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REPORT

OAD-CR-66

An Econometric Analysis of Volunteer Enlistments by Service and Cost Effectiveness Comparison of Service Incentive Programs

by

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OPERATIONS ANALYSIS DIVISION

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The primary purpose of this study was to determine the cost effectiveness of various enlistment programs in attracting additional volunteers to each Service. The analysis was also aimed at determining the effects of changes in youth unemployment rates, college entrance patterns and various Service manpower policies on volunteer enlistments in each Service as well as the inter-Service effects of

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one Service's programs on enlistments in other Services. Three different methods of analysis have been used to determine program and policy effects. An econometric model of volunteer enlistments by state using explanatory variables including the number of recruiters, youth unemployment rate, military/civilian wage and college entrance rates was used with 1972 and 1973 enlistment data. A monthly econometric time series model was also used with volunteer data in the CY71-CY73 time period with explanatory variables including military/civilian wage, number of recruiters, bonus variables, print media advertisements, unemployment rates and inter-Service variables. Finally, survey data were analyzed to estimate effectiveness of the bonus.

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PREFACE

Manpower costs constitute about 56 percent of the budget of the Department of Defense, or approximately $50 billion. The wise management of these resources is a challenging task that strains the current state of the art in management science. This report is concerned with an evaluation of manpower programs and policies which were implemented primarily to achieve the transition from a conscripted to an all volunteer Armed Service. Over $2 billion were allocated to programs of increased pay, additional advertising and recruiting and bonus payments in order to provide more incentives for youth to volunteer for the Armed Forces. Three evaluation techniques -- econometric time series and cross sectional analyses and survey analysis -- have been used to evaluate program and policy cost effectiveness. The results of this analysis provides manpower decisionmakers with an improved capability to allocate resources within and among the Services for the military pay, recruiting, advertising and bonus programs.

David W. Grissmer
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SUMMARY

The decisions made in 1970 to achieve an all volunteer force by FY74 resulted in major budgetary increases in several programs designed to provide incentives for youth to join the Armed Forces. The major incentive program was a large pay increase given to E1-E3 personnel in all Services in order to make their wages competitive with other civilian opportunities. Major increases also occurred in advertising and recruiting budgets for each Service, and the Army and Marine Corps initiated bonus payments for selected skills. Table S-1 summarizes the budgets of incentive programs, by Service, from FY71-FY75. Each of these programs had the specific objective of increasing volunteer enlistments so as to meet quantitative and qualitative manpower requirements determined by Congress. The primary purpose of this analysis is to determine the cost effectiveness of these programs in attracting additional volunteers to each Service. The analysis was also aimed at determining the effects of changes in youth unemployment rates, college entrance patterns and various Service manpower policies on volunteer enlistments in each Service as well as the inter-Service effects of one Service's programs on enlistments in other Services. Three different methods of analysis have been used to determine program and policy effects. An econometric model of volunteer enlistments by state using explanatory variables including the number of recruiters, youth unemployment rate, military/civilian wage and college entrance rates was used with 1972 and 1973 enlistment data. A monthly econometric time series model was also used with volunteer data in the CY71-CY73 time period with explanatory variables including military/civilian wage, number of recruiters, bonus variables, print media

Table S-1

INCENTIVE PROGRAM EXPENDITURES

($ in millions)

	FY71	FY72	FY73	FY74	FY75
	Basic Pay[a] and Allowances				
Army	0	519	518	612	664
Navy	0	318	427	439	445
Marine Corps	0	161	219	219	225
Air Force	0	299	397	393	427
DOD	0	1296	1562	1663	1761
	Bonus				
Army	0	.4	34	45	62
Marine Corps	0	1	8	3	7
DOD	0	1	42	48	69
	Recruiting				
Army	19	22	27	44	43
Navy	2	7	24	28	30
Marine Corps	1	4	6	13	8
Air Force	1	7	12	15	12
DOD	23	40	69	100	93
	Advertising				
Army	55	77	108	140	150
Navy	41	51	81	82	86
Marine Corps	17	26	31	35	35
Air Force	27	39	41	49	49
DOD	140	193	261	306	320
	Totals				
Army	74	618	687	841	919
Navy	43	376	532	549	561
Marine Corps	18	192	264	270	275
Air Force	28	345	450	457	488
DOD	163	1531	1933	2117	2243

[a]E1-E4 base pay and allowances increase due to PL 92-129.

advertisements, unemployment rates and inter-Service variables. Finally, survey data were analyzed to estimate effectiveness of the bonus. The major results of the analysis are given below.

A primary purpose of increasing incentive programs was to increase the number of high school graduates entering the service. The high school graduate is preferred over non-high school graduates by all Services because of lower training cost, lower loss rates and lower disciplinary infraction rates. Currently, there are more non-high school graduates willing to enter the service than are accepted; in the case of high school graduates, however, the demand exceeds the supply. The key to maintaining a quality volunteer force appears to lie in maintaining a proper balance between high school and non-high school graduates. The cost effectiveness of incentive programs has been evaluated in terms of the marginal cost of increasing the supply of high school graduates to each Service. Table S-2 summarizes the results of this analysis. The data in the table show the additional budgetary cost in each program of enlisting one additional high school graduate in each Service. Conclusions from the data include:

o The additional budgetary cost of enlisting one additional high school graduate for a Service varies from $900 if the money is placed in a unit canvasser/recruiter assistant program of the Army to $268,000 if the money is placed in an enlisted pay raise for the Marine Corps.

o The data show that money spent on additional pay raises to incoming personnel is the least cost effective use of resources in improving the quality or quantity of volunteers.

o The data generally show that additional recruiting resources are the most cost effective of the measured programs, with the Army unit canvasser/recruiter assistant program by far the most cost effective of any programs measured by GRC.

o The data show that the bonus programs are generally less cost effective than recruiting and advertising resources in attracting additional high school graduates. However, the bonus program has an additional objective of attracting personnel to key shortage skill areas which cannot be effectively fulfilled by additional recruiting or advertising resources.

Table S-2

SUMMARY OF COST EFFECTIVENESS RESULTS[a]

	Army	Navy	Marine Corps	Air Force
Pay	91,000 ± 14,000	185,000 ± 55,000	268,000 ± 140,000	140,000 ± 34,000
$1500 bonus	10,600[b]		32,600[b]	
$2500 bonus	14,400[b]		9,500[b]	
Advertising	9,000 ± 9,000	—[c]	—[d]	2,500 ± 1,100
Regular recruiters	7,500 ± 5,600	3,300 ± 700	12,000 ± 4,800	1,400 ± 300
Canvassers	900 ± 300[e]			

[a]Measurement is marginal cost of an additional high school graduate enlistment

[b]Marginal cost was estimated from survey data and no error estimates could be made.

[c]The Navy did not provide advertising data.

[d]The Marine Corps had no paid print media insertions.

[e]Robert Babiskin, et al., "Cost Effectiveness of Army Recruiting and Canvasser Programs during Fiscal Year 1974," OAD-CR-51, General Research Corporation, McLean, Virginia, to be published.

o The data show that per additional dollar spent, the Air Force is able to attract more additional high school graduates than any other Service, and the Marine Corps is able to attract the least number of additional high school graduates per additional dollar spent.

o For the Services (Army and Air Force) where advertising data were available, the cost effectiveness analysis showed regular recruiting expenditures and advertising expenditures to be in balance within the error limits of the measurements.

Table S-3 gives the additional number of high school graduates that can be expected to enter each Service annually if one additional recruiter were given to each Service. The relative competitive advantage or disadvantage each Service has in enlisting youth is reflected dramatically in these recruiter data; the Air Force, for each dollar spent, is able to attract over twice as many additional high school graduates as the Navy, five times as many as the Air Force and eight times as many as the Marine Corps.

Table S-3

COMPARISON OF MARGINAL ANNUAL PRODUCTIVITY OF SERVICE RECRUITERS

Service	Annual marginal productivity[a]
Air Force	22 ± 5
Navy	9 ± 2
Army	4 ± 3
Marine Corps	2.5 ± 1

[a]Additional high school graduates per year per additional production recruiter.

Table S-4 places the recruiter marginal productivity for each Service in perspective of youth preference and actual FY74 performance. The first column is the percentage of high school seniors who give each Service as their first preference, and thus would be expected to reflect the distribution of high school graduate enlistees if each Service had equal requirements and equally effective recruiting operations. The second column

shows the actual distribution of FY74 high school graduates among the Services. The third column shows the percentage distribution of enlistees calculated from the current marginal productivity of the recruiters in Table S-3; i.e., if additional recruiters were added by each Service, the percentage distribution of the additional recruits is reflected by the third column.

Table S-4

COMPARISON OF PERCENTAGE OF HIGH SCHOOL ENLISTMENTS EXPECTED IN EACH SERVICE FROM GILBERT YOUTH SURVEY, MARGINAL RECRUITER PRODUCTIVITY, AND ACTUAL FY74 DATA

Service	Gilbert Youth	Actual FY74	Marginal recruiter productivity
Army	25	37	11
Navy	26	25	24
Marine Corps	15	11	7
Air Force	34	27	59

Conclusions from these data include:

o The data for the Air Force show that while 34 percent of high school graduates prefer the Air Force, the Air Force only needs 27 percent of DOD high school graduate enlistees. The high recruiter productivity number, which states that 59 out of each 100 additional high school graduates would be recruited by the Air Force, can be interpreted in terms of a queue of available high school graduates who can be obtained with little recruiter effort.

o The Marine Corps data indicate that while 15 percent of high school graduates prefer the Marine Corps, only 11 percent ended up choosing the Marine Corps in FY74. These data plus the low recruiter productivity number, which states that only 7 out of each 100 additional high school graduates would be recruited by the Marine Corps, suggest that current Marine Corps recruiting procedures need improvement. Lack of paid media advertising and option programs for FY74 could account for part of the low productivity.

o The Navy data indicate that the Navy was able to maintain its share of the high school graduate market, and the productivity of additional recruiters would also maintain the Navy's share of the market.

o The Army data state that while only 25 percent of high school seniors prefer the Army, 37 percent of high school graduate enlistees chose the Army in FY74. The Army was thus able to recruit high school graduates who preferred other Services. Advertising, extensive use of canvassers and attractive options probably account for part of these results.

The average of the unemployment elasticities derived for the 1972-1973 cross-sectional measurements are given in Table S-5, together with estimates of effects of changes in unemployment.

Table S-5

SUMMARY OF POTENTIAL UNEMPLOYMENT EFFECTS ON VOLUNTEER ENLISTMENT

	Army	Navy	Marine Corps	Air Force
Elasticity	.12 ± .11	.18 ± .12	0	.09 ± .09
Potential effect[a]	2.4	3.6	0	1.8

[a]Percentage change in high school graduate enlistments of a 20 percent change in unemployment rate.

The range of variation of the unemployment indices of the nation is usually between 4 and 6 percent, or a 20 percent variation around 5 percent. The second row of Table S-5 shows the percentage change in high school graduate volunteer enlistments of a 20 percent unemployment change. Conclusions from these data are:

o Marine Corps enlistments are relatively insensitive to changes in unemployment rates, while other Services show relatively small sensitivity to unemployment rates.

Table S-6 gives the estimated RMC pay elasticities from the time series measurements, and the estimated effect of a 10 percent change in the relative RMC military pay/civilian pay ratio on volunteer enlistments.

Table S-6

SUMMARY OF POTENTIAL RMC MILITARY PAY/CIVILIAN PAY RATIO ON HIGH SCHOOL GRADUATE ENLISTMENTS IN EACH SERVICE

	Army	Navy	Marine Corps	Air Force
Elasticity	.76 ± .12	.44 ± .13	.15 ±.08	.53 ± .13
Potential change[a]	7.6	4.4	1.5	5.3

[a]Percentage change in high school graduate enlistments of a 10 percent change in RMC military pay/civilian pay ratio.

Conclusions from these data include:

o Marine Corps high school graduate enlistments are relatively insensitive to a pay raise.

o The Army shows the highest pay elasticity of all Services for high school graduates.

Other conclusions from the analysis include:

o Marine Corps high school graduate enlistments were relatively insensitive to incentive program effects, thus increases in Marine Corps accession requirements will be met mainly by non-high school graduates.

o Queues exist for Air Force high school graduate enlistments; thus, of all Services, the quality of Air Force enlistments would be least sensitive to recruiting and advertising budget cuts.

o No effect could be detected on Air Force or Navy enlistments of the $1500 and $2500 bonus programs of the Army and Marine Corps.

o Wide changes in Navy quotas do affect Air Force enlistments. Roughly, for each change of 1000 in monthly Navy enlistments, a change of 100 is expected in Air Force high school graduate enlistments.

o The current marginal cost of placing a Service recruiter in the field, averaged over all Services, is $30,000 annually. The GRC estimated recruiter marginal costs by Service are given in Table S-7. One factor that may affect the increased marginal productivity of the Air Force recruiter and the decreased productivity of other Service recruiters is the level of support costs of the recruiter which is much higher for the Air Force than for the other Services.

Table S-7

RECRUITER MARGINAL COST DATA

	Army	Navy	Marine Corps	Air Force
Initial investment cost	3,900	3,200	3,150	10,300
Annual recurring cost	25,500	25,200	27,000	32,300
Total annual cost[a]	27,500	26,800	28,600	37,500

[a]Initial investment cost spread over 2-year period.

Other, more detailed conclusions are given at the ends of Chaps. 2-6.

RECOMMENDATIONS

Major budget recommendations arising from this analysis have been prepared in a separate POM issue paper written by GRC. Other recommendations include:

o The Air Force, Navy and Marine Corps should place more emphasis on programs similar to the Army's recruiter assistant/unit canvasser program.

o Additional study should be made comparing the recruiting operation of the various Services with respect to recruiting costs, recruiter selection, recruiter location, recruiter training and general mode of operation. The substantial differences found in inter-Service recruiter productivity and between canvassers and regular recruiters suggest that substantial increases in productivity might be achieved by more detailed study of recruiting efforts.

o Many of the ambiguities in the current analysis could be eliminated by a pooled time series cross-sectional analysis of enlistments, and should be undertaken. Such an analysis could provide a sound analytical basis for budget recommendations, year after year, for incentive programs for each Service.

Chapter 1
INTRODUCTION

The decisions made in 1970 to achieve an all volunteer Armed Force by FY74 resulted in large budgetary increases in several programs designed to provide incentives for youth to join the Armed Forces. The major incentive program was a substantial pay raise given to E1-E3 personnel in all Services to make their wages competitive with civilian wage rates. Major increases also occurred in recruiting and advertising expenditures for each Service and the Army and Marine Corps initiated bonus payments. Table S.1 provides the budgetary estimates for these programs since FY71.

Each of these programs had the clearly defined objective of increasing volunteer enlistments so as to meet the quantitative and qualitative manpower requirements determined by Congress. The bonus had the additional objective of filling certain key skill requirements where shortages existed.

The primary purpose of this analysis is to evaluate the cost effectiveness of these programs in attracting volunteers to each of the Services. Three different methods of analysis have been used to determine the effectiveness of these budgeted programs as well as the effect of other variables such as unemployment and educational propensity on enlistments. A cross-sectional analysis of state data for 1972 and 1973 for each Service is described in Chap. 2. Data used in the analysis include by state the number of recruiters, qualified military availables, percentage of youth going to college, military/civilian pay ratio, youth unemployment rates and military/civilian population. Dependent variables include volunteer enlistments for different educational and AFQT groups. A time series analysis on FY71-FY73 data has also been done for each Service. The results are described in Chaps. 3-6. Independent variables included in

this analysis include military/civilian pay ratio, number of recruiters, number of options, print media advertisements, unemployment rates, and quotas as well as policy variables. Dependent variables were volunteer enlistments in different educational and mental category groups. Chapter 7 contains the results of an analysis of AFEES survey results on the cost effectiveness of the bonus. Chapter 8 summarizes the measurements and provides cost effectiveness results.

Chapter 2

A CROSS-SECTIONAL ANALYSIS OF THE SUPPLY ELASTICITY OF FIRST-TERM VOLUNTEER ENLISTMENTS WITH RESPECT TO UNEMPLOYMENT RATES AND RECRUITING STRENGTH

INTRODUCTION

Previous studies which purport to measure the supply elasticity of first-term enlistments with respect to unemployment rates and recruiting strength have been sparse and fragmented. The models used in previous studies did not include the same variables, were estimated using data taken from different time periods, were not applied uniformly to each Service and to DOD total, and in general the models provide results which are greatly divergent.

The objectives of this analysis are twofold. The first is to extend the scope and comprehensiveness of previous studies which assess the supply elasticity of first-term volunteer enlistments with respect to unemployment rates and recruiting strength. The second is to utilize a consistent modeling approach for all four Services and DOD total so that a comparative assessment of unemployment elasticities and recruiting elasticities between Services and DOD total may be made. This chapter is divided into eight sections.

1. Findings of Previous Studies
2. Specification of Models
3. Summary of Empirical Results
4. Analysis of Findings - Individual Services and DOD Total
5. Analysis of Findings - Comparison of Services
6. Analysis of Black Volunteers
7. Interpretation of Results - Problems and Pitfalls
8. Conclusions

FINDINGS OF PREVIOUS STUDIES

During the past decade several studies have been performed which assess the supply elasticity of first-term volunteer enlistments in the Armed Services with respect to changes in wages, unemployment rates, and recruiting strength. Of particular relevance to the report are those studies performed by Fisher,[1] Fechter,[2] Cook,[3] Altman,[4] Gray,[5] Bennett, Haber and Kinn,[6] and Binkin and Johnston.[7]

All studies, except Fisher, used first-term volunteer enlistments per qualified military availables (QMA) as the dependent variable. Fisher used the total number of 18-19 year-old males to calculate the accession rate. The number of independent variables in each model varied somewhat. However, all regression equations included a pay variable and all but two, Fechter and Gray, included an unemployment variable. Altman and Binkin and Johnston included a variable for racial composition; Bennett, Haber, and Kinn included a variable for recruiter productivity; Gray included a variable for distinguishing enlistments for Southern States; and Fechter's model included additional variables representing casualties

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[1] Anthony C. Fisher, "The Cost of the Draft and the Cost of Ending the Draft," American Economic Review, LIX (1969), pp 239-254.

[2] Alan E. Fechter, "Impact of Pay and Draft Policies in Army Enlistment Behavior," The Report of the Presidential Commission on an All Volunteer Force, II-3-1-59, Washington, D.C., US Government Printing Office, November 1970.

[3] Alvin A. Cook, Jr., The Supply of Air Force Volunteers, The RAND Corporation, Santa Monica, California, September 1970.

[4] Stuart H. Altman, "Earnings, Unemployment and the Supply of Enlisted Volunteers," Journal of Human Resources, IV-1 (1969), pp 38-59.

[5] Burton C. Gray, "Supply of First-Term Military Enlistees," The Report of the Presidential Commission on an All-Volunteer Force, II-2-1-40, Washington, D.C., US Government Printing Office, November 1970.

[6] James T. Bennett, Sheldon E. Haber, and Peter J. Kinn, The Supply of Volunteers to the Armed Forces Revisted, Institute for Management Science and Engineering, The George Washington University, Washington, D.C., 1972.

[7] Martin Binkin and John D. Johnston, All-Volunteer Armed Forces: Progress, Problems and Prospects, prepared for the Committee on Armed Services, US Senate, 93rd Congress, 1st Session, The Brookings Institution, June 1, 1973.

in Southeast Asia, the Berlin crisis, the Cuban missile crises, and quarterly seasonal variables.

Table 1 presents the findings of these studies. Fechter, Cook, and Fisher utilize time series models and Altman, Gray, Bennett, Haber and Kinn, and Binkin and Johnston utilize cross-sectional models. The most recent studies are those performed by Bennett, Haber and Kinn and Binkin and Johnston. Both of these studies used 1970 cross-sectional data. Gray used cross-sectional data for 1964 and Altman used cross-sectional data for 1963. Fisher's quarterly time series extended from the third quarter 1957 to the third quarter 1965. Fechter's quarterly time series is more comprehensive and extends from the first quarter 1958 to the fourth quarter 1968. Cook's quarterly time series extends from the first quarter 1958 to the second quarter 1967.

Although at least one model was constructed for each Service and DOD total, each author did not model every Service. Fisher's model was for DOD total, Fechter's model was for the Army, and Cook's models were for the Air Force. Altman modeled DOD total and the Army. Gray modeled the Army, Navy, Marine Corps, and Air Force, but did not model DOD total. Bennett, Haber and Kinn also modeled all four Services and did not include DOD total. Binkin and Johnston modeled only the Army.

The age groups and mental categories are generally comparable in all studies. However, Binkin and Johnston estimated separate elasticities for 18, 19 and 20 year olds, respectively. Fisher estimated elasticities for 18-19 year olds, and Cook included 16 year olds in his studies. The mental groupings were for either Categories I-II or Categories I-III.

The mathematical forms used in these studies are varied, but the findings of Bennett, Haber and Kinn, Altman, and Gray imply that the choice of functional forms does not significantly alter the conclusions. This conclusion is substantiated further by GRC's findings in this study. The sample sizes ranged from nine in the case of Altman to 51 in the case of Binkin and Johnston. Altman collected data on a regional basis, whereas the authors of the other cross-sectional studies collected data on a state basis. The availability of the 1970 census data facilitated the studies of Bennett, Haber and Kinn and Binkin and Johnston.

Table 1

STUDIES OF SUPPLY ELASTICITIES FOR FIRST-TERM ENLISTMENTS

Study	Sample period	Service	Age group	Mental group	Functional form	Sample size	R^2	$\bar{R}^2$	Elasticities: Wages	Unemployment	Recruiter
Fisher	57/III-65/III	All	18-19	I-III	Semi-log	33	-	.88	.46***	.18	N
Fechter	58/I-68/IV	USA	17-21	I-III	Linear	44	-	.51	1.24**	N	N
Cook	58/I-67/II	USAF	16-20	I-IV	Log-linear	38	-	.75	2.19***	.22	N
	58/I-67/II	USAF	16-20	I-III	Log-linear	38	-	.75	2.23***	.24	N
	58/I-67/II	USAF	16-20	I-II	Log-linear	38	-	.75	2.15***	.24	N
Altman	1963	All	17-20	I-III	Log-linear	9	-	.59	.80***	.34***	N
	1963	All	17-20	I-III	Complement	9	-	.64	.81***	.26	N
	1963	USA	17-20	I-III	Log-linear	9	-	.65	1.10**	.41**	N
	1963	USA	17-20	I-III	Complement	9	-	.73	1.18**	.33**	N
Gray	1964	USA	18-21	I-III	Not given	34	-	.31	1.77***	N	N
	1964	USN	18-21	I-III	Not given	34	-	.10	.82**	N	N
	1964	USAF	18-21	I-III	Not given	34	-	.03	1.27***	N	N
	1964	USMC	18-21	I-III	Not given	34	-	.04	-.12	N	N
Bennett Haber Kinn	1970	USA	17-21	I-II	Log-linear	29	-	.10	.34	.02	.69***
	1970	USA	17-21	I-II	Complement	29	-	.14	.51	.09	.58***
	1970	USA	17-21	I-III	Log-linear	29	-	.17	.65***	.02	.43**
	1970	USA	17-21	I-III	Complement	29	-	.21	.71***	.08	.41**
	1970	USAF	17-21	I-II	Log-linear	27	-	.47	.55**	.30**	.62***
	1970	USAF	17-21	I-II	Complement	27	-	.51	.64***	.34***	.60***
	1970	USAF	17-21	I-III	Log-linear	27	-	.42	.64***	.27**	.61***

Table 1 (continued)

Study	Sample period	Service	Age group	Mental group	Functional form	Sample size	R^2	$\bar{R}^2$	Elasticities		
									Wages	Unemployment	Recruiter
Bennett Haber Kinn	1970	USAF	17-21	I-III	Complement	27	-	.43	.67***	.29**	.60***
	1970	USMC	17-21	I-II	Log-linear	33	-	.17	.43**	.07	.34***
	1970	USMC	17-21	I-II	Complement	33	-	.18	.55***	.15	.28***
	1970	USMC	17-21	I-III	Log-linear	33	-	.18	.39**	.15	.34***
	1970	USMC	17-21	I-III	Complement	33	-	.19	.48**	.23	.31***
	1970	USN	17-21	I-III	Log-linear	29	-	.73	-.17	.02	.62***
	1970	USN	17-21	I-III	Complement	29	-	.71	-.17	-.04	.59***
Binkin Johnston	1970	USA	18	I-III	Linear	51	.16	.11	.17	.25***	N
	1970	USA	19	I-III	Linear	51	.19	.14	-.79***	.08	N
	1970	USA	20	I-III	Linear	51	.03	-.03	-.51	-.12	N

N Variable not in regression

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

In most of the studies the coefficient of multiple correlation (R^2) was reported as adjusted for degrees of freedom ($\bar{R}^2$). Binkin and Johnston reported both the adjusted and unadjusted figures. The overall range in the adjusted coefficient was from -.03 in Binkin and Johnston to .88 in the Fisher study. The minus coefficient is possible because the unadjusted coefficient was very small.*

The adjusted coefficient of multiple correlation was higher for the time series models than for the cross-sectional models. In general, the adjusted coefficient of multiple correlation proved to be less then .5. In fact, low readings were predominantly the case in the more recent studies, i.e., 1970. The implication is that a substantial amount of the variation in the dependent variable (volunteers per QMA) is not explained by the variation in the independent variables (relative wages, unemployment rates, and others), and consequently the elasticities must be interpreted with caution. Problems of interpreting the elasticities are discussed in the section Interpretation of Results - Problems and Pitfalls.

