	0.60958	1.67752	0.36338	0.17877	3.05178	0.05234
9	513.53833	742.02246	-0.00283	0.00304	-0.96050	-0.43292	5.02302	0.08615
10	2.46153	0.51350	2.19001	1.55999	1.39754	0.57270	2.90794	0.04987
11	1.46154	1.71345	1.14747	0.67309	1.70479	0.64871	11.64965	0.19978
4	3.76923	2.20431						

TABLE 84 25-50,000 KEY 21

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.7663
MULTIPLE CORR. COEFFICIENT 0.8754

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	37.37218	4.67152	1.6396	
DEVIATION ABOUT REGRESSION...	4	11.39706	2.84927		n.s.
TOTAL...	12	48.76924			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.64701	1.94568	-0.33254	-0.16401	12.01923	0.24645
5	4.96231	0.88709	0.07566	1.23321	0.06135	0.03066	0.48826	0.01001
6	4.48230	0.81937	-0.98376	2.90895	-0.33818	-0.16672	6.61686	0.13568
7	20745.46094	22886.03906	0.00006	0.00005	1.18129	0.50856	6.29706	0.12912
8	2.61538	1.60927	-1.01434	1.41439	-0.71715	-0.33753	1.60672	0.03295
9	513.53833	742.02246	0.00086	0.00248	0.34671	0.17080	6.59559	0.13524
10	2.46153	0.51350	1.49048	1.31521	1.13327	0.49299	3.59303	0.07367
11	1.46154	1.71345	0.13255	0.56751	0.23356	0.11600	0.15546	0.00319
3	4.30769	2.01596						

TABLE 85 25-50,000 KEY 21

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.7689
MULTIPLE CORR. COEFFICIENT 0.8769

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	9.46324	1.18291	1.6634	
DEVIATION ABOUT REGRESSION...	4	2.84462	0.71115		n.s.
TOTAL...	12	12.30786			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	0.59501	0.97205	0.61212	0.29266	0.00214	0.00017
5	4.96231	0.88709	0.70127	0.61610	1.13823	0.49463	1.12391	0.09132
6	4.48230	0.81937	0.63389	1.45329	0.43618	0.21308	0.50490	0.04102
7	20745.46094	22886.03906	-0.00002	0.00003	-0.68243	-0.32294	0.97009	0.07882
8	2.61538	1.60927	0.77178	0.70662	1.09221	0.47930	0.14517	0.01179
9	513.53833	742.02246	-0.00155	0.00124	-1.25216	-0.53066	1.83709	0.14926
10	2.46153	0.51350	0.79884	0.65707	1.21576	0.51944	0.07319	0.00595
11	1.46154	1.71345	0.73711	0.28352	2.59983	0.79261	4.80678	0.39055
2	5.76923	1.01275						

TABLE 86 25-50,000 KEY 20

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.6904
MULTIPLE CORR. COEFFICIENT 0.8309

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	49.91948	6.23993	1.1149	
DEVIATION ABOUT REGRESSION...	4	22.38838	5.59710		n.s.
TOTAL...	12	72.30786			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-1.64262	2.72701	-0.60235	-0.28837	6.00214	0.08301
5	4.96231	0.88709	0.70324	1.72844	0.40686	0.19935	1.55360	0.02149
6	4.48230	0.81937	-1.82620	4.07710	-0.44792	-0.21854	8.79668	0.12166
7	20745.46094	22886.03906	0.00008	0.00007	1.10490	0.48356	9.73095	0.13458
8	2.61538	1.60927	-1.43098	1.98237	-0.72185	-0.33949	3.47955	0.04812
9	513.53833	742.02246	0.00106	0.00348	0.30345	0.15000	15.47453	0.21401
10	2.46153	0.51350	1.68364	1.84336	0.91335	0.41541	3.45994	0.04785
11	1.46154	1.71345	0.40091	0.79540	0.50403	0.24438	1.42205	0.01967
4	5.23077	2.45472						

TABLE 87 25-50,000 KEY 20

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.6004
MULTIPLE CORR. COEFFICIENT 0.7748

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	1.75498	0.21937	0.7517	
DEVIATION ABOUT REGRESSION...	4	1.16810	0.29203		n.s.
TOTAL...	12	2.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	-0.11375	0.62290	-0.18262	-0.09093	0.23558	0.08059
5	4.96231	0.88709	0.46254	0.39480	1.17157	0.50545	1.02577	0.35092
6	4.48230	0.81937	-0.41019	0.93128	-0.44046	-0.21508	0.00494	0.00169
7	20745.46094	22886.03906	0.00001	0.00002	0.89540	0.40862	0.32192	0.11013
8	2.61538	1.60927	-0.21641	0.45281	-0.47793	-0.23242	0.07801	0.02669
9	513.53833	742.02246	0.00021	0.00079	0.25834	0.12811	0.02699	0.00923
10	2.46153	0.51350	-0.17395	0.42105	-0.41314	-0.20230	0.06121	0.02094
11	1.46154	1.71345	0.00793	0.18168	0.04367	0.02183	0.00056	0.00019
3	0.42308	0.49355						

TABLE 88 25-50,000 KEY 20

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.6098
MULTIPLE CORR. COEFFICIENT 0.7809

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	10.23229	1.27904	0.7814	
DEVIATION ABOUT REGRESSION...	4	6.54753	1.63688		n.s.
TOTAL...	12	16.77982			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.61538	0.96077	0.09951	1.47473	0.06748	0.03372	1.83686	0.10947
5	4.96231	0.88709	-0.57005	0.93472	-0.60986	-0.29167	0.13147	0.00784
6	4.48230	0.81937	1.41379	2.20495	0.64122	0.30530	4.10901	0.24488
7	20745.46094	22886.03906	-0.00000	0.00004	-0.08328	-0.04160	0.48752	0.02905
8	2.61538	1.60927	-0.03216	1.07204	-0.03000	-0.01500	2.21786	0.13217
9	513.53833	742.02246	-0.00085	0.00188	-0.45354	-0.22115	1.18472	0.07060
10	2.46153	0.51350	-0.31948	0.99686	-0.32049	-0.15823	0.24334	0.01450
11	1.46154	1.71345	0.04932	0.43014	0.11465	0.05723	0.02151	0.00128
2	3.53384	1.18250						

TABLE 89 LESS THAN 25,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.8781
MULTIPLE CORR. COEFFICIENT 0.9371

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	14.99536	1.87442	3.6019	
DEVIATION ABOUT REGRESSION...	4	2.08158	0.52039		n.s.
TOTAL...	12	17.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	1.42684	0.54298	2.62778	0.79574	2.51241	0.14712
2	4.76307	0.73297	-1.73540	0.56925	-3.04857	-0.83613	0.87031	0.05096
3	4.03384	1.42110	-0.50163	0.23938	-2.09549	-0.72345	0.16872	0.00988
7	13647.15234	25361.06250	-0.00004	0.00001	-2.47428	-0.77771	0.37783	0.02213
8	3.15385	1.46322	-0.31786	0.24324	-1.30675	-0.54698	2.32872	0.13637
9	784.23071	2178.22437	-0.00012	0.00018	-0.67333	-0.31928	1.51511	0.08872
10	2.24307	1.18952	0.40203	0.27956	1.43808	0.58379	0.02361	0.00138
11	2.15385	1.67562	1.00073	0.26907	3.71929	0.88074	7.19864	0.42154
6	3.38461	1.19293						

TABLE 90 LESS THAN 25,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.8402
MULTIPLE CORR. COEFFICIENT 0.9166

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	31.02139	3.87767	2.6282	
DEVIATION ABOUT REGRESSION...	4	5.90169	1.47542		n.s.
TOTAL...	12	36.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.80676	0.91428	0.88241	0.40366	3.89081	0.10538
2	4.76307	0.73297	0.94884	0.95851	0.98991	0.44360	0.32538	0.00881
3	4.03384	1.42110	0.80252	0.40307	1.99100	0.70552	8.80349	0.23843
7	13647.15234	25361.06250	0.00001	0.00003	0.27715	0.13727	0.13808	0.00374
8	3.15385	1.46322	-0.36081	0.40957	-0.88094	-0.40310	2.59971	0.07041
9	784.23071	2178.22437	-0.00017	0.00030	-0.59133	-0.28353	9.67054	0.26191
10	2.24307	1.18952	-0.77455	0.47072	-1.64545	-0.63534	1.54418	0.04182
11	2.15385	1.67562	-0.75056	0.45305	-1.65666	-0.63791	4.04930	0.10967
5	2.92308	1.75412						

TABLE 91 LESS THAN 25,000 KEY 27

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.9707
MULTIPLE CORR. COEFFICIENT 0.9852

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	27.47774	3.43472	16.5537	
DEVIATION ABOUT REGRESSION...	4	0.82996	0.20749		<.01
TOTAL...	12	28.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.17776	0.34286	0.51847	0.25096	3.48512	0.12312
2	4.76307	0.73297	-0.73879	0.35945	-2.05536	-0.71671	2.40316	0.08489
3	4.03384	1.42110	0.92966	0.15116	6.15033	0.95099	8.68461	0.30679
7	13647.15234	25361.06250	0.00000	0.00001	0.16118	0.08034	1.47892	0.05224
8	3.15385	1.46322	0.33049	0.15359	2.15171	0.73248	0.19853	0.00701
9	784.23071	2178.22437	-0.00062	0.00011	-5.57904	-0.94135	11.06975	0.39105
10	2.24307	1.18952	-0.02980	0.17652	-0.16884	-0.08413	0.05753	0.00203
11	2.15385	1.67562	0.11808	0.16990	0.69501	0.32827	0.10023	0.00354
4	3.23077	1.53590						

TABLE 92 LESS THAN 25,000 KEY 26

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.8402
MULTIPLE CORR. COEFFICIENT 0.9166

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	31.02139	3.87767	2.6282	
DEVIATION ABOUT REGRESSION...	4	5.90169	1.47542		n.s.
TOTAL...	12	36.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.80676	0.91428	0.88241	0.40366	3.89081	0.10538
2	4.76307	0.73297	0.94884	0.95851	0.98991	0.44360	0.32538	0.00881
3	4.03384	1.42110	0.80252	0.40307	1.99100	0.70552	8.80349	0.23843
7	13647.15234	25361.06250	0.00001	0.00003	0.27715	0.13727	0.13808	0.00374
8	3.15385	1.46322	-0.36081	0.40957	-0.88094	-0.40310	2.59971	0.07041
9	784.23071	2178.22437	-0.00017	0.00030	-0.59133	-0.28353	9.67054	0.26191
10	2.24307	1.18952	-0.77455	0.47072	-1.64545	-0.63534	1.54418	0.04182
11	2.15385	1.67562	-0.75056	0.45305	-1.65666	-0.63791	4.04930	0.10967
6	2.92308	1.75412						

TABLE 93 LESS THAN 25,000 KEY 26

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.9707
MULTIPLE CORR. COEFFICIENT 0.9852

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	27.47774	3.43472	16.5537	
DEVIATION ABOUT REGRESSION...	4	0.82996	0.20749		<.01
TOTAL...	12	28.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.17776	0.34286	0.51847	0.25096	3.48512	0.12312
2	4.76307	0.73297	-0.73879	0.35945	-2.05536	-0.71671	2.40316	0.08489
3	4.03384	1.42110	0.92966	0.15116	6.15033	0.95099	8.68461	0.30679
7	13647.15234	25361.06250	0.00000	0.00001	0.16118	0.08034	1.47892	0.05224
8	3.15385	1.46322	0.33049	0.15359	2.15171	0.73248	0.19853	0.00701
9	784.23071	2178.22437	-0.00062	0.00011	-5.57934	-0.94135	11.06975	0.39105
10	2.24307	1.18952	-0.02980	0.17652	-0.16884	-0.08413	0.05753	0.00203
11	2.15385	1.67562	0.11808	0.16990	0.69501	0.32827	0.10023	0.00354
5	3.23077	1.53590						

TABLE 94 LESS THAN 25,000 KEY 26

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.9902
MULTIPLE CORR. COEFFICIENT 0.9951

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	30.92537	3.86567	50.6301	
DEVIATION ABOUT REGRESSION...	4	0.30540	0.07635		<.001
TOTAL...	12	31.23077			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.07856	0.20798	-0.37771	-0.18561	1.69851	0.05439
2	4.76307	0.73297	-0.40728	0.21804	-1.86786	-0.68263	2.04805	0.06558
3	4.03384	1.42110	0.97060	0.09169	10.58539	0.98262	10.98649	0.35178
7	13647.15234	25361.06250	0.00000	0.00001	0.84193	0.38806	0.20583	0.00659
8	3.15385	1.46322	0.09708	0.09317	1.04200	0.46212	1.80293	0.05773
9	784.23071	2178.22437	-0.00064	0.00007	-9.59197	-0.97895	13.98553	0.44781
10	2.24307	1.18952	-0.13506	0.10708	-1.26132	-0.53352	0.18890	0.00605
11	2.15385	1.67562	0.03590	0.10306	0.34830	0.17161	0.00926	0.00030
4	3.53846	1.61325						

TABLE 95 LESS THAN 25,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.9937
MULTIPLE CORR. COEFFICIENT 0.9968

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	28.89365	3.61171	78.8201	
DEVIATION ABOUT REGRESSION...	4	0.18329	0.04582		<.001
TOTAL...	12	29.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.32822	0.16112	2.03708	0.71368	2.51241	0.08641
2	4.76307	0.73297	-1.19087	0.16892	-7.05002	-0.96206	3.59812	0.12374
3	4.03384	1.42110	0.96280	0.07103	13.55412	0.98929	10.89900	0.37483
7	13647.15234	25361.06250	-0.00000	0.00000	-1.04235	-0.46228	0.25984	0.00894
8	3.15385	1.46322	0.01997	0.07218	0.27670	0.13709	2.59870	0.08937
9	784.23071	2178.22437	-0.00062	0.00005	-11.81702	-0.98599	8.71911	0.29986
10	2.24307	1.18952	0.13536	0.08295	1.63167	0.63226	0.01581	0.00054
11	2.15385	1.67562	0.20113	0.07984	2.51909	0.78327	0.29079	0.01000
6	3.38461	1.53662						

TABLE 96 LESS THAN 25,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.6772
MULTIPLE CORR. COEFFICIENT 0.8229

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	21.14841	2.64355	1.0488	
DEVIATION ABOUT REGRESSION...	4	10.08237	2.52059		n.s.
TOTAL...	12	31.23077			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.91316	1.19501	0.76415	0.35691	4.92432	0.15768
2	4.76307	0.73297	-0.14943	1.25282	-0.11927	-0.05953	3.40049	0.10888
3	4.03384	1.42110	-0.43478	0.52684	-0.82526	-0.38143	0.75348	0.02413
7	13647.15234	25361.06250	-0.00001	0.00003	-0.29223	-0.14458	0.00044	0.00001
8	3.15385	1.46322	0.09673	0.53533	0.18069	0.08998	0.91996	0.02946
9	784.23071	2178.22437	-0.00053	0.00039	-1.36583	-0.56395	6.48987	0.20780
10	2.24307	1.18952	-0.24180	0.61526	-0.39301	-0.19282	2.15001	0.06884
11	2.15385	1.67562	0.59090	0.59217	0.99786	0.44645	2.50984	0.08036
5	3.53846	1.61325						

TABLE 97 LESS THAN 25,000 KEY 25

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.5455
MULTIPLE CORR. COEFFICIENT 0.7386

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.04338	2.25542	0.6001	
DEVIATION ABOUT REGRESSION...	4	15.03355	3.75839		n.s.
TOTAL...	12	33.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.80349	1.45922	0.55063	0.26544	2.62531	0.07937
2	4.76307	0.73297	0.30938	1.52981	0.20223	0.10060	2.15454	0.06514
3	4.03384	1.42110	-0.43112	0.64332	-0.67015	-0.31771	0.98760	0.02986
7	13647.15234	25361.06250	-0.00001	0.00004	-0.27218	-0.13485	0.00614	0.00019
8	3.15385	1.46322	-0.14970	0.65369	-0.22900	-0.11376	2.81235	0.08502
9	784.23071	2178.22437	-0.00046	0.00047	-0.97924	-0.43974	6.91057	0.20892
10	2.24307	1.18952	-0.31473	0.75129	-0.41893	-0.20501	1.77410	0.05364
11	2.15385	1.67562	0.32788	0.72309	0.45345	0.22111	0.77278	0.02336
4	3.61538	1.66024						

TABLE 98 LESS THAN 25,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.7196
MULTIPLE CORR. COEFFICIENT 0.8483

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	23.80156	2.97519	1.2831	
DEVIATION ABOUT REGRESSION...	4	9.27538	2.31884		n.s.
TOTAL...	12	33.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	1.11835	1.14619	0.97571	0.43846	4.31886	0.13057
2	4.76307	0.73297	-0.02427	1.20163	-0.02020	-0.01010	4.02746	0.12176
3	4.03384	1.42110	-0.76927	0.50532	-1.52236	-0.60568	3.74577	0.11324
7	13647.15234	25361.06250	-0.00001	0.00003	-0.46447	-0.22621	0.00943	0.00029
8	3.15385	1.46322	-0.01173	0.51346	-0.02285	-0.01142	1.37656	0.04162
9	784.23071	2178.22437	-0.00047	0.00037	-1.25631	-0.53192	5.01636	0.15166
10	2.24307	1.18952	-0.28394	0.59012	-0.48116	-0.23390	2.60999	0.07891
11	2.15385	1.67562	0.61255	0.56797	1.07849	0.47464	2.69714	0.08154
6	3.61538	1.66024						

TABLE 99 LESS THAN 25,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.6156
MULTIPLE CORR. COEFFICIENT 0.7846

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	37.69290	4.71161	0.8007	
DEVIATION ABOUT REGRESSION...	4	23.53787	5.88447		n.s.
TOTAL...	12	61.23077			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	2.01534	1.82588	1.10376	0.48318	2.08561	0.03406
2	4.76307	0.73297	-0.25579	1.91421	-0.13362	-0.06666	3.25668	0.05319
3	4.03384	1.42110	0.71950	0.80497	0.89382	0.40802	14.48486	0.23656
7	13647.15234	25361.06250	-0.00005	0.00005	-1.09580	-0.48051	10.14071	0.16561
8	3.15385	1.46322	-0.70086	0.81795	-0.85586	-0.39381	0.45585	0.00744
9	784.23071	2178.22437	0.00063	0.00059	1.07452	0.47328	2.17268	0.03548
10	2.24307	1.18952	-0.74987	0.94007	-0.79768	-0.37046	1.51260	0.02470
11	2.15385	1.67562	-0.70612	0.90479	-0.78043	-0.36352	3.58406	0.05853
4	3.46154	2.25889						

TABLE 100 LESS THAN 25,000 KEY 24

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.5307
MULTIPLE CORR. COEFFICIENT 0.7285

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	20.00493	2.50062	0.5655	
DEVIATION ABOUT REGRESSION...	4	17.68739	4.42185		n.s.
TOTAL...	12	37.69232			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.88804	1.58278	0.56107	0.27011	0.07940	0.00211
2	4.76307	0.73297	-1.52840	1.65935	-0.92108	-0.41831	0.00010	0.00000
3	4.03384	1.42110	0.85957	0.69780	1.23184	0.52443	16.10699	0.42733
7	13647.15234	25361.06250	-0.00003	0.00004	-0.68257	-0.32299	1.37838	0.03657
8	3.15385	1.46322	-0.36858	0.70904	-0.51982	-0.25155	0.19226	0.00510
9	784.23071	2178.22437	0.00033	0.00051	0.63730	0.30361	2.07390	0.05502
10	2.24307	1.18952	-0.12287	0.81490	-0.15077	-0.07517	0.02764	0.00073
11	2.15385	1.67562	-0.14268	0.78432	-0.18192	-0.09059	0.14634	0.00388
5	3.84615	1.77229						

TABLE 101 LESS THAN 25,000 KEY 23

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.6288
MULTIPLE CORR. COEFFICIENT 0.7930

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	33.27646	4.15956	0.8469	
DEVIATION ABOUT REGRESSION...	4	19.64662	4.91166		n.s.
TOTAL...	12	52.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.69732	1.66814	-0.41802	-0.20459	0.10050	0.00190
2	4.76307	0.73297	0.15261	1.74884	0.08727	0.04359	2.09341	0.03956
3	4.03384	1.42110	0.76335	0.73543	1.03796	0.46064	15.54057	0.29364
7	13647.15234	25361.06250	0.00004	0.00005	0.84149	0.38782	2.25960	0.04270
8	3.15385	1.46322	0.39199	0.74728	0.52455	0.25370	1.83105	0.03460
9	784.23071	2178.22437	-0.00013	0.00054	-0.23274	-0.11559	4.95648	0.09365
10	2.24307	1.18952	-0.92461	0.85885	-1.07657	-0.47398	6.43731	0.12164
11	2.15385	1.67562	-0.08957	0.82662	-0.10835	-0.05410	0.05766	0.00109
6	4.07692	2.10006						

TABLE 102 LESS THAN 25,000 KEY 23

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.7036
DEPENDENT VARIABLE IS NOW NO. 5 MULTIPLE CORR. COEFFICIENT 0.8388

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	9.63357	1.20420	1.1868	
DEVIATION ABOUT REGRESSION...	4	4.05875	1.01469		n.s.
TOTAL...	12	13.69232			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.99479	0.75820	-1.31204	-0.54852	0.40198	0.02936
2	4.76307	0.73297	0.77324	0.79488	0.97277	0.43739	0.50333	0.03676
3	4.03384	1.42110	-0.04985	0.33427	-0.14914	-0.07437	1.77381	0.12955
7	13647.15234	25361.06250	0.00004	0.00002	2.11746	0.72698	4.59862	0.33585
8	3.15385	1.46322	0.13473	0.33965	0.39668	0.19455	0.00581	0.00042
9	784.23071	2178.22437	-0.00018	0.00024	-0.71763	-0.33773	0.77525	0.05662
10	2.24307	1.18952	0.26358	0.39036	0.67522	0.31987	1.15231	0.08416
11	2.15385	1.67562	-0.24243	0.37572	-0.64526	-0.30705	0.42247	0.03085
5	3.84615	1.06819						

TABLE 103 LESS THAN 25,000 KEY 23

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.8087
DEPENDENT VARIABLE IS NOW NO. 4 MULTIPLE CORR. COEFFICIENT 0.8993

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	21.89780	2.73722	2.1140	
DEVIATION ABOUT REGRESSION...	4	5.17914	1.29478		n.s.
TOTAL...	12	27.07693			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.54210	0.85648	-0.63293	-0.30172	0.49628	0.01833
2	4.76307	0.73297	0.66000	0.89791	0.73504	0.34496	4.58369	0.16928
3	4.03384	1.42110	0.19341	0.37760	0.51221	0.24810	0.90996	0.03361
7	13647.15234	25361.06250	0.00005	0.00002	1.97726	0.70305	3.41328	0.12606
8	3.15385	1.46322	0.11748	0.38368	0.30619	0.15133	1.31884	0.04871
9	784.23071	2178.22437	-0.00055	0.00028	-1.97824	-0.70323	9.09044	0.33573
10	2.24307	1.18952	0.27194	0.44096	0.61670	0.29466	1.40131	0.05175
11	2.15385	1.67562	-0.30849	0.42442	-0.72685	-0.34157	0.68402	0.02526
4	3.61538	1.50214						

TABLE 104 LESS THAN 25,000 KEY 22

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.7029
DEPENDENT VARIABLE IS NOW NO. 6 MULTIPLE CORR. COEFFICIENT 0.8384

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	28.76595	3.59574	1.1831	
DEVIATION ABOUT REGRESSION...	4	12.15714	3.03928		n.s.
TOTAL...	12	40.92308			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.25114	1.31221	-0.19138	-0.09526	2.85858	0.06985
3	4.76307	0.73297	0.09963	1.37569	0.07242	0.03618	3.61806	0.08841
4	4.03384	1.42110	0.83868	0.57851	1.44971	0.58689	5.75200	0.14056
7	13647.15234	25361.06250	0.00005	0.00004	1.30697	0.54704	5.78472	0.14136
8	3.15385	1.46322	0.06874	0.58784	0.11694	0.05837	1.25420	0.03089
9	784.23071	2178.22437	-0.00050	0.00042	-1.18540	-0.50987	9.09635	0.22228
10	2.24307	1.18952	0.01954	0.67560	0.02892	0.01445	0.10164	0.00248
11	2.15385	1.67562	-0.20104	0.65025	-0.30917	-0.15277	0.29051	0.00710
6	3.07692	1.84669						

TABLE 105 LESS THAN 25,000 KEY 22

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.9652
DEPENDENT VARIABLE IS NOW NO. 5 MULTIPLE CORR. COEFFICIENT 0.9824

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	31.18323	3.89790	13.8658	
DEVIATION ABOUT REGRESSION...	4	1.12447	0.28112		<.05
TOTAL...	12	32.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.18334	0.39908	-0.45941	-0.22388	0.90447	0.02800
3	4.76307	0.73297	-0.38409	0.41839	-0.91803	-0.41718	0.32856	0.01017
4	4.03384	1.42110	1.27852	0.17594	7.26671	0.96415	8.85086	0.27396
7	13647.15234	25361.06250	0.00000	0.00001	0.18841	0.09380	1.07803	0.03337
8	3.15385	1.46322	-0.12348	0.17878	-0.69070	-0.32644	5.40221	0.16721
9	784.23071	2178.22437	-0.00063	0.00013	-4.92420	-0.92650	10.47275	0.32416
10	2.24307	1.18952	0.47501	0.20547	2.31181	0.75628	3.29149	0.10188
11	2.15385	1.67562	-0.34488	0.19776	-1.74393	-0.65722	0.85493	0.02646
5	3.23077	1.64082						

TABLE 106 LESS THAN 25,000 KEY 22

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.8452
DEPENDENT VARIABLE IS NOW NO. 2 MULTIPLE CORR. COEFFICIENT 0.9193

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	24.70499	3.08812	2.7294	
DEVIATION ABOUT REGRESSION...	4	4.52579	1.13145		n.s.
TOTAL...	12	29.23077			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.64620	0.80064	0.80711	0.37423	0.97271	0.03328
3	4.76307	0.73297	-2.25833	0.83937	-2.69051	-0.80256	0.01465	0.00050
4	4.03384	1.42110	0.65933	0.35298	1.86791	0.68257	16.20667	0.55444
7	13647.15234	25361.06250	-0.00003	0.00002	-1.16553	-0.50351	0.22577	0.00772
8	3.15385	1.46322	-0.12276	0.35866	-0.34226	-0.16868	0.15387	0.00526
9	784.23071	2178.22437	0.00003	0.00026	0.12135	0.06056	2.61153	0.08934
10	2.24307	1.18952	0.28667	0.41221	0.69543	0.32843	0.04339	0.00148
11	2.15385	1.67562	0.78915	0.39674	1.98907	0.70517	4.47643	0.15314
2	3.46154	1.56074						

TABLE 107 LESS THAN 25,000 KEY 21

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.8786
DEPENDENT VARIABLE IS NOW NO 4 MULTIPLE CORR. COEFFICIENT 0.9374

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	31.90131	3.98766	3.6199	
DEVIATION ABOUT REGRESSION...	4	4.40639	1.10160		n.s.
TOTAL...	12	36.30769			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	1.07059	0.79001	1.35517	0.56095	3.22705	0.08888
5	4.76307	0.73297	-2.31271	0.82822	-2.79237	-0.81299	0.00006	0.00000
6	4.03384	1.42110	0.70017	0.34829	2.01032	0.70893	18.60562	0.51244
7	13647.15234	25361.06250	-0.00002	0.00002	-1.09667	-0.48080	1.51302	0.04167
8	3.15385	1.46322	-0.31634	0.35390	-0.89388	-0.40804	1.32873	0.03660
9	784.23071	2178.22437	0.00002	0.00026	0.06505	0.03250	2.64624	0.07288
10	2.24307	1.18952	0.34000	0.40674	0.83593	0.38564	0.00444	0.00012
11	2.15385	1.67562	0.79790	0.39147	2.03819	0.71377	4.57627	0.12604
4	3.76923	1.73944						

TABLE 108 LESS THAN 25,000 KEY 21

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.9038
MULTIPLE CORR. COEFFICIENT 0.9507

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	37.68130	4.71016	4.6972	
DEVIATION ABOUT REGRESSION...	4	4.01102	1.00275		n.s.
TOTAL...	12	41.69232			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.99888	0.75373	1.32524	0.55237	1.43424	0.03440
5	4.76307	0.73297	-2.85500	0.79019	-3.61304	-0.87490	0.29611	0.00710
6	4.03384	1.42110	0.72641	0.33230	2.18604	0.73781	21.02710	0.50434
7	13647.15234	25361.06250	-0.00005	0.00002	-2.53137	-0.78465	0.00381	0.00009
8	3.15385	1.46322	-0.39151	0.33765	-1.15951	-0.50157	3.41981	0.08202
9	784.23071	2178.22437	-0.00013	0.00024	-0.51636	-0.24999	2.45437	0.05887
10	2.24307	1.18952	0.54875	0.38806	1.41409	0.57732	0.01217	0.00029
11	2.15385	1.67562	1.12106	0.37350	3.00149	0.83218	9.03371	0.21668
3	3.84615	1.86396						

TABLE 109 LESS THAN 25,000 KEY 21

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.9175
MULTIPLE CORR. COEFFICIENT 0.9579

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	57.73271	7.21659	5.5615	
DEVIATION ABOUT REGRESSION...	4	5.19038	1.29760		n.s.
TOTAL...	12	62.92310			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	1.92830	0.85741	2.24898	0.74727	5.90694	0.09388
5	4.76307	0.73297	-3.35833	0.89889	-3.73609	-0.88163	0.14211	0.00226
6	4.03384	1.42110	0.74292	0.37800	1.96537	0.70092	31.45395	0.49988
7	13647.15234	25361.06250	-0.00007	0.00002	-2.89513	-0.82277	0.12145	0.00193
8	3.15385	1.46322	-0.53786	0.38410	-1.40032	-0.57356	5.67689	0.09022
9	784.23071	2178.22437	-0.00017	0.00028	-0.60005	-0.28738	1.11832	0.01777
10	2.24307	1.18952	0.21482	0.44144	0.48663	0.23642	1.17023	0.01860
11	2.15385	1.67562	1.29974	0.42488	3.05910	0.83700	12.14300	0.19298
2	4.92308	2.28989						

TABLE 110 LESS THAN 25,000 KEY 20

SAMPLE SIZE 13
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.9358
MULTIPLE CORR. COEFFICIENT 0.9674

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	58.88606	7.36076	7.2932	
DEVIATION ABOUT REGRESSION...	4	4.03703	1.00926		<.05
TOTAL...	12	62.92310			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD. ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	1.93883	0.75617	2.56400	0.78850	5.90694	0.09388
5	4.76307	0.73297	-3.78588	0.79275	-4.77562	-0.92238	1.24042	0.01971
6	4.03384	1.42110	0.85001	0.33337	2.54975	0.78684	31.96092	0.50794
7	13647.15234	25361.06250	-0.00006	0.00002	-2.79139	-0.81289	0.14126	0.00224
8	3.15385	1.46322	-0.56299	0.33874	-1.66199	-0.63914	6.12634	0.09736
9	784.23071	2178.22437	-0.00014	0.00024	-0.57260	-0.27525	2.23579	0.03553
10	2.24307	1.18952	0.44971	0.38932	1.15512	0.50015	0.11380	0.00181
11	2.15385	1.67562	1.24606	0.37471	3.32542	0.85696	11.16075	0.17737
4	4.92308	2.28989						

TABLE 111 LESS THAN 25,000 KEY 20

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.4749
DEPENDENT VARIABLE IS NOW NO. 3 MULTIPLE CORR. COEFFICIENT 0.6892

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	2.01005	0.25126	0.4523	
DEVIATION ABOUT REGRESSION...	4	2.22225	0.55556		n.s.
TOTAL...	12	4.23231			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	0.08169	0.56103	0.14560	0.07261	0.24666	0.05828
5	4.76307	0.73297	-0.39210	0.58817	-0.66665	-0.31622	0.03551	0.00839
6	4.03384	1.42110	0.05088	0.24734	0.20570	0.10231	0.21167	0.05001
7	13647.15234	25361.06250	-0.00001	0.00002	-0.78021	-0.36343	0.19987	0.04723
8	3.15385	1.46322	0.09389	0.25133	0.37357	0.18361	0.04512	0.01066
9	784.23071	2178.22437	-0.00020	0.00018	-1.11881	-0.48821	0.22170	0.05238
10	2.24307	1.18952	0.11484	0.28885	0.39758	0.19497	0.02666	0.00630
11	2.15385	1.67562	0.37723	0.27801	1.35688	0.56143	1.02287	0.24168
3	0.35385	0.59388						

TABLE 112 LESS THAN 25,000 KEY 20

SAMPLE SIZE 13 COEFFICIENT OF DETERMINATION 0.9260
DEPENDENT VARIABLE IS NOW NO. 2 MULTIPLE CORR. COEFFICIENT 0.9623

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	6.57487	0.82186	6.2540	
DEVIATION ABOUT REGRESSION...	4	0.52565	0.13141		<.05
TOTAL...	12	7.10052			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.30769	0.63043	-0.33541	0.27286	-1.22924	-0.52363	0.00302	0.00043
5	4.76307	0.73297	1.16406	0.28606	4.06931	0.89747	3.86619	0.54449
6	4.03384	1.42110	0.32470	0.12029	2.69923	0.80348	0.16252	0.02289
7	13647.15234	25361.06250	0.00001	0.00001	1.50765	0.60196	0.09900	0.01394
8	3.15385	1.46322	-0.03031	0.12223	-0.24800	-0.12306	0.03164	0.00446
9	784.23071	2178.22437	0.00012	0.00009	1.32506	0.55232	0.00644	0.00091
10	2.24307	1.18952	-0.03341	0.14048	-0.23790	-0.11807	0.36128	0.05088
11	2.15385	1.67562	-0.53336	0.13521	-3.94463	-0.89191	2.04479	0.28798
2	3.97000	0.76923						

TABLE 113 URBAN KEY 1

SAMPLE SIZE 31 COEFFICIENT OF DETERMINATION 0.7409
DEPENDENT VARIABLE IS NOW NO. 24 MULTIPLE CORR. COEFFICIENT 0.8607

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	92.43933	11.55492	7.8617	
DEVIATION ABOUT REGRESSION...	22	32.33487	1.46977		<.01
TOTAL...	30	124.77420			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.36569	0.29567	-1.23681	-0.25497	0.06831	0.00055
9	5.12096	1.74700	-0.02042	0.18894	-0.10808	-0.02304	7.07080	0.05667
10	4.15451	1.60922	0.11908	0.24105	0.49402	0.10475	8.79111	0.07046
26	51526.73828	71016.43750	0.00000	0.00000	0.86347	0.18105	8.67893	0.06956
27	2.67742	1.75854	0.54376	0.16959	3.20634	0.56434	52.78401	0.42304
28	1033.03223	4468.23828	-0.00003	0.00005	-0.63941	-0.13507	1.12507	0.00902
29	2.31645	0.95737	0.46681	0.38537	1.21131	0.25005	8.19531	0.06568
30	1.58064	2.12562	0.27724	0.14046	1.97385	0.38788	5.72635	0.04589
24	2.67742	2.03940						

TABLE 114 URBAN KEY 1

SAMPLE SIZE 31 COEFFICIENT OF DETERMINATION 0.7536
DEPENDENT VARIABLE IS NOW NO. 23 MULTIPLE CORR. COEFFICIENT 0.8681

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	93.35349	11.66919	8.4123	
DEVIATION ABOUT REGRESSION...	22	30.51761	1.38716		<.01
TOTAL...	30	123.87109			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.18475	0.28724	-0.64320	-0.13586	1.84320	0.01488
9	5.12096	1.74700	-0.03278	0.18356	-0.17856	-0.03804	4.62343	0.03732
10	4.15451	1.60922	0.14567	0.23418	0.62185	0.13143	5.14547	0.04154
26	51526.73828	71016.43750	0.00000	0.00000	0.34853	0.07410	8.38728	0.06771
27	2.67742	1.75854	0.74742	0.16476	4.53654	0.69522	65.87033	0.53177
28	1033.03223	4468.23828	-0.00005	0.00005	-0.91325	-0.19112	1.29640	0.01047
29	2.31645	0.95737	0.12453	0.37439	0.33261	0.07074	2.13692	0.01725
30	1.58064	2.12562	0.23318	0.13645	1.70989	0.34233	4.05099	0.03270
23	2.93548	2.03200						

TABLE 115 URBAN KEY 1

SAMPLE SIZE 31 COEFFICIENT OF DETERMINATION 0.6967
DEPENDENT VARIABLE IS NOW NO. 22 MULTIPLE CORR. COEFFICIENT 0.8347

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	36.50014	4.56252	6.3181	
DEVIATION ABOUT REGRESSION...	22	15.88707	0.72214		<.01
TOTAL...	30	52.38721			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.01568	0.20725	0.07567	0.01613	0.28089	0.00536
9	5.12096	1.74700	0.32912	0.13244	2.49508	0.46817	18.54590	0.35402
10	4.15451	1.60922	0.02978	0.16896	0.17623	0.03755	1.65377	0.03157
26	51526.73828	71016.43750	0.00000	0.00000	0.67315	0.14206	0.01419	0.00027
27	2.67742	1.75854	-0.05903	0.11887	-0.49658	-0.10528	0.67338	0.01285
28	1033.03223	4468.23828	-0.00014	0.00004	-3.76955	-0.62634	13.20873	0.25214
29	2.31645	0.95737	0.46287	0.27013	1.71353	0.34315	1.75104	0.03342
30	1.58064	2.12562	-0.07070	0.09845	-0.71809	-0.15133	0.37236	0.00711
22	4.29032	1.32145						

TABLE 116 URBAN KEY 1

SAMPLE SIZE 31 COEFFICIENT OF DETERMINATION 0.4756
DEPENDENT VARIABLE IS NOW NO. 25 MULTIPLE CORR. COEFFICIENT 0.6897

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	VALUE	p
DUE TO REGRESSION.....	8	25.77560	3.22195	2.4943	
DEVIATION ABOUT REGRESSION...	22	28.41800	1.29173		<.05
TOTAL...	30	54.19360			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.25659	0.27718	0.92572	0.19363	0.98930	0.01825
9	5.12096	1.74700	0.36012	0.17713	2.03312	0.39771	16.01521	0.29552
10	4.15451	1.60922	-0.04885	0.22598	-0.21619	-0.04604	1.09385	0.02018
26	51526.73828	71016.43750	0.00000	0.00000	1.19912	0.24769	0.23998	0.00443
27	2.67742	1.75854	-0.31965	0.15899	-2.01057	-0.39398	1.65604	0.03056
28	1033.03223	4468.23828	0.00003	0.00005	0.55922	0.11839	0.10830	0.00200
29	2.31645	0.95737	0.49481	0.36128	1.36960	0.28030	4.85886	0.08966
30	1.58064	2.12562	0.10453	0.13168	0.79388	0.16688	0.81411	0.01502
25	4.16129	1.32804						

TABLE 117 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 21

COEFFICIENT OF DETERMINATION 0.9002
MULTIPLE CORR. COEFFICIENT 0.9488

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	119.69838	14.96230	24.8067	
DEVIATION ABOUT REGRESSION...	22	13.26939	0.60315		<.001
TOTAL...	30	132.96777			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.10659	0.18941	-0.56274	-0.11912	5.56741	0.04187
9	5.12096	1.74700	-0.11000	0.12104	-0.90878	-0.19022	1.88871	0.01420
10	4.15451	1.60922	0.21051	0.15442	1.36323	0.27910	3.50269	0.02634
26	51526.73828	71016.43750	0.00000	0.00000	0.96947	0.18727	14.72574	0.11075
27	2.67742	1.75854	0.95584	0.10864	8.79825	0.88244	86.55856	0.65097
28	1033.03223	4468.23828	-0.00006	0.00003	-1.62547	-0.32745	1.02501	0.00771
29	2.31645	0.95737	-0.30706	0.24687	-1.24378	-0.25632	0.84029	0.00030
30	1.58064	2.12562	0.29288	0.08998	3.25502	0.57014	6.39052	0.04806
21	3.03226	2.10529						