Army

For the Army the wage elasticities ranged in value from -.79 in the Binkin and Johnston study to 1.77 in the Gray study. Only Binkin and Johnston found a negative wage elasticity and Fechter, Altman, and Gray found that the wage elasticity was greater than unity. Bennett, Haber and Kinn found that the addition of a variable reflecting the impact of recruiter productivity produced smaller values for both the wage elasticity and the unemployment elasticity. In general the wage elasticities were found to be significant at the 90 percent confidence level in the range between .5 and 1.5.

The unemployment elasticities ranged in value from -.12 in the Binkin and Johnston study to .41 in the Altman study. Fechter did not

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*The adjusted coefficient is given as $\bar{R}^2$.

$$\bar{R}^2 = R^2 + \left[\frac{1-k}{n-k}\right]$$

where

k is the degrees of freedom
n is the sample size.

include an unemployment variable in his model. Gray estimated one equation without an unemployment variable and one equation with an unemployment variable. He found that the pay elasticity decreased from 1.77 to 1.01 with the addition of the unemployment variable. Only Altman and Binkin and Johnston found the unemployment variable significant at the 90 percent level or higher.

The study performed by Bennett, Haber and Kinn was the only one that included a variable for recruiter productivity. In this study they used the ratio of recruiters to QMAs as the recruiter productivity variable. It is interesting to note that the recruiter variable proved to be significant in more instances than the pay variables and the unemployment variables. In addition, all the unemployment elasticity coefficients were less than .1 and none were significant.

Altman finds unemployment rates significant at the 90 percent level and Binkin and Johnston find unemployment rates for 18 year olds significant at the 95 percent level. Bennett, Haber and Kinn found that the unemployment elasticities were not significantly different from zero.

Air Force

For the Air Force, the wage elasticities ranged in value from .64 in the Bennett, Haber and Kinn study to 2.23 in the Cook study. Gray found a wage elasticity of 1.27. As in the case of the Army, Bennett, Haber and Kinn found that the addition of a variable reflecting the impact of recruiter productivity produces smaller values for both the wage elasticity and unemployment elasticity. In general, the wage elasticities were found to be significant at the 95 percent confidence level.

The unemployment elasticities ranged in value from .22 in Cook's study to .34 in the Bennett, Haber and Kinn study. Gray did not explicitly include an unemployment variable in his model. Bennett, Haber and Kinn found that unemployment was significant for the Air Force at the 90 percent confidence level. The unemployment elasticity in Cook's model was not found to be significant.

The study performed by Bennett, Haber and Kinn was the only one that included a variable for recruiter productivity. As in the case of the Army, they used the ratio of recruiters to QMAs as the recruiter productivity variable. They found the recruiter elasticity to be approximately .6 and significant at the 95 percent confidence level.

Navy

The only analyses performed for the Navy were given by Gray and Bennett, Haber and Kinn. They found the wage elasticities to be negative (-.17) and nonsignificant. On the other hand, Gray found that the wage elasticity was significantly positive (.82) at the 90 percent confidence level. Gray's model did not specifically include an unemployment variable, and Bennett, Haber and Kinn found that the unemployment elasticity for the Navy was small and not significantly different from zero.

Gray's model did not include a variable for recruiter productivity. Bennett, Haber and Kinn found that recruiter productivity was positive (.62 and .59) and significant at the 95 percent confidence level.

Marine Corps

Only Gray and Bennett, Haber and Kinn provided models of the Marine Corps. Gray found the wage elasticity negative (-.12) and not significant, whereas Bennett, Haber and Kinn found the wage elasticity to be positive (.43, .55, .39, and .48) and significant at the 90 percent confidence level.

Gray's model did not specifically include an unemployment variable and Bennett, Haber and Kinn found that the unemployment elasticity was positive (.07, .15, .15, and .23) but not significant.

Gray's model did not include a recruiter productivity variable, and Bennett, Haber and Kinn found that the recruiter elasticity was positive (.34, .28, .34, and .31) and significant at the 95 percent confidence level.

DOD Total

Only Fisher and Altman modeled the enlistment responses for the combined Services. Both Fisher's model and Altman's model included variables for recruiter productivity. The empirical elasticities in Altman's model were uniformly higher than the elasticities found by Fisher. Altman found the wage elasticity to be .8 and significant at the 95 percent confidence level, whereas Fisher found the wage elasticity to be only .46 and significant at the 95 percent confidence level.

Altman found the unemployment elasticity to be positive (.34) and significant at the 95 percent confidence level. Fisher found the unemployment elasticity to be positive (.18) but not significant.

Summary of Previous Studies

The models used in previous studies did not include the same variables, were estimated using data taken from different time periods, and were not applied uniformly to each Service and DOD total. Therefore, it is not possible to make conclusive statements regarding the comparability of the results between models and among the sources. However, it is possible to make generalizations regarding these findings.

Table 2 summarizes the range of elasticities found for each of the four Services and DOD total. Wage elasticities tended to be positive and significant for all Services and DOD total. The Army and Air Force appeared to have the strongest wage elasticities. Unemployment elasticities tended to be low, positive, and not significant. The Navy and Marine Corps had the lowest unemployment elasticities. Only the models of Bennett, Haber and Kinn and Binkin and Johnston measured recruiter elasticities. All the recruiter elasticities were positive and significant.

Table 2

SUMMARY OF ELASTICITIES

Service	Elasticity ranges		
	Wages	Unemployment	Recruiters
Army	-.79 to 1.77	-.12 to .41	.28 to .69
Air Force	.55 to 2.23	.22 to .34	.60 to .62
Navy	-.17 to .82	-.04 to .02	.59 to .62
Marine Corps	-.12 to .55	.07 to .23	.28 to .34
DOD total	.46 to .81	.18 to .34	-

SPECIFICATION OF MODELS

The models used in this analysis are similar to the models used by Bennett, Haber and Kinn in that they regress the rates of volunteer accessions per QMA against the variables of relative military pay, rate of unemployment, and amount of recruiter productivity. The primary differences are in the definitions of the variables and the inclusion of two additional explanatory variables and use of 1972 and 1973 volunteer data. Specifically, these differences are:

1. Unemployment rates in this study are disaggregated into rates for 17-18 year olds and 19-21 year olds.*

2. The relative military wage is constructed using the ratio of the discounted present value of military pay to the discounted present value of the expected minimum of civilians in each age group. A 3-year time period is used for both military pay and civilian pay. The construction of the pay index is discussed in App A.

3. The two additional independent or explanatory variables are: (a) the ratio of male high school graduates to male college enrollments and (b) the ratio of military to civilian citizens.

4. Cross-sectional data by state were used for all four Services and DOD total.

The general form of the model used for the four Services and DOD total is given as

$$Y_{ij} = f[W_i, U_i, R_{ij}, H_i, M_i] \qquad \begin{matrix} i = 1, \ldots, 47 \\ j = 1, \ldots, 5 \end{matrix}$$

The variables and subscripts are defined in Table 3. The recruiting districts for the Army, Air Force, Navy and Marine Corps do not have comparable boundaries and, therefore, in order to construct models in which meaningful comparisons could be made it was necessary to convert the recruiter data to recruiters per QMA by state. The use of the state as the basic data element for the cross-sectional models permitted the construction of models for all four Services and DOD total that could be compared and evaluated with respect to unemployment rates and recruiter strength.

In all, 46 states and the District of Columbia were included in the sample. New York and New Jersey were eliminated from the sample because

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*Bennett, Haber and Kinn used unemployment figures which included all age groups of the population. While the aggregate figures do include the figures for 17-21 year olds and will be correlated somewhat with these figures, it can be demonstrated that the variation in unemployment rates for 17-21 year olds is substantially greater than the variation in unemployment rates for the whole population. Therefore, they failed to observe properly the variations in unemployment rates which are applicable to volunteer accessions.

Table 3

DEFINITION OF TERMS - CROSS-SECTIONAL MODEL

Term	Definition
i	The subscript identifying the state, $i = 1, \ldots, 47$
j	The subscript identifying the Service, $j = 1, \ldots, 5$
Y_{ij}	The number of first-term volunteer enlistments per 1000 QMAs per state for the j^{th} Service
W_i	The relative military wage, i.e., the ratio of military wages to civilian wages, per state
U_i	The rate of unemployment per state per age group, i.e., 17-18 or 19-21
R_{ij}	The number of recruiters from the j^{th} Service per 1000 QMAs per state
H_i	The ratio of male high school graduates to the number of male college enrollments per state
M_i	The ratio of military residents to the total number of residents per state

of recruiting district boundary changes between 1972 and 1973 for both the Army and the Navy. Hawaii and Alaska also were eliminated from the sample. The Army implemented substantial changes in the boundaries for the recruiting main stations (RMS) in 1972 and, therefore, the recruiter variable was not included in the Army and DOD total models for 1972. GRC has performed an in-depth cross-sectional analysis of unemployment rates with the recruiter variable included in the model for 1972 for RMS that did not have boundary changes, and the results of that study have been included in the report for comparative purposes.[8]

A stepwise regression program was used, and in all, 80 regression fits were made. Eight different models based on age, mental category, education, and race were estimated for each Service and DOD total for both calendar years 1972 and 1973. The models are as follows:

1. 17-18 year olds
2. 19-21 year olds
3. Mental Category I-II
4. Mental Category I-III
5. High school graduates
6. Non-high school graduates
7. High school graduates - black
8. Non-high school graduates - black

Initially, the data were fitted to three mathematical forms: (1) linear, (2) log-linear, and (3) semi-log. The elasticities derived from each form were not significantly different and, as such, confirm the previous studies of Bennett, Haber and Kinn that the choice of form does not materially alter the results. As a result of this finding and also due to the large number of regressions that were required in this study, it was considered uneconomical to use more than one mathematical form. The linear model was used in all cases and is given as:

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[8] W. S. Moore, "An Analysis of the Supply Elasticity of First-Term Army Volunteer Enlistments with Respect to Unemployment Rates," Chap. 6 in D. W. Grissmer, et al., An Evaluation of Army Manpower Accession Programs, General Research Corporation, McLean, Virginia, OAD-CR-37, April 1974.

$$Y_{ij} = B_o + B_1 W_i + B_2 U_i + B_3 R_{ij} + B_4 H_i + B_5 M_i \qquad \begin{matrix} i = 1, \ldots, 47 \\ j = 1, \ldots, 5 \end{matrix}$$

The rationale for including the ratio of male high school graduates to college enrollments is based on the assumption that the propensity of a high school graduate to enlist is less if he goes to college. Presumably, a high ratio will be associated with a high percentage of volunteer enlistments. As will be seen, the regression results confirm this hypothesis.

The rationale for including the percentage of military population in each region is based on the premise that the career selections of young individuals are influenced by the careers of parents and friends. If a large proportion of the population in a region is employed by the military, then there should be a higher probability that career choices will be made in favor of the military than if there were a smaller proportion of military population.

The empirical findings of the regression models are given in the next section, Summary of Empirical Results.

SUMMARY OF EMPIRICAL RESULTS

The empirical results of the regression models are presented in Tables 4-13. Tables 4, 5, and 6 summarize the regression results for the Air Force, Marine Corps and Navy, respectively. The results from the Army and DOD total are presented in Tables 7, 8, 9, 10, and 11. Table 12 presents results for black volunteers. The first column in the table defines the regression models in terms of the dependent variable, i.e., volunteer category, used. Columns two through six contain the elasticities for each of the independent variables appearing in the models, i.e., unemployment rates, relative pay, high school graduates to college enrollments, military population density, and recruiters.

Some of the cells in the tables do not contain entries. This resulted from the use of a stepwise regression program. The stepwise regression program automatically purges all variables from the model that are not significant in explaining the variation in the dependent variable, and for statistical purposes these variables may be regarded as ineffective explanatory variables in the models in which they appear.

Table 4

REGRESSION RESULTS - AIR FORCE

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
1972, 17-18	-0.116*	-	0.179*	-0.130***	0.899***	0.616
1972, 19-21	-	-	0.342***	-0.077**	0.885***	0.482
1972, I-II	-	-0.490*	0.161	-0.120**	0.404**	0.162
1972, I-III	-0.047	-	0.216**	-0.112***	0.825***	0.554
1972, NHS	-0.249*	-	-	-	1.115***	0.428
1972, HS	-	-	0.326***	-0.122***	0.841***	0.609
1973, 17-18	-	-	0.367***	-0.031	0.901***	0.557
1973, 19-21	0.245***	0.405*	0.337***	0.086**	0.606***	0.417
1973, I-II	0.239*	-0.330	0.371**	-0.052	0.492***	0.197
1973, I-III	0.146**	0.192	0.344***	-	0.750***	0.528
1973, NHS	-0.074	-	-	0.111***	1.106***	0.418
1973, HS	0.171**	0.231*	0.448***	-	0.686***	0.508

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 5

REGRESSION RESULTS - MARINE CORPS

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
1972, 17-18	-	-0.378	-	0.038***	0.388***	0.332
1972, 19-21	0.101	0.195	-	0.135*	0.200*	0.169
1972, I-II	-	-1.135***	0.364*	0.084*	0.288*	0.263
1972, I-III	-	-0.356*	0.090	0.037	0.305***	0.215
1972, NHS	-	-0.282*	-	0.097**	0.438***	0.285
1972, HS	0.113	-	0.103	0.038	0.178*	0.071
1973, 17-18	-0.098*	-0.510***	0.188*	0.046*	0.275***	0.310
1973, 19-21	-	-0.184	0.179	0.197***	0.226***	0.301
1973, I-II	-0.179*	-0.854***	0.356**	0.026	0.115*	0.171
1973, I-III	-0.081	-0.511***	0.234*	0.074**	0.259***	0.298
1973, NHS	-0.056	-0.483*	0.218*	0.113***	0.254***	0.248
1973, HS	-0.075	-0.309	0.156	0.052	0.265***	0.139

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 6

REGRESSION RESULTS - NAVY

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
1972, 17-18	0.094	-0.460*	0.112	-	0.372***	0.256
1972, 19-21	0.167*	-0.380*	0.320***	0.103***	0.530***	0.504
1972, I-II	-	-1.564*	0.487***	0.044	1.182***	0.526
1972, I-III	0.085	-0.856*	0.228*	0.040	0.673***	0.469
1972, NHS	-	0.365*	-0.172	-0.447	-0.213*	0.072
1972, HS	0.152*	-0.864*	0.372***	0.075*	0.753***	0.524
1973, 17-18	-	-0.118	0.199*	0.029	0.361***	0.153
1973, 19-21	0.115*	-	0.186*	0.049*	0.458***	0.253
1973, I-II	0.118	-0.521*	0.437***	-	0.866***	0.400
1973, I-III	-	-0.107	0.212*	-	0.404***	0.194
1973, NHS	-0.432***	0.359*	-0.177	-0.055	-0.215*	0.278
1973, HS	0.230**	-0.192	0.331***	-	0.635***	0.377

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 7

REGRESSION RESULTS - ARMY 1972 - RMS DISTRICTS

Volunteer category	Functional form	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters	R^2
(17-18, I-II)/QMA	Linear	0.491	0.608	N	N	1.765***	0.21
(17-18, I-II)/QMA	Log-linear	0.527	0.830	N	N	1.743***	0.23
(17-18, I-III)/QMA	Linear	0.315	0.915**	N	N	1.037	0.17
(17-18, I-III)/QMA	Log-linear	0.335	1.021**	N	N	0.922**	0.17
(19-21, I-II)/QMA	Linear	0.289	0.579	N	N	1.680***	0.25
(19-21, I-II)/QMA	Log-linear	0.304	0.927	N	N	1.770***	0.28
(19-21, I-III)/QMA	Linear	0.131	1.034***	N	N	0.630	0.20
(19-21, I-III)/QMA	Log-linear	0.111	1.066***	N	N	0.594	0.21
(17-18, I-II)/QMA	Linear	0.508***	-	0.390	0.088	1.388**	0.27
(17-18, I-II)/QMA	Log-linear	0.648**	0.374	0.067**	0.030	1.141	0.34
(17-18, I-II)/MA	Linear	0.509	0.232	0.284	0.095	1.60***	0.39
(17-18, I-II)/MA	Log-linear	0.581**	0.518	0.421	0.040	1.501***	0.46
(17-18, I-III)/QMA	Linear	0.314	0.496	0.217	0.072	0.790	0.21
(17-18, I-III)/QMA	Log linear	0.366	0.453	0.363**	0.065	0.424	0.30
(17-18, I-III)/MA	Linear	0.345	0.490	0.157	0.076	1.029***	0.30
(17-18, I-III)/MA	Log-linear	0.375	0.391	0.336	0.056	0.724	0.35
(19-21, I-II)/QMA	Linear	0.261	-	0.225	0.103	1.369**	0.31
(19-21, I-II)/QMA	Log-linear	0.335	0.682	0.247	0.017	1.492***	0.31
(19-21,I-II)/MA	Linear	0.279	0.372	0.082	0.110	1.655***	0.46

Table 7 (continued)

Volunteer category	Functional form	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters	R^2
(19-21, I-II)/MA	Log-linear	0.264	0.840	0.125	0.032	1.706***	0.46
(19-21, I-III)/QMA	Linear	0.116	0.515	0.215	0.103	0.337	0.30
(19-21, I-III)/QMA	Log-linear	0.080	0.450	0.261	0.078**	0.162	0.35
(19-21, I-III)/MA	Linear	0.200	0.504	0.236	0.086	0.597	0.32
(19-21, I-III)/MA	Log-linear	0.178	0.493	0.299	0.056	0.433	0.34

N Variable not in regression.

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

Table 8

REGRESSION RESULTS - ARMY 1972-1973 WITHOUT RECRUITERS/QMA

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
1972, 17-18	0.232**	0.273	0.182*	0.073*	N	0.172
1972, 19-21	0.098	0.782***	0.205*	0.183***	N	0.394
1972, I-II	0.340***	-0.364*	0.282*	0.091*	N	0.202
1972, I-III	0.255***	0.205	0.173*	0.108***	N	0.264
1972, NHS	0.198*	0.386*	-	0.149***	N	0.164
1972, HS	0.230**	0.604***	0.410***	0.078*	N	0.358
1973, 17-18	0.102	0.770***	0.425***	0.122***	N	0.441
1973, 19-21	-0.110	1.025***	0.260*	0.256***	N	0.508
1973, I-II	0.155*	0.401*	0.387***	0.108**	N	0.272
1973, I-III	0.078	0.679***	0.373***	0.176***	N	0.502
1973, NHS	-	0.965***	0.202	0.243***	N	0.356
1973, HS	0.066	0.817***	0.483***	0.123***	N	0.515

N Variable not included in regression.

* Significant at the 68 percent confidence level.

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

Table 9

REGRESSION RESULTS - ARMY 1973 WITH RECRUITERS/QMA

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
17-18	0.102	0.770***	0.425***	0.122***	-	0.441
19-21	-0.075	1.178***	0.237*	0.261***	-0.294	0.519
I-II	0.074	-	0.450***	0.108***	0.555***	0.339
I-III	0.078	0.679***	0.373***	0.176***	-	0.502
NHS	-	1.185***	0.161	0.250***	-0.502*	0.386
HS	-	0.652***	0.496***	0.122***	0.283*	0.531

*Significant at the 68 percent confidence level.

***Significant at the 95 percent confidence level.

Table 10

REGRESSION RESULTS - DOD TOTAL 1972-1973 WITHOUT RECRUITERS/QMA

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
1972, 17-18	0.144**	-	0.079	0.028	N	0.074
1972, 19-21	0.143*	0.397**	0.149*	0.111***	N	0.293
1972, I-II	0.242*	-0.642**	0.236*	0.034	N	0.167
1972, I-III	0.182***	-	0.091	0.044*	N	0.129
1972, NHS	0.106	0.167	-	0.101**	N	0.102
1972, HS	0.204***	0.120	0.241***	0.034	N	0.189
1973, 17-18	0.039	0.305*	0.253***	0.043*	N	0.289
1973, 19-21	-	0.598***	0.192*	0.166***	N	0.505
1973, I-II	0.160*	-	0.275**	-	N	0.099
1973, I-III	0.064	0.299**	0.242***	0.080***	N	0.396
1973, NHS	-0.092	0.618***	-	0.150***	N	0.288
1973, HS	0.141**	0.358**	0.326***	0.052*	N	0.381

N Variable not included in regression.

* Significant at the 68 percent confidence level.

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

Table 11

REGRESSION RESULTS - DOD TOTAL 1973 WITH RECRUITERS/QMA

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
17-18	-	0.194*	0.305***	0.040*	0.335**	0.344
19-21	-	0.560***	0.218*	0.163***	0.140	0.510
I-II	0.106	-0.297*	0.401***	-	0.557***	0.199
I-III	0.044	0.216*	0.287***	0.076***	0.265**	0.436
NHS	-0.092	0.618***	-	0.150***	-	0.288
HS	0.111*	0.228*	0.397***	0.046*	0.413***	0.458

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 12

REGRESSION RESULTS - BLACK VOLUNTEERS WITH RECRUITERS/QMA

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA	R^2
HS, Army	-	3.434**	0.922*	0.201	1.676	0.813
NHS, Army	-	1.359	0.746*	0.312*	-	0.657
HS, Air Force	-	1.524*	0.485	0.232*	0.729*	0.773
NHS, Air Force	-	-	-	0.321*	-	0.208
HS, Marine Corps	-	1.672*	0.478	0.188	0.682	0.493
NHS, Marine Corps	-	0.897	1.118*	-	1.555**	0.380
HS, Navy	-	-	0.353	0.306***	-	0.461
NHS, Navy	-	-	0.669*	0.126	-	0.279
HS, DOD	-	2.032*	0.632*	0.244*	1.053	0.762
NHS, DOD	-	1.107	0.598*	0.164	-	0.508

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

The results of the regression runs are presented in the form of elasticities, not regression coefficients. Elasticity measures the percentage change that takes place in the regressand (i.e., the dependent variable) as a result of a percentage change in one of its regressors (i.e., independent variables), while holding all other regressors constant. More formally, point elasticity in the multivariate case is given by

$$\varepsilon = \frac{\partial Y}{\partial X_i}\left[\frac{X_i}{Y}\right]$$

where Y is the regressand and X_i one of its regressors. ($\partial Y/\partial X_i$ is the regression coefficient of X_i.) The elasticity associated with a regressor will depend on the selection of values for X_i and Y. Elasticity will vary therefore with the changes in these values and cannot be regarded as constant for any given relationship. For the purposes of this study all elasticities were calculated at the mean ($\bar{X}_i/\bar{Y}$), i.e., at the centroid.

It is to be noted that a number of entries in the tables are marked with asterisks. Entries without asterisks were not found to be statistically different from zero. Those found to be significant were coded as follows:

*: Entry is significant at the 68 percent confidence level

**: Entry is significant at the 90 percent confidence level

***: Entry is significant at the 95 percent confidence level

As noted in the previous section, reliable state data for Army recruiters could not be derived for 1972 because of the changes in the recruiting boundaries that occurred. As a result, the regression runs for 1972 excluded the recruiter variable (see Table 8). State data for Army recruiters were obtainable for 1973 and regression runs were made with and without the recruiter variable in the model. Table 9 summarizes the results for Army 1973 with the recruiter variable in the model, and the results for Army 1973 without the recruiter variable are incorproated in Table 8 with the 1972 data.

Table 7 summarizes the results of the GRC Army 1972 elasticity study.[9] These results are based on using the RMS as the basic data

[9] Ibid.

element rather than the states, i.e., all data have been converted to RMS boundaries. While these results are not directly comparable with the results obtained from the models using state boundaries, they do provide a useful method of comparing the results for consistency.

Since the recruiting variable was omitted from the Army 1972 models, it also had to be omitted from the DOD total model for 1972. Table 10 summarizes the results for the regression runs made for DOD total without the recruiting variable for both 1972 and 1973. Table 11 summarizes the results for the regression runs made for DOD total with the recruiter variable included for 1973.

Limited information on black volunteers restricted attention to the year 1973 and concentrated on the two categories of high school graduates and non-high school graduates. Table 12 summarizes the regression results for black volunteers.

Unemployment rates appearing in this study were obtained on a state-by-state basis for the 17-18 and 19-21 age groups. Rates for both groups were used when dealing with overall volunteers in the two age categories. In all other cases, a weighted unemployment rate was used. The weights were based on the actual distribution of 17-18 and 19-21 year olds for each Service. This weighting system is described in App B.

As noted in the preceding section, the pay variable used in this study is the ratio of military to civilian wages. Civilian pay scales were based on industrial wages in the 17-18 and 19-21 age groups and it should be recognized that this practice may create distortions for those states not possessing dense concentrations of industrial activity. Separate wage variables were used in the two age categories. It was found that these variables are closely associated and consequently only the 19-21 year old pay scale was used in the other volunteer categories, i.e., Mental Categories I-II and I-III and education categories — high school graduates and non-high school graduates.

An analysis was made to determine the degree of multicollinearity present in the relationships. An examination was made of the correlation matrices associated with each regression, and it was concluded that sufficient levels of correlation exist among the independent variables to increase the calculated variances of their estimated regression coefficients. However, multicollinearity was not present to a degree that would seriously impair the estimated elasticities, i.e., at no time did the correlation among any pair of regressors exceed 0.5 and most were well below this figure.