TABLE 118 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 20

COEFFICIENT OF DETERMINATION 0.8369
MULTIPLE CORR. COEFFICIENT 0.9148

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	94.54013	11.81752	14.1084	
DEVIATION ABOUT REGRESSION...	22	18.42764	0.83762		<.001
TOTAL...	30	112.96777			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.08216	0.22321	0.36809	0.07824	5.60174	0.04959
9	5.12096	1.74700	-0.02235	0.14264	-0.15672	-0.03340	3.37785	0.02990
10	4.15451	1.60922	0.06530	0.18197	0.35887	0.07629	5.12786	0.04535
26	51526.73828	71016.43750	0.00000	0.00000	0.89125	0.18668	10.69102	0.09464
27	2.67742	1.75854	0.70552	0.12903	5.51071	0.76151	62.29050	0.55140
28	1033.03223	4468.23828	-0.00005	0.00004	-1.20032	-0.24792	1.79480	0.01589
29	2.31645	0.95737	0.35149	0.29093	1.20855	0.24971	3.76714	0.03335
30	1.58064	2.12562	0.15948	0.10603	1.50405	0.30535	1.89485	0.01677
20	2.96774	1.94051						

TABLE 119 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 19

COEFFICIENT OF DETERMINATION 0.8373
MULTIPLE CORR. COEFFICIENT 0.9151

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	109.17651	13.64706	14.1549	
DEVIATION ABOUT REGRESSION...	22	21.21069	0.96412		<.001
TOTAL...	30	130.38721			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.02528	0.23947	-0.10558	-0.02250	6.53089	0.05009
9	5.12096	1.74700	-0.24820	0.15303	-1.62192	-0.32681	2.23011	0.01710
10	4.15451	1.60922	0.44322	0.19523	2.27022	0.43567	10.16422	0.07795
26	51526.73828	71016.43750	-0.00000	0.00000	-0.03966	-0.00845	7.70225	0.05907
27	2.67742	1.75854	0.99102	0.13735	6.48706	0.81037	75.71297	0.58068
28	1033.03223	4468.23828	-0.00007	0.00004	-1.59750	-0.32241	1.83977	0.01411
29	2.31645	0.95737	-0.27707	0.31212	-0.88769	-0.18595	0.02408	0.00018
30	1.58064	2.12562	0.25835	0.11376	2.27106	0.43580	4.97372	0.03814
19	3.29032	2.08476						

TABLE 120 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 18

COEFFICIENT OF DETERMINATION 0.6592
MULTIPLE CORR. COEFFICIENT 0.8119

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	89.31569	11.16446	5.3201	
DEVIATION ABOUT REGRESSION...	22	46.16820	2.09855		<.01
TOTAL...	30	135.48389			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.13590	0.35330	0.38467	0.08174	8.47570	0.06256
9	5.12096	1.74700	-0.13002	0.22577	-0.57589	-0.12187	2.47965	0.01830
10	4.15451	1.60922	0.23002	0.28803	0.79858	0.16784	5.71678	0.04220
26	51526.73828	71016.43750	0.00000	0.00000	0.65355	0.13801	9.53650	0.07039
27	2.67742	1.75854	0.66387	0.20264	3.27603	0.57261	53.77423	0.39690
28	1033.03223	4468.23828	-0.00007	0.00006	-1.12992	-0.23420	2.47517	0.01827
29	2.31645	0.95737	-0.06169	0.46049	-0.13396	-0.02855	1.01967	0.00753
30	1.58064	2.12562	0.27994	0.16783	1.66796	0.33506	5.83841	0.04309
18	3.12903	2.12512						

TABLE 121 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 17

COEFFICIENT OF DETERMINATION 0.2163
MULTIPLE CORR. COEFFICIENT 0.4651

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	19.77725	2.47216	0.7592	
DEVIATION ABOUT REGRESSION...	22	71.64218	3.25646		n.s.
TOTAL...	30	91.41943			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.57591	0.44010	1.30859	0.26873	5.46511	0.05978
9	5.12096	1.74700	0.53968	0.28124	1.91893	0.37866	6.84176	0.07484
10	4.15451	1.60922	-0.44767	0.35880	-1.24768	-0.25707	4.51906	0.04943
26	51526.73828	71016.43750	-0.00000	0.00001	-0.29617	-0.06302	0.00468	0.00005
27	2.67742	1.75854	0.13519	0.25243	0.53555	0.11344	1.52678	0.01670
28	1033.03223	4468.23828	0.00004	0.00008	0.51210	0.10854	0.53278	0.00583
29	2.31645	0.95737	0.28710	0.57363	0.50049	0.10610	0.46809	0.00512
30	1.58064	2.12562	-0.07500	0.20907	-0.35873	-0.07626	0.41908	0.00458
17	4.22581	1.74566						

TABLE 122 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 16

COEFFICIENT OF DETERMINATION 0.2403
MULTIPLE CORR. COEFFICIENT 0.4902

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	34.77341	4.34668	0.8698	
DEVIATION ABOUT REGRESSION...	22	109.93631	4.99710		n.s.
TOTAL...	30	144.70972			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.48686	0.54518	0.89303	0.18704	2.17210	0.01501
9	5.12096	1.74700	0.79550	0.34839	2.28336	0.43771	17.67091	0.12211
10	4.15451	1.60922	-0.55709	0.44447	-1.25339	-0.25417	8.66800	0.05990
26	51526.73828	71016.43750	0.00000	0.00001	0.32711	0.06957	0.00318	0.00002
27	2.67742	1.75854	-0.29198	0.31270	-0.93371	-0.19524	5.05105	0.03490
28	1033.03223	4468.23828	0.00004	0.00010	0.36845	0.07831	0.40937	0.00283
29	2.31645	0.95737	0.28181	0.71059	0.39659	0.08425	0.70878	0.00490
30	1.58064	2.12562	-0.03477	0.25899	-0.13427	-0.02861	0.09009	0.00062
16	3.90322	2.19628						

TABLE 123 URBAN KEY 1

SAMPLE SIZE 31 — COEFFICIENT OF DETERMINATION 0.2300
DEPENDENT VARIABLE IS NOW NO. 15 — MULTIPLE CORR. COEFFICIENT 0.4796

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	49.65488	6.20686	0.8215	
DEVIATION ABOUT REGRESSION...	22	166.21622	7.55528		n.s.
TOTAL...	30	215.87109			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.70722	0.67036	1.05498	0.21944	4.07358	0.01887
9	5.12096	1.74700	0.78894	0.42838	1.84168	0.36548	5.91293	0.02739
10	4.15451	1.60922	-0.62521	0.54652	-1.14397	-0.23685	22.43013	0.10391
26	51526.73828	71016.43750	-0.00001	0.00001	-0.62910	-0.13294	2.27057	0.01052
27	2.67742	1.75854	0.02003	0.38450	0.05209	0.01111	3.13635	0.01453
28	1033.03223	4468.23828	0.00009	0.00012	0.71389	0.15047	4.03423	0.01869
29	2.31645	0.95737	-0.07943	0.87374	-0.09091	-0.01938	2.19742	0.01018
30	1.58064	2.12562	-0.27416	0.31845	-0.86091	-0.18053	5.59978	0.02594
15	4.06452	2.68248						

TABLE 124 URBAN KEY 1

SAMPLE SIZE 31 — COEFFICIENT OF DETERMINATION 0.3169
DEPENDENT VARIABLE IS NOW NO. 14 — MULTIPLE CORR. COEFFICIENT 0.5630

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	15.04924	1.88116	1.2760	
DEVIATION ABOUT REGRESSION...	22	32.43463	1.47430		n.s.
TOTAL...	30	47.48389			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.13366	0.29612	0.45137	0.09579	0.00021	0.00000
9	5.12096	1.74700	0.43845	0.18923	2.31700	0.44290	9.44032	0.19881
10	4.15451	1.60922	-0.17226	0.24142	-0.71351	-0.15039	0.07012	0.00148
26	51526.73828	71016.43750	-0.00000	0.00000	-0.05611	-0.01196	0.01655	0.00035
27	2.67742	1.75854	-0.11151	0.16985	-0.65649	-0.13961	1.13208	0.02384
28	1033.03223	4468.23828	0.00008	0.00005	1.42365	0.29044	2.06347	0.04346
29	2.31645	0.95737	0.43588	0.38597	1.12932	0.23408	0.84642	0.01783
30	1.58064	2.12562	-0.14095	0.14067	-1.00195	-0.20890	1.48008	0.03117
14	4.87097	1.25809						

TABLE 125 URBAN KEY 1

SAMPLE SIZE 31 — COEFFICIENT OF DETERMINATION 0.2750
DEPENDENT VARIABLE IS NOW NO. 13 — MULTIPLE CORR. COEFFICIENT 0.5244

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.66136	2.33267	1.0429	
DEVIATION ABOUT REGRESSION...	22	49.20973	2.23681		n.s.
TOTAL...	30	67.87109			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.38878	0.36475	1.06589	0.22160	0.82359	0.01213
9	5.12096	1.74700	0.44900	0.23309	1.92633	0.37990	9.16848	0.13509
10	4.15451	1.60922	-0.21136	0.29737	-0.71078	-0.14983	0.28737	0.00423
26	51526.73828	71016.43750	0.00000	0.00000	0.06746	0.01438	0.29968	0.00441
27	2.67742	1.75854	-0.26770	0.20921	-1.27956	-0.26319	4.65017	0.06851
28	1033.03223	4468.23828	0.00006	0.00007	0.97937	0.20439	1.35829	0.02001
29	2.31645	0.95737	0.44748	0.47541	0.94125	0.19675	1.24872	0.01840
30	1.58064	2.12562	-0.10525	0.17327	-0.60742	-0.12843	0.82529	0.01216
13	4.93548	1.50412						

TABLE 126 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 12

COEFFICIENT OF DETERMINATION 0.4843
MULTIPLE CORR. COEFFICIENT 0.6959

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	33.87114	4.23389	2.5828	
DEVIATION ABOUT REGRESSION...	22	36.06441	1.63929		<.05
TOTAL...	30	69.93555			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.24357	0.31226	0.78003	0.16405	2.57458	0.03681
9	5.12096	1.74700	0.51959	0.19954	2.60392	0.48538	24.21315	0.34622
10	4.15451	1.60922	0.01313	0.25457	0.05158	0.01099	0.55305	0.00791
26	51526.73828	71016.43750	0.00000	0.00000	0.27736	0.05903	0.13618	0.00195
27	2.67742	1.75854	-0.11510	0.17910	-0.64266	-0.13575	0.95244	0.01362
28	1033.03223	4468.23828	-0.00010	0.00006	-1.77234	-0.35347	4.34539	0.06213
29	2.31645	0.95737	-0.33285	0.40699	-0.81783	-0.17177	0.85931	0.01229
30	1.58064	2.12562	0.05644	0.14834	0.38050	0.08086	0.23734	0.00339
12	4.74193	1.52682						

TABLE 127 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.5048
MULTIPLE CORR. COEFFICIENT 0.7105

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	38.23793	4.77974	2.8038	
DEVIATION ABOUT REGRESSION...	22	37.50401	1.70473		<.05
TOTAL...	30	75.74194			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.12809	0.31843	0.40226	0.08545	3.03606	0.04008
9	5.12096	1.74700	0.36335	0.20348	1.78566	0.35579	18.43990	0.24346
10	4.15451	1.60922	0.11428	0.25960	0.44019	0.09344	0.08793	0.00116
26	51526.73828	71016.43750	0.00000	0.00000	0.25555	0.05440	0.00050	0.00001
27	2.67742	1.75854	0.07268	0.18264	0.39792	0.08453	0.76440	0.01009
28	1033.03223	4468.23828	-0.00017	0.00006	-3.01220	-0.54037	13.49239	0.17814
29	2.31645	0.95737	-0.48980	0.41504	-1.18013	-0.24400	1.63880	0.02164
30	1.58064	2.12562	0.10220	0.15127	0.67560	0.14257	0.77810	0.01027
11	4.51613	1.58894						

TABLE 128 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.3494
MULTIPLE CORR. COEFFICIENT 0.5911

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	60.16701	7.52088	1.4770	
DEVIATION ABOUT REGRESSION...	22	112.02655	5.09212		n.s.
TOTAL...	30	172.19356			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.08658	0.55034	-0.15731	-0.03352	0.33734	0.00196
9	5.12096	1.74700	0.18949	0.35168	0.53882	0.11413	0.59784	0.00347
10	4.15451	1.60922	-0.10575	0.44867	-0.23568	-0.05018	0.39851	0.00231
26	51526.73828	71016.43750	-0.00000	0.00001	-0.01172	-0.00250	9.48826	0.05510
27	2.67742	1.75854	0.78673	0.31566	2.49230	0.46923	31.13023	0.18079
28	1033.03223	4468.23828	-0.00001	0.00010	-0.09160	-0.01952	0.48562	0.00282
29	2.31645	0.95737	0.52535	0.71731	0.73238	0.15428	0.07867	0.00046
30	1.58064	2.12562	-0.48674	0.26144	-1.86180	-0.36894	17.65071	0.10251
8	1.83871	2.39578						

TABLE 129 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.3890
MULTIPLE CORR. COEFFICIENT 0.6237

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	81.20911	10.15114	1.7507	
DEVIATION ABOUT REGRESSION...	22	127.56531	5.79842		n.s.
TOTAL...	30	208.77441			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.24435	0.58727	0.41608	0.08836	0.03563	0.00017
9	5.12096	1.74700	0.58789	0.37528	1.56652	0.31678	9.69604	0.04644
10	4.15451	1.60922	-0.22090	0.47878	-0.46138	-0.09789	1.67007	0.00800
26	51526.73828	71016.43750	0.00000	0.00001	0.23670	0.05040	1.09695	0.00525
27	2.67742	1.75854	-0.48453	0.33685	-1.43843	-0.29320	30.28352	0.14505
28	1033.03223	4468.23828	-0.00012	0.00011	-1.10416	-0.22915	10.49588	0.05027
29	2.31645	0.95737	0.51798	0.76544	0.67671	0.14280	0.67923	0.00325
30	1.58064	2.12562	-0.60481	0.27898	-2.16792	-0.41956	27.25195	0.13053
7	3.67742	2.63802						

TABLE 130 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.4025
MULTIPLE CORR. COEFFICIENT 0.6344

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	73.22815	9.15352	1.8525	
DEVIATION ABOUT REGRESSION...	22	108.70734	4.94124		n.s.
TOTAL...	30	181.93549			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.00696	0.54213	0.01285	0.00274	3.13810	0.01725
9	5.12096	1.74700	0.14439	0.34643	0.41678	0.08851	1.39096	0.00765
10	4.15451	1.60922	-0.14218	0.44198	-0.32168	-0.06842	2.08779	0.01148
26	51526.73828	71016.43750	0.00001	0.00001	1.76651	0.35246	37.30714	0.20506
27	2.67742	1.75854	0.45416	0.31095	1.46056	0.29731	23.85904	0.13114
28	1033.03223	4468.23828	-0.00004	0.00010	-0.39935	-0.08484	1.85527	0.01020
29	2.31645	0.95737	0.60136	0.70660	0.85106	0.17853	2.68524	0.01476
30	1.58064	2.12562	-0.11022	0.25754	-0.42797	-0.09087	0.90503	0.00497
6	2.25806	2.46262						

TABLE 131 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.7264
MULTIPLE CORR. COEFFICIENT 0.8517

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	207.36942	25.92117	7.2644	
DEVIATION ABOUT REGRESSION...	22	78.50168	3.56826		<.01
TOTAL...	30	285.87109			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.06725	0.46069	-0.14597	-0.03111	7.33340	0.02565
9	5.12096	1.74700	0.03202	0.29440	0.10875	0.02318	17.81703	0.06233
10	4.15451	1.60922	0.15688	0.37559	0.41769	0.08870	12.80836	0.04480
26	51526.73828	71016.43750	0.00000	0.00001	0.79038	0.16412	18.46800	0.06460
27	2.67742	1.75854	0.83171	0.26424	3.14753	0.55723	116.20166	0.40648
28	1033.03223	4468.23828	-0.00004	0.00008	-0.48121	-0.10206	1.11162	0.00389
29	2.31645	0.95737	0.34708	0.60046	0.57802	0.12231	12.62352	0.04416
30	1.58064	2.12562	0.53101	0.21885	2.42634	0.45946	21.00674	0.07348
5	3.93548	3.08691						

TABLE 132 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7666
MULTIPLE CORR. COEFFICIENT 0.8755

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	202.52525	25.31564	9.0313	
DEVIATION ABOUT REGRESSION...	22	61.66835	2.80311		<.01
TOTAL...	30	264.19360			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.24961	0.40832	-0.61131	-0.12924	0.64944	0.00246
9	5.12096	1.74700	0.16242	0.26093	0.62246	0.13156	10.66602	0.04037
10	4.15451	1.60922	-0.23573	0.33289	-0.70814	-0.14928	9.26436	0.03507
26	51526.73828	71016.43750	0.00001	0.00001	1.91539	0.37806	35.55597	0.13458
27	2.67742	1.75854	0.55100	0.23420	2.35264	0.44835	79.58286	0.30123
28	1033.03223	4468.23828	0.00016	0.00007	2.24646	0.43196	10.33097	0.03910
29	2.31645	0.95737	1.05421	0.53220	2.05600	0.40147	37.14333	0.14059
30	1.58064	2.12562	0.50942	0.19397	2.62623	0.48855	19.33324	0.07318
4	3.83871	2.96757						

TABLE 133 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.3453
MULTIPLE CORR. COEFFICIENT 0.5876

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	1.97291	0.24661	1.4504	
DEVIATION ABOUT REGRESSION...	22	3.74080	0.17004		n.s.
TOTAL...	30	5.71371			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	-0.00971	0.10057	-0.09653	-0.02057	0.01804	0.00316
9	5.12096	1.74700	0.05079	0.06426	0.79031	0.16615	0.01215	0.00213
10	4.15451	1.60922	-0.07445	0.08199	-0.90800	-0.19006	0.12060	0.02111
26	51526.73828	71016.43750	0.00000	0.00000	0.27932	0.05945	0.44336	0.07760
27	2.67742	1.75854	0.14009	0.05768	2.42869	0.45981	0.85800	0.15016
28	1033.03223	4468.23828	-0.00000	0.00002	-0.24047	-0.05120	0.02160	0.00378
29	2.31645	0.95737	0.03792	0.13108	0.28929	0.06156	0.04369	0.00765
30	1.58064	2.12562	-0.07819	0.04777	-1.63665	-0.32945	0.45546	0.07971
3	0.30645	0.43641						

TABLE 134 URBAN KEY 1

SAMPLE SIZE 31
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.3887
MULTIPLE CORR. COEFFICIENT 0.5876

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.46275	2.30784	1.7488	
DEVIATION ABOUT REGRESSION...	22	29.03212	1.31964		n.s.
TOTAL...	30	47.49487			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.51613	0.81121	0.29901	0.28016	1.06726	0.22187	0.08071	0.00170
9	5.12096	1.74700	0.44488	0.17903	2.48490	0.46814	7.18208	0.15122
10	4.15451	1.60922	-0.33530	0.22841	-1.46798	-0.29869	0.27936	0.00588
26	51526.73828	71016.43750	-0.00000	0.00000	-1.32250	-0.27138	1.65971	0.03495
27	2.67742	1.75854	-0.00551	0.16070	-0.03428	-0.00731	0.00664	0.00139
28	1033.03223	4468.23828	0.00008	0.00005	1.65065	0.33196	1.72934	0.03641
29	2.31645	0.95737	0.82476	0.36516	2.25861	0.43386	3.70688	0.07805
30	1.58064	2.12562	-0.22461	0.13309	-1.68767	-0.33856	3.75867	0.07914
2	4.32548	1.25824						

TABLE 135 SUBURBAN KEY 9

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.4072
DEPENDENT VARIABLE IS NOW NO. 11 — MULTIPLE CORR. COEFFICIENT 0.6382

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	28.42595	3.55324	0.9447	
DEVIATION ABOUT REGRESSION...	11	41.37410	3.76128		n.s.
TOTAL...	19	69.80005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.58617	0.54807	1.06952	0.30691	1.38889	0.01990
9	4.70099	1.31842	0.41985	1.08607	0.38730	0.11599	3.26636	0.04680
10	4.17900	1.20975	0.65213	1.27851	0.51007	0.15200	1.75948	0.02521
12	34596.84766	49902.10937	-0.00000	0.00001	-0.42269	-0.12642	1.63372	0.02348
13	2.45000	1.79106	-0.12519	0.29379	-0.42610	-0.12743	3.77217	0.05404
14	1719.75000	4253.21094	0.00002	0.00013	0.18120	0.05455	0.01561	0.00022
15	2.49049	1.00846	-0.12322	0.59647	-0.20653	-0.06216	1.04330	0.01495
16	2.35000	1.72520	-0.86606	0.41661	-2.03272	-0.52255	15.54144	0.22266
11	4.10000	1.91069						

TABLE 136 SUBURBAN KEY 9

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.5396
DEPENDENT VARIABLE IS NOW NO. 8 — MULTIPLE CORR. COEFFICIENT 0.7346

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	51.15816	6.39477	1.6118	
DEVIATION ABOUT REGRESSION...	11	43.64189	3.96744		n.s.
TOTAL...	19	94.80005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	-0.01299	0.56289	-0.02308	-0.00696	2.72222	0.02872
9	4.70099	1.31842	0.04475	1.11338	0.04020	0.01212	18.87872	0.19914
10	4.17900	1.20975	0.33331	1.31308	0.25384	0.07631	1.14005	0.01203
12	34596.84766	49902.10937	-0.00000	0.00001	-0.12520	-0.03772	0.80183	0.00846
13	2.45000	1.79106	0.27000	0.30174	0.89481	0.26048	1.69768	0.01791
14	1719.75000	4253.21094	-0.00027	0.00013	-1.98736	-0.51400	17.76582	0.18740
15	2.49049	1.00846	0.39503	0.61260	0.64485	0.19336	2.76459	0.02916
16	2.35000	1.72520	0.49861	0.42768	1.16532	0.33149	5.38768	0.05683
8	3.60000	2.23371						

TABLE 137 SUBURBAN KEY 9

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.5136
DEPENDENT VARIABLE IS NOW NO. 7 — MULTIPLE CORR. COEFFICIENT 0.7166

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	49.58409	6.19801	1.4516	
DEVIATION ABOUT REGRESSION...	11	46.96596	4.26963		n.s.
TOTAL...	19	96.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.45442	0.58393	0.77821	0.22844	16.05554	0.16629
9	4.70099	1.31842	-0.11140	1.15500	-0.09645	-0.02907	18.86605	0.19561
10	4.17500	1.20975	0.50552	1.36217	0.37112	0.11120	3.83210	0.03969
12	34596.84766	49902.10937	0.00000	0.00001	0.21731	0.06541	0.46492	0.00482
13	2.45000	1.79106	0.24127	0.31302	0.77080	0.22637	4.97506	0.05157
14	1719.75000	4253.21094	-0.00004	0.00014	-0.29787	-0.08945	0.56418	0.00584
15	2.49049	1.00846	0.36823	0.63550	0.57943	0.17210	2.14099	0.02227
16	2.35000	1.72520	0.34988	0.44387	0.78824	0.23122	2.65282	0.02748
7	4.15000	2.25424						

TABLE 138 SUBURBAN KEY 9

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.7246
MULTIPLE CORR. COEFFICIENT 0.8513

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	57.21027	7.15128	3.6184	
DEVIATION ABOUT REGRESSION....	11	21.73993	1.97636		<.05
TOTAL...	19	78.95020			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.80324	0.39728	2.02135	0.52052	14.22222	0.18014
9	4.70099	1.31842	-0.64990	0.78582	-0.82691	-0.24192	12.10045	0.15327
10	4.17900	1.20975	0.77399	0.92676	0.83515	0.24419	3.70632	0.04695
12	34596.94766	49902.10937	0.00000	0.00001	0.11048	0.03329	0.67253	0.00852
13	2.45000	1.79106	0.11663	0.21296	0.54766	0.16292	4.15020	0.05257
14	1719.75000	4253.21094	0.00008	0.00009	0.85833	0.25170	0.06965	0.00088
15	2.49049	1.00846	1.44943	0.43237	3.35229	0.71086	21.27805	0.26951
16	2.35000	1.72520	-0.21602	0.30159	-0.71533	-0.21404	1.01128	0.01281
6	4.45000	2.03845						

TABLE 139 SUBURBAN KEY 9

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.7323
MULTIPLE CORR. COEFFICIENT 0.8557

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	66.05360	8.25670	3.7613	
DEVIATION ABOUT REGRESSION...	11	24.14659	2.19514		<.05
TOTAL...	19	90.20020			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.65952	0.41869	1.57515	0.42957	12.50000	0.13858
9	4.70099	1.31842	-0.90774	0.82817	-1.09605	-0.31379	1.13941	0.01218
10	4.17900	1.20975	1.21702	0.97671	1.24604	0.35173	5.57969	0.06186
12	34596.94766	49902.10937	0.00000	0.00001	0.40704	0.12182	0.00145	0.00002
13	2.45000	1.79106	0.14804	0.22444	0.65961	0.19506	3.31492	0.03675
14	1719.75000	4253.21094	-0.00031	0.00010	-0.08104	-0.02443	2.71878	0.03014
15	2.49049	1.00846	1.46058	0.45567	3.22240	0.69693	22.25534	0.24673
16	2.35000	1.72520	-0.15867	0.31827	-0.49855	-0.14945	0.54568	0.00605
5	4.70000	2.17035						

TABLE 140 SUBURBAN KEY 9

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.8259
MULTIPLE CORR. COEFFICIENT 0.9088

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	58.59439	7.32430	6.5206	
DEVIATION ABOUT REGRESSION...	11	12.35581	1.12325		<.01
TOTAL...	19	70.95020			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.85927	0.29951	3.00251	0.67114	20.05554	0.28267
9	4.70099	1.31842	0.06536	0.59242	0.14412	0.04342	19.14696	0.26987
10	4.17900	1.20975	0.25806	0.61067	0.36936	0.11066	1.67191	0.02366
12	34596.94766	49902.10937	-0.00000	0.00001	-0.02244	-0.01873	1.52378	0.02148
13	2.45000	1.79106	0.01510	0.16565	0.09402	0.02894	0.84303	0.01188
14	1719.75000	4253.21094	0.00001	0.00007	0.23929	0.06905	0.82995	0.01170
15	2.49049	1.00846	1.16547	0.32596	3.57553	0.72316	14.47907	0.20407
16	2.35000	1.72520	-0.04105	0.22767	-0.18313	-0.05514	0.03767	0.00053
4	5.05000	1.03241						

TABLE 141 SUBURBAN KEY 9

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.1757
MULTIPLE CORR. COEFFICIENT 0.4191

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	1.66973	0.20872	0.2930	
DEVIATION ABOUT REGRESSION...	11	7.83453	0.71223		n.s.
TOTAL...	19	9.50426			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.04392	0.23849	0.17159	0.05167	0.37556	0.03951
9	4.70099	1.31842	0.07625	0.47174	0.16165	0.04963	0.90469	0.09519
10	4.17900	1.20975	0.15684	0.55635	0.28191	0.08469	0.00052	0.00006
12	34596.84766	49902.10937	0.00000	0.00000	0.47297	0.14118	0.25709	0.02705
13	2.45000	1.79106	0.00994	0.12784	0.07775	0.02344	0.00815	0.00086
14	1719.75000	4253.21094	-0.00001	0.00006	-0.22699	-0.06828	0.01821	0.00192
15	2.49049	1.00846	-0.08843	0.25956	-0.34069	-0.10216	0.09450	0.00994
16	2.35000	1.72520	-0.02255	0.18129	-0.12441	-0.03749	0.01102	0.00116
3	0.66350	0.70727						

TABLE 142 SUBURBAN KEY 9

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.3952
MULTIPLE CORR. COEFFICIENT 0.6287

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	27.38353	3.42294	0.8985	
DEVIATION ABOUT REGRESSION...	11	41.90578	3.80962		n.s.
TOTAL...	19	69.28931			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	-0.22301	0.55158	-0.41338	-0.12369	0.29901	0.00432
9	4.70099	1.31842	-0.29807	1.09101	-0.27320	-0.08210	12.79133	0.18461
10	4.17900	1.20975	0.71922	1.28669	0.55897	0.16619	2.87709	0.04152
12	34596.84766	49902.10937	0.00000	0.00001	0.01691	0.00510	0.60555	0.00874
13	2.45000	1.79106	-0.06743	0.29567	-0.22814	-0.06860	0.11247	0.00162
14	1719.75000	4253.21094	0.00008	0.00013	0.57738	0.17151	0.00766	0.00011
15	2.49049	1.00846	0.99314	0.60029	1.65443	0.44628	9.68002	0.13970
16	2.35000	1.72520	-0.21596	0.41928	-0.51506	-0.15346	1.01063	0.01459
2	3.60100	1.90966						

TABLE 143 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.5571
MULTIPLE CORR. COEFFICIENT 0.7464

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	38.19005	4.77376	1.7296	
DEVIATION ABOUT REGRESSION...	11	30.35995	2.76000		n.s.
TOTAL...	19	68.55000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.48726	0.46948	1.03786	0.29965	5.55555	0.08104
2	4.70099	1.31842	0.76938	0.92263	0.82851	0.24236	4.72579	0.06894
3	4.17900	1.20975	-0.54383	1.09519	-0.49657	-0.14807	3.42221	0.04992
12	34596.84766	49902.10937	0.00000	0.00001	0.04939	0.01469	0.56313	0.00821
13	2.45000	1.79106	-0.20871	0.25167	-0.82931	-0.24256	6.27781	0.09085
14	1719.75000	4253.21094	-0.00022	0.00011	-1.96433	-0.50961	15.09131	0.22015
15	2.49049	1.00846	0.47611	0.51095	0.93191	0.27043	2.55965	0.03734
16	2.35000	1.72520	0.04546	0.35688	0.12739	0.03838	0.04479	0.00065
11	3.35000	1.89945						

TABLE 144 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 10

COEFFICIENT OF DETERMINATION 0.4950
MULTIPLE CORR. COEFFICIENT 0.7035

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	31.77754	3.97219	1.3476	
DEVIATION ABOUT REGRESSION...	11	32.42247	2.94750		n.s.
TOTAL...	19	64.20001			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.82908	0.48517	1.70886	0.45102	20.05554	0.31239
2	4.70099	1.31842	0.00719	0.95965	0.00749	0.00226	3.91497	1.06098
3	4.17900	1.20975	0.61933	1.13178	0.54722	0.16279	0.76547	0.01192
12	34596.84766	49902.10937	0.00000	0.00001	0.07972	0.02405	0.95684	1.01490
13	2.45000	1.79106	0.02091	0.26008	0.08041	0.02424	0.54064	0.00842
14	1719.75000	4253.21094	-0.00013	0.00012	-1.12041	-0.32005	1.86325	0.02902
15	2.49049	1.00846	-0.55488	0.52302	-1.05087	-0.30205	2.82329	0.04405
16	2.35000	1.72520	0.19837	0.36880	0.53789	0.16009	0.85232	0.01328
10	3.30000	1.83819						

TABLE 145 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 9

COEFFICIENT OF DETERMINATION 0.6754
MULTIPLE CORR. COEFFICIENT 0.8218

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	50.62157	6.32770	2.8610	
DEVIATION ABOUT REGRESSION...	11	24.32845	2.21168		n.s.
TOTAL...	19	74.95001			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	-0.43973	0.42027	-1.04631	-0.30036	0.05556	0.00074
2	4.70099	1.31842	2.34010	0.83128	2.81505	0.64711	19.12374	0.25522
3	4.17900	1.20975	-1.75474	0.98038	-1.78985	-0.47472	8.50205	0.11344
12	34596.84766	49902.10937	0.00001	0.00001	0.66803	0.20313	0.04829	0.00064
13	2.45000	1.79106	-0.62923	0.22529	-2.79301	-0.64415	11.40330	0.15215
14	1719.75000	4253.21094	0.00022	0.00010	2.22522	0.55715	8.36686	0.11163
15	2.49049	1.00846	0.44787	0.45739	0.97920	0.23316	1.65051	0.02202
16	2.35000	1.72520	-0.26011	0.31947	-0.81419	-0.23361	1.46623	0.01956
9	3.55000	1.98614						

TABLE 146 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.6681
MULTIPLE CORR. COEFFICIENT 0.8174

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	43.12761	5.39095	2.7681	
DEVIATION ABOUT REGRESSION...	11	21.42244	1.94749		n.s.
TOTAL...	19	64.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	-0.71273	0.39437	-1.80727	-0.47849	4.50000	0.06971
2	4.70099	1.31842	1.05278	0.73006	1.44262	0.37692	17.02431	0.26382
3	4.17900	1.20975	-0.34468	0.91997	-0.37467	-0.11225	0.41110	0.00637
12	34596.84766	49902.10937	-0.00000	0.00001	-0.17929	-0.05393	1.40141	0.02311
13	2.45000	1.79106	-0.65060	0.21140	-3.07752	-0.68019	13.92952	0.21579
14	1719.75000	4253.21094	0.00014	0.00009	1.54151	0.42143	3.02415	0.04683
15	2.49049	1.00846	0.50825	0.42920	1.18418	0.33626	2.61127	0.04045
16	2.35000	1.72520	-0.07752	0.29978	-0.25993	-0.07613	0.13160	0.00204
8	3.65000	1.84319						

TABLE 147 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.4104
MULTIPLE CORR. COEFFICIENT 0.6407

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	37.65614	4.70727	0.9573	
DEVIATION ABOUT REGRESSION...	11	54.09186	4.91744		n.s.
TOTAL...	19	91.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.26242	0.62666	0.41876	0.12647	2.72222	0.02967
2	4.70099	1.31842	1.07292	1.23953	1.34956	0.37801	10.61614	0.11571
3	4.17900	1.20975	-0.68240	1.46185	-0.46680	-0.13737	1.23582	0.01347
12	34596.84706	49902.10937	-0.00000	0.00001	-0.33330	-0.10035	1.79965	0.01961
13	2.45000	1.79106	-0.53555	0.33593	-1.59425	-0.43323	14.72435	0.16048
14	1719.75000	4253.21094	0.00011	0.00015	0.73419	0.21614	3.70960	0.04042
15	2.49049	1.00846	-0.36897	0.68201	-0.54086	-0.16095	1.87276	0.02041
16	2.35000	1.72520	-0.21251	0.47636	-0.44611	-0.13331	0.97863	0.01067
7	3.75000	2.19749						

TABLE 148 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.4761
MULTIPLE CORR. COEFFICIENT 0.6900

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	31.42429	3.92804	1.2497	
DEVIATION ABOUT REGRESSION...	11	34.57571	3.14325		n.s.
TOTAL...	19	66.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.02409	0.50102	0.04808	0.01449	0.00000	0.00000
2	4.70099	1.31842	0.77907	0.95101	0.73694	0.22206	6.93993	0.10515
3	4.17900	1.20975	0.07748	1.16876	0.06633	0.01993	1.66687	0.02526
12	34596.34706	49902.10937	-0.00001	0.00001	-1.15644	-0.33351	1.65290	0.02504
13	2.45000	1.79106	-0.12999	0.26857	-0.48379	-0.14440	6.46943	0.09802
14	1719.75000	4253.21094	-0.00021	0.00012	-1.78136	-0.47317	12.74970	0.19316
15	2.49049	1.00846	0.03426	0.54527	0.06283	0.01894	0.00560	0.00008
16	2.35000	1.72520	-0.25787	0.39065	-0.67710	-0.20093	1.44107	0.02183
6	4.00000	1.86375						

TABLE 149 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.2563
MULTIPLE CORR. COEFFICIENT 0.5063

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	17.56927	2.19616	0.4736	
DEVIATION ABOUT REGRESSION...	11	50.98077	4.63461		n.s.
TOTAL...	19	68.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.27520	0.60836	0.45235	0.13514	0.0	0.0
2	4.70099	1.31842	0.39290	1.20776	0.32651	0.09797	2.15280	0.03140
3	4.17900	1.20975	0.41330	1.41917	0.29122	0.08747	0.40359	0.00589
12	34596.84706	49902.10937	-0.00001	0.00001	-0.85302	-0.19318	2.07023	0.03020
13	2.45000	1.79106	-0.20538	0.32612	-0.62977	-0.18655	6.42675	0.09375
14	1719.75000	4253.21094	-0.00006	0.00014	-0.44226	-0.13218	1.64255	0.02396
15	2.49049	1.00846	-0.06511	0.66211	-0.09833	-0.02963	0.30069	0.00439
16	2.35000	1.72520	-0.45936	0.46246	-0.99330	-0.29690	4.57268	0.06671
5	3.65000	1.83945						

TABLE 150 SUBURBAN KEY 10

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.3149
MULTIPLE CORR. COEFFICIENT 0.5612

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	22.92648	2.86581	0.6321	
DEVIATION ABOUT REGRESSION...	11	49.87357	4.53396		n.s.
TOTAL...	19	72.80005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.57398	0.60173	0.95387	0.27640	2.72222	0.03739
2	4.70099	1.31842	1.32682	1.19022	1.11477	0.31860	1.28225	0.01761
3	4.17900	1.20975	-0.75348	1.40370	-0.53678	-0.15977	6.21891	0.08542
12	34596.84766	49902.10937	-0.00001	0.00001	-0.57367	-0.17044	3.01792	0.04145
13	2.45000	1.79106	-0.18862	0.32256	-0.58477	-0.17364	2.98926	0.04106
14	1719.75000	4253.21094	0.00007	0.00014	0.46470	0.13976	0.71755	0.00986
15	2.49049	1.00846	-0.16030	0.65488	-0.24477	-0.07360	0.78095	0.01073
16	2.35000	1.72520	-0.48973	0.45741	-1.07066	-0.30721	5.19746	0.07139
4	3.60000	1.95744						

TABLE 151 SUBURBAN KEY 11

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 9

COEFFICIENT OF DETERMINATION 0.6862
MULTIPLE CORR. COEFFICIENT 0.8283

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.49207	2.31151	3.0062	
DEVIATION ABOUT REGRESSION...	11	8.45795	0.76890		<.05
TOTAL...	19	26.95001			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97335	0.44296	0.24730	1.78756	0.47445	5.55555	0.20614
2	4.70099	1.31842	0.05780	0.49014	0.11804	0.03557	7.48764	0.27783
3	4.17900	1.20975	0.24940	0.57806	0.43144	0.12900	0.57913	0.02149
10	34596.84766	49902.10937	-0.00000	0.00001	-0.18193	-0.05477	0.44565	0.01654
11	2.45000	1.79106	0.02463	0.13283	0.18539	0.05581	0.55974	0.02077
12	1719.75000	4253.21094	0.00005	0.00006	0.88906	0.25392	0.02947	0.00109
13	2.49049	1.00846	0.59804	0.26969	2.21756	0.55583	3.55461	0.13190
14	2.35000	1.72520	-0.11377	0.19836	-0.60400	-0.17917	0.28050	0.01041
9	3.55000	1.19097						

TABLE 152 SUBURBAN KEY 11

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.4879
MULTIPLE CORR. COEFFICIENT 0.6985

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	21.73544	2.71693	1.3100	
DEVIATION ABOUT REGRESSION...	11	22.81456	2.07405		n.s.
TOTAL...	19	44.55000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.44566	0.46668	1.09504	0.31352	5.55555	0.12470
2	4.70099	1.31842	0.84565	0.80590	1.05049	0.30195	7.70965	0.17303
3	4.17900	1.20975	-0.16409	0.94939	-0.17283	-0.05204	2.10266	0.04720
10	34596.84766	49902.10937	0.00000	0.00001	0.36853	0.11044	0.09378	0.00211
11	2.45000	1.79106	-0.22469	0.21816	-1.03061	-0.29674	3.84411	0.08629
12	1719.75000	4253.21094	0.00001	0.00010	0.09102	0.02743	0.04486	0.00101
13	2.49049	1.00846	0.11550	0.44293	0.26076	0.07838	0.01953	0.00044
14	2.35000	1.72520	-0.33045	0.30937	-1.06816	-0.30656	2.36646	0.05312
8	3.15000	1.53125						

TABLE 153 SUBURBAN KEY 11

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.4288
DEPENDENT VARIABLE IS NOW NO. 7 — MULTIPLE CORR. COEFFICIENT 0.6548