Several tests were made to detect the presence of autocorrelation. Regression runs made for aggregate (as opposed to black only) volunteers were checked by means of the Durbin-Watson test and no significant evidence was found to indicate the presence of serial correlation. Runs involving black volunteers were checked by means of nonparametric tests for randomness in the residuals (the Durbin-Watson method could not be used due to an insufficient number of sample points). No evidence of autocorrelation was found using the nonparametric tests.

As was noted earlier, elasticities are not fixed for any supply function but rather vary along its length. This study has chosen to determine the elasticity of each independent variable at the point of the sample means. The reader may wish, however, to consider a different point on one or more of the relationships considered. The appropriate elasticity can be calculated by multiplying the regression coefficients times the selected values for X_i and Y_i, e.g., X_i/Y_i. The regression coefficients for the regression runs are given in Table 13.

ANALYSIS OF FINDINGS - INDIVIDUAL SERVICES AND DOD TOTAL

This section describes the analysis and findings of the regression models for the Army, Air Force, Marines, Navy, and DOD total. This section reports only the analysis and findings of the Services and DOD individually, and no attempt is made to compare similarities and differences among them. The analysis of the comparisons among the Services and DOD total is reported in the following section.

For each Service and DOD total the volunteer categories were grouped into pairs on the basis of mental classification (I-II and I-III), education (high school and non-high school), and age (17-18 and 19-21). The

Table 13

REGRESSION COEFFICIENTS

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA
		Army 1972 without Recruiters			
17-18	0.273	1.867	8.785	0.159	N
19-21	0.087	5.116	5.869	0.235	N
I-II	0.199	-1.827	6.181	0.090	N
I-III	0.416	2.892	10.683	0.299	N
NHS	0.209	3.627	-	0.275	N
HS	0.227	4.970	14.732	0.125	N
		Army 1973 without Recruiters			
17-18	0.110	4.174	16.282	0.209	N
19-21	-0.102	6.073	6.772	0.300	N
I-II	0.088	1.668	7.075	0.089	N
I-III	0.128	8.286	20.028	0.424	N
NHS	-	6.635	6.114	0.330	N
HS	0.071	6.329	16.478	0.189	N
		Army 1973 with Recruiters			
17-18	0.110	4.174	16.282	0.209	-
19-21	-0.070	6.981	6.170	0.305	-3.100
I-II	0.042	-	8.231	0.089	4.105
I-III	0.128	8.286	20.028	0.424	-
NHS	-	8.152	4.877	0.340	-6.130
HS	-	5.052	16.926	0.186	3.905
		Air Force 1972			
17-18	-0.051	-	3.248	-0.106	11.219
19-21	-	-	5.526	-0.056	9.854
I-II	-	-1.744	2,495	-0.084	4.330
I-III	-0.042	-	7.061	-0.165	18.601
NHS	-0.037	-	-	-	4,380
HS	-	-	9.318	-0.156	16.570

Table 13 (continued)

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA
		Air Force 1973			
17-18	-	-	6.688	-0.025	19.384
19-21	0.127	1.344	4.909	0.056	10.435
I-II	0.109	-1.085	5.365	-0.034	8.388
I-III	0.148	1.405	11.063	-	28.459
NHS	-0.013	-	-	0.028	7.304
HS	0.147	1.432	12.201	-	22,066
		Marine Corps 1972			
17-18	-	-0.915	-	0.029	7.538
19-21	0.030	0.428	-	0.058	2.179
I-II	-	-1.653	2.318	0.024	2.076
I-III	-	-1.723	1.900	0.035	7.300
NHS	-	-1.008	-	0.068	7.755
HS	0.034	-	1.147	0.019	2,245
		Marine Corps 1973			
17-18	-0.037	-	-	0.067	1.514
19-21	-0.047	-	-	0.052	0.637
I-II	-0.034	-1.171	2.147	0.007	0.812
I-III	-0.046	-2.090	4.209	0.060	5.463
NHS	-0.021	-1.302	2.583	0.060	3.539
HS	-0.019	-0.566	1.258	0.019	2.506
		Navy 1972			
17-18	0.071	-2.024	3.494	-	6.150
19-21	0.088	-1.487	5.471	0.079	4.808
I-II	-	-5.854	7.965	0.032	10.264
I-III	0.084	-7.351	8.543	0.068	13.409
NHS	-	1.327	-2.739	-0.319	-1.799
HS	0.131	-6.389	11.994	0.109	12.929

Table 13 (continued)

Volunteer category	Unemployment rate	Military/ civilian pay	High school/ college ratio	Military/ civilian ratio	Recruiters/ QMA
		Navy 1973			
17-18	-	-0.373	4.433	-0.029	4.837
19-21	-0.029	0.448	-1.076	0.025	-0.735
I-II	0.049	-1.566	5.772	-	6.882
I-III	-	-0.789	6.881	-	7.887
NHS	-0.126	0.754	-1.634	-0.023	-1.196
HS	0.175	-1.057	8.004	-	9.232
		DOD Total 1972 without Recruiters			
17-18	0.401	-	9.026	0.145	N
19-21	0.315	6.500	10.625	0.355	N
I-II	0.390	-8.844	14.172	0.092	N
I-III	0.737	-	13.893	0.303	N
NHS	0.212	2.993	-	0.353	N
HS	0.599	2.972	26.044	0.163	N
		DOD Total 1973 without Recruiters			
17-18	0.101	4.010	23.443	0.180	N
19-21	-	7.849	11.102	0.430	N
I-II	0.256	-	14.286	-	N
I-III	0.267	9.266	32.926	0.487	N
NHS	-0.157	8.000	-	0.384	N
HS	0.414	7.607	30.488	0.220	N
		DOD Total 1973 with Recruiters			
17-18	-	2.544	28.240	0.167	5.333
19-21	-	7.350	12.588	0.424	1.391
I-II	0.170	-3.511	20.849	-	4.969
I-III	0.185	6.685	39.077	0.464	6.203
NHS	-0.157	8.000	-	0.384	-
HS	0.325	4.845	37.126	0.195	6.627

primary objective was to assess the significance of unemployment and recruiting strength in explaining the variation in volunteer enlistments for each Service. Comparisons were made to ascertain if differences existed within the volunteer pair groupings for each year, e.g., was there a difference between 17-18 year olds and 19-21 year olds in 1972.

Regression runs were made for both 1972 and 1973, and a nonparametric test of significance was made for each Service and DOD total to determine if the pattern of results among volunteer categories differed from one year to the next.[10]

Army

Three regression models were used to analyze volunteer enlistments for the Army.

1. RMS Model 1972
2. State Model 1972-1973, without Recruiters
3. State Model 1973

The RMS model was based on 34 sample observations from different RMS for calendar year 1972, whereas the state models were based on 47 sample observations from the different states for calendar years 1972 and 1973. In the RMS model, the variables for pay, unemployment, high school to college ratio, and military population density were converted from state boundaries to RMS boundaries. In the state models, the recruiter variable was converted from RMS boundaries to state boundaries. The algorithm used to convert the data from state to RMS and vice versa was based on total population within ZIP code areas for both the states and RMS.

The models are not directly comparable because the data are based on different geographic boundaries. However, the models are comparable to the extent that the values of the independent variables, i.e., relative pay and unemployment rates, are proportionate to population totals, and it was felt that the results from the RMS model should be included as a supplement to the state models. The overall results of the RMS model are summarized in Table 7, and the results of the state model are summarized in Tables 8 and 9.

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[10] The test used was a variation of the McNemar test of significance utilizing the binomial test. See S. Siegel, Nonparametric Statistics for the Behavioral Sciences, McGraw-Hill, 1956.

Analysis of Unemployment Elasticities. The unemployment elasticities for the state models and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 14. The results are given for the 1972 state model without a recruiter variable, the 1973 state model without a recruiter variable, and the 1973 state model with a recruiter variable. A number of conclusions may be drawn from these results:

1. The unemployment elasticity was positive and significant in 1972.

2. Unemployment had little or no impact on volunteer accessions in 1973.

3. The unemployment elasticities were consistently greater for 17-18 year olds than 19-21 year olds.

4. The unemployment elasticities were consistently greater for Category I-II than Category I-III.

5. The unemployment elasticities were slightly higher for the high school category than for the non-high school category.

6. The presence of the recruiter variable in the model did not significantly impact the value of the unemployment elasticity in 1973.

The results of the regression runs utilizing 1972 state data indicate that unemployment was a significant variable for all volunteer categories tested except 19-21 year olds. Category I-II had the highest unemployment elasticity of .34 which was significant at the 95 percent confidence level, and 19-21 year olds had the lowest value, .098, which was not significantly different from zero at the 68 percent confidence level.

The unemployment elasticity for 17-18 year olds was 137 percent larger than that for 19-21 year olds. It was 33 percent larger for Category I-II than Category I-III, and it was only 16 percent larger for high school graduates than non-high school graduates. It is interesting to note that there did not appear to be a large difference between the unemployment elasticities for the high school graduates and non-high school graduates.

The results for the regression runs utilizing 1973 state data without a recruiter variable in the model indicate that unemployment was not a significant variable in determining volunteer enlistment for the year. The only volunteer group that was significant was Category I-II at an elasticity of .155 and significant at the 68 percent confidence level.

Table 14

ARMY UNEMPLOYMENT ELASTICITIES - STATE MODELS

Volunteer category	Unemployment elasticity	90% CI	95% CI
	1972 without Recruiters		
17-18	.232**	.033 to .430	-.109 to .470
19-21	.098	-.145 to .351	-.193 to .389
I-II	.340***	.094 to .585	.044 to .634
I-III	.255***	.078 to .432	.044 to .467
High school	.230**	.017 to .442	-.024 to .484
Non-high school	.198*	-.085 to .481	-.141 to .538
	1973 without Recruiters		
17-18	.102	-.094 to .297	-.133 to .335
19-21	-.110	-.364 to .144	-.415 to .195
I-II	.155*	-.064 to .373	-.108 to .417
I-III	.078	-.109 to .263	-.146 to .301
High school	.066	-.126 to .259	-.164 to .297
Non-high school	-	-	-
	1973 with Recruiters		
17-18	.102	-.094 to .297	-.133 to .335
19-21	-.075	-.336 to .186	-.389 to .239
I-II	.074	-.129 to .277	-.170 to .318
I-III	.078	-.109 to .263	-.146 to .301
High school	-	-	-
Non-high school	-	-	-

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

The results are consistent with the 1972 model in that the elasticities for 17-18 year olds were greater than the 19-21 year olds, the Category I-II were greater than Category I-III, and high school graduates were greater than non-high school graduates (in the sense that the non-high school variable did not enter the stepwise regression). The negative elasticities obtained for 19-21 year olds were not significantly different from zero and their occurrence may be considered due to random variation.

The McNemar nonparametric test was run to determine if there was a shift in significance of unemployment from 1972 to 1973. The results of the test confirmed the hypothesis that there was a significant difference in the unemployment level and that this difference could be asserted with 95 percent confidence.

The addition of a recruiter variable to the model had only a slight impact on the value of the unemployment elasticities. The elasticity for Category I-II was not significant in this case and it was approximately one-half the value without the recruiter variable. Also, neither the high school nor the non-high school variable entered the regression model.

Perhaps the most significant finding of the analysis is the shift in the impact of the unemployment variable. This shift can be explained in part by the fact that unemployment rates were much lower in 1973 than 1972. Remembering that the formula for elasticity is

$$\frac{\partial Y}{\partial X}\left[\frac{\bar{X}}{\bar{Y}}\right]$$

it can be seen that the elasticity for 1973 should be lower since the average unemployment rate ($\bar{X}$) was lower in 1973 than 1972.

If one subscribes to the hypothesis that there is a certain amount of structural unemployment at all times, i.e., people who are in the transitional phase between jobs or those who have just entered the labor force and are still unemployed, and if it is accepted that labor markets were relatively tight in 1973, it might be concluded that unemployment had reached or approached a theoretical minimum, and this level would be such that small changes around the margin would have little impact on volunteer enlistments, thus accounting for the observed change in elasticities.

The finding that unemployment elasticities might shift from one year to the next as a result of changes in the labor market suggests that it may not be practical to compare elasticity studies conducted during different time periods, even if the research methodology is identical, unless adjustments are made with respect to conditions that existed in the labor market during the period of analysis.

The unemployment elasticities for the 1972 RMS model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 15. Although 24 cases are presented in Table 7, only four cases are shown in Table 15 because these are the most comparable with the cases run in the state models. The volunteer categories are of a finer grain, e.g., 17-18, I-II vs 17-18 in the RMS model. Although a recruiter variable is included in this model, the results are compatible with those obtained for the 1972 state models. That is, the unemployment elasticities are greater for 17-18 year olds than 19-21 year olds, and greater for Category I-II than Category I-III. High school and non-high school variables were not included in the model. The range in the unemployment elasticity is greater in the RMS model, i.e., .116 to .508, but this can be explained by the fact that the upper limit is a combination of the most responsive variables, 17-18 year olds and Category I-II.

Analysis of Recruiter Elasticities. The data were not available to incorporate a recruiter variable in the 1972 state models and, therefore, only the results of the 1973 state models are reported. Table 16 summarizes the elasticities for the 1973 state models with a recruiter variable. The results which were obtained for the absolute elasticities do not appear to be completely consistent with the expected behavioral hypothesis of volunteers. For example, the recruiter variable showed a positive and significant elasticity (.283) for high school graduates, but showed a negative and significant elasticity for non-high school graduates. Also, a negative elasticity (but not significant) was obtained for 19-21 year olds. However, the relative elasticities did appear consistent in that the elasticity for 17-18 year olds was more positive, i.e., did not enter the regression, than for 19-21 year olds; Category I-II was significantly larger than Category I-III; and the elasticity of high school graduate variable was larger than that for the non-high school graduate.

Table 15

ARMY UNEMPLOYMENT ELASTICITIES - 1972 RMS MODEL[a]

Volunteer category	Unemployment elasticity	90% CI	95% CI
17-18, I-II/QMA	.508**	.043 to .968	-.054 to 1.065
17-18, I-III/QMA	.314	-.101 to .730	-.185 to .814
19-21, I-II/QMA	.261	-.100 to .619	-.172 to .694
19-21, I-III/QMA	.116	-.243 to .475	-.316 to .549

[a]As indicated in Table 7, 24 cases were run of which 12 were log-linear models and 12 were models using MA (as opposed to QMA) data. Also, not all runs included the high school to college ratio variable and the military population density variable. The cases that are reported in the table are for the linear models using QMA data.

Table 16

ARMY RECRUITER ELASTICITIES - 1973 STATE MODEL

Volunteer category	Unemployment elasticity	90% CI	95% CI
17-18	-	-	-
19-21	-.294	-.802 to .213	-.903 to .315
I-II	.555***	.175 to .935	.099 to 1.011
I-III	-	-	-
High school	.283*	-.078 to .645	-.150 to .717
Non-high school	-.502*	-1.091 to .088	-1.209 to .206

*Significant at the 68 percent confidence level.

***Significant at the 95 percent confidence level.

The inconsistencies in the absolute elasticities may be explained in part by the shortcomings in the recruiter data which were available for the Army. The Army collects recruiter data on the basis of RMS boundaries only, and since RMS boundaries cross state boundaries and vice versa it is not possible to obtain an accurate count of recruiters by state. As mentioned previously, an algorithm was developed that allocated recruiters to states on the basis of ZIP codes, and it is possible that errors in the allocation process could be the cause for the observed negative recruiter elasticities. For this reason, the recruiter elasticities derived from the 1973 state models should be interpreted with extreme caution.

The results of the 1972 RMS model are presented in Table 17. The recruiter data for this model are reliable and the observed elasticities are likely to be a better representation of the true elasticities than those found with the state model. A significant difference in recruiter elasticity did exist by age for Category I-II, but there did not appear to be a difference by age for Category I-III. Also, the elasticities for the Category I-II groups were significant at the 90 percent confidence level, whereas the elasticities were significant at the 68 percent confidence level for the Category I-III groups. The 90 percent and 95 percent confidence intervals were not available for the RMS model.

Table 17

ARMY RECRUITER ELASTICITIES - RMS MODEL

Volunteer category	Recruiter elasticity
17-18, I-II/QMA	1.388**
17-18, I-III/QMA	.790*
19-21, I-II/QMA	1.369**
19-21, I-III/QMA	.337*

Other Variables in the Regression Model. The other variables included in both the RMS model and the state model were the ratio of military pay to civilian pay, the ratio of male high school graduates to male college enrollments, and the ratio of military population to civilian

population. The results are summarized in Tables 7, 8, and 9 and the following observations can be made for these variables.

Relative Pay:*

1. The elasticities were positive and significant for both 1972 and 1973.

2. The elasticities were significantly greater for 1973 (significant at the 87 percent confidence level).

3. The elasticities were consistently greater for Category I-III than Category I-II.

4. The elasticities were consistently greater for 19-21 year olds than 17-18 year olds.

5. The elasticities were consistently greater for non-high school graduates than high school graduates.

High School to College Ratio:

1. The elasticities were positive and significant for both 1972 and 1973.

2. The elasticities were significantly greater for 1973 (significant at the 87 percent confidence level).

3. The elasticities were not consistently different between the age groups.

4. The elasticities were consistently greater for Category I-II than Category I-III.

5. The elasticities were consistently greater for high school graduates that for non-high school graduates. This result is expected and the non-high school graduate variable either did not come into the regression or was not significant.

Military Population Density:

1. The elasticities were positive and significant for both 1972 and 1973.

2. The elasticities were significantly greater for 1973 (significant at the 87 percent confidence level).

3. The elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

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*This topic is discussed in more detail in the Section Interpretation of Results - Problems and Pitfalls.

4. The elasticities were consistently higher for Category I-III than Category I-II.

5. The elasticities were consistently higher for non-high school graduates than high school graduates.

Comparison between 1972 and 1973. The analysis indicates a significant upward shift in the elasticities for pay, high school graduate ratio, and military population density from 1972 to 1973. The data were not adequate to assess the shift in the recruiter variable, and a significant downward shift was detected in the unemployment variable. The observed upward shift in the pay variable and downward shift in the unemployment variable may be explained in part by the fact that labor markets were tight and unemployment was much lower in 1973 than 1972. Also, military pay was brought more in line with its civilian counterpart as military pay had a slightly larger increase than civilian pay. The upward shift in the high school ratio may be explained by the fact that in 1973 a drop in college enrollments occurred and the direct American involvement in Vietnam ended. The shift in importance in the military population density also may be partially attributed to the ending of the Vietnam War and an improvement in the public's attitude toward the volunteer Service concept.

Air Force

The state model with variables for military pay, unemployment, high school to college graduate ratio, military population density, and recruiter strength was used to analyze volunteer enlistments for the Air Force in 1972 and 1973. The overall results of this model are summarized in Table 4.

Analysis of Unemployment Elasticities. The unemployment elasticities for the Air Force model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 18. The results are given for both 1972 and 1973. The following conclusions were drawn from the analysis.

1. Unemployment did not have a significant impact on volunteer accessions in 1972.

2. Unemployment did have a significant impact on volunteer accessions in 1973.

Table 18

AIR FORCE - UNEMPLOYMENT ELASTICITIES

Volunteer category	Unemployment elasticity	90% CI	95% CI
	1972		
17-18	-.116*	-.258 to .025	-.288 to .054
19-21	-	-	-
I-II	-	-	-
I-III	-.047	-.200 to .106	-.230 to .137
High school	-	-	-
Non-high school	-.249*	-.504 to .007	-.552 to .061
	1973		
17-18	-	-	-
19-21	.245***	.062 to .429	.023 to .466
I-II	.239*	-.002 to .479	-.051 to .527
I-III	.146**	-.008 to .284	-.020 to .312
High school	.171**	.022 to .322	-.008 to .351
Non-high school	-.074	-.289 to .147	-.335 to .187

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

3. The unemployment elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

4. The unemployment elasticities were consistently higher for Category I-II than Category I-III.

5. The unemployment elasticities were consistently higher for high school graduates than for non-high school graduates.

The non-significance or negative impact of the unemployment variable in 1972 is in sharp contrast to the hypothesis that joining the Service is an attractive alternative to unemployment. The apparent lack of significance can be explained in part by the fact that the Air Force has not had difficulty in meeting its recruiting requirements and in effect queues have built up for entrance into this Service. If this hypothesis is accepted, then real changes in unemployment would have the impact of lengthening or shortening the queue and volunteer rates would not be affected until the queues diminished. Thus, observed changes in unemployment rates would not appear as significant in the regression models under these conditions.

The shift in significance in unemployment in 1973 may be explained in part by the fact that many of the volunteers in 1972 were still draft motivated, whereas in 1973 they were purely volunteers. The result is that the Air Force demand for volunteers was less in 1972 and queues existed. However, in 1973 the Air Force demand for volunteers increased so that queues might have disappeared in certain areas, and unemployment was measured as significant even though unemployment rates dropped from 1972 to 1973. The fact that the elasticities for Category I-II are higher than Category I-III and are higher for high school graduates than non-high school graduates is consistent with this logic.

Analysis of Recruiter Elasticities. The recruiter elasticities for the Air Force model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 19. The results are given for both 1972 and 1973. The following conclusions were drawn from this analysis.

1. The recruiter elasticity was positive and significant in all cases for both 1972 and 1973.

Table 19

AIR FORCE - RECRUITER ELASTICITIES

Volunteer category	Recruiter elasticity	90% CI	95% CI
	1972		
17-18	.899**	.706 to 1.091	.667 to 1.130
19-21	.885**	.642 to 1.128	.594 to 1.176
I-II	.404**	.043 to .766	-.029 to .838
I-III	.825***	.625 to 1.024	.585 to 1.064
High school	.841***	.780 to 1.450	.713 to 1.517
Non-high school	1.115***	.657 to 1.026	.620 to 1.063
	1973		
17-18	.901***	.674 to 1.127	.629 to 1.173
19-21	.606***	.298 to .914	.236 to .976
I-II	.492***	.096 to .888	.016 to .968
I-III	.750***	.522 to .978	.477 to 1.024
High school	.686***	.440 to .933	.391 to .982
Non-high school	1.106***	.743 to 1.469	.670 to 1.542

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

2. There was no difference in recruiter elasticity between 1972 and 1973.

3. There was no difference in recruiter elasticity by age in 1972.

4. The recruiter elasticity was higher for 17-18 year olds than 19-21 year olds in 1973.

5. The recruiter elasticities were consistently higher for Category I-III than Category I-II.

6. The recruiter elasticities were consistently higher for non-high school graduates than high school graduates.

The Air Force recruiter variable was significant at the 95 percent confidence level in all cases except 1972 Category I-II which was significant at the 90 percent confidence level. The elasticity ranged from .404 for 1972 Category I-II to 1.115 for 1972 non-high school graduates. The average elasticity for all categories in 1972 was .828 and the average in 1973 was .757 which was only slightly lower than the previous year. This decline in elasticity may be explained by the fact that the Air Force recruiting strength was about one-third less in 1973 than 1972 even though the number of volunteer enlistments remained the same, i.e., $\varepsilon = (\partial Y/\partial X)(\bar{X}/\bar{Y})$ where $\bar{X}/\bar{Y}$ declines by one-third.

Other Variables in the Regression Model. The other variables included in the model were the ratio of military pay to civilian pay, the ratio of male high school graduates to male college enrollments, and the ratio of military population to civilian population. The results are summarized in Table 4, and the following observations are made for these variables.

Relative Pay:*

1. The pay elasticity was not significant for 1972.

2. The pay elasticity was not significant for 1973.

3. The pay elasticity was slightly higher for 1973.

4. Category I-II had a negative elasticity for both 1972 and 1973.

High School to College Ratio:

1. The elasticities were positive and significant for both 1972 and 1973.

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*This topic is discussed in more detail in the Section Interpretation of Results - Problems and Pitfalls.

2. The elasticity was significantly greater for 1973 (significant at the 75 percent confidence level).

3. The elasticities for 19-21 year olds were greater than the elasticities for 17-18 year olds in 1972, but there was no difference between the two in 1973.

4. The elasticities were not consistently different between mental categories.

5. As expected, the elasticities were consistently greater for high school graduates than for non-high school graduates.

Military Population Density:

1. The elasticities were negative and significant in 1972. The implication is that the presence of a military population tends to favor the other Services.

2. The elasticity was significantly greater in 1973 with 19-21 year olds and non-high school graduates having positive elasticities (significant at the 84 percent confidence level).

3. The elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

4. The elasticities were slightly higher for Category I-III than Category I-II.

5. The elasticities were consistently higher for the non-high school graduates than the high school graduates.

Comparison between 1972 and 1973. The analysis indicates a significant upward shift in the elasticities for pay, unemployment, high school graduate ratio, and the military population density from 1972 to 1973. There was no significant difference in the recruiter elasticity between 1972 and 1973. The upward shift in the pay variable may be partly explained by the fact that military pay increased relative to civilian pay in 1973.

Unemployment rates dropped substantially from 1972 to 1973 and under normal conditions where supply is the limiting factor a decline in the unemployment elasticity would be expected. However, it appears that demand was the limiting factor, i.e., queues existed, in 1972 and the transition to a purely volunteer atmosphere in 1973, where supply was the limiting factor, produced a result indicating unemployment not

correlated with volunteer accessions in 1972 and positively correlated (significant) in 1973.

The upward shift in the high school ratio variable may be explained by the drop in college enrollments in 1973 and the end of the direct American involvement in Vietnam. The shift in importance in the military population density also may be partially attributed to the ending of the Vietnam War and an improvement in the public's attitude toward the volunteer Service concept.

Marine Corps

The state model with variables for military pay, unemployment, high school to college graduate ratio, military population density, and recruiter strength was used to analyze volunteer enlistments for the Marine Corps in 1972 and 1973. The overall results of the model are summarized in Table 5.

Analysis of Unemployment Elasticities. The unemployment elasticities for the Marine Corps model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 20. It is to be noted that 10 of the pay elasticities for the Marine Corps were negative and six of the 10 were significant (see Table 5).* Since the pay variable is negatively correlated with unemployment, the regression runs were made without the pay variable to observe what the impact of unemployment would be without the direct influence of the pay variable in the model. The unemployment elasticities with the pay variable excluded are given in Table 21.

The following conclusions were drawn from the analysis:

1. The unemployment elasticities were slightly higher when the pay variable was omitted from the model.

2. The unemployment elasticities were not significant with or without the pay variable in the model.

3. The unemployment elasticities were slightly higher for 19-21 year olds than 17-18 year olds.

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*This result is in general conflict with the hypothesis that pay and volunteers are positively correlated. The reliability of the pay data is discussed in the Section Interpretation of Results - Problems and Pitfalls and it is noted that the inclusion of the pay variable in the cross-sectional model may be questionable.

Table 20

MARINE CORPS - UNEMPLOYMENT ELASTICITIES

Volunteer category	Unemployment elasticity	90% CI	95% CI
	1972		
17-18	-	-	-
19-21	.101	-.162 to .367	-.215 to .418
I-II	-	-	-
I-III	-	-	-
High school	.113	-.123 to .351	-.172 to .401
Non-high school	-	-	-
	1973		
17-18	-.098*	-.250 to .056	-.281 to .086
19-21	-	-	-
I-II	-.179*	-.405 to .053	-.452 to .095
I-III	-.081	-.250 to .086	-.284 to .120
High school	-.056	-.262 to .152	-.305 to .195
Non-high school	-.075	-.327 to .181	-.378 to .232

*Significant at the 68 percent confidence level.

Table 21

MARINE CORPS - UNEMPLOYMENT ELASTICITIES - NO PAY VARIABLE IN MODEL[a]

Volunteer category	Unemployment elasticity	Old R^2	New R^2
	1972		
17-18	.058	.332	.302
19-21	.068	.169	.162
I-II	-	.263	.115
I-III	-	.215	.095
High school	.114	.071	.071
Non-high school	.066	.285	.281
	1973		
17-18	-.065	.310	.227
19-21	-	.301	.296
I-II	-.095	.171	.036
I-III	-	.298	.221
High school	-	.139	.123
Non-high school	-	.248	.201

[a]The "Old" R^2 refers to the value obtained with the pay variable in the model and "New" R^2 refers to the value obtained without the pay variable in the model.

4. The unemployment variable for Category I-II and Category I-III did not enter the regression model in either case, with or without the pay variable.

5. The unemployment elasticities were slightly higher for high school graduates than non-high school graduates.

6. The unemployment elasticities were slightly lower in 1973 than 1972.

An examination of the old and new values for R^2 listed in Table 21 reveals that the pay variable does not contribute substantially to the explanation of the total variation in the dependent variable, i.e., volunteers, except in the cases of Category I-II and Category I-III. Since the unemployment variable does not enter the regression model in either situation, with or without the pay variable, the pay variable does not have a significant impact on the value of the unemployment elasticity.

The argument that the Marine Corps volunteer program was demand limited, i.e., queues existed, cannot be used to explain the non-significance of unemployment on volunteer accessions because in both 1972 and 1973 the Marine Corps was short of the desired objective of 55 percent high school graduates.* Although the largest elasticity was obtained for the high school group, the elasticity was not significant at a 68 percent confidence level in either 1972 or 1973.

A more tenable explanation is that the Marine Corps maintains a reputation for discipline, a high level of physical fitness and a close association with combat readiness, and this image may be such that a certain type of volunteer is attracted independent of the rate of unemployment. That is, the type of individual that joins the Marine Corps does so as a first choice, and does not select this Service as an alternative to unemployment.

Analysis of Recruiter Elasticities. The recruiter elasticities for the Marine Corps model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 22. The results for the

*In 1972 high school graduates constituted approximately 41.5 percent of the total; in 1973, approximately 40.8 percent.

Table 22

MARINE CORPS - RECRUITER ELASTICITIES

Volunteer category	Recruiter elasticity	90% CI	95% CI
	1972		
17-18	.388***	.199 to .578	.161 to .615
19-21	.200*	-.055 to .455	-.105 to .505
I-II	.288**	.004 to .579	-.062 to .637
I-III	.305***	.102 to .507	.062 to .548
High school	.178*	-.053 to .409	-.099 to .455
Non-high school	.438***	.199 to .677	.151 to .725
	1973		
17-18	.275***	.154 to .397	.129 to .421
19-21	.226***	.051 to .399	.016 to .434
I-II	.115*	-.058 to .287	-.093 to .322
I-III	.259***	.132 to .385	.106 to .411
High school	.265***	.073 to .457	.033 to .496
Non-high school	.254***	.097 to .411	.066 to .442

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

recruiter elasticities when the pay variable was omitted are given in Table 23. The results are given for both 1972 and 1973 and the following conclusions were drawn from the analysis:

1. The recruiter elasticities were positive and significant in all cases for both 1972 and 1973.

2. The omission of the pay variable from the model had little or no impact on the value of the recruiter elasticity.

3. The recruiter elasticities were slightly higher for 1972 than 1973.

4. The recruiter elasticities were consistently higher for 17-18 year olds than 19-21 year olds.

5. The recruiter elasticities were consistently higher for Category I-III than Category I-II with the pay variable in the model. Omitting the pay variable reversed this order of significance for 1972.

6. In 1972 the recruiter elasticities were significantly higher for non-high school graduates than high school graduates.

7. There was no significant difference between the recruiter elasticities for 1972 and 1973.

The Marine Corps recruiter variable was significant at the 90 or 95 percent level in 18 out of the 24 cases. It was significant at the 68 percent confidence level in five of the remaining cases. The only case where the recruiter elasticity was not significant was 1973 Category I-II in the model without the pay variable. The values for the recruiter elasticities in the model with the pay variable ranged from .115 for 1973 Category I-II to .438 for 1972 non-high school graduates. The average for all volunteer categories was .300 for 1972 and .232 for 1973.

The values for the recruiter elasticities in the model without the pay elasticity ranged from .073 for 1973 Category I-II to .456 for 1972 non-high school graduates. The average for all volunteer categories was .332 for 1972 and .209 for 1973.

Other Variables in the Regression Model. The other variables included in the model were the ratio of military pay to civilian pay, the ratio of male high school graduates to male college enrollments, and the ratio of military population to civilian population. The results are summarized in Table 5. Also, the model was run without the pay variable. The results of this model are summarized in Table 24. The following observations are made for the other variables.

Table 23

MARINE CORPS - RECRUITER ELASTICITIES - NO PAY VARIABLE IN MODEL

Volunteer category	Recruiter elasticity	Old R^2	New R^2
	1972		
17-18	.430***	.332	.302
19-21	.174*	.169	.162
I-II	.414***	.263	.115
I-III	.338***	.215	.095
High school	.178*	.071	.071
Non-high school	.456***	.285	.281
	1973		
17-18	.244***	.310	.227
19-21	.215***	.301	.296
I-II	.073	.171	.036
I-III	.237***	.298	.221
High school	.253***	.139	.123
Non-high school	.232***	.248	.201

*Significant at the 68 percent confidence level.

***Significant at the 95 percent confidence level.

Table 24

MARINE CORPS ELASTICITIES OF OTHER VARIABLES
WHEN THE PAY VARIABLE IS OMITTED

Volunteer category	1972		1973	
	High school/ college	Military population	High school/ college	Military population
17-18	-	-	.168*	-.035
19-21	.222***	.091***	.187*	.050*
I-II	.121	-	.310**	-.035
I-III	-	-	.195*	-
High school	.156*	.041	.285**	-
Non-high school	-	-	-	-

Relative Pay:

1. The pay elasticities were negative for all volunteer categories for 1972 except high school graduates where the pay variable did not enter the regression model.

2. The pay elasticities were negative for all cases for 1973.

3. The pay elasticities were significant in three out of six cases for 1972 and four out of six cases for 1973.

4. The pay elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

5. The pay elasticities were consistently higher for Category I-III than Category I-II.

6. The pay elasticities were consistently higher for high school graduates than non-high school gradautes.

High School to College Ratio:

1. The elasticity was positive and significant in only one case for 1972, Category I-II. All other cases were not significant.

2. The elasticity was positive in all cases for 1973 and significant in four out of six cases.

3. The elasticities were significantly greater for 1973 than 1972 (significant at the 75 percent confidence level).

4. The elasticities were not different between age groups.

5. The elasticities were consistently higher for Category I-II than for Category I-III.

6. The elasticity was higher for high school graduates than non-high school graduates in 1972, but strangely the elasticity was lower for high school graduates than non-high school graduates in 1973. When the pay variable was omitted from the model, the elasticity was uniformly higher for high school graduates than non-high school graduates.

Military Population Density:

1. The elasticities were positive in all cases for 1972 and 1973, and significant in all but two cases for both years.

2. The elasticities were significantly greater for 1973 than 1972 (significant at the 75 percent confidence level).

3. The elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

4. There was no difference in elasticities between Category I-II and Category I-III.

5. The elasticities were consistently higher for the non-high school graduates than the high school graduates for the model with the pay variable. When the pay variable was omitted, the variable did not enter the regression in 1973 for either high school or non-high school graduates and it entered at the non-significant level for high school graduates in 1972.

Comparison between 1972 and 1973. The analysis indicates a significant upward shift in the elasticities for the high school graduate ratio and the military population density from 1972 to 1973. There was a slight decline in the elasticities for pay, unemployment, and recruiters.

The upward shift in the high school ratio variable may be explained by the drop in college enrollments in 1973 and the end of the direct American involvement in Vietnam. The shift in importance in the military population density also may be partially attributed to the ending of the Vietnam War and an improvement in the public's attitude toward the volunteer Service concept.

The decline in the unemployment elasticity may be attributed to the decline in unemployment rates from 1972 to 1973. The decline in the pay variable is not significant and the observed difference may be due to

regional differences in volunteer propensity to enlist rather than differences in pay. Despite the fact that the Marine Corps increased the average recruiter force from 1972 to 1973 by about 15 percent, the recruiter elasticity declined slightly. The drop may be partially attributed to the increased attractiveness of the other Services in terms of the volunteers' perceived opportunities for training and skill development.

Navy

The state model with variables for military pay, unemployment, high school to college graduates ratio, military population density, and recruiter strength was used to analyze volunteer enlistments for the Navy in 1972 and 1973. The overall results of the model are summarized in Table 6.

Analysis of Unemployment Elasticities. The unemployment elasticities for the Navy model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 25. Nine of the pay elasticities for the Navy were negative and six of the nine were significant at the 68 percent confidence level. As in the case of the Marine Corps, the model was rerun without the pay variable. These results are provided in Table 26.

The following conclusions were drawn from the analysis:

1. In 1972 the unemployment elasticities were significantly higher when the pay variable was omitted.

2. In 1973 the unemployment elasticities were slightly higher when the pay variable was omitted.

3. The unemployment elasticities were generally not significant when the pay variable was in the model. When the pay variable was omitted, the elasticities became significant.

4. The unemployment elasticities were significantly higher for 19-21 year olds than 17-18 year olds.

5. When the pay variable was in the model, there was no difference in the unemployment elasticity between Category I-II and Category I-III.

6. When the pay variable was omitted, the unemployment elasticity was consistently higher for Category I-II than Category I-III.

7. The unemployment elasticities were significantly higher for high school graduates than for non-high school graduates.

Table 25

NAVY - UNEMPLOYMENT ELASTICITIES

Volunteer category	Unemployment elasticity	90% CI	5% CI
	1972		
17-18	.094	-.094 to .280	-.131 to .318
19-21	.167*	-.006 to .339	-.040 to .373
I-II	-	-	-
I-III	.085	-.127 to .298	-.169 to .341
High school	.152*	-.065 to .368	-.109 to .411
Non-high school	-	-	-
	1973		
17-18	-	-	-
19-21	.115*	-.058 to .289	-.093 to .324
I-II	.118	-.115 to .351	-.163 to .396
I-III	-	-	-
High school	.230**	.035 to .424	-.004 to .463
Non-high school	-.432***	-.683 to -.182	-.735 to -.130

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 26

NAVY - UNEMPLOYMENT ELASTICITIES WITHOUT THE PAY VARIABLE IN MODEL

Volunteer category	Unemployment elasticity	Old R^2	New R^2
	1972		
17-18	.156*	.256	.193
19-21	.239***	.504	.470
I-II	.318*	.526	.373
I-III	.214**	.469	.345
High school	.289***	.524	.413
Non-high school	-	.072	.033
	1973		
17-18	-	.153	.149
19-21	.116*	.253	.252
I-II	.167*	.400	.367
I-III	.045	.194	.193
High school	.248***	.377	.369
Non-high school	-.224*	.278	.127

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

8. The unemployment variable did not enter the regression model for non-high school graduates in 1972. The unemployment elasticity was negative and significant in 1973.

9. When the pay variable was in the model, the unemployment elasticities were not significantly different between 1972 and 1973.

10. When the pay variable was omitted from the model, the unemployment elasticity was significantly higher in 1972 than 1973 (significant at the 90 percent confidence level).

If the pay variable is included in the model, the conclusion is that unemployment is not a significant variable in determining the level of Navy volunteers. On the other hand, if the pay variable is excluded, just the opposite conclusion is reached. The differences may be explained by the intercorrelation existing between the unemployment variable and the pay variable. The pay variable has an obvious downward bias on the value of the unemployment elasticity. While the difference may be explained statistically, it does not provide a satisfactory explanation for this observed relationship.

An hypothesis that is suggested is that the pay variable may not be a true reflection of differentials in real income,* but rather is more a reflection of regional differentials in the propensity to enlist. The pay variable is defined as the ratio of military pay to civilian pay and since the military pay is the same throughout the only differences are observed differences in civilian pay from state to state, and the regression results may be indicative of state or locational differences rather than differences in income since income differs regionally and by state. This can be used to explain the observed negative correlation between the pay variable and volunteer rates. Thus, it would appear that unemployment elasticities without the pay variable would be the better of the two hypotheses.

In the last two years, the Navy has had little difficulty in obtaining the recruits it needs, and for the lower mental categories and non-high school graduates queues exist and the observed elasticities are lower as seen in both models, with and without the pay variables.

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*The validity of the pay variable is discussed in the Section Interpretation of Results - Problems and Pitfalls.

Analysis of Recruiter Elasticities. The recruiter elasticities for the Navy model and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 27. The results for the recruiter elasticities when the pay variable was omitted are given in Table 28. The results are given for both 1972 and 1973 and the following conclusions were drawn from the analysis:

1. The recruiter elasticity was positive and significant in every case in 1972 and 1973 except for non-high school graduates.

2. The recruiter elasticity was negative for non-high school graduates in each case. It was significant at the 68 percent confidence level in three out of the four cases.

3. The recruiter elasticities were slightly higher for 1972 than 1973.

4. The recruiter elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

5. The recruiter elasticities were consistently higher for Category I-II than Category I-III.

6. The recruiter elasticities were significantly higher for high school graduates than non-high school graduates.

The Navy recruiter variable was positive and significant at the 95 percent confidence level in all cases except non-high school graduates where it was negative and significant at the 68 percent confidence level. This discrepancy may be explained as follows. The Navy maintained a high level of recruiters in the field in both years (2932 in 1972, 2902 in 1973), and the primary emphasis was on recruiting the high school graduate. In both years the Navy managed to recruit better than 70 percent high school graduates and substantial queues existed for the non-high school graduates. As a result, in the areas that had the heaviest concentrations of recruiters, the non-high school graduates were actually turned away in substantial numbers. This accounts for the fact that there is an observed negative correlation between recruiter strength and non-high school graduate volunteers. If the quotas had not existed and all qualified non-high school applicants were accepted, the elasticity undoubtedly would have been positive.

The values for the recruiter elasticities (excluding non-high school graduates) in the model with the pay variable ranged from .361 for 1973

Table 27

NAVY - RECRUITER ELASTICITIES

Volunteer category	Recruiter elasticity	90% CI	95% CI
	1972		
17-18	.372***	.145 to .600	.099 to .645
19-21	.530***	.330 to .730	.290 to .770
I-II	1.182***	.833 to 1.531	.763 to 1.600
I-III	.673***	.426 to .920	.377 to .969
High school	.753***	.504 to 1.003	.454 to 1.053
Non-high school	-.213*	-.481 to .054	-.534 to .108
	1973		
17-18	.361***	.116 to .607	.067 to .656
19-21	.458***	.198 to .721	.146 to .773
I-II	.866***	.533 to 1.199	.466 to 1.266
I-III	.404***	.180 to .629	.135 to .674
High school	.635***	.356 to .913	.300 to .969
Non-high school	-.215*	-.576 to .146	-.649 to .218

*Significant at the 68 percent confidence level.

***Significant at the 95 percent confidence level.

Table 28

NAVY - RECRUITER ELASTICITIES WITH THE PAY VARIABLE IN MODEL

Volunteer category	Recruiter elasticity	Old R^2	New R^2
	1972		
17-18	.336***	.256	.193
19-21	.490***	.504	.470
I-II	1.031***	.526	.373
I-III	.604***	.469	.345
High school	.682***	.524	.413
Non-high school	-.192*	.072	.033
	1973		
17-18	.371***	.153	.149
19-21	.459***	.271	.253
I-II	.897***	.400	.367
I-III	.397***	.194	.193
High school	.642***	.377	.369
Non-high school	-.150	.278	.127

*Significant at the 68 percent confidence level.

***Significant at the 95 percent confidence level.

17-18 year olds to 1.182 for 1972 Category I-II. The average recruiter elasticity (excluding the non-high school graduate) for 1972 was .702 and the average for 1973 was .54.

The values for the recruiter elasticity (excluding the non-high school graduate) in the model without the pay elasticity ranged from .336 for 1972 17-18 year olds to 1.031 for 1972 Category I-II. The average recruiter elasticity (excluding the non-high school graduate) for 1972 was .629 and the average for 1973 was .553.

Other Variables in the Regression Model. The other variables included in the model were the ratio of military pay to civilian pay, the ratio of male high school graduates to male college enrollments, and the ratio of military population to civilian population. The results are summarized in Table 6. Also, the model was run without the pay variable. The results of this model are summarized in Table 29. The following observations are made for the other variables:

Relative Pay:

1. The pay elasticities were negative for all volunteer categories for both 1972 and 1973 except non-high school graduates where the pay variable was positive and significant at the 68 percent confidence level for both years.

2. All the negative pay elasticities were significant at the 68 percent confidence level except 1972 Category I-III and 1972 high school graduates which were not significant.

3. The pay elasticities were consistently higher (less negative) for 19-21 year olds than 17-18 year olds.

4. The pay elasticities were consistently higher for Category I-III than Category I-II.

5. The pay elasticities were consistently higher for non-high school graduates than high school graduates.

6. The pay elasticities were significantly higher (less negative) for 1973 than 1972 (significant at the 84 percent confidence level).

High School to College Ratio:

1. When the pay variable was included in the model, the elasticities were positive in all cases except non-high school graduates for 1972 and

Table 29

NAVY - ELASTICITIES OF OTHER VARIABLES WHEN THE PAY VARIABLE IS OMITTED

Variable category	High school/ college	Military population
	1972	
17-18	-	-
19-21	.222**	.091***
I-II	.121	-
I-III	-	-
High school	.156*	.041
Non-high school	-	-
	1973	
17-18	.168*	-.035
19-21	.187*	.050*
I-II	.310**	-.035
I-III	.195*	-
High school	.285**	-
Non-high school	-	-

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

1973. The elasticity was significant for 19-21 year olds, Category I-II, and high school graduates at the 95 percent confidence level for both 1972 and 1973.

2. When the pay variable was omitted from the model the elasticities were all positive except the variables for 1972 17-18 year olds, 1972 Category I-III, 1972 non-high school gradautes, and 1973 non-high school graduates did not enter the regression.

3. The elasticities were consistently less when the pay variable was omitted.

4. The elasticities were significantly higher for 1973 than 1972 (significant at the 90 percent confidence level).

5. The elasticities were consistently higher for 19-21 year olds than 17-18 were olds.

6. The elasticities were consistently higher for Category I-II than Category I-III.

7. The elasticities were consistently higher for high school graduates than non-high school graduates.

Military Population Ratio:

1. The elasticities were generally small and not significant for both 1972 and 1973.

2. The elasticity was significant for 19-21 year olds in all cases.

3. There were no significant differences in elasticities between 1972 and 1973.

4. The elasticities were consistently higher for 19-21 year olds than 17-18 year olds.

5. There was no difference in the elasticities for Category I-II and Category I-III.

6. The elasticities were slightly higher for high school graduates than non-high school graduates.

Comparison between 1972 and 1973. The analysis indicates a significant upward shift in the elasticities for the high school graduate ratio and a slight upward shift for the pay elasticities and the recruiter elasticities from 1972 to 1973. There was a slight decline in the unemployment elasticities from 1972 to 1973, and the elasticities for military population density were unchanged.

The upward shift in the high school ratio variable can be explained by the drop in 1973 college enrollments and the ending of the Vietnam War. The increase in recruiter elasticity may be attributed to the relative increase in recruiter strength to volunteers. That is, the number of recruiters remained about the same in 1973 but the number of recruits declined, i.e., $\bar{X}/\bar{Y}$ increased and thus $(\partial Y/\partial X)(\bar{X}/\bar{Y}) = \varepsilon$ increased.

The relative increase in the pay elasticities and the downward shift in the unemployment elasticities may be attributed to the fact that unemployment rates were lower in 1973 and that military pay was brought more in line with its civilian counterpart in 1973.

DOD Total

Since DOD total is comprised of the sum of the volunteers for the four Services, the elasticities for DOD total will be influenced by the relative importance of each Service. For example, in 1972 about 42 percent of the volunteers were for the Army, 18 percent for the Air Force, 14 percent for the Marine Corps, and 26 percent for the Navy.

Analysis of Unemployment Rates. The unemployment elasticities for the two versions of the state model for DOD total and the accompanying 90 percent and 95 percent confidence intervals are presented in Table 30. The following conclusions were drawn from the analysis.

1. The elasticities were positive and significant in all cases for the 1972 model without the recruiter variable except non-high school graduates. The non-high school graduate elasticity was .106 and not significant.

2. Comparing the 1972 and 1973 models without the recruiter variable, the elasticities were significantly higher in 1972 (significant at the 75 percent confidence level).

3. Comparing the 1973 models with and without the recruiter variable, the elasticities for the model without the recruiter variable were slightly higher than when the recruiter variable is included. Two of the categories (I-II and high school graduates) were significant in the model without recruiters whereas only one category (high school graduates) was significant in the model with the recruiter variable.

4. Overall there was no difference in elasticity between age groups.

Table 30

DOD UNEMPLOYMENT ELASTICITIES

Volunteer category	Unemployment elasticity	90%CI	95% CI
	1972 without Recruiters		
17-18	.144**	.000 to .287	-.028 to .316
19-21	.143*	-.027 to .313	-.061 to .347
I-II	.242*	-.022 to .507	-.075 to .559
I-III	.182***	.045 to .319	.017 to .347
High school	.204***	.048 to .360	.017 to .392
Non-high school	.106	-.126 to .337	-.172 to .384
	1973 without Recruiters		
17-18	.039	-.087 to .164	-.111 to .185
19-21	-	-	-
I-II	.160*	-.020 to .340	-.056 to .376
I-III	.064	-.050 to .178	-.073 to .201
High school	.141**	.011 to .272	-.015 to .298
Non-high school	-.092	-.310 to .126	-.354 to .169
	1973 with Recruiters		
17-18	-	-	-
19-21	-	-	-
I-II	.106	-.075 to .288	-.111 to .324
I-III	.044	-.069 to .158	-.092 to .180
High school	.111*	-.015 to .236	-.040 to .262
Non-high school	-.092	-.310 to .126	-.354 to .169

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

5. The elasticities for Category I-II were consistently higher than Category I-III.

6. The elasticities for high school graduates were consistently higher than non-high school graduates.

7. The elasticity for non-high school graduates was negative in both cases for 1973, but not significantly different from zero.

8. Overall, Category I-II and high school graduates have the highest unemployment elasticities.

The results in the analysis for the 1972 models are consistent with the finding of Bennett, Haber and Kinn that the omission of the recruiter variable causes an upward bias in the unemployment elasticity. Data were not available to test the hypothesis for 1972 but an approximation of the elasticities for 1972 with the recruiter variable may be made by extrapolation from the average biases for 1973. By examining the two variables (Category I-II and high school graduates) that were significant in 1973, it can be seen that the average bias is about 27 percent. That is, the unemployment elasticity with the recruiter variable was approximately 73 percent of the elasticity without the recruiter variable.

Applying this percentage to the 1972 unemployment elasticities without the recruiter variable gives the following projections:

Volunteer category	Projected elasticity for 1972
17-18	.105
19-21	.104
I-II	.177
I-III	.133
High school	.149
Non-high school	.077

While it is not possible to make specific assertions regarding the significance of these projections, it can be concluded that the overall unemployment elasticity for DOD total in 1972 was greater than .1 and less than .2.