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	16.52960	2.06620	1.0321	
DEVIATION ABOUT REGRESSION...	11	22.02045	2.00186		n.s.
TOTAL...	19	38.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.51971	0.39994	1.29980	0.36469	4.50070	0.11673
2	4.70099	1.31842	-0.00402	0.79087	-0.00508	-0.00153	4.88942	0.12683
3	4.17900	1.20975	0.54172	0.93272	0.58079	0.17249	0.05061	0.00131
10	34596.84766	49902.10937	0.00000	0.00001	0.32461	0.00742	0.00150	0.00004
11	2.45000	1.79106	-0.17608	0.21433	-0.82151	-0.24143	2.83456	0.07353
12	1719.75000	4253.21094	-0.00005	0.00010	-0.55035	-0.16570	1.85441	0.04810
13	2.49049	1.00846	0.37473	0.43515	0.86116	0.25152	1.11555	0.02894
14	2.35000	1.72520	-0.24338	0.30393	-0.80078	-0.23570	1.28367	0.03330
7	3.85000	1.52441						

TABLE 154 SUBURBAN KEY 11

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.4647
DEPENDENT VARIABLE IS NOW NO. 6 — MULTIPLE CORR. COEFFICIENT 0.6817

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.84430	2.35554	1.1937	
DEVIATION ABOUT REGRESSION...	11	21.70575	1.97325		n.s.
TOTAL...	19	40.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.51124	0.39697	1.28786	0.36198	6.72222	0.16578
2	4.70099	1.31842	0.40285	0.78520	0.51315	0.15237	0.32801	0.20538
3	4.17900	1.20975	0.25604	0.92603	0.27649	0.08136	0.19510	0.00481
10	34596.84766	49902.10937	0.00000	0.00001	0.20950	0.06304	0.03244	0.00080
11	2.45000	1.79106	-0.11561	0.21280	-0.54330	-0.16166	1.36177	0.03358
12	1719.75000	4253.21094	-0.00002	0.00009	-0.20883	-0.06284	0.49215	0.01214
13	2.49049	1.00846	0.21072	0.43203	0.48776	0.14550	0.25485	0.00628
14	2.35000	1.72520	-0.25938	0.30176	-0.85956	-0.25098	1.45794	0.03595
6	3.85000	1.46089						

TABLE 155 SUBURBAN KEY 11

SAMPLE SIZE 20 — COEFFICIENT OF DETERMINATION 0.4344
DEPENDENT VARIABLE IS NOW NO. 5 — MULTIPLE CORR. COEFFICIENT 0.6591

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.48405	2.31051	1.0561	
DEVIATION ABOUT REGRESSION...	11	24.06599	2.18782		n.s.
TOTAL...	19	42.55005			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	0.97333	0.24615	0.41799	0.58889	0.17462	3.55556	0.08356
2	4.70099	1.31842	0.53540	0.82479	0.64757	0.19163	10.98117	0.25808
3	4.17900	1.20975	0.09968	0.97508	0.10223	0.03061	0.35465	0.00833
10	34596.84766	49902.10937	0.00000	0.00001	0.34669	0.10337	0.33742	0.00793
11	2.45000	1.79106	-0.10039	0.22407	-0.44805	-0.13368	1.17588	0.02764
12	1719.75000	4253.21094	-0.00005	0.00010	-0.50631	-0.15108	1.23807	0.02910
13	2.49049	1.00846	0.22204	0.45491	0.48810	0.14560	0.39183	0.00921
14	2.35000	1.72520	-0.14405	0.31774	-0.45336	-0.13543	0.44969	0.01057
5	3.85000	1.49649						

TABLE 156 SUBURBAN KEY 11

SAMPLE SIZE 20
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.6427
MULTIPLE CORR. COEFFICIENT 0.8017

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	40.46025	5.05753	2.4737	
DEVIATION ABOUT REGRESSION...	11	22.48976	2.04452		n.s.
TOTAL...	19	62.95001			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.00000	C.97333	0.58433	0.40407	1.44610	0.39968	10.82989	0.17298
2	4.70099	1.31842	-0.12911	0.75925	-0.16154	-0.04965	2.55913	0.04065
3	4.17900	1.20975	0.50870	0.94261	0.53967	0.16361	0.00620	0.00010
10	34596.84766	49902.10937	0.00000	0.00001	0.16495	0.04967	3.39498	0.05393
11	2.45000	1.79106	0.14094	0.21661	0.65067	0.19252	0.43234	0.00687
12	1719.75000	4253.21094	-0.00032	0.00010	-3.31851	-0.70731	19.84012	0.31517
13	2.49049	1.00846	-0.34407	0.43976	-0.78241	-0.22960	0.77646	0.01237
14	2.35000	1.72520	0.34373	0.30716	1.11905	0.31979	2.56035	0.04067
4	2.95000	1.82021						

TABLE 157 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 13

COEFFICIENT OF DETERMINATION 0.1979
MULTIPLE CORR. COEFFICIENT 0.4449

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	5.51418	0.68927	0.6169	
DEVIATION ABOUT REGRESSION...	20	22.34811	1.11740		n.s.
TOTAL...	28	27.86230			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.08924	0.28343	-0.31487	-0.07023	0.53436	0.01917
2	4.97689	0.79248	0.26653	0.27674	0.96310	0.21053	2.09756	0.07530
3	4.02758	1.55818	0.03952	0.15017	0.26319	0.05875	0.02682	0.00024
14	25426.13672	37206.60156	0.00000	0.00001	0.81566	0.17943	1.19499	0.04289
15	3.37931	1.32055	-0.10107	0.17401	-0.58086	-0.12880	0.10695	0.00382
16	574.17236	1537.29199	0.00004	0.00015	0.26714	0.05963	0.22724	0.00816
17	2.27241	0.91988	0.24890	0.25630	0.96927	0.21182	0.68685	0.02465
18	2.27586	1.83023	-0.10194	0.13267	-0.76838	-0.16935	0.65972	0.02368
13	3.93103	0.99754						

TABLE 158 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 12

COEFFICIENT OF DETERMINATION 0.2190
MULTIPLE CORR. COEFFICIENT 0.4679

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	19.66122	2.45765	0.7009	
DEVIATION ABOUT REGRESSION...	20	70.13188	3.50659		n.s.
TOTAL...	28	89.79311			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	C.78471	0.05749	0.50210	0.11451	0.02560	0.20110	0.00224
2	4.97689	0.79248	-0.47178	0.49024	-0.96235	-0.21037	1.93518	0.02155
3	4.02758	1.55818	0.42319	0.26603	1.59075	0.33513	6.47239	0.07208
14	25426.13672	37206.60156	0.00001	0.00001	0.62587	0.13963	1.76449	0.01965
15	3.37931	1.32055	0.25165	0.30825	0.81636	0.17958	0.33520	0.00373
16	574.17236	1537.29199	-0.00039	0.00026	-1.50361	-0.31968	8.67109	0.09657
17	2.27241	C.91988	-0.08322	0.45491	-0.18294	-0.04037	0.04577	0.00051
18	2.27586	1.83023	0.06098	0.23502	0.25947	0.05792	0.23608	0.00263
12	2.72414	1.79078						

TABLE 159 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.4275
MULTIPLE CORR. COEFFICIENT 0.6539

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	30.69312	3.83664	1.8675	
DEVIATION ABOUT REGRESSION...	20	41.10010	2.05500		<.01
TOTAL...	28	71.79321			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.01205	0.38437	-0.03134	-0.00701	1.37110	0.01910
2	4.97689	0.79248	-0.59082	0.37530	-1.57428	-0.33205	3.11159	0.04334
3	4.02758	1.55818	0.57631	0.20365	2.82985	0.53472	10.80047	0.15044
14	25426.13672	37206.60156	0.00001	0.00001	1.27084	0.27335	4.73112	0.06590
15	3.37931	1.32055	0.49599	0.23598	2.10186	0.42535	8.59348	0.11970
16	574.17236	1537.29199	-0.00003	0.00020	-0.17337	-0.03374	0.14683	0.00207
17	2.27241	0.91988	-0.04985	0.34835	-0.14315	-0.03199	0.34338	0.00478
18	2.27586	1.83023	-0.15842	0.17592	-0.88050	-0.19318	1.59321	0.02219
11	3.27586	1.60126						

TABLE 160 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 10

COEFFICIENT OF DETERMINATION 0.2279
MULTIPLE CORR. COEFFICIENT 0.4774

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	13.18959	1.64870	0.7381	
DEVIATION ABOUT REGRESSION...	20	44.67271	2.23363		n.s.
TOTAL...	28	57.86230			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.05136	0.40073	0.12816	0.02864	0.22407	0.00387
2	4.97689	0.79248	0.04816	0.39127	0.12308	0.02751	0.01172	0.00020
3	4.02758	1.55818	0.13316	0.21232	0.62718	0.13883	1.05942	0.01831
14	25426.13672	37206.60156	0.00001	0.00001	1.52380	0.32343	3.97834	0.06876
15	3.37931	1.32055	0.29866	0.24602	1.21398	0.26197	5.56047	0.09610
16	574.17236	1537.29199	0.00009	0.00021	0.43441	0.09668	0.45135	0.00780
17	2.27241	0.91988	-0.08716	0.36307	-0.24006	-0.05360	0.00106	0.00002
18	2.27586	1.83023	0.17314	0.18757	0.92307	0.20214	1.90317	0.03289
10	3.93103	1.43754						

TABLE 161 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 9

COEFFICIENT OF DETERMINATION 0.2945
MULTIPLE CORR. COEFFICIENT 0.5427

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	19.09164	2.38646	1.0436	
DEVIATION ABOUT REGRESSION...	20	45.73599	2.28680		n.s.
TOTAL...	28	64.82764			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.00132	0.40547	0.00327	0.00073	0.00559	0.00009
2	4.97689	0.79248	-0.46721	0.39599	-1.18012	-0.25515	2.32526	0.03587
3	4.02758	1.55818	0.37875	0.21483	1.76301	0.36675	8.04981	0.12416
14	25426.13672	37206.60156	0.00001	0.00001	1.45935	0.31023	4.47818	0.06908
15	3.37931	1.32055	0.13687	0.24893	0.54984	0.12203	1.97640	0.03049
16	574.17236	1537.29199	0.00000	0.00021	0.01538	0.00334	0.07670	0.00118
17	2.27241	0.91988	0.19708	0.36736	0.53646	0.11913	1.27018	0.01959
18	2.27586	1.83023	0.11976	0.18979	0.63102	0.13972	0.91058	0.01405
9	3.62069	1.52160						

TABLE 162 RURAL KEY 3

SAMPLE SIZE 29 — COEFFICIENT OF DETERMINATION 0.3301
DEPENDENT VARIABLE IS NOW NO. 8 — MULTIPLE CORR. COEFFICIENT 0.5746

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	16.02733	2.00342	1.2319	
DEVIATION ABOUT REGRESSION...	20	32.52443	1.62622		n.s.
TOTAL...	28	48.55176			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.55393	0.34193	-1.62004	-0.34059	8.59371	0.17700
2	4.97689	0.79248	-0.42634	0.33385	-1.27733	-0.27458	0.82806	0.01706
3	4.02758	1.55818	0.28812	0.18117	1.59038	0.33506	1.74357	0.03591
14	25426.13672	37206.60156	0.00000	0.00001	0.11687	0.02612	0.24363	0.00502
15	3.37931	1.32055	0.16713	0.20992	0.79614	0.17527	1.91996	0.03954
16	574.17236	1537.29199	-0.00004	0.00018	-0.24180	-0.05399	0.00116	0.00002
17	2.27241	0.91988	0.36421	0.30979	1.17566	0.25425	1.55876	0.03211
18	2.27586	1.83023	-0.13392	0.16005	-0.83673	-0.18391	1.13855	0.02345
8	3.65517	1.31681						

TABLE 163 RURAL KEY 3

SAMPLE SIZE 29 — COEFFICIENT OF DETERMINATION 0.6671
DEPENDENT VARIABLE IS NOW NO. 7 — MULTIPLE CORR. COEFFICIENT 0.8168

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	27.32582	3.41623	5.0107	
DEVIATION ABOUT REGRESSION...	20	13.63576	0.68179		n.s.
TOTAL...	28	40.96558			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.95807	0.22140	-4.32741	-0.69539	13.90350	0.33939
2	4.97689	0.79248	-0.34093	0.21617	-1.57714	-0.33259	0.44402	0.01084
3	4.02758	1.55818	0.31689	0.11730	2.70147	0.51706	3.93502	0.09606
14	25426.13672	37206.60156	0.00000	0.00000	0.27179	0.06066	0.03366	0.00082
15	3.37931	1.32055	0.19016	0.13592	1.39930	0.29857	3.85924	0.09421
16	574.17236	1537.29199	-0.00005	0.00011	-0.45154	-0.10046	0.00856	0.00021
17	2.27241	0.91988	0.43493	0.20059	2.16827	0.43627	4.45701	0.10880
18	2.27586	1.83023	0.10417	0.10363	1.00523	0.21930	0.68893	0.01682
7	4.03448	1.20957						

TABLE 164 RURAL KEY 3

SAMPLE SIZE 29 — COEFFICIENT OF DETERMINATION 0.2835
DEPENDENT VARIABLE IS NOW NO. 6 — MULTIPLE CORR. COEFFICIENT 0.5324

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	12.66773	1.58347	0.9890	
DEVIATION ABOUT REGRESSION...	20	32.02196	1.60110		<.01
TOTAL...	28	44.68970			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.17983	0.33928	-0.53005	-0.11770	0.68765	0.01543
2	4.97689	0.79248	-0.30251	0.33127	-0.91320	-0.20007	1.03799	0.02323
3	4.02758	1.55818	-0.06026	0.17976	-0.33521	-0.07475	1.66897	0.03735
14	25426.13672	37206.60156	0.00000	0.00001	0.37123	0.08275	0.30400	0.00680
15	3.37931	1.32055	0.25154	0.20829	1.20763	0.26370	5.68354	0.12718
16	574.17236	1537.29199	0.00002	0.00018	0.13266	0.02965	0.31349	0.00701
17	2.27241	0.91988	0.39730	0.30739	1.29249	0.27765	2.66665	0.06658
18	2.27586	1.83023	0.00740	0.15881	0.04658	0.01041	0.00347	0.00008
6	4.10345	1.26335						

TABLE 165 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.1688
MULTIPLE CORR. COEFFICIENT 0.4108

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	18.43591	2.30449	0.5076	
DEVIATION ABOUT REGRESSION...	20	90.80554	4.54028		n.s.
TOTAL...	28	109.24146			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.43553	0.57133	0.76231	0.16803	4.05339	0.04534
2	4.97689	0.79248	-0.12820	0.55784	-0.22982	-0.05132	0.56748	0.00519
3	4.02758	1.55818	0.24425	0.36271	0.30639	0.17756	7.40407	0.06778
14	25426.13672	37206.60156	0.00001	0.00001	0.54581	0.12115	3.49345	0.00452
15	3.37931	1.32055	0.04443	0.35076	0.12666	0.02831	0.67770	0.00620
16	574.17236	1537.29199	0.00016	0.00030	0.54991	0.12294	1.38412	0.01267
17	2.27241	0.91988	-0.14202	0.51763	-0.27437	-0.06124	0.01075	0.00010
18	2.27586	1.83023	0.71538	0.26743	0.80536	0.17724	2.94501	0.02696
5	3.48276	1.97522						

TABLE 166 RURAL KEY 3

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.3256
MULTIPLE CORR. COEFFICIENT 0.5706

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	47.75610	5.96951	1.2068	
DEVIATION ABOUT REGRESSION...	20	98.93359	4.94668		n.s.
TOTAL...	28	146.68970			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.48881	0.59635	0.81967	0.18028	4.24165	0.02892
2	4.97689	0.79248	-0.42913	0.58227	-0.73599	-0.16260	0.30389	0.00207
3	4.02758	1.55818	0.81530	0.31597	2.58032	0.49976	26.63205	0.18155
14	25426.13672	37206.60156	0.00001	0.00001	0.47213	0.10499	1.75088	0.01194
15	3.37931	1.32055	0.41879	0.36612	1.14336	0.24783	2.37326	0.01618
16	574.17236	1537.29199	-0.00048	0.00031	-1.54639	-0.32680	12.38806	0.08445
17	2.27241	0.91988	-0.01141	0.54031	-0.02111	-0.00472	0.00071	0.00000
18	2.27586	1.83023	0.03218	0.27914	0.11528	0.02577	0.06575	0.00045
4	3.10345	2.28837						

TABLE 167 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 15

COEFFICIENT OF DETERMINATION 0.2694
MULTIPLE CORR. COEFFICIENT 0.5190

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	42.74370	5.34296	0.9216	
DEVIATION ABOUT REGRESSION...	20	115.94600	5.79730		n.s.
TOTAL...	28	158.68970			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.73844	0.64559	-1.14332	-0.24779	4.13065	0.02609
9	4.97689	0.79249	0.07868	0.63035	0.12482	0.02790	2.15967	0.01361
10	4.02758	1.55818	0.07225	0.34206	0.21121	0.04718	5.07243	0.03196
16	25426.13672	37206.60156	0.00001	0.00001	0.87061	0.19109	1.16968	0.00737
17	3.37931	1.32055	0.27576	0.39635	0.69574	0.15372	0.90017	0.00567
18	574.17236	1537.29199	0.00014	0.00033	0.42592	0.09479	0.01096	0.00007
19	2.27241	0.91988	-1.21173	0.58492	-2.07102	-0.42032	17.56140	0.11067
20	2.27586	1.83023	0.42985	0.30219	1.42244	0.30310	11.72990	0.07392
15	4.10345	2.38065						

TABLE 168 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 14
COEFFICIENT OF DETERMINATION 0.4287
MULTIPLE CORR. COEFFICIENT 0.6548

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	20.49017	2.56127	1.8762	
DEVIATION ABOUT REGRESSION....	20	27.30304	1.36515		n.s.
TOTAL...	28	47.79321			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.62433	0.31378	-2.63129	-0.50711	12.81108	0.26805
9	4.97689	0.79248	0.01687	0.30589	0.05514	0.01233	0.46372	0.00970
10	4.02758	1.55818	0.22412	0.16599	1.35023	0.28903	2.16688	0.04534
16	25426.13672	37206.60156	0.00001	0.00001	1.12616	0.24419	2.13130	0.04459
17	3.37931	1.32055	-0.03033	0.19273	-0.15611	-0.03489	0.16165	0.00338
18	574.17236	1537.29199	0.00001	0.00016	0.06715	0.01499	0.19344	0.00405
19	2.27241	0.91988	0.38030	0.28384	1.33933	0.28699	2.54729	0.05330
20	2.27586	1.83023	-0.01534	0.14664	-0.10460	-0.02338	0.01494	0.00031
14	4.27586	1.30648						

TABLE 169 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 13
COEFFICIENT OF DETERMINATION 0.4527
MULTIPLE CORR. COEFFICIENT 0.6728

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	33.18736	4.14842	2.0678	
DEVIATION ABOUT REGRESSION...	20	40.12318	2.00616		n.s.
TOTAL ...	28	73.31055			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-1.29095	0.37977	-3.39926	-0.60514	29.67828	0.40483
9	4.97689	0.79248	0.12951	0.37081	0.34927	0.07786	0.04321	0.00066
10	4.02758	1.55818	-0.02039	0.20122	-0.10133	-0.02265	0.14527	0.00198
16	25426.13672	37206.60156	0.00001	0.00001	0.95957	0.20979	1.65082	0.02252
17	3.37931	1.32055	-0.15250	0.23316	-0.65405	-0.14471	0.89337	0.01219
18	574.17236	1537.29199	0.00011	0.00020	0.53639	0.11909	0.41757	0.00570
19	2.27241	0.91988	-0.14320	0.34408	-0.41617	-0.09266	0.34618	0.00472
20	2.27586	1.83023	0.01114	0.17777	0.06268	0.01401	0.00786	0.00011
13	3.75862	1.61810						

TABLE 170 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 12
COEFFICIENT OF DETERMINATION 0.4485
MULTIPLE CORR. COEFFICIENT 0.6697