Analysis of Recruiter Elasticities. Reliable recruiter data were not available on a cross-sectional basis by state for DOD total for 1972 and, therefore, only the 1973 model could be run. The recruiter elasticities for the 1973 DOD total model and the accompanying 90 percent and 95

percent confidence intervals are presented in Table 31. The following conclusions were drawn from the analysis.

1. The recruiter elasticities were positive for all cases except non-high school graduates. Non-high school graduates did not enter the regression.

2. The elasticities for 17-18 year olds and Category I-III were significant at the 90 percent confidence level, and they were significant at the 95 percent confidence level for Category I-II and high school graduates. The elasticity for 19-21 year olds was not significant.

3. The elasticity was higher for 17-18 year olds than 19-21 year olds.

4. The elasticity was higher for Category I-II than Category I-III.

5. The elasticity was higher for high school graduates than non-high school graduates.

Excluding the non-high school graduate category, the overall recruiter elasticity for 1973 for DOD total was .342. The elasticities ranged from .140 for 19-21 year olds to .557 for Category I-II. The non-significance for the non-high school graduate variable can be explained by the fact that negative elasticities were obtained for this category for both the Army and the Navy, and together these Services accounted for 69 percent of the total non-high school graduates in 1973. The same argument applies to the low value observed for the 19-21 year olds in that the Army and Navy accounted for 64 percent of the volunteers in this category.

If it can be assumed that DOD recruiter policy is manifested through the recruiters in the field, then the interpretation of the recruiter elasticities is that the policy to upgrade the quality of the Services by recruiting high school graduates and the higher mental categories was effective for 1973 in terms of recruiter emphasis. Also, it appears that there was an emphasis during this time to recruit from the lower age group rather than the higher age group.

Other Variables in the Regression Model. The other variables included in both the models with and without the recruiter variable were the ratio of military pay to civilian pay, the ratio of male high school graduates to male college enrollments, and the ratio of military population

Table 31

DOD RECRUITER ELASTICITIES

Volunteer Category	Recruiter elasticity	90% CI	95% CI
	1973 with Recruiters		
17-18	.335**	.056 to .756	-.014 to .826
19-21	.140	-.217 to .498	-.289 to .569
I-II	.557***	.140 to .974	.057 to 1.057
I-III	.265**	.004 to .527	-.048 to .579
High school	.413***	.125 to .700	.068 to .758
Non-high school	-	-	-

** Significant at the 90 percent confidence level.

*** Significant at the 95 percent confidence level.

to civilian population. The results are summarized in Tables 10 and 11. The following observations are made for the other variables.

Relative Pay:

1. In the model without the recruiter variable, the elasticities were mixed for 1972. The pay variable did not enter the regression for 17-18 year olds and Category I-III. The elasticity for 19-21 year olds was positive and significant at the 90 percent confidence level. The elasticities for high school graduates and non-high school graduates were positive but not significant. The elasticity for Category I-II was negative and significant at the 90 percent confidence level.

2. In the model without the recruiter, the elasticities were significantly higher for 1973 than 1972 (significant at the 90 percent confidence level). All elasticities were positive and significant for 1973 except the non-high school graduate variable did not enter the regression. The elasticity for non-high school graduates was significant at the 95 percent confidence level (.618).

3. In the 1973 model with recruiters, all elasticities were positive and significant for 1973 except the non-high school graduate variable did not enter the regression. The elasticity for non-high school graduates was significant at the 95 percent confidence level (.618).

4. The elasticities for the 1973 model without recruiters were consistently higher than the 1973 model with recruiters, i.e., the presence of the recruiter variable tends to lower the pay elasticity.

5. The elasticities for 19-21 year olds were consistently higher than for 17-18 year olds.

6. The elasticities for Category I-III were consistently higher than for Category I-II.

7. The elasticities for non-high school graduates were consistently higher than for high school graduates.

High School to College Ratio:

1. When the recruiter variable was excluded from the model, all the elasticities were positive except for non-high school graduates for 1972 and 1973. The variable for non-high school graduates did not enter the regression in either year.

2. Three of the elasticities were significant in 1972. High school graduates were significant at the 95 percent confidence level, and 19-21 year olds and Category I-II were significant at the 68 percent level.

3. In 1973, the variables for high school graduates, 17-18 year olds, and Category I-III were significant at the 95 percent confidence level. Category I-II was significant at the 90 percent confidence level and 19-21 year olds were significant at the 68 percent confidence level.

4. The elasticities were significantly higher in 1973 than 1972 (significant at the 87 percent confidence level).

5. In the 1973 model with the recruiter variable, all the elasticities were significant except non-high school graduates which did not enter the regression.

6. In the model with the recruiter variable, the elasticity was higher for 17-18 year olds than 19-21 year olds. The opposite was true for the model without the recruiter variable.

7. The elasticities were consistently higher for Category I-II than Category I-III.

8. The elasticities were consistently higher for high school graduates than non-high school graduates. The variable for non-high school graduates did not enter any of the regressions.

Military Population Ratio:

1. When the recruiter variable was excluded from the model, all the elasticities were positive except 1973 Category I-II which did not enter the regression. Three out of six of the elasticities were significant for 1972 and five out of six of the elasticities were significant in 1973.

2. The elasticities for 1973 were only slightly higher than for 1972.

3. When the recruiter variable was included in the 1973 model, the elasticities were unchanged.

4. The elasticities for 19-21 year olds were consistently higher than for 17-18 year olds.

5. The elasticities were consistently higher for Category I-III than for Category I-II.

6. The elasticities were consistently higher for non-high school graduates than for high school graduates.

Comparison between 1972 and 1973. The analysis indicates a significant upward shift from 1972 to 1973 for the elasticities for pay and the high school graduate ratio. There was only a slight upward shift in the elasticity for the military population density variable, and there was a significant downward shift in the unemployment elasticities. Reliable recruiter data were not available for DOD total for 1972 and, therefore, it was not possible to compare recruiter elasticities for the two years.

As in the case of the Army and the Navy, the observed upward shift in the elasticity of the pay variable and the downward shift in elasticity of the unemployment variable may be explained in part by the decrease in unemployment from 1972 to 1973 and the relative increase in military pay from 1972 to 1973.

The upward shift in the elasticity of the high school graduate ratio was consistent for each Service and DOD total and can be explained by the decrease in college enrollments in 1973 and the end of the direct American involvement in the Vietnam War. The small upward shift in the elasticity of the military population density variable was not significant, but the tendency for the elasticity to increase may be attributed in part to an improvement in the public's attitude toward the volunteer Service concept.

ANALYSIS OF FINDINGS - COMPARISON OF SERVICES

The analysis and findings of the regression models for each Service and DOD total were discussed in the previous section. The objectives of this section are threefold:

1. To make comparisons of the elasticities among the Services and DOD total.

2. To assess the relative importance of the variables for pay, unemployment rates, male high school graduates to male college enrollments, military population density, and recruiter strength across all Services and DOD total.

3. To determine whether shifts in elasticities across all Services and DOD total have occurred from 1972 to 1973.

This section is divided into four subsections:

1. Comparison of unemployment elasticities
2. Comparison of recruiter elasticities

3. Comparison of other elasticities

4. Summary of elasticity comparisons

In comparing the elasticities, only the results of the state models are used. The RMS models are not used because the data are not directly comparable and any observed differences in elasticities may be the result of differences in geographic boundaries rather than real differences.

Comparison of Unemployment Elasticities

Table 32 summarizes the unemployment elasticities for all Services and DOD total for 1972 and 1973. The results for 1972 Army and 1972 DOD are based on the regression runs without the recruiter variable in the model. It was noted in the previous section that the omission of the recruiter variable created only a slight upward bias in the unemployment elasticities, and the values given in Table 32 for these cases may be accepted as representative of the upper range of the true elasticities.

The average elasticities for the six volunteer categories are given for each Service and the change in the average elasticity from 1972 to 1973 is given at the bottom of the table. The average elasticity for DOD total was .170 for 1972. For 1972, the highest elasticity was for the Army (.226) and the lowest elasticity was for the Air Force (-.069). The average elasticities for the Marine Corps and the Navy were .036 and .083, respectively. Overall the unemployment elasticities were not significantly different from zero for the Air Force, Marine Corps, and the Navy. Unemployment was significant for the Army during 1972.

In order to provide a crude consistency check between DOD total and the Service components, a weighted elasticity was calculated using the percentage of volunteers for each Service.* The weighted elasticity was calculated to be .107 which is about one-third less than the projected .170 for DOD total. Part of this discrepancy may be explained by the categories for the Air Force and the Marine Corps which did not enter the regressions and were recorded in the average as zero elasticities.

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*The percent of volunteers going into each Service for 1972 is as follows: Army, 41.6 percent; Air Force, 18.5 percent; Marine Corps, 14.5 percent; Navy, 25.4 percent.

weighted elasticity = .226(.416) - .069(.185) + .036(.145) + .083(.254)

Table 32

UNEMPLOYMENT ELASTICITIES

Volunteer category	Army	Air Force	Marine Corps	Navy	DOD
		1972			
17-18	.232**	-.116*	-	.094	.144**
19-21	.098	-	.101	.167*	.143*
I-II	.340***	-	-	-	.242*
I-III	.255***	-.047	-	.085	.182***
High school	.230**	-	.113	.152*	.204***
Non-high school	.198*	-.249*	-	-	.106
Total	1.353	-.412	.214	.498	1.021
Average	.226	-.069	.036	.083	.170
		1973			
17-18	.102	-	-.098*	-	-
19-21	-.075	.245***	-	.115*	-
I-II	.074	.239*	-.179*	.118	.106
I-III	.078	.146**	-.081	-	.044
High school	-	.171**	-.075	.230**	.111*
Non-high school	-	-.074	-.056	-.432***	-.092
Total	.179	.727	-.489	.031	.169
Average	.030	.121	-.082	.005	.028
Change in average from 1972	-.196	+.190	-.118	-.078	-.142

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Also, part of this difference is probably due to the omission of the recruiter variable from the 1972 Army and DOD total models.

The data were consistent for all Services for the 1973 models and more reliable comparisons among Services can be made. For 1973, the average elasticity for DOD total was -.142. The highest average elasticity was for the Air Force (.190) and strangely the lowest average elasticity was for the Army (-.196). The Marine Corps and Navy both had negative elasticities of -.118 and -.078, respectively. Overall the elasticities were significant for the Air Force but not significant for the other Services.

Also, a weighted elasticity based on percentage of total volunteers was calculated for each Service. The weighted elasticity was calculated to be .028. which is exactly equal to the elasticity given for DOD total.

In examining the trend in the unemployment elasticities from 1972 to 1973 (see the bottom of Table 32), the average elasticities declined for the Army, Marine Corps, Navy and DOD total, whereas the average elasticity increased for the Air Force.

Statistical tests of significance were made comparing the unemployment elasticities for all the Services to determine if significant differences existed between the volunteer categories by age, mental category, and education. The results are given in Table 33. It was found that there was no difference between age groups, the elasticity for Category I-II was higher than Category I-III, and the elasticity for high school graduates was higher than non-high school graduates.

Table 33

TESTS OF SIGNIFICANCE - UNEMPLOYMENT ELASTICITIES
AGE, MENTAL CATEGORY AND EDUCATION

Comparison	Results
1. H_o: 17-18 > 19-21	No significant difference
2. H_o: I-II > I-III	Significant at 80 percent confidence
3. H_o: HS > NHS	Significant at 90 percent confidence

Comparison of Recruiter Elasticities

Table 34 summarizes the recruiter elasticities for all Services and DOD total for 1972 and 1973. Reliable data were not available for the Army and DOD total for 1972 and, therefore, only limited comparisons can be made for 1972. Data were available for 1973 for the Army and DOD total, but as indicated in the previous section, the reliability of the Army recruiter data is questionable because of the conversion algorithm that was used.

For 1972, the highest average elasticity recorded was for the Air Force with .828, the next highest was for the Navy with .549, and the Marine Corps had the lowest with .299. While it would not be a valid comparison, it should be noted that for the 1972 Army RMS model, the average recruiter elasticity was .971. If this estimate is accepted, a weighted elasticity can be constructed for DOD total. The weighted elasticity for DOD total is calculated as .739.

Recruiting data were available for the Army for 1973 and results are given in Table 34 for all Services and DOD total. The average recruiter elasticity for 1973 for DOD total was .285. The highest average elasticity was for the Air Force (.757) and the lowest average elasticity was for the Army (.007). The Navy had an average elasticity of .418 and the Marine Corps had an average elasticity of .232. The weighted elasticity for the four Services is:

$$.007(.418) + .757(.215) + .232(.142) + .418(.225) = .293$$

This compares favorably with the estimated .285 for DOD total.

In examining the trend in recruiter elasticities from 1972 to 1973 for the Air Force, Marine Corps and Navy, the average elasticities declined in each case. The decline was about 8 percent for the Air Force and 22 percent for the Navy and Marine Corps. If the 1972 Army RMS model elasticities are compared with the 1973 Army state model elasticities, an unusually large decline is noted. Most of the difference is probably due to the differences in the data rather than the elasticity shift from 1972 to 1973. If a 25 percent shift is accepted as realistic, then estimates can be made for either 1972 or 1973 based on the acceptance of the state model or the RMS. For example, forecasting 1973 on the basis of the 1972 RMS model would be:

Table 34

RECRUITER ELASTICITIES

Volunteer category	Army	Air Force	Marine Corps	Navy	DOD
		1972			
17-18	N	.899***	.388***	.372***	N
19-21	N	.885***	.200*	.530***	N
I-II	N	.404**	.288*	1.182***	N
I-III	N	.825***	.305***	.673***	N
High school	N	.841***	.178*	.753***	N
Non-high school	N	1.115***	.438***	-.213*	N
Total	N	4.969	1.797	3.297	N
Average	N	.828	.299	.549	N
		1973			
17-18	-	.901***	.275***	.361***	.335**
19-21	-.294	.606***	.226***	.458***	.140
I-II	.555***	.492***	.115*	.866***	.557***
I-III	-	.750***	.259***	.404***	.265**
High school	.283*	.686***	.265***	.635***	.413***
Non-high school	-.502*	1.106***	.254***	-.215*	-
Total	.042	4.541	1.394	2.509	1.71
Average	.007	.757	.232	.418	.285
Change in average from 1972	-	-.071	-.067	-.131	-

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

$$(.971)(.80) = .776$$

If 1972 is forecasted on the basis of the 1973 state model, the result would be

$$(.007)(1.25) = .009$$

Clearly, there is a discrepancy between the two models which cannot be reconciled on the hypothesis that a large shift occurred in the recruiter elasticities between the two years. The implication of the state model is that the Army's recruiting program is ineffective, whereas the implication of the RMS model is that the Army's recruiting program is highly effective. The higher degree of reliability for the data for the RMS model would tend to support the latter conclusion rather than the former.

Statistical tests of significance were made comparing the recruiter elasticities for all Services to determine if significant differences existed between the volunteer categories by age, mental category and education. The results are given in Table 35.

Table 35

TESTS OF SIGNIFICANCE - RECRUITER ELASTICITIES
AGE, MENTAL CATEGORY, AND EDUCATION

Comparison	Results
1. H_o: 17-18 > 19-21	Significant at 95 percent confidence
2. H_o: I-II > I-III	Significant at 70 percent confidence
3. H_o: HS > NHS	Significant at 70 percent confidence

There was a significant difference in all three cases, but the level of significance was only 70 percent for mental category and education, whereas it was 95 percent for age.

Comparison of Other Elasticities

Table 36 summarizes the military pay elasticities, Table 37 summarizes the male high school graduate to male college enrollment ratio elasticities, and Table 38 summarizes the military population density elasticities. A comparison of the elasticities in each of the tables yields the following conclusions:

Table 36

MILITARY PAY ELASTICITIES

Volunteer category	Army	Air Force	Marine Corps	Navy	DOD
			1972		
17-18	.273	-	-.378	-.460*	-
19-21	.782***	-	.195	-.380*	.397**
I-II	-.364*	-.490*	-1.135***	-1.564*	-.642**
I-III	.205	-	-.356*	-.856*	-
High school	.604***	-	-	-.864	.120
Non-high school	.386*	-	-.282*	.365*	.167
Total	1.886	-.490	-1.956	-3.759	.042
Average	.314	-.082	-.326	-.626	.007
			1973		
17-18	.770***	-	-.510***	-.118	.194*
19-21	1.178***	.405*	-.184	-	.560***
I-II	-	-.330	-.854***	-.521*	-.297*
I-III	.679***	.192	-.511***	-.107	.216*
High school	.652***	.231*	-.309	-.192	.228*
Non-high school	1.185***	-	-.483*	.359*	.618***
Total	4.464	.498	-2.851	-.579	1.519
Average	.744	.083	-.475	-.096	.253
Change in average from 1972	+.430	+.165	-.149	+.530	+.246

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 37

HIGH SCHOOL/COLLEGE ELASTICITIES

Volunteer category	Army	Air Force	Marine Corps	Navy	DOD
			1972		
17-18	.182*	.179*	-	.112	.079
19-21	.205*	.342***	-	.320***	.149*
I-II	.282*	.161	.364*	.487***	.236*
I-III	.173*	.216**	.090	.228*	.091
High school	.410***	.326***	.103	.372***	.241***
Non-high school	-	-	-	-.172	-
Total	1.252	1.224	.557	1.347	.796
Average	.209	.204	.093	.224	.133
			1973		
17-18	.425***	.367***	.188*	.199*	.305***
19-21	.237*	.337***	.179	.186*	.218*
I-II	.450***	.371**	.356**	.437***	.401***
I-III	.373***	.344***	.234*	.212*	.287***
High school	.496***	.448***	.156	.331***	.397***
Non-high school	.161	-	.218*	-.177	-
Total	2.142	1.867	1.331	1.188	1.608
Average	.357	.311	.222	.198	.268
Change in average from 1972	+.148	+.107	+.129	-.026	+.135

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Table 38

MILITARY POPULATION DENSITY ELASTICITIES

Volunteer category	Army	Air Force	Marine Corps	Navy	DOD
			1972		
17-18	.073*	-.130***	.038***	-	.028
19-21	.183***	-.077*	.135*	.103***	.111***
I-II	.091*	-.120**	.084*	.044	.034
I-III	.108***	-.112***	.037	.040	.044*
High school	.078*	-.122***	.038	-.447	.034
Non-high school	.149***	-	.097**	.075*	.101**
Total	.682	-.561	.429	-.185	.352
Average	.114	-.094	.072	-.031	.059
			1973		
17-18	.122***	-.031	.046*	.029	.040*
19-21	.261***	.086**	.197***	.049*	.163***
I-II	.108***	-.052	.026	-	-
I-III	.176***	-	.074**	-	.076***
High school	.122***	-	.052	-	.046*
Non-high school	.250***	.111***	.113***	-.055	.150***
Total	1.039	.114	.508	.023	.475
Average	.173	.019	.085	.004	.079
Change in average from 1972	+.059	+.113	+.013	+.035	+.020

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Military Pay:

1. The average elasticities were highest for the Army for both 1972 and 1973 (.314 and .744).

2. The average elasticities for the Air Force were not significantly different from zero in both years (-.082 and .083).

3. The average elasticities for the Navy were negative in both years (-.626 and -.096), but the average elasticity was not significantly different from zero for 1973.

4. The average elasticities for the Marine Corps were negative in both years (-.326 and -.475).

5. The average elasticities for DOD total were positive for both years (.007 and .253), but the average for 1972 was not significantly different from zero.

6. There was an upward shift in the elasticities from 1972 to 1973 for all Services except the Marine Corps which experienced a downward shift.

7. If the pay variable is really a measure of geographic location instead of relative pay, then the Army has a high negative correlation with areas where civilian income is low, e.g., the Southeast, and the Navy has a high positive correlation with areas where civilian income is high, e.g., the Midwest.

High School to College Ratio:

1. The average elasticities were positive in all cases for 1972 and 1973.

2. The average elasticities were significant and approximately the same for the Army, Air Force and Navy for 1972 (.209, .204, and .224, respectively). The average elasticity for the Marine Corps for 1972 was not significantly different from zero (.093), and the average elasticity for DOD total was .133.

3. The average elasticities were significant for all Services for 1973. The Army, Air Force and Marine Corps experienced substantial increases in elasticity, and the Navy had a decrease in average elasticity. The average elasticity for DOD total increased from .133 to .268.

4. The decrease in college enrollments for 1973 appears to have helped all the Services except the Navy.

5. As expected, the elasticities for non-high school graduates were not significant. In most cases, the non-high school graduate variable did not enter the regression and in one case (1973 Marine Corps), the variable was significant at the 68 percent level.

Military Population Density:

1. The average elasticities for the Army and the Marine Corps were significant and positive for 1972 (.114 and .072).

2. The average elasticity for the Air Force for 1972 was significant and negative (-.094).

3. The average elasticity for the Navy for 1972 was not significant and negative (-.031).

4. The average elasticity for DOD total for 1972 was .059.

5. The average elasticities for all Services were positive for 1973. Upward shifts occurred in all cases.

6. The impact of high concentrations of military population is greatest for the Army and Marine Corps. The average elasticity was least significant for the Air Force for 1972, but this position was taken by the Navy in 1973.

Summary of Elasticity Comparisons

The average elasticities for each of the Services and DOD total for the five variables included in the regression models for 1972 and 1973 are consolidated in Table 39. Table 40 summarizes the shifts in the average elasticities from 1972 to 1973. For 1972, all five variables were positively related to Army volunteers; unemployment, pay and military population were negatively related to Air Force volunteers; pay was negatively related to Marine Corps volunteers; and pay and military population were negatively related to Navy volunteers. For DOD total, all five variables were positively related to volunteers.

For 1973, all five variables were positively related to Army and Air Force volunteers; unemployment and pay were negatively related to Marine Corps volunteers; and pay was negatively related to Navy volunteers. For DOD total, all five variables were positively related to volunteers.

In both years, the recruiter variable had the highest elasticity and was significant for the greatest number of cases. Unemployment was the second highest in 1972 but dropped to the least important in 1973. The

Table 39

AVERAGE ELASTICITIES

Variable	Army	Air Force	Marine Corps	Navy	DOD
		1972			
Unemployment	.226	-.069	.036	.083	.170
Relative pay	.314	-.082	-.326	-.626	.007
High school/college	.209	.204	.093	.224	.133
Military population	.114	-.094	.072	-.031	.059
Recruiter	N	.828	.299	.549	N
		1973			
Unemployment	.030	.121	-.082	.005	.028
Relative pay	.744	.083	-.475	-.096	.253
High school/college	.357	.311	.222	.198	.268
Military population	.173	.019	.085	.004	.079
Recruiter	.007	.757	.232	.418	.285

Table 40

SHIFT IN ELASTICITIES FROM 1972 TO 1973

Variable	Army	Air Force	Marine Corps	Navy	DOD
Unemployment	-.196	+.190	-.118	-.078	-.142
Relative pay	+.430	+.165	-.149	+.530	+.246
High school/college	+.148	+.107	+.129	-.026	+.135
Military population	+.059	+.113	+.013	+.035	+.020
Recruiter	N	-.071	-.067	-.131	N

average change in unemployment elasticity was -.142 for DOD total. Relative pay was the least important variable for 1972 but it was the third most important variable in 1973. The average change in the pay elasticity was +.246 for DOD total. The high school graduate to college enrollment variable was the third most important in 1972 but increased to second in 1973. The average elasticity for this variable increased by .135 for DOD total. The military population density variable was the least important in 1972 but was second to last for 1973. The average elasticity for this variable increased by .020 for DOD total. While it was not possible to obtain a reliable estimate for the change in average recruiter elasticity between the two years, the estimates for the Air Force, Marine Corps, and Navy indicate that overall there was a slight decline in the average recruiter elasticity from 1972 to 1973.

ANALYSIS OF BLACK VOLUNTEERS

The state model with variables for unemployment, military pay, male high school graduates to male college enrollments, military population density and recruiter strength was used to analyze black volunteer enlistments for 1973. Adequate unemployment data for 1972 were not available and, therefore, the analysis covered only 1973. Volunteer data for all four Services and DOD total were obtained from the GRC data base. Unemployment data for blacks were obtained from the Bureau of Labor Statistics for 13 states for 1973. The BLS cautioned that the sample sizes used to calculate black unemployment rates were small and that large sample variances existed, thereby producing a low reliability factor. The BLS consented to allow GRC to use the black unemployment data for regression analysis, but since the data have not been officially published and also due to the low reliability it was requested that the actual figures not be revealed. The data used for relative pay, male high school graduates to male college enrollments, military population density and recruiter strength are the same used for analysis of total volunteers.

Since the data were limited, it was felt that it would not be cost effective to make regressions for all volunteer categories for each Service. Instead, regressions were made for two volunteer categories, high school graduates and non-high school graduates.

Table 12 summarizes the results of the regression runs for black volunteers, and Table 41 consolidates the elasticities for each Service and DOD total by variable type. In the ensuing subsections the elasticity of each variable with respect to each Service and DOD total is discussed, and finally a comparison of the elasticities for black volunteers is made with those for total volunteers.

Unemployment Elasticities

The unemployment variable did not enter the regressions for either high school graduates or non-high school graduates for any of the Services or DOD total. While the implication of the observed results is that unemployment rates do not have an effect on black volunteers for any of the Services, it appears logical to conclude that the unreliability of the black unemployment data was a major factor in producing a non-significant result. Consequently, it is not possible to make direct assertions regarding the impact of unemployment rates on black volunteers for any of the Services.

Recruiter Elasticities

The recruiter elasticity was positive for high school graduates in all cases except the Navy where the variable did not enter the regression. The recruiter elasticity for high school graduates was high for the Army (1.676), Marine Corps (.682) and DOD total (1.053), but due to large sampling variances none of these elasticities were significant at the 68 percent confidence level. The elasticity for the Air Force (.729) was significant at the 68 percent confidence level.

For non-high school graduates, the variable did not enter the regression for the Army, Air Force, Navy and DOD total. The recruiter elasticity for the Marine Corps (1.555) was positive and significant at the 95 percent confidence level.

In comparing the recruiter elasticities of high school graduates with non-high school graduates, the elasticity was higher for high school graduates than non-high school graduates for the Army, Air Force and DOD total. The elasticity was higher for non-high school gradautes for the Marine Corps, and there was no observed difference for the Navy. Overall, black volunteers were most responsive to the recruiting efforts of the Marine Corps, and the recruiting efforts of the Navy had no impact on black volunteers.

Table 41

ELASTICITIES FOR BLACK VOLUNTEERS

Variable and volunteer category	Army	Air Force	Marine Corps	Navy	DOD
Unemployment					
High school graduates	-	-	-	-	-
Non-high school graduates	-	-	-	-	-
Relative pay					
High school graduates	3.434**	1.524*	1.672*	-	2.032*
Non-high school graduates	1.359	-	.897	-	1.107
High school/college					
High school graduates	.922*	.485	.478	.353	.632*
Non-high school graduates	.746*	-	1.118*	.669*	.598*
Military population					
High school graduates	.201	.232*	.188	.301***	.244*
Non-high school graduates	.312*	.321*	-	.126	.164
Recruiters/QMA					
High school graduates	1.676	.729*	.682	-	1.053
Non-high school graduates	-	-	1.555***	-	-

*Significant at the 68 percent confidence level.

**Significant at the 90 percent confidence level.

***Significant at the 95 percent confidence level.

Pay Elasticities

The pay elasticities for high school graduates were positive and significant for the Army (3.434), Air Force (1.524), Marine Corps (1.672) and DOD total (2.032). The pay variable did not enter the regression for the Navy. The elasticity was significant at the 90 percent confidence level for the Army and significant at the 68 percent confidence level for the Air Force, Marine Corps and DOD total.

The pay elasticities for non-high school graduates were positive but not significant for the Army, Marine Corps, and DOD total. The pay variable did not enter the regression for the Air Force and Navy. A comparison of the elasticities reveals that the elasticities for high school graduates were consistently higher than non-high school graduates except for the Navy where neither variable entered the regression. Overall, black volunteers were most responsive to the pay variable for the Army, and least responsive to this variable for the Navy.

High School to College Ratio

The elasticities for male high school graduates to male college enrollments were positive for high school graduates for all Services and DOD total. However, this variable was significant in only two cases, the Army (68 percent level) and DOD total (68 percent level).

The elasticities for non-high school graduates were positive and significant (68 percent level) for all cases except the Air Force where the variable did not enter the regression. A comparison reveals that the elasticity was higher for high school graduates for the Army and Air Force, and higher for non-high school graduates for the Marine Corps and Navy. The elasticity is only slightly higher for high school graduates for DOD total. Overall, black volunteers were most responsive to the high school to college ratio for the Army, and least responsive to this variable for the Air Force.

Military Population Density

The elasticities for military population density for high school graduates were positive for all Services and DOD total. The elasticity was significant at the 95 percent confidence level for the Navy, and significant at the 68 percent confidence level for the Air Force and DOD total.

The elasticities for non-high school graduates were positive in all cases except for the Marine Corps where the variable did not enter the regression. The elasticities were significant at the 68 percent confidence level for the Army and Air Force. A comparison reveals that the elasticities are higher for non-high school graduates than high school graduates for the Army and Air Force, and higher for high school graduates for the Marine Corps, Navy, and DOD total. Overall, there was little difference among Services in responsiveness to this variable except for the Marine Corps which had the lowest elasticities.

Comparison of Black Volunteers with Total Volunteers

A comparison of the elasticities for black volunteers was made with respect to the counterpart elasticities obtained for total volunteers. Table 42 summarizes the differences between the two groups. Each difference is defined as the black elasticity minus the elasticity for total volunteers. Dashes in the table indicate that the variable did not enter the regression in either case.

There are 50 entries in Table 42, and of these, five are dashes, seven are minuses, and 38 are pluses. The following conclusions may be made on the basis of the results in the table.

1. Overall, black volunteers were more responsive to changes in the five variables than were non-black volunteers.

2. The data are not adequate to make comparisons regarding unemployment rates.

3. Black volunteers are more responsive than are non-black volunteers to changes in relative pay.

4. Black volunteers are more responsive than are non-black volunteers to changes in the ratio of male high school graduates to male college enrollments.

5. Black volunteers are slightly more responsive than non-black volunteers to changes in the military population density.

6. Black volunteers are more responsive than non-black volunteers to changes in the level of recruiters.

7. If the total of differences (bottom row of Table 42) is used to measure the relative response between black volunteers and non-black volunteers, the Marine Corps and the Army have about twice the differential in elasticity as the Air Force and Navy.

Table 42

DIFFERENCES IN ELASTICITIES BETWEEN BLACK VOLUNTEERS AND TOTAL VOLUNTEERS[a]

Variable and volunteer category	Army	Air Force	Marine Corps	Navy	DOD
Unemployment					
High school graduates	-	-.171	+.075	-.230	-.111
Non-high school graduates	-	+.074	+.056	+.432	+.092
Relative pay					
High school graduates	+2.782	+1.293	+1.981	+.192	+1.804
Non-high school graduates	+.174	-	+1.380	-.359	+.489
High school/college					
High school graduates	+.426	+.037	+.322	+.022	+.235
Non-high school graduates	+.585	-	+.900	+.846	+.598
Military population					
High school graduates	+.079	+.232	+.136	+.306	+.198
Non-high school graduates	+.062	+.210	-.113	+.181	+.014
Recruiters/QMA					
High school graduates	+1.393	+.043	+.417	-.635	+.640
Non-high school graduates	+.502	-1.106	+1.301	+.215	-
Total differences	6.003	3.166	6.681	3.418	4.181

[a]The differences are given as black elasticities minus total elasticities.

INTERPRETATION OF RESULTS - PROBLEMS AND PITFALLS

The elasticities obtained in this analysis must be interpreted with caution because of the inherent uncertainties and inadequacies associated with using the general linear regression model. In the first instance the values obtained for the coefficients of multiple correlation (R^2) are not very large, and in the second instance the sampling variances for the regression coefficients are relatively large. While the values obtained in this study compare favorably with those found in previous studies, the implication is that there is a substantial amount of variation in the dependent variable (the rate of first-term volunteer enlistments) which is not explained by the model.

There are a number of factors which may explain the incidence of a low value for the coefficient of multiple correlation. Among the more important are:

1. Significant variables have been omitted from the model.
2. Measurement errors in the data.
3. The linear models are not representative of the true relationships.

It is not possible to specify on an a priori basis all the relevant variables that affect the psychic decision making process which determines individual preferences for enlisting in the Armed Services. However, it is reasonable to conclude from the analyses that the five variables included in the model are important in explaining first-term volunteer enlistments, and while it is true that the addition of other variables would increase the value of R^2, the crucial question is whether the regression coefficients in the current model are affected as a result of omitting other variables.

Frequently, the omission of significant variables from the model will produce a serial correlation in the regression residuals. The regression estimates will be unbiased, but they will be subject to large sampling variances and the level of confidence will be reduced for a given range of predictions.

The residuals in the regression models were tested for the presence of serial correlation by calculating a Durbin-Watson d Statistic. The results substantiate the hypothesis that there is no serial correlation

present, and it is concluded that the omission of other variables does not significantly alter the conclusions.

Measurement errors may be another cause of small values for the coefficient of multiple correlation. That is, the observed values are not representative of the true values. An examination of the data and the sources of the data would suggest that all the data are reliable except the data for the relative wage, Army recruiting data by state, and black unemployment data. While the data used for military pay should be representative, it is doubtful that the data used for the civilian wage is representative of the real wage. This applies not only to this study but to the previous studies as well.

The use of the average incomes for manufacturing payrolls or average incomes for males between the ages of 17-21 for all occupations fails to measure real income because many of these individuals have the option of living at home with their parents. Clearly, if room and board are supplied by a young male's family, his real income is higher than if he had to pay for it.

Presumably, average incomes for manufacturing payrolls or average incomes for males between the ages of 17-21 are correlated closely with real income and are an acceptable measure to use in the ratio of military income to civilian income. While the tests for serial correlation in this study seem to indicate that the use of average incomes for males between the ages of 17 and 21 is not a significant source of error, it should be recognized that it may be a possible source of error in both the pay and the unemployment elasticities.

The Army collects recruiting data on the basis of RMS and since RMS boundaries and state boundaries overlap in almost every instance it is difficult if not impossible to obtain an accurate estimate of the numbers of recruiters by state. An algorithm was developed for allocating recruiters to states on the basis of ZIP codes and as long as the number of recruiters was distributed approximately proportional to the ZIP code areas, this algorithm should provide good results.

As mentioned earlier, data for black unemployment rates are based on small samples and the sampling variances associated with the data are so large as to make the observed values highly questionable.

Finally, a small value for the coefficient of multiple correlation may be due to the fact that the linear models are not representative of the true relationships. The importance of this implication is that the elasticity estimates may be very good for marginal changes around the present values, but any long-term projections beyond the range of the sample data are subject to a high level of uncertainty.

When interpreting the elasticity estimates, it is essential that the confidence intervals of the elasticities are given due consideration. The elasticity estimate is the average elasticity measured at the mean values of the data series, and the confidence interval is a measure of how good the average elasticity will be for predicting future responses. For example, if the average elasticity is .328 with a standard error of .262, then a prediction can be made with 68 percent confidence that the true elasticity is between .066 and .59. Clearly, if the confidence interval were smaller the precision in the prediction could be increased for a given confidence level. For example, if the standard error in the elasticity was .1, then it could be said with 68 percent confidence that the true elasticity is between .228 and .428.

To summarize the purpose of this subsection, it can be said that the conclusions of the analyses must be tempered by an awareness of the limitations and uncertainties associated with the analytical and statistical techniques used.

CONCLUSIONS

The conclusions of the analyses may be summarized concisely as follows:

Unemployment Elasticities

1. Unemployment elasticities are variable depending upon whether unemployment rates are high or low. A significant downward shift in the unemployment elasticities occurred from 1972 to 1973.

2. Unemployment elasticities are significant for DOD total volunteers when overall unemployment rates are greater than 5 percent.

3. Unemployment elasticites are not significant for DOD total volunteers when labor markets are tight, i.e., when the overall unemployment rate is 5 percent or less.

4. The average of the unemployment elasticities for the two years was highest for the Army [(.226 + .030)/2 = .128].

5. Unemployment elasticities are not significant for the Marine Corps and Navy.

6. Unemployment elasticities were not significant for the Air Force for 1972 but were significant for 1973. This may be an indication that the Air Force was demand limited in 1972 and supply limited in 1973. If this is true, then the 1973 average elasticity of .121 is the best estimate of unemployment elasticity for the Air Force.

7. Unemployment elasticities are greater for Category I-II than for Category I-III.

8. Unemployment elasticities are higher for 17-18 year olds than 19-21 year olds for the Army, but for the other Services there is no difference.

Recruiter Elasticities

1. Recruiter elasticities are the highest and most consistent of the five variables used in the model.

2. Due to data inadequacies, the results for the state models for the Army and DOD total are inconclusive. However, results from the RMS model indicate an average elasticity of .976 for the Army.

3. Based on the state models, the recruiter elasticities are greatest for the Air Force, with an average elasticity of .792 for the two years.

4. The Marine Corps has the lowest recruiter elasticities. The average for the two years was .266.

5. The average recruiter elasticity for the Navy was .483.

6. There was a slight downward shift in the recruiter elasticities from 1972 to 1973.

7. Recruiter elasticities are higher for 17-18 year olds than 19-21 year olds.

8. Recruiter elasticities are higher for Category I-II than Category I-III for the Army and Navy.

9. Recruiter elasticities are higher for Category I-III than Category I-II for the Air Force and Marine Corps.

10. Recruiter elasticities are higher for high school graduates than non-high school graduates for the Army, Marine Corps, and Navy. They are lower for the Air Force.

Pay Elasticities

1. The cross-sectional pay elasticity may be more a measure of regional or state differentials than differences in real income.

2. The average pay elasticity for the Army was .529.

3. The pay elasticities for the Air Force are not significant.

4. The average pay elasticity for DOD total was .130.

5. The average pay elasticity for the Marine Corps was -.400.

6. The average pay elasticity for the Navy was -.361.

7. There was an upward shift in the pay elasticities from 1972 to 1973.

8. The pay elasticities are higher for 19-21 year olds than 17-18 year olds.

9. The pay elasticities are higher for Category I-III than Category I-II.

10. The pay elasticities are higher for non-high school graduates than high school graduates.

High School/College Elasticities

1. The high school to college elasticities are positive and significant.

2. The average elasticity for DOD total was .200.

3. The average elasticity for the Army was .283.

4. The average elasticity for the Air Force was .257.

5. The average elasticity for the Marine Corps was .158.

6. The average elasticity for the Navy was .211.

7. There was an upward shift in average elasticities from 1972 to 1973.

8. The average elasticities are not significantly different by age.

9. The average elasticities are higher for Category I-II than Category I-III.

10. The average elasticities are higher for high school graduates than non-high school graduates.

Military Population Density Elasticities

1. The military population density elasticities are positive and significant for the Army and Marine Corps.

2. The elasticities are negative and significant for the Air Force for 1972, and not significant for 1973.

3. The elasticities are not significant for the Navy.

4. The average elasticity for DOD total was .069.

5. The average elasticity for the Army was .144.

6. The average elasticity for the Air Force was -.038.

7. The average elasticity for the Marine Corps was .078.

8. The average elasticity for the Navy was -.014.

9. The average elasticities are higher for 19-21 year olds than 17-18 year olds.

10. The average elasticities are slightly higher for Category I-III than Category I-II.

11. The average elasticities are higher for non-high school graduates than high school graduates.

12. There was an upward shift in the elasticities from 1972 to 1973.

Policy Implications

A number of policy implications may be drawn from the above conclusions. First, the unemployment elasticities indicate that it is more difficult to recruit volunteers during upswings in the economy when unemployment rates are declining than during downswings when unemployment rates are rising. Since the recruiter elasticities are significant for all Services, they can counteract adverse changes in volunteer rates caused by unemployment changes by changing the number of recruiters in the field. The empirical evidence indicates that the Army and Air Force are more susceptible to changes in unemployment rates and, therefore, their recruiting programs should pay careful attention to economic trends in the civilian economy so that adverse moves in unemployment rates may be anticipated.

A major objective of the Armed Services is to increase the quality of the enlisted force. One of the primary methods of accomplishing this objective is to increase the number of volunteers who are high school

graduates and Category I-II. These volunteer categories have relatively high elasticities for the high school/college variable and the military population density variable, and if recruiting efforts are concentrated in areas where these ratios are highest an increase in recruiter productivity may be realized.

Chapter 3
AIR FORCE TIME SERIES REGRESSION ANALYSIS

During the CY71 to CY73 time period, the Air Force has reached its quota each month with a very high percentage of high school graduate enlistments. Examination of the data for different educational and mental category groups shows that all non-high school graduate groups and Category IV high school graduate groups are clearly demand limited. Our analysis, thus, is concerned mainly with measuring the effects of policies and programs on the Category I-III high school graduate groups.

Regression runs were made using CY71 through CY73 time series of the following groups as dependent variables.

o High school graduate volunteers of Mental Categories I, II, III, and IV.

o High school graduate volunteers of Mental Category I-III and I-IV groups.

The time series model is described in App C. The variables used in this analysis are listed in Table 43 with their mean values, standard deviations and program names. The description and actual values of the variables are given in App D. The regression results for the groups listed above are given in Tables 44-49. These tables give the coefficients, standard errors, F values and elasticities for each independent variable that enters a particular regression. A more detailed interpretation of the output tables of the regressions is given in App E. Tables 44-47 give results for Category I-III and Category I-IV high school groups. Tables 48 and 49 give the regression results for Category I, II, III and IV high school graduate groups individually.

Table 43

MEAN VALUES AND STANDARD DEVIATIONS OF AIR FORCE VARIABLES

Variable	Symbol	Delay	Mean	Standard deviation
	Independent Variables			
Military-civilian pay ratio	MILCIVPAY	0	1.29	.23
Air Force volunteer quota	AFQOT-DM	0	5841	1449.8
Air Force recruiters	RECRAF	-2	1781	217.6
		-1	1791	213.1
		0	1802	206.3
Total options	OPTSTOAF	-2	3.9	1.3
		-1	4.0	1.3
		0	4.1	1.3
Print media insertions	AFPRTMDIA	-3	15.8	14.3
		-2	17.0	14.9
		-1	17.8	14.7
		0	18.2	14.4
Air Force Category IV restriction policy	AFPLCY	0	.46	.40
High school bonus - $1500	BNS-HS	0	.53	.51
High school bonus - $2500	BNS-INC	0	.22	.42
Non-high school bonus - $1500	BNS-NHS	0	.31	.47
Navy volunteer quota increase	NAVQOTINC	0	.11	.32
Youth unemployment rate (deseasonalized)	DUNEMPL1	-2	12.2	1.5
		-1	12.2	1.6
			12.2	1.6
	Population Variables			
Category I high school graduates	AF1HS	-	249	67.5
Category II high school graduates	AF2HS	-	1744	491.0
Category III high school graduates	AF3HS	-	2348	838.6
Category IV high school graduates	AF4HS	-	362	301.8
Category I-III high school graduates	AF123HS	-	4341	1351.2
Category I-IV high school graduates	AF1234HS	-	4702	1357.1
Category I-III non-high school graduates	AF123HS	-	932	305.1

Table 44

REGRESSION RESULTS FOR AIR FORCE CATEGORY I-III HIGH SCHOOL GRADUATES WITH RECRUITERS EXCLUDED

	DEPENDENT VARIABLES			
	AF123MS	AF123MS	AF123MS	AF123MS
R SQUARED	.4637	.8555	.9324	.9396
CONSTANT	-1459.177	-2886.681	-3819.731	-5791.911
ELAST. CONST.	-.63648	-.87404	-.70348	-1.35268
INDEP. VARIABLES AND MONTHLY SHIFTS				
AFQCT-OM	.5945	.8219	.6355	.6888
-0	.0527	.0629	.0545	.0468
	197.3794	97.7278	118.6235	164.6415
	.0122	.0483	.0078	.0196
MILCIVPAY	2287.3191	1914.9333	1497.0166	0.0000
-0	376.7492	475.9308	532.4271	0.0000
	37.5333	16.1893	6.9833	.5263
	.6227	.9769	.4238	0.0000
BAS-MS	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	7.2837	7.7394	2.0572	2.5206
	0.0000	0.0000	0.0000	0.0000
BAS-INC	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	.0056	.0197	2.0493
	0.0000	0.0000	0.0000	0.0000
APPETHDIA	0.0000	15.0449	12.5405	7.2674
-3	0.0000	6.5570	7.1797	5.4118
	0.0000	4.2914	3.0530	1.7934
	0.0000	.0955	.0461	.0267
APPETHDIA	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000
	0.0000	.1932	.0190	.5529
	0.0000	0.0000	0.0000	0.0000
APPETHDIA	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000
	0.0000	.0000	.3290	1.1054
	0.0000	0.0000	0.0000	0.0000
APPETHDIA	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	.0115	.5213	.3013
	0.0000	0.0000	0.0000	0.0000
QUAEMPL1	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000
	0.0000	1.0360	1.6579	2.7544
	0.0000	0.0000	0.0000	0.0000
CLAEMPL1	0.0000	78.5484	96.1575	138.9923
-1	0.0000	93.4016	88.0651	54.8441
	0.0000	1.2382	1.5594	6.4220
	0.0000	.2006	.2449	.3933
QUAEMPL1	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	1.6117	.8192	.6202
	0.0000	0.0000	0.0000	0.0000
NAVCOTINC	0.0000	-279.6691	0.0000	-792.2198
-0	0.0000	254.5312	0.0000	222.5121
	0.0000	1.1791	.1792	11.4283
	0.0000	-.0072	0.0000	-.0195
CPTSTCAF	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.1627	.0060
	0.0000	0.0000	0.0000	0.0000
CPTSTOAF	0.0000	0.0000	0.0000	119.9948
-1	0.0000	0.0000	0.0000	86.5370
	0.0000	0.0000	.0125	1.6426
	0.0000	0.0000	0.0000	.1036
CPTSTOAF	0.0000	0.0000	125.8949	0.0000
-0	0.0000	0.0000	116.1222	0.0000
	0.0000	0.0000	1.1754	.0293
	0.0000	0.0000	.1298	0.0000
RECRAF	0.0000	0.0000	0.0000	2.4696
-2	0.0000	0.0000	0.0000	.4388
	0.0000	0.0000	0.0000	31.7949
	0.0000	0.0000	0.0000	1.0278
RECRAF	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	4.0458
	0.0000	0.0000	0.0000	0.0000
RECRAF	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	5.9457
	0.0000	0.0000	0.0000	0.0000

Table 45

REGRESSION RESULTS FOR AIR FORCE CATEGORY I-III HIGH SCHOOL GRADUATES WITH MILITARY PAY EXCLUDED

	DEPENDENT VARIABLES				-KEY TO UNIT ENTRY-
	AF123HS	AF123HS	AF123HS	AF123HS	COEFFICIENT
					STANDARD ERROR
					F TO LEAVE OR ENTER
R SQUARED	.8759	.9396	.9394	.9394	ELASTICITY
CONSTANT	-2941.915	-5315.429	-5791.911	-5791.911	
ELAST. CONST.	-.59474	-1.26144	-1.35268	-1.35268	
INDEP. VARIABLES AND MONTHLY SHIFTS					
AFQCT-ON	.9149	.0001	.0000	.0000	
-0	.0487	.0430	.0468	.0468	
	112.9146	169.5133	164.6415	164.6415	
	.7934	.7641	.8196	.8196	
RECRAF	2.1408	2.7271	2.4696	2.4696	
-2	.3241	.3859	.4390	.4390	
	43.6247	49.9418	31.7949	31.7949	
	.8914	1.1340	1.0270	1.0270	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	.8361	2.3872	4.0458	4.0458	
	0.0000	0.0000	0.0000	0.0000	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	.8883	2.5650	5.9857	5.9857	
	0.0000	0.0000	0.0000	0.0000	
EDS-HS	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	2.1672	2.5206	2.5206	
	0.0000	0.0000	0.0000	0.0000	
EDS-IAC	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	2.2667	2.0493	2.0493	
	0.0000	0.0000	0.0000	0.0000	
AFQRTMOIA	0.0000	11.1525	7.2474	7.2474	
-3	0.0000	4.7997	5.4118	5.4118	
	0.0000	5.4279	1.7934	1.7934	
	0.0000	.0412	.0267	.0267	
AFQRTMOIA	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	.9884	.5525	.5525	
	0.0000	0.0000	0.0000	0.0000	
AFQRTMOIA	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	2.0249	1.1054	1.1054	
	0.0000	0.0000	0.0000	0.0000	
AFQRTMOIA	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.7694	.3313	.3313	
	0.0000	0.0000	0.0000	0.0000	
CUREMPL1	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	2.6501	2.7544	2.7544	
	0.0000	0.0000	0.0000	0.0000	
CUREMPL1	0.0000	113.9610	138.9923	138.9923	
-1	0.0000	50.0279	54.9441	54.9441	
	0.0000	5.1892	6.4228	6.4228	
	0.0000	.3241	.3953	.3953	
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.7097	.6212	.6202	
	0.0000	0.0000	0.0000	0.0000	
RAVGOTINC	0.0000	-441.5729	-752.2198	-752.2198	
-0	0.0000	216.6771	222.5121	222.5121	
	0.0000	15.0854	11.4283	11.4283	
	0.0000	-.0210	-.0195	-.0195	
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.0068	.0068	
	0.0000	0.0000	0.0000	0.0000	
OPTSTOAF	0.0000	0.0000	110.9000	110.9000	
-1	0.0000	0.0000	86.5370	86.5370	
	0.0000	0.0000	1.6426	1.6426	
	0.0000	0.0000	.1836	.1836	
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.0293	.0293	
	0.0000	0.0000	0.0000	0.0000	
PILCIVPAY	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	.5263	
	0.0000	0.0000	0.0000	0.0000	