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	27.56107	3.44513	2.0933	
DEVIATION ABOUT REGRESSION...	20	33.88742	1.69437		n.s.
TOTAL...	28	61.44849			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.67582	0.34502	-1.95835	-0.39734	2.04027	0.03320
9	4.97689	0.79248	0.42402	0.34078	1.24426	0.26304	2.58460	0.04206
10	4.02758	1.55818	0.06561	0.18492	0.35478	0.07903	0.33034	0.00489
16	25426.13672	37206.60156	0.00002	0.00001	2.43465	0.48566	8.08289	0.13154
17	3.37931	1.32055	0.15523	0.21427	0.72444	0.15999	1.87129	0.03045
18	574.17236	1537.29199	-0.00018	0.00018	-1.00189	-0.21661	0.93033	0.01514
19	2.27241	0.91988	0.18158	0.31622	0.57423	0.12736	2.76512	0.04500
20	2.27586	1.83023	0.37623	0.16327	2.30296	0.45782	8.93631	0.14624
12	4.13793	1.48141						

TABLE 171 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO 11

COEFFICIENT OF DETERMINATION 0.4418
MULTIPLE CORR. COEFFICIENT 0.6647

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	27.39301	3.42413	1.9789	
DEVIATION ABOUT REGRESSION...	20	34.60699	1.73035		n.s.
TOTAL...	28	62.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.44778	0.35270	-1.26955	-0.27309	1.45000	0.02339
9	4.97689	0.79248	0.46358	0.34430	1.34515	0.28823	6.79585	0.10961
10	4.02758	1.55818	0.23989	0.18688	1.27336	0.27484	0.55830	0.00900
16	25426.13672	37206.60156	0.00001	0.00001	1.52029	0.32186	4.38744	0.07077
17	3.37931	1.32055	0.32942	0.21654	1.51671	0.32118	5.18133	0.08357
18	574.17236	1537.29199	-0.00030	0.00018	-1.62705	-0.34190	2.89769	0.04674
19	2.27241	0.91988	0.43003	0.31956	1.34572	0.28815	4.78198	0.07713
20	2.27586	1.83023	0.14531	0.16509	0.98017	0.19311	1.34051	0.02162
11	4.00000	1.48805						

TABLE 172 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.4256
MULTIPLE CORR. COEFFICIENT 0.6523

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	52.24039	6.53005	1.8520	
DEVIATION ABOUT REGRESSION...	20	70.51840	3.52592		n.s.
TOTAL...	28	122.75879			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.16982	0.50349	-0.33729	-0.07521	0.48062	0.00717
9	4.97689	0.79248	-1.31511	0.49159	-2.67520	-0.51336	25.82285	0.21036
10	4.02758	1.55818	0.49493	0.26676	1.85535	0.38320	14.74513	0.12011
16	25426.13672	37206.60156	0.00001	0.00001	1.23977	0.26715	4.71856	0.03844
17	3.37931	1.32055	0.20705	0.30910	0.66985	0.14813	3.88115	0.03162
18	574.17236	1537.29199	0.00008	0.00026	0.31924	0.07120	0.62417	0.00508
19	2.27241	0.91988	0.11533	0.45616	0.25283	0.05644	0.61290	0.00499
20	2.27586	1.83023	0.12260	0.23567	0.52023	0.11555	0.95426	0.00777
8	3.20690	2.09386						

TABLE 173 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.1700
MULTIPLE CORR. COEFFICIENT 0.4123

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	22.26738	2.78342	0.5121	
DEVIATION ABOUT REGRESSION...	20	108.69820	5.43491		n.s.
TOTAL...	28	130.96558			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	-0.39255	0.62509	-0.62799	-0.13906	0.71751	0.00548
9	4.97689	0.79248	-0.10418	0.61033	-0.30177	-0.06732	1.59906	0.01221
10	4.02758	1.55818	0.13284	0.33119	0.40110	0.08933	4.46922	0.03413
16	25426.13672	37206.60156	0.00002	0.00001	1.37967	0.29486	7.04478	0.05379
17	3.37931	1.32055	-0.06747	0.38376	-0.17582	-0.03928	0.08645	0.00066
18	574.17236	1537.29199	0.00014	0.00032	0.44763	0.09960	1.37494	0.01050
19	2.27241	0.91988	-0.07014	0.56534	-0.12485	-0.02768	0.21651	0.00165
20	2.27586	1.83023	0.32629	0.29259	1.11518	0.24195	6.75897	0.05161
7	3.96552	2.16272						

TABLE 174 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.5751
MULTIPLE CORR. COEFFICIENT 0.7583

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	66.63164	8.32395	3.3836	
DEVIATION ABOUT REGRESSION...	20	49.23067	2.46153		< .01
TOTAL...	28	115.86230			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	C.78471	-0.16598	0.42067	-0.39455	-0.08783	3.68006	0.03176
9	4.97689	C.79248	-0.31962	0.41074	-0.77814	-0.17142	0.40661	0.00351
10	4.02758	1.55818	0.78985	0.22289	3.54369	0.62106	50.73574	0.43789
16	25426.13672	37206.60156	0.00001	0.00001	1.00576	0.21941	2.77817	0.02398
17	3.37931	1.32055	-0.26222	0.25827	-1.01532	-0.22140	2.12720	0.01836
18	574.17236	1537.29199	0.00030	0.00022	1.39610	0.29800	3.90670	0.03372
19	2.27241	C.91988	-0.19306	0.38114	-0.50655	-0.11255	1.43337	0.01237
20	2.27586	1.83023	-0.15699	0.19691	-0.79725	-0.17550	1.56455	0.01350
6	4.06896	2.03419						

TABLE 175 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.8210
MULTIPLE CORR. COEFFICIENT 0.9061

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	91.16090	11.39511	11.4675	
DEVIATION ABOUT REGRESSION...	20	19.87376	0.99369		<.001
TOTAL...	28	111.03467			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	C.78471	0.00972	0.26728	0.03636	0.00913	0.00248	0.00002
9	4.97689	0.79248	-0.51248	0.26097	-1.96372	-0.40206	1.17033	0.01054
10	4.02758	1.55818	1.09042	0.14162	7.69989	0.86473	86.80298	0.78176
16	25426.13672	37206.60156	0.00001	0.00001	1.02202	0.22279	0.67552	0.00608
17	3.37931	1.32055	-0.05030	0.16409	-0.30654	-0.06838	0.50463	0.00454
18	574.17236	1537.29199	-0.00007	0.00014	-0.53614	-0.11903	0.48890	0.00440
19	2.27241	0.91988	-0.22687	0.24216	-0.93666	-0.20534	0.44736	0.00403
20	2.27586	1.83023	0.12977	0.12511	1.03726	0.22594	1.06913	0.00963
5	5.41379	1.99136						

TABLE 176 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.5550
MULTIPLE CORR. COEFFICIENT 0.7450

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	88.73116	11.09139	3.1186	
DEVIATION ABOUT REGRESSION...	20	71.13115	3.55656		<.05
TOTAL...	28	159.86230			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	C.78471	-0.31155	0.50566	-0.61612	-0.13643	5.84005	0.03653
9	4.97689	0.79248	-0.51117	0.49372	-1.03535	-0.22555	1.58343	0.00990
10	4.02758	1.55818	0.94193	0.26792	3.51576	0.61304	66.46413	0.41576
16	25426.13672	37206.60156	0.00001	0.00001	0.76500	0.16861	2.71252	0.01697
17	3.37931	1.32055	-0.26140	0.31044	-0.84203	-0.18503	6.05563	0.03788
18	574.17236	1537.29199	0.00005	0.00026	0.20593	0.04600	0.00493	0.00003
19	2.27241	C.91988	-0.39525	0.45614	-0.86273	-0.18942	4.34214	0.02716
20	2.27586	1.83023	-0.16502	0.23669	-0.69718	-0.15403	1.72867	0.01081
4	4.93103	2.38943						

TABLE 177 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.3008
MULTIPLE CORR. COEFFICIENT 0.5484

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	2.54710	0.31839	1.0754	
DEVIATION ABOUT REGRESSION...	20	5.92117	0.29606		n.s.
TOTAL...	28	8.46826			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COEF.	COMPUTED T VALUE	PARTIAL CORR. COEF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.12134	0.14589	0.83172	0.18284	0.22486	0.02655
9	4.97689	0.79248	0.14631	0.14245	1.02711	0.22394	1.03218	0.12189
10	4.02758	1.55816	0.14292	0.07750	1.84896	0.38267	0.55562	0.06573
16	25426.13672	37206.60156	-0.00000	0.00000	-0.45022	-0.10017	0.01170	0.00221
17	3.37931	1.32055	0.07551	0.08957	0.84303	0.18524	0.23836	0.02815
18	574.17236	1537.29199	-0.00007	0.00008	-0.94715	-0.20719	0.16504	0.01996
19	2.27241	0.91988	0.13434	0.13213	1.01637	0.22162	0.26981	0.03186
20	2.27586	1.83023	-0.02432	0.06829	-0.35607	-0.07927	0.03754	0.00443
3	0.53793	0.54994						

TABLE 178 RURAL KEY 2

SAMPLE SIZE 29
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.3950
MULTIPLE CORR. COEFFICIENT 0.6285

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	5.53817	0.69227	1.6324	
DEVIATION ABOUT REGRESSION...	29	8.48185	0.42409		n.s.
TOTAL...	28	14.92002			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COEF.	COMPUTED T VALUE	PARTIAL CORR. COEF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.48276	0.78471	0.41251	0.17461	2.36254	0.40785	1.49077	0.10634
9	4.97689	0.79243	0.08342	0.17240	0.48224	0.10441	0.45622	0.03254
10	4.02758	1.55818	0.15907	0.09252	1.71935	0.35845	0.87840	0.06333
16	25426.13672	37206.60156	0.00001	0.00005	1.52664	0.32836	1.37813	0.09830
17	3.37931	1.32055	0.04009	0.10720	0.37312	0.08114	0.29483	0.02103
18	574.17236	1537.29199	0.00007	0.00009	0.75562	0.17662	0.34975	0.02496
19	2.27241	0.91988	0.15975	0.15820	0.98259	0.13378	0.14798	0.01055
20	2.27586	1.83023	-0.09158	0.08173	-1.12045	-0.24303	0.52241	0.03726
2	3.83931	0.70761						

TABLE 179 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.4527
MULTIPLE CORR. COEFFICIENT 0.6729

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	21.63565	2.70446	1.0341	
DEVIATION ABOUT REGRESSION...	10	26.15382	2.61538		n.s.
TOTAL...	18	47.78947			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COEF.	COMPUTED T VALUE	PARTIAL CORR. COEF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	0.16372	0.74434	0.21878	0.06902	0.83057	0.01738
2	5.10894	1.53243	0.54701	0.31413	1.74335	0.48292	1.68342	0.03523
3	3.42158	1.92403	0.37747	0.25277	1.45870	0.41987	3.63375	0.07604
10	25416.31250	28491.16016	0.00000	0.00002	0.12737	0.04344	2.40122	0.05025
11	3.73947	1.08418	0.84062	0.43833	1.72350	0.47903	9.96220	0.20846
12	672.94727	1475.79464	0.00013	0.00028	0.45431	0.14221	0.83750	0.01752
13	1.96526	1.04725	0.39780	0.42748	0.86039	0.26254	1.81935	0.03807
14	1.64737	2.03052	0.10225	0.24180	0.42288	0.13255	0.46770	0.00979
4	2.89474	1.62941						

TABLE 180 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 9

COEFFICIENT OF DETERMINATION 0.5499
MULTIPLE CORR. COEFFICIENT 0.7415

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	14.58598	1.82325	1.5270	
DEVIATION ABOUT REGRESSION...	10	11.94038	1.19404		n.s.
TOTAL...	18	26.52637			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.35805	0.50564	-0.70812	-0.21851	1.01762	0.03817
2	5.10894	1.53283	-0.15892	0.21228	-0.74863	-0.23037	2.26499	0.08539
3	3.42158	1.92403	0.07823	0.17485	0.44742	0.14009	3.61417	0.13625
10	23416.31250	28451.16016	0.00002	0.00001	1.75368	0.48498	1.71693	0.06473
11	3.78947	1.08418	-0.39584	0.32860	-1.20463	-0.35598	1.17137	0.04416
12	672.94727	1475.75464	-0.00016	0.00019	-0.84124	-0.25708	0.57248	0.02158
13	1.96526	1.04725	0.51933	0.28804	1.79797	0.49427	3.68471	0.13891
14	1.94737	2.04052	0.11076	0.16338	0.67792	0.20962	0.54875	0.02069
9	3.84210	1.71395						

TABLE 181 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.5789
MULTIPLE CORR. COEFFICIENT 0.7608

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	33.08626	4.13578	1.7181	
DEVIATION ABOUT REGRESSION...	10	24.07164	2.40716		n.s.
TOTAL...	18	57.15790			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	1.64233	0.71793	2.28758	0.58612	10.41916	0.18227
2	5.10894	1.53283	0.05858	0.30141	0.19435	0.06134	0.37059	0.00648
3	3.42158	1.92403	0.08198	0.24826	0.33024	0.10387	0.41799	0.00731
10	23416.31250	28451.16016	0.00002	0.00002	0.86509	0.26337	13.10217	0.22923
11	3.78947	1.08418	0.44470	0.46657	0.95314	0.28859	0.94962	0.01661
12	672.94727	1475.75464	0.00022	0.00027	0.82526	0.25280	0.80760	0.01413
13	1.96526	1.04725	-0.54195	0.41011	-1.32146	-0.38557	3.73951	0.06542
14	1.94737	2.04052	-0.27082	0.23198	-1.16744	-0.34633	3.28077	0.05740
8	2.21053	1.78198						

TABLE 182 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.4723
MULTIPLE CORR. COEFFICIENT 0.6872

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	29.57985	3.69748	1.1187	
DEVIATION ABOUT REGRESSION...	10	33.05174	3.30517		n.s.
TOTAL...	18	62.63159			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COF.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	1.26054	0.84125	1.49841	0.42820	6.56994	0.10490
2	5.10894	1.53283	0.05499	0.35319	0.15570	0.04919	0.05604	0.00089
3	3.42158	1.92403	0.10706	0.29090	0.36804	0.11561	0.44803	0.00715
10	23416.31250	28451.16016	0.00002	0.00002	0.91128	0.27651	15.28256	0.24401
11	3.78947	1.08418	0.54426	0.54671	0.99552	0.30028	1.83154	0.02924
12	672.94727	1475.75464	0.00009	0.00032	0.28562	0.08995	0.02220	0.00035
13	1.96526	1.04725	-0.44770	0.48056	-0.93163	-0.29260	2.51060	0.04009
14	1.94737	2.04052	-0.25282	0.27183	-0.93007	-0.28216	2.85907	0.04565
7	2.57895	1.86535						

TABLE 183 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.4925
MULTIPLE CORR. COEFFICIENT 0.7018

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	25.81952	3.22744	1.2133	
DEVIATION ABOUT REGRESSION...	10	26.60155	2.66015		n.s.
TOTAL...	18	52.42107			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	0.76098	0.75472	1.00830	0.30379	6.09230	0.11622
2	5.10894	1.53283	0.36943	0.31696	1.16608	0.34598	6.36685	0.12146
3	3.42158	1.92403	0.32427	0.26098	1.24253	0.36571	10.44312	0.19922
10	23416.31250	28451.16016	0.00001	0.00002	0.67071	0.20748	1.51433	0.02889
11	3.78947	1.08418	-0.16857	0.49047	-0.34369	-0.10805	0.35867	0.00684
12	672.94727	1475.75464	-0.00004	0.00029	-0.14079	-0.04448	0.07569	0.00144
13	1.96526	1.04725	0.24692	0.43113	0.57272	0.17821	0.90764	0.01731
14	1.94737	2.04052	-0.03694	0.24386	-0.15150	-0.04785	0.06105	0.00116
6	3.63158	1.70654						

TABLE 184 TEACHERS KEY 11

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.6359
MULTIPLE CORR. COEFFICIENT 0.7974

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	41.30023	5.16253	2.1832	
DEVIATION ABOUT REGRESSION...	10	23.64714	2.36471		n.s.
TOTAL...	18	64.94737			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL COEF. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.00737	0.71157	-0.01035	-0.00327	3.60491	0.05551
2	5.10894	1.53283	0.37035	0.29874	1.23970	0.36498	0.56127	0.00864
3	3.42158	1.92403	0.51061	0.24606	2.07513	0.54864	18.07994	0.27838
10	23416.31250	28451.16016	0.00003	0.00002	1.39474	0.40112	8.66099	0.13335
11	3.78947	1.08418	0.56858	0.46244	1.22954	0.36239	6.14238	0.09457
12	672.94727	1475.75464	0.00005	0.00027	0.18726	0.05911	0.48486	0.00747
13	1.96526	1.04725	0.19215	0.40648	0.47272	0.14784	0.36647	0.00564
14	1.94737	2.04052	0.27568	0.22992	1.19901	0.35453	3.39955	0.05234
5	2.94737	1.89952						

TABLE 185 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.5255
MULTIPLE CORR. COEFFICIENT 0.7249

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.08575	2.26122	1.3846	
DEVIATION ABOUT REGRESSION...	10	16.33131	1.63313		n.s.
TOTAL...	18	34.42107			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.15584	0.59134	-0.26354	-0.08305	0.09229	0.00268
2	5.10394	1.53283	0.16266	0.24827	0.65520	0.20288	2.66996	0.07757
3	3.42158	1.92403	-0.07956	0.20448	-0.38906	-0.12211	2.30634	0.06700
12	23416.31250	28451.16016	0.00001	0.00002	0.45352	0.14350	2.68551	0.07802
13	3.78947	1.08418	0.63674	0.38430	1.65687	0.46411	5.57275	0.16190
14	672.94727	1475.75464	-0.00005	0.00022	-0.22181	-0.06997	0.04483	0.00130
15	1.96526	1.04725	0.57369	0.33780	1.69830	0.47314	4.66381	0.13549
16	1.94737	2.04052	0.03487	0.19108	0.18248	0.05761	0.05438	0.00158
11	3.63158	1.38285						

TABLE 186 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 10

COEFFICIENT OF DETERMINATION 0.3154
MULTIPLE CORR. COEFFICIENT 0.5616

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	22.87747	2.85968	0.5760	
DEVIATION ABOUT REGRESSION...	10	49.64885	4.96488		n.s.
TOTAL...	18	72.52632			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	1.15080	1.03106	1.11613	0.33283	6.76606	0.09329
2	5.10894	1.53283	-0.45097	0.43288	-1.04179	-0.31290	10.97142	0.15127
3	3.42158	1.92403	0.00874	0.35654	0.02451	0.00775	0.45802	0.00632
12	23416.31250	28451.16016	-0.00001	0.00003	-0.30753	-0.09679	0.54313	0.00749
13	3.78947	1.08418	0.39188	0.67006	0.58484	0.18186	1.05628	0.01456
14	672.94727	1475.75464	0.00025	0.00039	0.64287	0.19922	1.41685	0.01954
15	1.96526	1.04725	-0.08048	0.58899	-0.13664	-0.04317	0.04846	0.00067
16	1.94737	2.04052	-0.19015	0.33316	-0.57077	-0.17762	1.61742	0.02230
10	3.15789	2.00730						

TABLE 187 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 9

COEFFICIENT OF DETERMINATION 0.2862
MULTIPLE CORR. COEFFICIENT 0.5350

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	23.04747	2.88093	0.5012	
DEVIATION ABOUT REGRESSION...	10	57.47885	5.74788		n.s.
TOTAL...	18	80.52632			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	0.26192	1.10939	0.23609	0.07445	0.00577	0.00007
2	5.10894	1.53283	0.15896	0.46576	0.34129	0.10730	5.02977	0.06246
3	3.42158	1.92403	0.50081	0.38362	1.30547	0.38159	11.53030	0.14319
12	23416.31250	28451.16016	0.00000	0.00003	0.08992	0.02842	0.74869	0.00930
13	3.78947	1.08418	0.24084	0.72097	0.33406	0.10505	0.15607	0.00194
14	672.94727	1475.75464	-0.00021	0.00042	-0.49325	-0.15412	2.27016	0.02819
15	1.96526	1.04725	-0.35450	0.63373	-0.55938	-0.17419	1.57210	0.01960
16	1.94737	2.04052	-0.19659	0.35847	-0.54841	-0.17087	1.72875	0.02147
9	3.15789	2.11511						

TABLE 188 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.5120
MULTIPLE CORR. COEFFICIENT 0.7156

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	50.44971	6.30621	1.3117	
DEVIATION ABOUT REGRESSION...	10	48.07661	4.80766		n.s.
TOTAL...	18	98.52632			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	0.17223	1.01460	0.16975	0.05360	2.98522	0.03030
2	5.10894	1.53283	0.41140	0.42597	0.96580	0.29210	6.37238	0.06468
3	3.42158	1.92403	-0.15394	0.35085	-0.43876	-0.13743	6.08653	0.06178
12	23416.31250	28451.16016	0.00005	0.00003	1.74926	0.48404	15.04002	0.15265
13	3.78947	1.08418	-0.66707	0.65937	-1.31499	-0.38396	6.28825	0.06382
14	672.94727	1475.75464	0.00052	0.00038	1.34096	0.39040	11.09663	0.11263
15	1.96526	1.04725	0.19106	0.57958	0.32965	0.10363	0.39128	0.00397
16	1.94737	2.04052	0.22125	0.32784	0.67486	0.20871	2.18957	0.02222
8	2.84210	2.33959						

TABLE 189 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.3873
MULTIPLE CORR. COEFFICIENT 0.6224

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	58.34505	7.29313	0.7903	
DEVIATION ABOUT REGRESSION...	10	92.28654	9.22865		n.s.
TOTAL...	18	150.63159			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	1.33978	1.40572	0.95238	0.28838	0.00144	0.00001
2	5.10894	1.53283	-0.22620	0.59017	-0.38328	-0.12032	5.43862	0.03611
3	3.42158	1.92403	-0.27253	0.48609	-0.56065	-0.17457	0.17127	0.00114
12	23416.31250	28451.16016	0.00000	0.00004	0.04519	0.01429	2.24992	0.01494
13	3.78947	1.08418	-0.83475	0.91355	-0.91374	-0.27760	16.44318	0.10916
14	672.94727	1475.75464	0.00053	0.00053	1.00136	0.30138	4.90271	0.03255
15	1.96526	1.04725	-1.03363	0.80301	-1.28745	-0.37708	13.35415	0.08865
16	1.94737	2.04052	-0.59402	0.45422	-1.30775	-0.38217	15.78392	0.10478
7	3.57895	2.89282						

TABLE 190 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.5278
MULTIPLE CORR. COEFFICIENT 0.7265

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	41.44495	5.18062	1.3971	
DEVIATION ABOUT REGRESSION...	10	37.08142	3.70814		n.s.
TOTAL...	18	78.52637			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.28862	0.89106	-0.32390	-0.10190	0.63590	0.00810
2	5.10894	1.53283	0.75470	0.37410	2.01737	0.53783	12.84990	0.16364
3	3.42158	1.92403	0.47246	0.30813	1.53334	0.43630	11.79315	0.15018
12	23416.31250	28451.16016	0.00001	0.00002	0.23787	0.07564	1.85935	0.02368
13	3.78947	1.08418	0.14368	0.57908	0.24811	0.07822	0.10901	0.00139
14	672.94727	1475.75464	-0.00009	0.00034	-0.25288	-0.07971	0.52845	0.00673
15	1.96526	1.04725	0.89171	0.50901	1.75135	0.48459	12.01897	0.15306
16	1.94737	2.04052	-0.19208	0.28792	-0.66712	-0.20642	1.65034	0.02102
6	3.84210	2.08868						

TABLE 191 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.3529
MULTIPLE CORR. COEFFICIENT 0.5941

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	37.66801	4.70850	0.6817	
DEVIATION ABOUT REGRESSION...	10	69.06883	6.90688		n.s.
TOTAL...	18	106.73685			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.39639	1.21610	-0.32595	-0.10253	7.06558	0.06620
2	5.10894	1.53283	0.37722	0.51056	0.73884	0.22751	13.22742	0.12393
3	3.42158	1.92403	0.27670	0.42052	0.65799	0.20371	6.01620	0.05636
12	23416.31250	28451.16016	-0.00001	0.00003	-0.29822	-0.09369	0.16440	0.00154
13	3.78947	1.08418	-0.42918	0.79032	-0.54304	-0.16925	4.12711	0.03867
14	672.94727	1475.75464	0.00010	0.00046	0.21967	0.06930	0.00932	0.00009
15	1.96526	1.04725	0.26741	0.69469	0.38493	0.12083	1.37639	0.01290
16	1.94737	2.04052	-0.35640	0.39295	-0.90639	-0.27570	5.68186	0.05323
5	3.47368	2.43512						

TABLE 192 TEACHERS KEY 10

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.3392
MULTIPLE CORR. COEFFICIENT 0.5824

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	13.49564	1.68695	0.6416	
DEVIATION ABOUT REGRESSION...	10	26.29390	2.62939		n.s.
TOTAL...	18	39.78955			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.77633	0.75034	-1.03464	-0.31096	0.02920	0.00073
2	5.10894	1.53283	0.02535	0.31502	0.08048	0.02544	0.01036	0.00026
3	3.42158	1.92403	-0.06767	0.25946	-0.26080	-0.08219	1.45116	0.03647
12	23416.31250	28451.16016	0.00003	0.00002	1.54932	0.44900	1.27474	0.03204
13	3.78947	1.08418	-0.60551	0.48763	-1.24174	-0.36551	2.67168	0.06715
14	672.94727	1475.75464	-0.00036	0.00023	-1.26979	-0.37262	3.09625	0.07782
15	1.96526	1.04725	0.45635	0.42863	1.06468	0.31908	2.65273	0.06667
16	1.94737	2.04052	0.22723	0.24245	0.93721	0.28415	2.30955	0.05804
4	4.10526	1.48678						

TABLE 193 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 11

COEFFICIENT OF DETERMINATION 0.3904
MULTIPLE CORR. COEFFICIENT 0.6248

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	20.67261	2.58408	0.8006	
DEVIATION ABOUT REGRESSION...	10	32.27490	3.22749		n.s.
TOTAL...	18	52.94751			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.56482	0.83131	-0.67944	-0.21006	0.07066	0.00133
9	5.10894	1.53283	0.17714	0.34901	0.50755	0.15847	0.19965	0.00377
10	3.42158	1.92403	-0.00874	0.28746	-0.03041	-0.00962	1.54142	0.02911
12	23416.31250	28451.16016	0.00002	0.00002	1.14450	0.34032	3.37938	0.06383
13	3.78947	1.08418	-0.38782	0.54025	-0.71785	-0.22137	1.09729	0.02072
14	672.94727	1475.75464	-0.00010	0.00031	-0.30182	-0.09501	0.18068	0.00341
15	1.96526	1.04725	0.99566	0.47488	2.09666	0.55260	14.06252	0.26559
16	1.94737	2.04052	0.05616	0.26861	0.20907	0.06597	0.14107	0.00266
11	4.05263	1.71509						

TABLE 194 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.6686
MULTIPLE CORR. COEFFICIENT 0.8177

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	73.96446	9.24556	2.5215	
DEVIATION ABOUT REGRESSION...	10	36.66713	3.66671		n.s.
TOTAL...	18	110.63159			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.24706	0.68607	-0.27383	-0.08733	8.11103	0.07332
9	5.10894	1.53283	0.51589	0.37200	1.38678	0.40162	0.02413	0.00022
10	3.42158	1.92403	0.13604	0.30640	0.44378	0.13904	8.43820	0.07627
12	23416.31250	28451.16016	0.00006	0.00002	2.51206	0.62201	30.13696	0.27241
13	3.78947	1.08418	0.43300	0.57584	0.75195	0.23134	6.80830	0.06154
14	672.94727	1475.75464	0.00017	0.00034	0.51271	0.16005	3.47840	0.03144
15	1.96526	1.04725	0.36802	0.50616	0.72708	0.22408	1.27839	0.01156
16	1.94737	2.04052	0.59224	0.28631	2.06853	0.54741	15.68122	0.14181
8	2.42105	2.47915						

TABLE 195 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 7
COEFFICIENT OF DETERMINATION 0.7743
MULTIPLE CORR. COEFFICIENT 0.8800

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	96.91243	12.11405	4.2866	
DEVIATION ABOUT REGRESSION...	10	28.24547	2.82455		<.05
TOTAL...	18	125.15790			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COF.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	C.65338	-2.67282	0.77769	-3.43689	-0.73590	4.76747	0.03809
9	5.10894	1.53283	C.37273	0.32650	1.14160	0.33956	6.45638	0.05159
10	3.42158	1.92403	0.04298	0.26892	0.15984	0.05048	30.10814	0.24055
12	23416.31250	28451.16016	C.00007	0.00002	3.73517	0.76321	10.12546	0.08090
13	3.78947	1.08418	-1.31325	C.50540	-2.59844	-0.63487	8.53340	0.06818
14	672.94727	1475.75464	-0.00011	0.00029	-0.38673	-0.12139	0.39547	0.00316
15	1.96526	1.04725	0.21627	0.44425	0.48632	0.15215	0.17394	0.00139
16	1.94737	2.04052	0.90149	C.25129	3.58751	0.75017	36.35239	0.29045
7	3.21053	2.63690						

TABLE 196 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 6
COEFFICIENT OF DETERMINATION 0.7416
MULTI PLE CORR. COEFFICIENT 0.8612

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	85.86906	10.73363	3.5874	
DEVIATION ABOUT REGRESSION...	10	29.92041	2.99204		<.05
TOTAL...	18	115.78947			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL COEF. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-2.82950	C.80041	-3.53505	-0.74531	3.97439	0.03432
9	5.10894	1.53283	-0.46004	0.33604	-1.36911	-0.33729	21.37114	0.18457
10	3.42158	1.92403	-0.03162	0.27678	-0.11424	-0.03510	5.51911	0.04767
12	23416.31250	28451.16016	C.00006	0.00002	2.73848	0.65464	7.04056	0.06080
13	3.78947	1.08418	-0.11200	0.52017	-0.21531	-0.06793	1.78991	0.01546
14	672.94727	1475.75464	-0.00015	0.00030	-0.49414	-0.15439	0.31031	0.00268
15	1.96526	1.04725	-0.05606	0.45723	-0.12261	-0.03874	0.43954	0.00380
16	1.94737	2.04052	1.00772	0.25863	3.89637	0.77646	45.42430	0.39230
6	3.10526	2.53629						

TABLE 197 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 5
COEFFICIENT OF DETERMINATION 0.7041
MULTIPLE CORR. COEFFICIENT 0.8391

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	59.21829	7.40229	2.9743	
DEVIATION ABOUT REGRESSION...	10	24.88718	2.48872		n.s.
TOTAL...	18	84.10547			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	C.65338	-0.37887	0.72999	-0.51900	-0.16195	4.05047	0.04816
9	5.10394	1.53283	-0.41141	0.30643	-1.34241	-C.39076	10.37969	0.12341
10	3.42158	1.92403	0.52215	0.25243	2.06850	0.54741	16.85493	0.20040
12	23416.31250	28451.16016	C.00003	0.00002	1.35170	0.39305	4.17846	0.04968
13	3.78947	1.08418	0.68070	0.47441	1.43485	0.41320	9.35429	0.11122
14	672.94727	1475.75464	-0.00017	0.00028	-0.62759	-0.15466	0.12699	0.00151
15	1.96526	1.04725	-0.47547	0.41700	-1.14020	-0.33919	4.06536	0.04834
16	1.94737	2.04052	0.47772	0.23587	2.02529	0.53933	10.20823	0.12137
5	4.68421	2.16160						

TABLE 198 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7807
MULTIPLE CORR. COEFFICIENT 0.8836

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	3	119.97578	14.99697	4.4490	
DEVIATION ABOUT REGRESSION...	10	33.70844	3.37084		< 05
TOTAL...	18	153.68422			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-2.83775	0.84957	-3.34022	-0.72619	5.19104	0.03378
9	5.10894	1.53283	0.50909	0.35668	1.42730	0.41139	0.61535	0.00400
10	3.42158	1.92403	0.07850	0.29373	0.26721	0.08420	15.43426	0.10043
12	23416.31250	28451.16016	0.00007	0.00002	3.43601	0.73581	24.62555	0.16023
13	3.78947	1.08418	0.10577	0.55212	0.19157	0.06047	5.71445	0.03718
14	672.94727	1475.75464	0.00010	0.00032	0.32384	0.10188	5.18329	0.03373
15	1.96526	1.04725	-0.14584	0.48531	-0.30050	-0.09460	1.16503	0.00758
16	1.94737	2.04052	1.17775	0.27451	4.29034	0.80497	62.04697	0.40373
4	3.26316	2.92199						

TABLE 199 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.3084
MULTIPLE CORR. COEFFICIENT 0.5554

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	1.12043	0.14005	0.5575	
DEVIATION ABOUT REGRESSION...	10	2.51227	0.25123		n.s.
TOTAL...	18	3.63270			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.05734	0.23193	-0.24722	-0.07794	0.01151	0.00317
9	5.10894	1.53283	0.15532	0.09737	1.59509	0.45036	0.28364	0.07808
10	3.42158	1.92403	0.01788	0.08020	0.22294	0.07032	0.08916	0.02454
12	23416.31250	28451.16016	0.00001	0.00001	0.97313	0.29412	0.37532	0.10332
13	3.78947	1.08418	0.04784	0.15073	0.31737	0.09986	0.07093	0.01952
14	672.94727	1475.75464	0.00001	0.00009	0.15376	0.04857	0.02181	0.00600
15	1.96526	1.04725	0.11719	0.13249	0.88455	0.26038	0.18024	0.04962
16	1.94737	2.04052	0.04431	0.07494	0.59126	0.18379	0.08783	0.02418
3	0.54053	0.44924						

TABLE 200 TEACHERS KEY 9

SAMPLE SIZE 19
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.6653
MULTIPLE CORR. COEFFICIENT 0.8157

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	17.43927	2.17991	2.4845	
DEVIATION ABOUT REGRESSION...	10	8.77386	0.87739		n.s.
TOTAL...	18	26.21313			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.26316	0.65338	-0.15975	0.43344	-0.36856	-0.11576	1.33132	0.05079
9	5.10894	1.53283	0.27337	0.18197	1.50225	0.42910	0.73509	0.02804
10	3.42158	1.92403	-0.34812	0.14988	-2.32265	-0.59197	0.31879	0.01216
12	23416.31250	28451.16016	0.00003	0.00001	3.06243	0.69568	3.99435	0.15238
13	3.78947	1.08418	-0.70875	0.28168	-2.51513	-0.62263	4.27776	0.16319
14	672.94727	1475.75464	-0.00014	0.00016	-0.83502	-0.25531	0.31083	0.01186
15	1.96526	1.04725	0.63543	0.24760	2.56640	0.63016	5.49004	0.20944
16	1.94737	2.04052	0.14810	0.14005	1.05747	0.31714	0.98113	0.03743
2	3.82631	1.20677						

TABLE 201 STUDENTS KEY 8

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.6732
MULTIPLE CORR. COEFFICIENT 0.8205

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	24.23604	3.02950	1.8027	
DEVIATION ABOUT REGRESSION...	7	11.76396	1.68057		n.s.
TOTAL...	15	36.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.29637	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	0.78613	0.60885	1.29789	0.43768	0.22651	0.00629
3	4.13375	1.25212	-1.10836	0.86887	-1.27563	-0.43430	2.09314	0.05814
6	16540.18750	44106.75781	0.00001	0.00001	0.79292	0.28708	0.08753	0.00243
7	2.25000	1.73205	-0.69463	0.23377	-2.97138	-0.74685	12.63126	0.35087
8	1697.37500	6226.62109	0.00002	0.00008	0.19314	0.07281	0.66835	0.01857
9	2.25062	0.68875	0.77579	0.86650	0.89532	0.32054	5.21721	0.14492
10	1.25000	1.77012	0.43401	0.30915	1.40386	0.46871	3.31206	0.09200
5	3.50000	1.54919						

TABLE 202 STUDENTS KEY 8

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.4759
MULTIPLE CORR. COEFFICIENT 0.6898

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	24.71469	3.08934	0.7944	
DEVIATION ABOUT REGRESSION...	7	27.22281	3.88897		n.s.
TOTAL...	15	51.93750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.97205	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	1.11431	0.92618	1.20312	0.41395	0.68157	0.01312
3	4.13375	1.25212	-1.48379	1.32174	-1.12260	-0.39060	0.16498	0.00318
6	16540.18750	44106.75781	-0.00001	0.00002	-0.75090	-0.27303	0.32303	0.00622
7	2.25000	1.73205	0.60375	0.35562	1.69775	0.54004	12.90102	0.24840
8	1697.37500	6226.62109	0.00009	0.00012	0.68612	0.25102	0.54535	0.01050
9	2.25062	0.68875	2.12047	1.31813	1.60870	0.51953	7.35949	0.14170
10	1.25000	1.77012	-0.39469	0.47029	-0.83926	-0.30236	2.73925	0.05274
4	1.56250	1.86078						

TABLE 203 STUDENTS KEY 7

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.5050
MULTIPLE CORR. COEFFICIENT 0.7106

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	30.17094	3.77137	0.8925	
DEVIATION ABOUT REGRESSION...	7	29.57906	4.22558		n.s.
TOTAL...	15	59.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	2.05562	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	-0.47156	0.95619	-0.49317	-0.18324	0.07600	0.00127
3	4.13375	1.25212	0.84768	1.44627	0.58611	0.21629	1.63129	0.02730
9	2.25000	1.73205	0.38054	0.42512	0.89512	0.32048	17.76233	0.29728
10	2.25000	1.94936	-0.30470	0.36591	-0.83272	-0.30022	7.04943	0.11798
11	2.00000	1.26491	0.57549	0.64666	0.88994	0.31881	2.62294	0.04390
12	0.01250	0.01770	-23.37968	47.37721	-0.49348	-0.18336	1.02901	0.01722
13	0.0	0.0	0.0	2.05562	0.0	-0.0	0.0	0.0
8	1.87500	1.99583						

TABLE 204 STUDENTS KEY 7

SAMPLE SIZE 16 — COEFFICIENT OF DETERMINATION 0.4453
DEPENDENT VARIABLE IS NOW NO. 7 — MULTIPLE CORR. COEFFICIENT 0.6673

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	28.24776	3.53097	0.7024	n.s.
DEVIATION ABOUT REGRESSION...	7	35.18974	5.02711		
TOTAL...	15	63.43750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	2.24212	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	0.82924	1.04295	0.79509	0.29780	2.05252	0.03235
3	4.13375	1.25212	-0.92476	1.57749	-0.58622	-0.21632	15.43283	0.24328
9	2.25000	1.73205	-0.46340	0.46369	-0.99936	-0.35336	0.72968	0.01150
10	2.25000	1.94936	-0.20538	0.39910	-0.51459	-0.19092	5.58923	0.08811
11	2.00000	1.26491	0.66268	0.70533	0.93952	0.33463	4.21394	0.06643
12	0.01250	0.01770	-11.04279	51.67558	-0.21369	-0.08051	0.22958	0.00362
13	0.0	0.0	0.0	2.24212	0.0	-0.0	0.0	0.0
7	3.31250	2.05649						

TABLE 205 STUDENTS KEY 7

SAMPLE SIZE 16 — COEFFICIENT OF DETERMINATION 0.5569
DEPENDENT VARIABLE IS NOW NO. 6 — MULTIPLE CORR. COEFFICIENT 0.7463

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	33.27510	4.15939	1.0997	n.s.
DEVIATION ABOUT REGRESSION...	7	26.47490	3.78213		
TOTAL...	15	59.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.94477	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	-0.95582	0.90463	-1.05658	-0.37087	0.07409	0.00124
3	4.13375	1.25212	1.65130	1.36828	1.20684	0.41501	6.22702	0.10422
9	2.25000	1.73205	0.42432	0.40220	1.05500	0.37039	14.31200	0.23953
10	2.25000	1.94936	-0.49368	0.34617	-1.42609	-0.47448	11.40700	0.19091
11	2.00000	1.26491	0.27218	0.61179	0.44489	0.16583	0.41925	0.00702
12	0.01250	0.01770	-21.07112	44.82233	-0.47010	-0.17494	0.83580	0.01399
13	0.0	0.0	0.0	1.94477	0.0	-0.0	0.0	0.0
6	2.12500	1.99583						