Table 46

REGRESSION RESULTS FOR AIR FORCE CATEGORY I-IV HIGH SCHOOL GRADUATES WITH RECRUITERS EXCLUDED

	DEPENDENT VARIABLES				-KEY TO UNIT ENTRY-
	AF1234MS	AF1234ES	AF1234MS	AF1234MS	COEFFICIENT
					STANDARD ERROR
					F TO LEAVE OR ENTER
R SQUARED	.9844	.9821	.9821	.9249	ELASTICITY
CONSTANT	-376.264	-1562.477	-1562.735	-3806.623	
ELAST. CONST.	-.37242	-.33615	-.33612	-.81728	
INDEP. VARIABLES AND MONTHLY SHIFTS					
AFQCY-ON	.6388	.6736	.6736	.6637	
-8	.0492	.0612	.0612	.0468	
	144.3203	121.2175	121.2146	201.2941	
	.8036	.8465	.8465	.8336	
PILCIVPAY	967.1473	1301.6268	1301.6576	0.3000	
-8	314.7973	462.7326	462.7314	0.0000	
	9.4389	4.8854	4.8861	.0848	
	.2648	.2781	.2781	0.0000	
BAS-MS	0.0000	0.0000	0.0000	0.0000	
-8	0.0000	0.0000	0.0000	0.0000	
	0.0000	5.6520	5.6520	1.3210	
	0.0000	0.0000	0.0000	0.0000	
BAS-INC	0.0000	0.0000	0.0000	0.0000	
-8	0.0000	0.0000	0.0000	0.0000	
	0.0000	.0013	.0013	.3307	
	0.0000	0.0000	0.0000	0.0000	
AFRTMDIA	0.0000	0.4329	0.4329	0.0000	
-3	0.0000	6.3772	6.3772	0.0000	
	0.0000	2.1876	2.1861	.0113	
	0.0000	.0320	.0320	0.0000	
AFRTMDIA	0.0000	0.0000	0.0000	7.7269	
-2	0.0000	0.0000	0.0000	5.1320	
	0.0000	.1298	.1298	2.2669	
	0.0000	0.0000	0.0000	.0203	
AFRTMDIA	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	.5066	.5066	.3948	
	0.0000	0.0000	0.0000	0.0000	
AFRTMDIA	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.4931	.4931	.1165	
	0.0000	0.0000	0.0000	0.0000	
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	2.4072	2.4072	3.8219	
	0.0000	0.0000	0.0000	0.0000	
DUNEMPL1	0.0000	70.7048	70.6954	122.7986	
-1	0.0000	61.6563	61.6562	56.4186	
	0.0000	1.1152	1.1147	4.7300	
	0.0000	.1853	.1852	.3216	
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	1.0791	1.0791	.5774	
	0.0000	0.0000	0.0000	0.0000	
AAVGOTINC	0.0000	-237.1262	-237.1249	-659.3930	
-8	0.0000	249.4692	249.4692	235.9162	
	0.0000	.9038	.9038	7.8122	
	0.0000	-.0057	-.0057	-.0158	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.2375	.0830	
	0.0000	0.0000	0.0000	0.0000	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.0000	.0333	
	0.0000	0.0000	0.0000	0.0000	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.9844	.2321	
	0.0000	0.0000	0.0000	0.0000	
AFPLCY	0.0000	0.0000	0.0000	0.0000	
-8	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	.3220	
	0.0000	0.0000	0.0000	0.0000	
RECRAF	0.0000	0.0000	0.0000	1.6963	
-2	0.0000	0.0000	0.0000	.4149	
	0.0000	0.0000	0.0000	16.7148	
	0.0000	0.0000	0.0000	.6495	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	3.5886	
	0.0000	0.0000	0.0000	0.0000	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	4.1078	
	0.0000	0.0000	0.0000	0.0000	

Table 47

REGRESSION RESULTS FOR AIR FORCE CATEGORY I-IV HIGH SCHOOL GRADUATES WITH MILITARY PAY EXCLUDED

	DEPENDENT VARIABLES				KEY TO UNIT ENTRY
	AF1234MS	AF1234MS	AF1234MS	AF1234MS	COEFFICIENT
					STANDARD ERROR
					F TO LEAVE OR ENTER
R SQUARED	.9949	.9950	.9949	.9949	ELASTICITY
CONSTANT	-795.218	-3801.836	-3803.623	-3800.623	
ELAST. CONST.	-.17126	-.81752	-.81728	-.81728	
INDEP. VARIABLES AND MONTHLY SHIFTS					
AFCOT-ON	.6031	.6638	.6637	.6637	
-0	.0456	.0469	.0468	.0468	
	174.9934	201.3624	201.2941	201.2941	
	.7587	.8338	.8336	.8336	
RECRAF	1.0759	1.6962	1.6963	1.6963	
-2	.3037	.4149	.4149	.4149	
	12.5501	16.7139	16.7140	16.7140	
	.4126	.6495	.6495	.6495	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	.2235	3.5874	3.5886	3.5886	
	0.0000	0.0000	0.0000	0.0000	
RECRAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	.2046	4.1022	4.1038	4.1038	
	0.0000	0.0000	0.0000	0.0000	
RES-MS	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	1.3214	1.3216	1.3216	
	0.0000	0.0000	0.0000	0.0000	
RES-INC	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.3296	.3297	.3297	
	0.0000	0.0000	0.0000	0.0000	
APPRTMOIA	0.0000	0.0000	0.0000	0.0000	
-3	0.0000	0.0000	0.0000	0.0000	
	0.0000	-.0114	-.0113	-.0113	
	0.0000	0.0000	0.0000	0.0000	
APPRTMOIA	0.0000	7.7347	7.7269	7.7269	
-2	0.0000	5.1321	5.1320	5.1320	
	0.0000	2.2714	2.2669	2.2669	
	0.0000	.0283	.0283	.0283	
APPRTMOIA	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	.3950	.3948	.3948	
	0.0000	0.0000	0.0000	0.0000	
APPRTPOIA	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.1169	.1165	.1165	
	0.0000	0.0000	0.0000	0.0000	
DURENPL1	0.0000	0.0000	0.0000	0.00.0	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	3.0219	3.0219	3.0219	
	0.0000	0.0000	0.0000	0.0000	
DURENPL1	0.0000	122.8512	122.7988	122.7988	
-1	0.0000	56.4111	56.4106	56.4106	
	0.0000	4.7427	4.7388	4.7388	
	0.0000	.3217	.3216	.3216	
DURENPL1	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	.5765	.5774	.5774	
	0.0000	0.0000	0.0000	0.0000	
RAVGOTINC	0.0000	-659.2466	-659.3979	-659.3939	
-0	0.0000	235.9141	235.9152	235.9162	
	0.0000	7.8086	7.8122	7.8122	
	0.0000	-.0158	-.0158	-.0158	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.0030	.0030	
	0.0000	0.0000	0.0000	0.0000	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-1	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.0333	.0333	
	0.0000	0.0000	0.0000	0.0000	
CPTSTOAF	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	.2331	.2331	
	0.0000	0.0000	0.0000	0.0000	
APPLCY	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	.0228	
	0.0000	0.0000	0.0000	0.0000	
PILCIVPAY	0.0000	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	0.0000	
	0.0000	0.0000	0.0000	.6548	
	0.0000	0.0000	0.0000	0.0000	

Table 48

REGRESSION RESULTS FOR AIR FORCE CATEGORY I, II, III, IV HIGH SCHOOL GRADUATES WITH RECRUITERS EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	AF1HS	AF2HS	AF3HS	AF4HS	AF1HS	AF2HS	AF3HS	AF4HS
R SQUARED	.8131	.8676	.8151	.1535	.8136	.8942	.8354	.8678
CONSTANT	-130.171	-590.292	-1156.535	-88.534	-152.618	-1669.886	-1516.027	457.606
ELAST. CONST.	-.52454	-.34669	-.50269	-.23934	-.61612	-.96670	-.65793	1.24929
INDEP. VARIABLES AND MONTHLY SHIFTS								
AFQOT-OM	.0296	.2116	.3612	.3785	.0278	.2411	.3856	.0322
-0	.0036	.0189	.0375	.0384	.0038	.0219	.0392	.0156
	69.4158	125.1424	92.7395	4.1703	54.0460	121.6311	96.6806	4.2317
	.6967	.7163	.9170	1.2393	.6554	.8154	.9762	.5129
MILCIVPAY	159.2299	843.0882	1044.2664	0.0000	192.4757	1010.5917	209.6616	0.0000
-0	22.7147	121.9710	239.7962	0.0000	25.7952	172.6184	364.0634	0.0000
	49.1278	48.5718	18.9643	73.1361	55.6636	34.2750	.3302	5.3290
	.8278	.6304	.5857	0.0000	1.0826	.7549	.1173	0.0000
BNS-HS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.2415	0.9428	2.0858	4.4239
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BNS-INC	0.0000	0.0000	0.0000	0.0000	-29.1437	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	13.2544	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	4.8347	0.0329	.0612	.1302
	0.0000	0.0000	0.0000	0.0000	-.0261	0.0000	0.0000	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.5858	.4303	.3186	.9217
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	135.6288	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	81.9597	0.0000
	0.0000	0.0000	0.0000	0.0000	.3287	.1356	2.7381	.6472
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.2351	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0239	.0221	.0015	.0793
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPRTMOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	11.5118	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	6.6546	0.0000
	0.0000	0.0000	0.0000	0.0000	.2174	.0718	6.1160	.0038
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0706	0.0000
AFPRTMOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.3716	.0011	.2612	.0340
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPRTMOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0669
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2789
	0.0000	0.0000	0.0000	0.0000	.0452	.0396	.7539	.1447
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0428
AFPRTMOIA	0.0000	0.0000	0.0000	0.0000	0.0000	2.3325	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	2.3537	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.1376	.9020	.7830	.0254
	0.0000	0.0000	0.0000	0.0000	0.0000	.0246	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.7517	1.7212	.6634	10.0378
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	53.7376	47.5071	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	22.3552	45.4074	0.0000
	0.0000	0.0000	0.0000	0.0000	.0318	5.7783	1.0946	8.9195
	0.0000	0.0000	0.0000	0.0000	0.0000	.3789	.2508	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.4578	1.0859	1.0189	3.5623
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPLCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-613.3517
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	82.9393
	0.0000	0.0000	0.0000	0.0000	.0028	.5315	1.9629	54.6000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-.7679
NAVOOTINC	0.0000	0.0000	0.0000	0.0000	-35.2847	-108.7457	0.0000	-120.9388
-0	0.0000	0.0000	0.0000	0.0000	17.4947	93.4408	0.0000	71.2683
	0.0000	0.0000	0.0000	0.0000	4.0494	1.3544	.0456	2.8799
	0.0000	0.0000	0.0000	0.0000	-.0158	-.0070	0.0000	-.0367

Table 49

REGRESSION RESULTS FOR AIR FORCE CATEGORY I, II, III, IV HIGH SCHOOL GRADUATES WITH MILITARY PAY EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	AF1HS	AF2HS	AF3HS	AF4HS	AF1HS	AF2HS	AF3HS	AF4HS
R SQUARED	.8073	.8786	.8348	.1535	.8319	.9243	.9135	.8668
CONSTANT	-195.898	-904.641	-1559.712	-86.534	-389.684	-2293.398	-2738.826	473.016
ELAST. CONST.	-.78882	-.57048	-.67791	-.23934	-1.24734	-1.32619	-1.18948	1.20918
INDEP. VARIABLES AND MONTHLY SHIFTS								
AFQOT-DH	.3265	.1967	.3175	.0785	.0296	.2317	.3559	.0335
-0	.0036	.0181	.0341	.0384	.0045	.0203	.0345	.0153
	53.6498	115.6383	86.7890	4.1703	44.3022	134.8591	106.3647	3.9916
	.6232	.6590	.0461	1.2393	.6956	.7826	.9029	.4861
RECRAF	0.0000	0.0000	1.1265	0.0000	0.0000	0.0000	1.0773	0.0000
-2	0.0000	0.0000	.2270	0.0000	0.0000	0.0000	.3220	0.0000
	.8017	.0720	24.6213	48.1216	.5448	5.3364	11.1391	3.3666
	0.0000	0.0000	.8718	0.0000	0.0000	0.0000	.8331	0.0000
RECRAF	.1617	.0786	0.0000	0.0000	.1796	1.0189	0.0000	0.0000
-1	.0246	.1232	0.0000	0.0000	.0418	.1888	0.0000	0.0000
	43.1577	50.8713	.7448	42.9891	18.4350	29.1267	5.1143	6.2142
	1.1656	.9115	0.0000	0.0000	1.2955	1.0550	0.0000	0.0000
RECRAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	.0398	.2888	.7441	36.2165	.4178	.5617	7.6634	0.1090
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BNS-HS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.3813	2.7280	2.1950	4.6787
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
BNS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0204	1.2461	1.9431	.1077
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	4.5068	19.3129	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.2541	39.6481	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.2984	.2373	.0742	.8753
	0.0000	0.0000	0.0000	0.0000	.0706	.0434	0.0000	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	52.2304	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	63.7796	0.0000
	0.0000	0.0000	0.0000	0.0000	.0088	.0007	.6706	.6528
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0907	0.0000
OPTSTOAF	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0151	.0320	.0609	.9322
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPRTHOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	9.4880	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	3.9886	0.0000
	0.0000	0.0000	0.0000	0.0000	.5954	.0732	5.6585	.0222
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0649	0.0000
AFPRTHOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.7327	.6120	.9705	.0755
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPRTHOIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0142	.2588	1.2350	.1061
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPRTHOIA	0.0000	0.0000	0.0000	0.0000	0.0000	3.8397	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	2.2674	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0442	2.8677	.4500	.0053
	0.0000	0.0000	0.0000	0.0000	0.0000	.0404	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	3.4979	3.3272	.6846	18.1605
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	4.1187	59.5356	59.8436	0.0000
-1	0.0000	0.0000	0.0000	0.0000	9.1312	22.9613	40.4213	0.0000
	0.0000	0.0000	0.0000	0.0000	.6443	6.7161	2.1916	9.2118
	0.0000	0.0000	0.0000	0.0000	.2020	.4191	.3165	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.1993	.3581	.8291	3.8724
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
AFPLCY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-598.7471
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	52.7363
	0.0000	0.0000	0.0000	0.0000	.0272	.5061	.4591	125.4029
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	-.7379
WAVOTING	0.0000	0.0000	0.0000	0.0000	-36.6445	-222.3761	-387.1616	-123.4601
-0	0.0000	0.0000	0.0000	0.0000	20.1307	92.5040	163.9960	69.4209
	0.0000	0.0000	0.0000	0.0000	3.3136	5.7790	5.5734	3.1628
	0.0000	0.0000	0.0000	0.0000	-.0164	-.0143	-.0187	-.0374

STRATEGY OF REGRESSION RUNS

As a result of several regressions on different population groups using only the major incentive programs, it was found that the fit to the data was poor ($R^2 \sim .4$). The inclusion of a variable which measured the demand for volunteers improved the fit considerably ($R^2 \sim .85$). This variable was calculated by subtracting the monthly number of draft-motivated enlistments entering the Air Force from the Air Force quota. This variable thus tracks the Air Force demand for volunteer enlistments. During periods of large draft calls, the variable is small, reflecting the large supply of draft-motivated personnel available to the Air Force. This variable is found to be highly correlated with Air Force volunteer enlistment data indicating that demand rather than supply is the major influence on Air Force volunteer enlistments. The quota variable appears in all regression equations that it is allowed to enter and occurs as the variable with greatest significance. When the quota variable is brought into the regression equation alone, residuals are small and R^2 is at least .60.

Table 50 gives the correlation matrix for the independent variables. Military pay and recruiting are highly correlated variables and were entered into separate sets of regression equations in order to measure their effectiveness. Thus, for each dependent variable, two sets of regressions were run, one including military pay and one including recruiting.

AIR FORCE PROGRAM EFFECTS

Programs and policies measured in this analysis are described below.

Demand Variable (AFQOT-DM)

The regressions show that changes in high school graduate volunteer groups are very highly dependent on changes in demand for volunteers as measured by the variable calculated by subtracting monthly draft-motivated enlistments from the monthly quota. In Tables 48 and 49, the F values for this variable (with the exception of the Category IV high school graduate group) ranges from 54 to 134, indicating strong significance. The strong significance of this variable probably indicates that the Air Force is demand limited even for Category I-III high school graduate volunteer groups.

Table 50

CORRELATION MATRIX FOR INDEPENDENT AIR FORCE VARIABLES

		1	2	3	4	5	6	7	8	9	10	11
1.	AFQOT-DM	1.0	-.24	-.09	-.21	-.09	-.16	-.06	.19	.02	.18	.28
2.	MILCIVPAY	-.24	1.0	.91	-.54	.77	.58	.77	.68	.37	.41	.18
3.	RECRAF	-.09	.91	1.0	-.46	.67	.46	.67	.65	.18	.55	.36
4.	DUNEMPL1	-.21	-.54	-.46	1.0	-.70	-.48	-.75	-.92	-.57	-.49	-.09
5.	OPTSTOAF	-.09	.77	.67	-.70	1.0	.63	.85	.71	.70	.13	-.03
6.	AFPRTMDIA	-.16	.58	.46	-.48	.63	1.0	.72	.51	.39	.20	-.12
7.	AFPLCY	-.06	.77	.67	-.75	.85	.72	1.0	.81	.73	.22	.04
8.	BNS-HS	.19	.68	.65	-.92	.71	.51	.81	1.0	.51	.63	.33
9.	BNS-INC	.02	.37	.18	-.57	.70	.39	.73	.51	1.0	-.36	-.19
10.	BNS-NHS	.18	.41	.55	-.49	.13	.20	.22	.63	-.36	1.0	.53
11.	NAVQOTINC	.28	.18	.36	-.09	-.03	-.12	.04	.33	-.19	.53	1.0

Military Pay

Among the Air Force volunteers, the increase in military pay relative to civilian wages caused an increase in Mental Category I-III high school graduate accessions and had no significant effect on non-high school or Category IV high school graduates. Table 51 summarizes the elasticities for the various groups.

Table 51

MILITARY PAY ELASTICITIES FOR DIFFERENT AIR FORCE MENTAL CATEGORY GROUPS

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS	Category I-III NHS
Lower estimate	$.83 \pm .12$	$.63 \pm .09$	$.12 \pm .20$	0	$.63 \pm .10$	0
Upper estimate	$1.0 \pm .13$	$.76 \pm .13$	$.59 \pm .13$	0	$.42 \pm .16$	0
Best estimate	$.91 \pm .13$	$.69 \pm .11$	$.35 \pm .25$	0	$.53 \pm .13$	0

Pay elasticities for Category I high school graduates are significantly higher than the elasticities for Category II and III high school graduates. The lower elasticities and significance for the Category III groups reflect that this group was probably demand limited during this time period.

In making a best estimate of pay elasticities, the main factor to be kept in mind is that a pay elasticity is specific to a given model and can only be used in the context of that model. Also, any given model contains assumptions which are part of the pay elasticity measurements. Measurements given in Tables 44-49 give several different pay elasticity measurements using different variable combinations. For instance, from Table 44 the first column gives a pay elasticity of .623. This linear model assumes that pay was the only significant incentive variable. Columns 2 and 3 attribute separate independent linear effects to other variables such as unemployment, options and print media. Each of these models also assumes no independent effect due to additional recruiting since that variable cannot be entered due to its high correlation with pay.

The best estimates given in Table 51 are simply derived from averaging the high and low estimates from the regressions. The errors are taken either from an average of the standard error of the measurements or are enlarged to include the range between the higher and lower estimates. The error, thus, cannot be interpreted in a statistical sense, but actually convey more information than an ordinary statistical error. The errors cover not only the statistical uncertainty from a single model but the range of sensitivity of the elasticity to different models. This source of uncertainty is often the dominant one and often is not included in policy decisions.

Air Force Recruiting

The response to recruiting by Mental Category I, II and III high school graduates is quite large, with elasticities ranging from .87 to 1.29. Recruiting has had no significant effect on Category IV high school graduates or Category I-III non-high school graduates. Table 52 summarizes the range of recruiting elasticities and standard errors measured for the different Air Force groups from Tables 44-49.

Table 52

RECRUITING ELASTICITIES FOR DIFFERENT AIR FORCE MENTAL CATEGORY GROUPS

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS	Category I-III NHS
Lower estimate[a]	$1.17 \pm .18$	$.91 \pm .13$	$.87 \pm .17$	0	$.89 \pm .13$	0
Upper estimate[a]	$1.30 \pm .30$	$1.06 \pm .20$	$.83 \pm .25$	0	$1.13 \pm .16$	0
Best estimate[b]	$.93 \pm .30$	$.74 \pm .25$	$.64 \pm .21$	0	$.76 \pm .25$	0

[a]No independent pay effect assumed.

[b]See text for explanation.

The results show generally larger elasticities for the higher mental groups indicating that the percentage increase was greater among the larger mental groups for the Air Force. Again, the lower elasticity for Category III high school graduates probably indicates that this group was demand limited during part of the 3-year time period.

The elasticities in Table 52 are derived from a model which attributes no independent effects to the pay raise. For this reason the elasticities represent upper limits to recruiting elasticities. In other words, the model attributes all increases generally to recruiting, i.e., the same increases would have taken place if recruiters were increased but no pay increase was given. This is an unlikely assumption. On the other hand, it is also unlikely that the pay raise alone without additional recruiters would have increased the group to the same degree. The effect of recruiters is indicated strongly by the fact that the significance as measured by the F value is generally greater for the recruiters than for military pay variables.

To arrive at a best estimate, the average of the two estimates given in Table 52 is used as an upper limit since no military pay is included. A lower limit of zero does not seem feasible due to the large significance of the recruiter variable. A lower limit of one-half the upper limit is assumed here. For instance, for the Category I high school graduate group, the upper limit is $(1.17 + 1.30)/2 = 1.23$, while the lower limit is $1.24/2 = .62$, and the best estimate is $(1.23 + .64)/2 = .94 \pm .30$.

Print Media Advertisements

Table 53 summarizes the elasticities measured for the print media advertisements variable from Tables 44-49.

Table 53

ELASTICITIES FOR PRINT MEDIA ADVERTISEMENTS FOR DIFFERENT AIR FORCE MENTAL CATEGORY GROUPS

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS
Lower estimate	0	$.025 \pm .025$	$.065 \pm .03$	0	$.03 \pm .02$
Upper estimate	0	$.04 \pm .02$	$.08 \pm .03$	0	$.06 \pm .02$
Best estimate	0	$.033 \pm .02$	$.073 \pm .03$	0	$.045 \pm .02$

The print media variable generally enters with a 3-month delay. The best estimates and errors in this case are derived from simple averages of the upper and lower estimates and errors.

Unemployment Variable

Table 54 summarizes the elasticities for different groups for the youth unemployment variable.

Table 54

UNEMPLOYMENT ELASTICITIES FOR DIFFERENT AIR FORCE MENTAL CATEGORY GROUPS

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS
Lower estimate	0	$.38\pm.15$	$.25\pm.24$	0	$.20\pm.18$
Upper estimate	$.2\pm.2$	$.42\pm.16$	$.32\pm.21$	0	$.40\pm.15$
Best estimate	$.1\pm.2$	$.40\pm.16$	$.28\pm.23$	0	$.30\pm.17$

The variable generally entered with a 1-month delay in the regression. The best estimates in Table 54 are arrived at by simply averaging the upper and lower bounds and errors.

Air Force Options

The Air Force options available to non-prior service accessions increased from only two in FY71 to six in December 1973. These options included such changes as guaranteed service school choices and new 6-year commitments in exchange for E-2 entrance grades. Table 55 summarizes the elasticities measured for the average option change during this period.

Table 55

OPTION ELASTICITIES FOR DIFFERENT AIR FORCE MENTAL CATEGORY GROUPS

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS
Lower estimate	0	0	$.09\pm.11$	0	$.10\pm.08$
Upper estimate	$.07\pm.13$	$.04\pm.08$	$.24\pm.14$	0	$.12\pm.11$
Best estimate	$.03\pm.13$	$.02\pm.08$	$.16\pm.13$	0	$.11\pm.10$

The variable enters only weakly in the regressions with F levels generally below 1. The best estimate values are again obtained by averaging the upper and lower bounds and errors.

Other Service Program Effects

Two variables were entered into the regression to determine the influence of other Service programs on Air Force enlistments. The Army and Marine Corps bonus programs were depicted by two bonus variables which mark the start of the $1500 and $2500 bonus. Of all programs implemented by the Marine Corps and Army, the bonus was thought to be the one which might influence Air Force enlistments the most. For the Navy, a variable was included which marked a huge increase in Navy demand for volunteers during the period June-August 1972. During this period, Navy quotas rose substantially. This period allows a measurement of the effect on other Service accessions of large increases in Navy requirements.

The bonus variables show no effect on Air Force enlistments. They do not enter the regressions at any stage. Generally, no significant drop in Air Force volunteer enlistments for any group can be attributed to the Army and Marine Corps bonus programs.

The Navy quota variable, on the other hand, does enter negatively and is generally significant. Table 56 summarizes the effects of the Navy quota variable.

Table 56
MONTHLY LOSS IN AIR FORCE VOLUNTEER ENLISTMENTS DUE TO INCREASE IN NAVY QUOTA IN JUNE-SEPTEMBER 1972

	Category I HS	Category II HS	Category III HS	Category IV HS	Category I-III HS
Lower estimate	-35 ± 17	-108 ± 93	0	-120 ± 71	-278 ± 256
Upper estimate	-36 ± 20	-222 ± 92	-387 ± 164	-123 ± 69	-841 ± 216
Best estimate	-35 ± 19	-165 ± 92	-194 ± 164	-121 ± 70	-656 ± 236

The data would indicate that there is a cross elasticity between Navy requirements and Air Force enlistments. During June-September 1972, the monthly quota for males in the Navy almost doubled over previous months, from around 7500 to 14,000. This doubling of the quota only caused a loss of Air Force Category I-III high school graduate enlistments of 650 per month. Roughly, for each change of 1000 in the monthly Navy quota, Air Force Category I-III high school graduate enlistments changed by 100.