TABLE 206 STUDENTS KEY 7

SAMPLE SIZE 16 — COEFFICIENT OF DETERMINATION 0.6958
DEPENDENT VARIABLE IS NOW NO. 5 — MULTIPLE CORR. COEFFICIENT 0.8341

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	40.18097	5.02262	2.0012	n.s.
DEVIATION ABOUT REGRESSION...	7	17.56903	2.50986		
TOTAL...	15	57.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.58425	0.0	-0.0	0.0	0.0
2	4.96062	1.66834	-0.77571	0.73693	-1.05262	-0.36967	0.15836	0.00274
3	4.13375	1.25212	1.33166	1.11463	1.19471	0.41155	4.77569	0.08270
9	2.25000	1.73205	0.05472	0.32764	0.16702	0.06300	11.69097	0.20244
10	2.25000	1.94936	-0.34868	0.28200	-1.23644	-0.42338	13.97407	0.24198
11	2.00000	1.26491	0.97378	0.49838	1.95390	0.59406	8.91448	0.15436
12	0.01250	0.01770	-18.82945	36.51331	-0.51569	-0.19131	0.66743	0.01156
13	0.0	0.0	0.0	1.58425	0.0	-0.0	0.0	0.0
5	1.87500	1.96214						

TABLE 207 STUDENTS KEY 7

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.7534
MULTIPLE CORR. COEFFICIENT 0.8680

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	55.56676	6.94584	2.6739	
DEVIATION ABOUT REGRESSION...	7	18.18324	2.59761		n.s.
TOTAL...	15	73.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.61171	0.0	-0.0	0.0	0.0
2	4.96062	1.46834	-0.03172	0.74970	-0.04232	-0.01599	0.69400	0.00942
3	4.13375	1.25212	0.23639	1.13395	0.20847	0.07855	12.28271	0.16655
9	2.25000	1.73205	0.27510	0.33332	0.82534	0.29780	19.16486	0.25986
10	2.25000	1.94936	-0.19479	0.28689	-0.67897	-0.24457	10.94104	0.14835
11	2.00000	1.26491	0.69253	0.50702	1.36590	0.45874	8.12797	0.11021
12	0.01250	0.01770	48.00955	37.14607	1.29488	0.43959	4.35546	0.05906
13	0.0	0.0	0.0	1.61171	0.0	-0.0	0.0	0.0
4	2.37500	2.21735						

TABLE 208 STUDENTS KEY 6

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.2677
MULTIPLE CORR. COEFFICIENT 0.5174

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	2.12469	0.26559	0.3198	
DEVIATION ABOUT REGRESSION...	7	5.81281	0.83040		n.s.
TOTAL...	15	7.93750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.50000	0.73030	-0.18241	0.38111	-0.47862	-0.17901	0.28125	0.03543
2	5.26062	0.59210	0.79817	0.67587	1.18095	0.40760	0.19360	0.02439
3	4.26000	1.29755	-0.12935	0.22358	-0.57856	-0.21363	0.12658	0.01595
9	60164.75000	72185.25000	0.00000	0.00000	0.73774	0.26859	0.09897	0.01247
10	3.00000	1.36626	-0.22508	0.31699	-0.71004	-0.25920	0.41311	0.05205
11	0.02000	0.01633	-2.09521	21.30687	-0.09808	-0.02629	0.00139	0.00017
12	2.76875	0.47209	-0.46077	0.56562	-0.81463	-0.29427	0.43842	0.05523
13	2.43750	0.72744	-0.37594	0.45321	-0.82950	-0.29916	0.57137	0.07198
8	4.43750	0.72744						

TABLE 209 STUDENTS KEY 6

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.2731
MULTIPLE CORR. COEFFICIENT 0.5226

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	3.27734	0.40967	0.3298	
DEVIATION ABOUT REGRESSION...	7	8.72266	1.24609		n.s.
TOTAL...	15	12.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.50000	0.73030	-0.23203	0.46696	-0.49701	-0.18462	0.12500	0.01042
2	5.26062	0.59210	0.08875	0.82793	0.10719	0.04048	0.01154	0.00096
3	4.26000	1.29755	-0.20514	0.27388	-0.74902	-0.27240	0.89398	0.07450
9	60164.75000	72185.25000	0.00000	0.00001	0.93372	0.33055	0.87697	0.07308
10	3.00000	1.36626	-0.02260	0.38831	-0.05820	-0.02199	0.23182	0.01932
11	0.02000	0.01633	-0.50601	26.71310	-0.01894	-0.00716	0.03191	0.00266
12	2.76875	0.47209	0.48364	0.69237	0.69803	0.25510	0.72786	0.06066
13	2.43750	0.72744	-0.30588	0.55518	-0.55095	-0.20387	0.37825	0.03152
7	4.50000	0.89443						

TABLE 210 STUDENTS KEY 6

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.5942
MULTIPLE CORR. COEFFICIENT 0.7708

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	23.13640	2.89205	1.2812	
DEVIATION ABOUT REGRESSION...	7	15.80110	3.25730		n.s.
TOTAL...	15	38.93750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.50000	0.73030	-0.18225	0.62836	-0.29004	-0.10958	3.78125	0.09711
2	5.26062	0.59210	-1.26048	1.11433	-1.13115	-0.39311	4.90946	0.12609
3	4.26000	1.29755	0.74835	0.36862	2.03014	0.60876	8.96755	0.23031
9	60164.75000	72185.25000	0.00001	0.00001	0.79554	0.28795	0.35230	0.00905
10	3.00000	1.36626	0.32836	0.52264	0.62828	0.23105	0.00000	0.00000
11	0.02000	0.01633	-24.42247	35.95370	-0.67928	-0.24668	0.28974	0.00744
12	2.76875	0.47209	0.56698	0.93255	0.60799	0.22393	1.27876	0.03284
13	2.43750	0.72744	-0.93805	0.74723	-1.25537	-0.42960	3.55741	0.09136
6	4.06250	1.61116						

TABLE 211 STUDENTS KEY 6

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.7138
MULTIPLE CORR. COEFFICIENT 0.8449

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	45.68205	5.71026	2.1821	
DEVIATION ABOUT REGRESSION...	7	18.31795	2.61685		n.s.
TOTAL...	15	64.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.50000	0.73030	0.22729	0.67655	0.33596	0.12597	8.00000	0.12500
2	5.26062	0.59210	-0.64029	1.19980	-0.53366	-0.19773	2.60728	0.04074
3	4.26000	1.29755	1.16245	0.39689	2.92986	0.74206	14.33270	0.22395
9	60164.75000	72185.25000	-0.00000	0.00001	-0.65783	-0.24129	8.52752	0.13324
10	3.00000	1.36626	0.26446	0.56272	0.46996	0.17489	1.10791	0.01731
11	0.02000	0.01633	-74.55150	38.71136	-1.92583	-0.58950	9.27962	0.12935
12	2.76875	0.47209	-0.44882	1.00408	-0.44700	-0.16659	0.30158	0.00471
13	2.43750	0.72744	-0.79056	0.80454	-0.98262	-0.34816	2.52664	0.03948
5	4.50000	2.06559						

TABLE 212 STUDENTS KEY 6

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.6694
MULTIPLE CORR. COEFFICIENT 0.8182

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	18.36769	2.29596	1.7720	
DEVIATION ABOUT REGRESSION...	7	9.06981	1.29569		n.s.
TOTAL...	15	27.43750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	2.50000	0.73030	-0.33630	0.47676	-0.70543	-0.25797	3.78125	0.13791
2	5.26062	0.59210	-1.10097	0.84425	-1.30409	-0.44211	2.91471	0.10623
3	4.26000	1.29755	0.70049	0.27928	2.50996	0.69325	10.90355	0.39740
9	60164.75000	72185.25000	0.00000	0.00001	0.44045	0.17146	0.13954	0.00505
10	3.00000	1.36626	0.16656	0.39596	0.42064	0.15702	0.21905	0.00795
11	0.02000	0.01633	-4.95443	27.23950	-0.18189	-0.06858	0.00413	0.00015
12	2.76875	0.47209	-0.02233	0.70652	-0.03161	-0.01195	0.00125	0.00005
13	2.43750	0.72744	-0.31702	0.56612	-0.55998	-0.20707	0.40630	0.01481
4	4.31250	1.35247						

TABLE 213 STUDENTS KEY 5

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 8

COEFFICIENT OF DETERMINATION 0.5950
MULTIPLE CORR. COEFFICIENT 0.7714

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	23.65089	2.95636	1.2854	
DEVIATION ABOUT REGRESSION...	7	16.09911	2.29987		N.S.
TOTAL...	15	39.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.51653	0.0	-0.0	0.0	0.0
4	4.96062	1.66834	1.38230	0.71225	1.94076	0.59147	0.30249	0.00761
5	4.13375	1.25212	-1.95977	1.01644	-1.92808	-0.58895	15.04068	0.37838
9	16540.18750	44106.75781	-0.00001	0.00001	-0.58341	-0.21534	1.38642	0.03488
10	2.25000	1.73205	-0.12787	0.27349	-0.46759	-0.17404	1.15585	0.02908
11	1697.37500	6226.62109	0.00005	0.00010	0.49829	0.18508	2.70429	0.06803
12	2.25062	0.68875	-0.69024	1.01366	-0.68094	-0.24925	0.06133	0.00154
13	1.25000	1.77012	0.41304	0.36166	1.14207	0.39532	2.99270	0.07546
8	4.62500	1.62788						

TABLE 214 STUDENTS KEY 5

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 7

COEFFICIENT OF DETERMINATION 0.6998
MULTIPLE CORR. COEFFICIENT 0.8365

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	36.21457	4.52682	2.0397	
DEVIATION ABOUT REGRESSION...	7	15.53543	2.21935		N.S.
TOTAL...	15	51.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.48975	0.0	-0.0	0.0	0.0
4	4.96062	1.66834	1.41623	0.69967	2.02415	0.60763	2.44751	0.04729
5	4.13375	1.25212	-2.01458	0.99868	-2.01764	-0.60439	17.68633	0.34176
9	16540.18750	44106.75781	0.00001	0.00001	0.50925	0.18901	2.32653	0.04496
10	2.25000	1.73205	-0.27615	0.26565	-1.02792	-0.36215	0.11008	0.00213
11	1697.37500	6226.62109	-0.00017	0.00009	-1.83281	-0.56945	4.58865	0.08867
12	2.25062	0.68875	-1.30717	0.99576	-1.31274	-0.44447	0.42400	0.00819
13	1.25000	1.77012	0.70063	0.35527	1.97211	0.59763	9.63136	0.16679
7	4.12500	1.85742						

TABLE 215 STUDENTS KEY 5

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.5952
MULTIPLE CORR. COEFFICIENT 0.7715

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	34.37415	4.29677	1.2867	
DEVIATION ABOUT REGRESSION...	7	23.37585	3.33941		N.S.
TOTAL...	15	57.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	1.82740	0.0	-0.0	0.0	0.0
4	4.96062	1.66834	1.62510	0.85825	1.89515	0.58435	2.79958	0.04848
5	4.13375	1.25212	-2.29689	1.22479	-1.87533	-0.57828	3.89054	0.06737
9	16540.18750	44106.75781	-0.00000	0.00002	-0.26995	-0.10159	2.04219	0.03536
10	2.25000	1.73205	-0.20644	0.32954	-0.62646	-0.23041	0.09199	0.00159
11	1697.37500	6226.62109	-0.00008	0.00012	-0.67293	-0.24550	13.45168	0.23293
12	2.25062	0.68875	1.61961	1.22145	1.32598	0.44805	10.96694	0.18990
13	1.25000	1.77012	0.25364	0.42579	0.59203	0.21485	1.13122	0.01959
6	3.97500	1.96214						

TABLE 216 STUDENTS KEY 5

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.3213
MULTIPLE CORR. COEFFICIENT 0.5669

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	34.70573	4.33822	0.4143	n.s.
DEVIATION ABOUT REGRESSION...	7	73.29427	10.47061		
TOTAL...	15	108.00000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	3.23583	0.0	-0.0	0.0	0.0
4	4.96062	1.66834	0.02669	1.51972	0.01756	0.00664	0.33954	0.00314
5	4.13375	1.25212	0.03392	2.16977	0.01564	0.00591	7.34889	0.06805
9	16540.18750	44106.75781	0.00001	0.00003	0.34319	0.12864	5.07139	0.04696
10	2.25000	1.73205	0.48270	0.58352	0.82723	0.29842	14.01481	0.12977
11	1697.37500	6226.62109	-0.00004	0.00020	-0.21438	-0.08076	4.41960	0.04092
12	2.25062	0.68875	0.95683	2.16285	0.44239	0.16492	3.35593	0.03107
13	1.25000	1.77012	0.00408	0.77167	0.12192	0.04603	0.15566	0.00144
3	2.50000	2.68328						

TABLE 217 STUDENTS KEY 5

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO 2

COEFFICIENT OF DETERMINATION 0.5249
MULTIPLE CORR. COEFFICIENT 0.7245

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	57.71089	7.21386	0.9669	n.s.
DEVIATION ABOUT REGRESSION...	7	52.22661	7.46094		
TOTAL...	15	109.93750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	2.73147	0.0	-0.0	0.0	0.0
4	4.96062	1.66834	1.17567	1.28285	0.91646	0.32731	2.95947	0.02692
5	4.13375	1.25212	-1.64509	1.83073	-0.89859	-0.32159	15.75662	0.14332
9	16540.18750	44106.75781	0.00001	0.00002	0.44302	0.16515	2.33037	0.02120
10	2.25000	1.73205	-0.85799	0.49257	-1.74189	-0.54989	10.84051	0.09861
11	1697.37500	6226.62109	-0.00017	0.00017	-1.00689	-0.35568	21.83037	0.19857
12	2.25062	0.68875	0.89919	1.82573	0.49251	0.18301	3.54197	0.03222
13	1.25000	1.77012	0.16027	0.65139	0.24604	0.09269	0.45163	0.00411
2	4.43750	2.70724						

TABLE 218 STUDENTS KEY 4

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 6

COEFFICIENT OF DETERMINATION 0.2477
MULTIPLE CORR. COEFFICIENT 0.4976

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	29.08386	3.63548	0.2880	n.s.
DEVIATION ABOUT REGRESSION...	7	88.35364	12.62195		
TOTAL...	15	117.43750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	3.55274	0.0	-0.0	0.0	0.0
7	4.96062	1.66834	0.54111	1.66356	0.32430	0.12156	0.90502	0.00771
8	4.13375	1.25212	-0.68594	2.38118	-0.28807	-0.10824	0.45327	0.00386
9	16540.18750	44106.75781	0.00002	0.00003	0.55022	0.20361	8.13739	0.06929
10	2.25000	1.73205	0.31106	0.64066	0.48553	0.18050	8.59912	0.07322
11	1697.37500	6226.62109	-0.00005	0.00022	-0.27769	-0.10439	6.24222	0.05315
12	2.25062	0.68875	0.94416	2.37447	0.39760	0.14961	4.10662	0.03497
13	1.25000	1.77012	0.19083	0.84724	0.22523	0.08482	0.64031	0.00545
6	2.31250	2.79836						

TABLE 219 STUDENTS KEY 4

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 5

COEFFICIENT OF DETERMINATION 0.4056
MULTIPLE CORR. COEFFICIENT 0.6368

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	55.86714	6.98339	0.5970	
DEVIATION ABOUT REGRESSION...	7	81.88286	11.69755		n.s.
TOTAL...	15	137.75000			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	3.42017	0.0	-0.0	0.0	0.0
7	4.96062	1.66834	0.69690	1.60630	0.43395	0.16182	1.46521	0.01064
8	4.13375	1.25212	-0.99419	2.29232	-0.39008	-0.14586	7.28675	0.05290
9	16540.18750	44106.75781	0.00002	0.00003	0.56539	0.20999	7.65970	0.05561
10	2.25000	1.73205	0.38746	0.61676	0.62822	0.23102	14.67396	0.10653
11	1697.37500	6226.62109	-0.00007	0.00022	-0.33172	-0.12441	6.29888	0.04573
12	2.25062	0.68875	0.60511	2.28606	0.26470	0.09955	7.69787	0.05588
13	1.25000	1.77012	-0.78316	0.81563	-0.96020	-0.34115	10.78489	0.07829
5	2.87500	3.03040						

TABLE 220 STUDENTS KEY 4

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 4

COEFFICIENT OF DETERMINATION 0.2103
MULTIPLE CORR. COEFFICIENT 0.4586

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	27.85585	3.48198	0.2331	
DEVIATION ABOUT REGRESSION...	7	104.58165	14.94024		n.s.
TOTAL...	15	132.43750			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	3.96526	0.0	-0.0	0.0	0.0
7	4.96062	1.66834	0.37589	1.81534	0.20706	0.07802	0.07917	0.00060
8	4.13375	1.25212	-0.45103	2.59064	-0.17410	-0.06566	1.88362	0.01422
9	16540.18750	44106.75781	0.00001	0.00003	0.24464	0.09207	14.76025	0.11145
10	2.25000	1.73205	0.29784	0.69702	0.42730	0.15944	1.36882	0.01034
11	1697.37500	6226.62109	0.00018	0.00024	0.71917	0.26220	3.13180	0.02365
12	2.25062	0.68875	1.40123	2.58356	0.54234	0.20082	6.52008	0.04923
13	1.25000	1.77012	0.07987	0.92177	0.08665	0.03273	0.11218	0.00085
4	2.81250	2.97139						

TABLE 221 STUDENTS KEY 4

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 3

COEFFICIENT OF DETERMINATION 0.3022
MULTIPLE CORR. COEFFICIENT 0.5498

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	p
DUE TO REGRESSION.....	8	0.56199	0.07025	0.3790	
DEVIATION ABOUT REGRESSION...	7	1.29739	0.18534		n.s.
TOTAL...	15	1.85937			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	0.43051	0.0	-0.0	0.0	0.0
7	4.96062	1.66834	0.09163	0.20219	0.45317	0.16983	0.00537	0.00289
8	4.13375	1.25212	-0.12132	0.28955	-0.42045	-0.15694	0.18276	0.09829
9	16540.18750	44106.75781	-0.00000	0.00000	-0.43794	-0.16330	0.00386	0.00209
10	2.25000	1.73205	0.00429	0.07763	0.05523	0.02087	0.00821	0.00442
11	1697.37500	6226.62109	0.00001	0.00003	0.47904	0.17816	0.00572	0.00307
12	2.25062	0.68875	0.25570	0.28776	0.88858	0.31838	0.30570	0.16441
13	1.25000	1.77012	0.05351	0.10267	0.52124	0.19329	0.05036	0.02708
3	0.15625	0.35208						

TABLE 222 STUDENTS KEY 4

SAMPLE SIZE 16
DEPENDENT VARIABLE IS NOW NO. 2

COEFFICIENT OF DETERMINATION 0.5649
MULTIPLE CORR. COEFFICIENT 0.7516

ANALYSIS OF VARIANCE FOR THE MULTIPLE LINEAR REGRESSION

SOURCE OF VARIATION	D.F.	SUM OF SQUARES	MEAN SQUARES	F VALUE	P
DUE TO REGRESSION.....	8	5.11791	0.63974	1.1360	n.s.
DEVIATION ABOUT REGRESSION...	7	3.94214	0.56316		
TOTAL...	15	9.06006			

VARIABLE NO.	MEAN	STD. DEVIATION	REG. COEFF.	STD.ERROR OF REG.COE.	COMPUTED T VALUE	PARTIAL CORR. COE.	SUM OF SQ. ADDED	PROP. VAR. CUM.
1	1.00000	0.0	0.0	0.75044	0.0	-0.0	0.0	0.0
7	4.96062	1.66834	0.19258	0.35245	0.54640	0.20225	0.01286	0.00142
8	4.13375	1.25217	-0.27538	0.50297	-0.54750	-0.20264	1.61498	0.17825
9	16540.13750	44106.75781	-0.00001	0.00001	-0.99580	-0.35225	0.13953	0.01540
10	2.25000	1.73205	-0.04212	0.13533	-0.31122	-0.11593	0.43752	0.04829
11	1697.37500	6226.62109	0.00005	0.00005	1.12421	0.39107	0.09866	0.01089
12	2.25062	0.68875	0.74251	0.50160	1.48028	0.48827	0.15179	0.01675
13	1.25000	1.77012	-0.38913	0.17896	-2.17437	-0.63493	2.66258	0.29388
2	4.56375	0.77718						