CONCLUSIONS

A basic concept in understanding the monthly variation in Air Force volunteer data over the last 3 years is whether volunteers are supply limited or demand limited. For the Air Force, all non-high school graduate groups and Category IV high school graduate groups are currently demand limited, i.e., the Air Force could increase enlistments in these groups with simple policy changes. There is also evidence that the Category III high school graduate group is currently demand limited. Analysis of Category I, II, III high school graduates indicates that variations in volunteer enlistments in these groups are primarily attributable to three variables: Air Force quota for volunteers, military to civilian pay ratio, and number of recruiters. Of much lesser importance in explaining variations are Navy quota changes, new options, unemployment and print media advertisements. Clean separation of the effects of military pay and recruiting is complicated by their multicollinearity, but the time series analysis can provide an upper limit to the effects of pay and recruiting. Table 57 gives the average F values and elasticities of the variables in the regressions for Category I-III high school graduates. The F values provide a relative indication of the importance of variables in explaining variations in volunteer enlistments.

The elasticities can provide estimates of how percentage changes in each of the variables will affect percentage changes in Category I-III high school volunteer enlistments. The elasticity is the percentage change in Category I-III high school volunteer enlistments for each 1 percent change in the independent variable. For instance, if the recruiting force were increased by 1 percent over the average of 1800 (Table 43) or 1.8 recruiters, the percentage increase in Category I-III high school graduate enlistments would be .76 percent or (.76)(4340) = 33 enlistees.

Table 57

SUMMARY STATISTICS FOR AIR FORCE CATEGORY I-III
HIGH SCHOOL GRADUATE DATA

Variable	F values	Estimated elasticities
Volunteer quota	140	.81 ± .07
Recruiting	39	.76 ± .25
Military pay	20	.53 ± .13
Navy quota dummy	10	-100[a]
Unemployment	4	.30 ± .17
Print media advertisements	3	.05 ± .02
Options	1	.11 ± .10
$1500 bonus	0	0
$2500 bonus	0	0

[a]Monthly change in Air Force Category I-III high school graduate enlistments for each 1000 change in Navy quota.

Chapter 4
NAVY TIME SERIES REGRESSION ANALYSIS

Time series regression analysis was performed on the following groups of Navy volunteers.

- o Category I, II, III and IV high school graduate volunteers.
- o Category I-III high school graduate volunteers.
- o Category I-IV high school graduate volunteers.
- o Category I-III non-high school graduate volunteers.

Monthly data from January 1971 to December 1973 were used in the analysis. The means and standard deviations of variables used in the analysis are given in Table 58. The time series data for the variables are described in App D. The correlation coefficients among the variables are given in Table 59.

REGRESSION STRATEGY

The Navy time series analysis was complicated by several factors as listed below:

- o The multicollinearity among key program variables was higher than for other Services.
- o The Navy changed its method of computation of AFQT scores during this period.
- o The Category IV high school graduate group fluctuated widely with no explicit policy.
- o No data on Navy print media advertisements were available.

The high degree of multicollinearity among variables for the Navy makes spearation of the effects of different programs difficult. For instance, Table 59 shows that the military pay variable has three variables (recruiters, options, and bonus increment) which have correlation

Table 58

MEAN VALUES AND STANDARD DEVIATIONS OF NAVY VARIABLES

Variable	Symbol	Delay	Mean	Standard deviation
	Independent Variables			
Navy recruiters	SNAVRECR (or SNRECR)	-2	2740	611.4
		-1	2774	608.5
		0	2808	604.2
Military-civilian pay ratio	MILCIVPAY	0	1.29	.23
Navy volunteer quota	NQOT-DM	0	7018	2998.3
Navy options	OPTSTONAV	-2	17.5	2.6
		-1	17.6	2.6
		0	17.7	2.5
Air Force policy restricting Category IV	AFPLCY	0		
Army/Marine Corps high school graduate bonus	BNS-HS	0	.53	.51
Army/Marine Corps $2500 bonus	BNS-INC	0	.22	.42
Army/Marine Corps non-high school graduate bonus	BNS-NHS	0	.31	.47
Youth unemployment rate (deseasonalized)	DUNEMPL1	-2	12.2	1.5
		-1	12.2	1.6
		0	12.1	1.6
	Population Variables			
High school graduates				
Category I	N1HS		201	71.5
Category II	N2HS		1718	610.3
Category III	N3HS		1901	855.5
Category IV	N4HS		508	392.8
Category I-III	N123HS		3820	1496
Category I-IV	N1234HS		4328	1745.7
Non-high school graduates				
Category I-III	N123NHS		1394	534

Table 59

CORRELATION MATRIX FOR NAVY INDEPENDENT VARIABLES

		1	2	3	4	5	6	7	8
1.	NQOT-DM	1.0	.18	.05	.01	.26	.18	.01	.18
2.	MILCIVPAY	.18	1.0	.79	-.54	.80	.68	.37	.41
3.	SNAVRECR	.05	.79	1.0	-.88	.76	.94	.52	.57
4.	DUNEMPL1	.01	-.54	-.88	1.0	-.49	-.92	-.57	-.48
5.	OPTSTONAV	.26	.80	.76	-.49	1.0	.69	.09	.67
6.	BNS-HS	.18	.68	.94	-.92	.69	1.0	.51	.63
7.	BNS-INC	.01	.37	.52	-.57	.09	.51	1.0	-.36
8.	BNS-NHS	.18	.41	.57	-.48	.67	.63	-.36	1.0

coefficients above .68. The recruiting variable has four other variables with correlation coefficients above .76. Estimates of recruiting and pay elasticities are given under the assumption that they are independent of each other. Estimates of the effect of bonus on the Navy are given here, but are clouded by multicollinearity problems. Estimates of unemployment and options are not given since these effects are small and cannot be measured in association with other variables due to multicollinearity.

During this period, the Navy also changed its method of determining AFQT scores in January 1973. The data for individual mental category groups would indicate a difference in classification schemes for mental category groups occurred at the time of the changeover. For instance, seasonally adjusted data for Mental Category I data show a clear drop at January 1973 when the AFQT scoring method changed. Other groups show changes also in January 1973, particularly for the first two months of the new system. This change in AFQT classification methods introduces additional problems when trying to analyze individual mental category groups.

The data would also indicate that the Navy during this time period has been supply limited during portions of this period and demand limited during other parts of the period. Navy quotas increased dramatically for a four-month period in 1972, and during this period Category I-III high school graduates were clearly supply limited. At other periods, the Category I-III high school volunteer groups were probably demand limited. Category IV high school graduate enlistments are a good means of monitoring the transition from supply to demand limited since they appear to be used only when the pool of Category I-III high school graduates is exhausted. This situation makes the Navy data harder to interpret than the Air Force data which are nearly always demand limited during the entire period.

In order to obtain estimates of the recruiting and pay elasticities and the effect of the bonus, recruiting and pay variables were run separately because of their multicollinearity. In addition, separate runs were made using the volunteer quota variable since the Navy was probably

demand limited for volunteers during part of this period. Results presented include those for Category I-III and I-IV high school graduates and Category I-III non-high school graduates. The individual mental category runs are not presented mainly because of difficulty of interpretation due to the change in AFQT scoring methods. The results are given in Tables 60-67.

Volunteer Quota Variable

The volunteer quota variable enters the Category I-III high school graduate regressions (tables 60 and 61) at a significant level, which is markedly lower than for the Air Force regression runs. This would indicate that Category I-III high school graduate volunteers for the Navy depend much less on quota considerations than Air Force volunteers in the same categories. This fact would also seem to suggest that the number of high school graduates taken in for at least some periods did depend on quota for the Navy, whereas for the Air Force, the dependence on quota was for the entire time period considered in the analysis. The quota variable, however, enters at a much higher significance level for Category I-IV high school graduate regressions (Tables 62-65) than Category I-III high school graduate regressions. This indicates that Category IV high school graduate volunteers were used to fill quotas when Category I-III high school graduate volunteers were supply limited. The highest R^2 in all Navy regressions occurs for the Category I-IV high school graduate group. With the two variables of volunteer quota and either pay or recruiting, R^2 values of .86 are obtained. Comparison of regression runs with and without the quota variables shows that the quota variable increases the R^2 significantly in each case.

Military/Civilian Pay Ratio Variable

Table 68 summarizes the pay elasticities from the regression runs in Tables 60-67. The lower level estimates are derived from regression runs with the volunteer quota variable, while the upper estimates are derived from regression runs without the volunteer quota variable. The best estimate in each case is derived from an average of the estimates. In the case of the Category I-IV high school group, the error is expanded to include the upper and lower estimate. The higher estimate of elasticities in the Category I-IV group is derived from a regression with

Table 60

REGRESSION RESULTS FOR NAVY CATEGORY I-III HIGH SCHOOL GRADUATES WITH QUOTA VARIABLE

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

DEPENDENT VARIABLES

	N123MS	N123MS	N123MS	N123MS	N123MS		N123MS	N123MS	N123MS
R SQUARED	.5999	.5999	.5999	.5999	.5999	R SQUARED	.5646	.7731	.7731
CONSTANT	1692.609	1692.609	1692.609	1692.609	1692.609	CONSTANT	2644.680	1362.072	1362.072
ELAST. CONST.	.45050	.45050	.45050	.45050	.45050	ELAST. CONST.	.71045	.36577	.36577
INDEP. VARIABLES AND MONTHLY SHIFTS						INDEP. VARIABLES AND MONTHLY SHIFTS			
ACCT-DM	.1044	.1044	.1044	.1044	.1044	ACCT-DM	.1538	.1654	.1654
-8	.0251	.0251	.0251	.0251	.0251	-8	.0279	.0217	.0217
	17.3637	17.3637	17.3637	17.3637	17.3637		30.3180	57.9375	57.9375
	.1950	.1950	.1950	.1950	.1950		.2895	.3117	.3117
MILCIVEAV	1032.2187	1032.2187	1032.2187	1032.2187	1032.2187	SNAVRECR	0.0000	.4393	.4393
-0	331.2830	331.2830	331.2830	331.2830	331.2830	-2	0.0000	.1066	.1066
	9.7083	9.7083	9.7083	9.7083	9.7083		0.0000	16.9248	16.9248
	.3545	.3545	.3545	.3545	.3545		0.0000	.3226	.3226
ENS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	SNAVRECR	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	-1	0.0000	0.0000	0.0000
	0.0000	2.7291	2.7291	2.7291	2.7291		0.0000	.0002	.0002
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
ENS-HS	0.0000	0.0000	0.0000	0.0000	0.0000	SNAVRECR	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	-0	0.0000	0.0000	0.0000
	0.0000	0.0000	1.0239	1.0239	1.0239		0.0000	.2077	.2077
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
CUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	ENS-INC	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0002	-0	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	4.0191	4.0191		0.0000	0.0000	2.3146
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
CLAEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	ENS-HS	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	-0	0.0000	0.0000	0.0000
	0.0000	0.0000	1.3836	1.3836	1.3836		0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
CUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000				
-0	0.0000	0.0000	0.0000	0.0000	0.0000				
	0.0000	0.0000	0.0000	1.1194	1.1194				
	0.0000	0.0000	0.0000	0.0000	0.0000				
CPISTONAV	0.0000	0.0000	0.0000	0.0000	0.0000				
-2	0.0000	0.0000	0.0000	0.0000	0.0000				
	0.0000	0.0000	0.0000	0.0000	2.6873				
	0.0000	0.0000	0.0000	0.0000	0.0000				
CPISTCNAV	0.0000	0.0000	0.0000	0.0000	0.0000				
-1	0.0000	0.0000	0.0000	0.0000	0.0000				
	0.0000	0.0000	0.0000	0.0000	2.9563				
	0.0000	0.0000	0.0000	0.0000	0.0000				
CPISTONAV	0.0000	0.0000	0.0000	0.0000	0.0000				
-0	0.0000	0.0000	0.0000	0.0000	0.0000				
	0.0000	0.0000	0.0000	0.0000	2.9729				
	0.0000	0.0000	0.0000	0.0000	0.0000				

Table 61

REGRESSION RESULTS FOR NAVY CATEGORY I-III HIGH SCHOOL GRADUATES WITH QUOTA VARIABLE EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	N123HS	N123HS	N123HS	N123HS	N123HS		N123HS	N123HS
R SQUARED	.4059	.4059	.4059	.4096	.4095	R SQUARED	.2975	.2975
CONSTANT	1955.476	1955.476	1955.476	1588.278	1589.654	CONSTANT	2505.316	2505.316
ELAST. CONST.	.51068	.51068	.51068	.41454	.41490	ELAST. CONST.	.65741	.65741
INDEP. VARIABLES AND MONTHLY SHIFTS						INDEP. VARIABLES AND MONTHLY SHIFTS		
MILCIVPAY	1452.0809	1452.0809	1452.0809	1532.6986	1532.5175	SNAVPECR	0.0000	0.0000
-0	366.3121	366.3121	366.3121	437.2569	437.2503	-2	0.0000	0.0000
	15.7137	15.7137	15.7137	12.2900	12.2843		1.8564	1.8564
	.4893	.4893	.4893	.5162	.5161		0.0000	0.0000
BNS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	SNAVPECR	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	-1	0.0000	0.0000
	0.0000	.1585	.1585	.3340	.3344		.8099	.8099
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
BNS-HS	0.0000	0.0000	0.0000	0.0000	0.0000	SNAVPECR	.4649	.4649
-0	0.0000	0.0000	0.0000	0.0000	0.0000	-0	.1493	.1493
	0.0000	0.0000	.0056	.0565	.0567		9.7382	9.7382
	0.0000	0.0000	0.0000	0.0000	0.0000		.3426	.3426
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	BNS-INC	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	-0	0.0000	0.0000
	0.0000	0.0000	0.0000	.6668	.6656		0.0000	.1478
	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	21.7755	21.6982			
-1	0.0000	0.0000	0.0000	63.4712	63.4702			
	0.0000	0.0000	0.0000	.1177	.1169			
	0.0000	0.0000	0.0000	.0692	.0690			
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000			
-0	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	.0008	.0008			
	0.0000	0.0000	0.0000	0.0000	0.0000			
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000			
-2	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	.0128			
	0.0000	0.0000	0.0000	0.0000	0.0000			
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000			
-1	0.0000	0.0000	0.0000	0.0000	0.0000			
	0.0000	0.0000	0.0000	0.0000	.2395			
	0.0000	0.0000	0.0000	0.0000	0.0000			

Table 62

REGRESSION RESULTS FOR NAVY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH QUOTA AND RECRUITER VARIABLES EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES				
	N1234HS	N1234HS	N1234HS	N1234HS	N1234HS
R SQUARED	.2463	.3412	.4688	.5260	.5243
CONSTANT	2757.706	2454.677	1684.070	-905.299	-1409.088
ELAST. CONST.	.63555	.56350	.38326	-.20706	-.32314
INDEP. VARIABLES AND MONTHLY SHIFTS					
MILCIVPAY	1225.5222	1550.3397	2385.7930	2116.6202	1634.1128
-0	447.0656	466.6470	574.8266	455.9173	668.7824
	7.5145	11.0377	17.2263	21.5533	5.9703
	.3644	.4592	.7006	.6247	.4836
ENS-INC	0.0000	-445.8611	-333.4713	-143.4386	0.0000
-0	0.0000	250.9484	261.3054	254.5906	0.0000
	0.0000	3.1567	1.6286	.3174	.0099
	0.0000	-.0227	-.0169	-.0073	0.0000
ENS-HS	0.0000	0.0000	-557.9795	0.0000	0.0000
-0	0.0000	0.0000	277.4115	0.0000	0.0000
	0.0000	0.0000	4.0456	.3762	.2852
	0.0000	0.0000	-.0670	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0394	.0363
	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	211.6854	230.6321
-1	0.0000	0.0000	0.0000	74.7081	65.3095
	0.0000	0.0000	0.0000	8.0287	12.4706
	0.0000	0.0000	0.0000	.5897	.6441
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0294	.0543
	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0892
	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.2331
	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	48.0900
-0	0.0000	0.0000	0.0000	0.0000	58.1250
	0.0000	0.0000	0.0000	0.0000	.6845
	0.0000	0.0000	0.0000	0.0000	.1954
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000

Table 63

REGRESSION RESULTS FOR NAVY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH QUOTA VARIABLE INCLUDED AND MILITARY PAY EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES			
	N1234HS	N1234HS	N1234HS	N1234HS
R SQUARED	.9449	.8597	.8597	.8597
CONSTANT	2592.094	2164.570	2164.570	2164.570
ELAST. CONST.	.61611	.51438	.51438	.51438
INDEP. VARIABLES AND MONTHLY SHIFTS				
ACCT-OH	.2301	.2280	.2280	.2280
-0	.0205	.0201	.0201	.0201
	124.3997	128.8859	128.8859	128.8859
	.3939	.3803	.3803	.3803
SNAVRECR	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000
	0.0000	.5318	.5318	.5318
	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000
	0.0000	.0231	.0231	.0231
	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	.1578	.1578	.1578
-0	0.0000	.0997	.0997	.0997
	0.0000	2.5064	2.5064	2.5064
	0.0000	.1053	.1053	.1053
ENS-INC	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.0651	.0651
	0.0000	0.0000	0.0000	0.0000
ENS-HS	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0438
	0.0000	0.0000	0.0000	0.0000

Table 64

REGRESSION RESULTS FOR NAVY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH QUOTA AND PAY VARIABLES EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES		
	N1234HS	N1234HS	N1234HS
R SQUARED	.2452	.0794	.1120
CONSTANT	3773.595	3567.839	1928.871
ELAST. CONST.	.87297	.82399	.44648
INDEP. VARIABLES AND MONTHLY SHIFTS			
SNAVRECR	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000
	10.5653	9.6935	9.9125
	0.0000	0.0000	0.0000
SNAVRECR	0.0001	0.0000	0.0000
-1	0.0000	0.0000	0.0000
	5.0589	4.2071	3.9177
	0.0000	0.0000	0.0000
SNAVRECR	.1955	.2954	1.0850
-0	.1874	.2201	.5451
	1.0886	1.8007	3.9815
	.1270	.1916	.6965
BNS-INC	0.0000	-303.2189	-335.8842
-0	0.0000	315.4501	318.4123
	0.0000	.9240	1.1128
	0.0000	-.0156	-.0171
BNS-HS	0.0001	0.0000	-997.0108
-0	0.0000	0.0000	645.5671
	0.0000	0.0000	2.3852
	0.0000	0.0000	-.1213

Table 65

REGRESSION RESULTS FOR NAVY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH QUOTA VARIABLE INCLUDED AND RECRUITERS EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES					
	N1234HS	N1234HS	N1234HS	N1234HS	N1234HS	N1234HS
R SQUARED	.8413	.8413	.8413	.8413	.8413	.8524
CONSTANT	2214.894	2214.894	2214.894	2214.894	2214.894	-638.883
ELAST. CONST.	.52552	.52552	.52552	.52552	.52552	-.15128
INDEP. VARIABLES AND MONTHLY SHIFTS						
ACCT-ON	.2117	.2117	.2117	.2117	.2117	.1933
-0	.0207	.0207	.0207	.0207	.0207	.0200
	104.9998	104.9998	104.9998	104.9998	104.9998	93.0625
	.3525	.3525	.3525	.3525	.3525	.3211
MILCIVPAY	398.5835	398.5835	398.5835	398.5835	398.5835	0.0000
-0	273.1512	273.1512	273.1512	273.1512	273.1512	0.0000
	2.1293	2.1293	2.1293	2.1293	2.1293	.1541
	.1220	.1220	.1220	.1220	.1220	0.0000
EAS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	.0749	.0749	.0749	.0749	.2966
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
EAS-HS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.1180	.1180	.1180	.0696
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.2112	.2112	.7786
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CLNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	166.7777
-1	0.0000	0.0000	0.0000	0.0000	0.0000	72.8878
	0.0000	0.0000	0.0000	.0535	.0535	5.2356
	0.0000	0.0000	0.0000	0.0000	0.0000	.4867
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0016	.0016	.2242
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CRISTONAV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0082	1.1920
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CRISTCNAV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0034	.7673
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
CRISTONAV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0315	.0958
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.0678
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.0848
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
SNAVRECR	0.0000	0.0000	0.0000	0.0000	0.0000	.5250
-0	0.0000	0.0000	0.0000	0.0000	0.0000	.1800
	0.0000	0.0000	0.0000	0.0000	0.0000	7.8190
	0.0000	0.0000	0.0000	0.0000	0.0000	.3454

Table 66

REGRESSION RESULTS FOR NAVY CATEGORY I-III NON-HIGH SCHOOL GRADUATES WITH RECRUITER VARIABLE EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES		
	N123NHS	N123NHS	N123NHS
R SQUARED	.3332	.3332	.3332
CONSTANT	46.120	46.120	46.120
ELAST. CONST.	.03291	.03291	.03291
INDEP. VARIABLES AND MONTHLY SHIFTS			
MILCIVPAY	1050.1999	1050.1999	1050.1999
-0	309.7860	309.7860	309.7860
	11.4927	11.4927	11.4927
	.9671	.9671	.9671
BNS-NHS	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000
	0.0000	.1033	.1033
	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000
	0.0000	0.0000	3.0071
	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000
	0.0000	0.0000	2.8464
	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000
	0.0000	0.0000	3.8836
	0.0000	0.0000	0.0000

Table 67

REGRESSION RESULTS FOR NAVY CATEGORY I-III NON-HIGH SCHOOL GRADUATES WITH MILITARY PAY VARIABLE EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES	
	N123NHS	N123NHS
R SQUARED	.5399	.5693
CONSTANT	-45.064	-215.972 -
ELAST. CONST.	-.03233	-.15477
INDEP. VARIABLES AND MONTHLY SHIFTS		
SNAVRECR	0.0000	0.0000
-2	0.0000	0.0000
	.1013	.9228
	0.0000	0.0000
SNAVRECR	0.0000	0.0000
-1	0.0000	0.0000
	.1555	.8049
	0.0000	0.0000
SNAVRECR	.5125	.5920
-0	.0986	.1180
	26.9901	25.1604
	1.0323	1.1913
BNS-NHS	0.0000	-166.9871
-0	0.0000	152.6407
	0.0000	1.1968
	0.0000	-.0366

negative bonus effects. Generally, the rest of the estimates are derived from regression runs where the bonus or unemployment variables did not enter or were not allowed to enter due to the high degree of multicollinearity. If it is assumed that the bonus and unemployment did have effects, the pay elasticities would be larger for the Navy groups.

Table 68

MILITARY CIVILIAN PAY RATIO ELASTICITIES FOR DIFFERENT NAVY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	.35 ± .11	.12 ± .08	.97 ± .28
Upper estimate	.52 ± .15	.70 ± .17	.97 ± .29
Best estimate	.44 ± .13	.41 ± .29	.97 ± .29

Recruiter Variable

Table 69 summarizes the elasticities for the different groups for the recruiter variable. The lower estimates are derived from regressions with the volunteer quota variable, while the upper estimates come from regressions without the quota variable. The best estimates are calculated from the means of the upper and lower estimates. The elasticity estimates measured here exclude the effects of bonus, unemployment or options due to their collinearity with the recruiting variable. Generally, assuming an effect due to unemployment or bonus would drive the recruiting elasticities higher.

Table 69

RECRUITING ELASTICITIES FOR DIFFERENT NAVY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	.32 ± .08	.11 ± .06	1.03 ± .20
Upper estimate	.34 ± .11	.70 ± .37	1.19 ± .24
Best estimate	.33 ± .10	.40 ± .30	1.11 ± .22

Other Variables

The remaining variables of bonus high school ($1500), bonus increment ($2500), options, and unemployment are obscured by collinearity problems. The effect of all these variables is generally smaller than pay and recruiting, and since each one is highly correlated with either pay or recruiting, accurate measurement is difficult.

The bonus increment variable is not as highly correlated with pay and recruiting as the $1500 bonus variable. The regression runs for Category I-III high school groups show that this variable is not significant when allowed to enter with pay or recruiting. The $1500 bonus variable also does not enter the regression with these variables. This evidence would suggest that the Navy has not lost Category I-III high school graduates due to the bonus programs of the other Services. The bonus variables also do not enter the Category I-IV regressions when the volunteer quota variable is used, although a negative effect for the bonus does appear without the quota variable. A rough conclusion from these data is that the Navy high school group has not been significantly affected by the bonus.

CONCLUSION

Table 70 summarizes the significance of the variables for the Category I-IV and Category I-III high school groups. The volunteer quota variable is the most significant in both groups although with a much lower F value for the Category I-III group. This probably indicates that the Category I-III group is supply limited by the Navy, while the Category I-IV group is demand limited. The military pay variable and recruiting variable are roughly of equal statistical significance in explaining variation in Category I-III high school volunteers. No other variables appear significant for this group.

The R^2 values for the regression are significantly higher for the regression having the quota variable included indicating the dependence for at least part of the 1971-1973 period of high school graduate volunteer enlistments on quotas.

The $1500 and $2500 bonuses appear to have no significant effect on Category I-III high school graduate enlistments in the Navy.

Table 70

SUMMARY STATISTICS FOR NAVY CATEGORY I-III AND CATEGORY I-IV HIGH SCHOOL GRADUATE DATA

Variable	F value	Category I-III estimated elasticity
Volunteer quota		
Category I-III	35	.26 ± .03
Category I-IV	113	.36 ± .02
Military pay		
Category I-III	13	.44 ± .13
Category I-IV	11	.41 ± .29
Recruiters		
Category I-III	13	.33 ± .10
Category I-IV	2.4	.40 ± .30
Unemployment		
Category I-III	0	-
Category I-IV	0	-
Bonus ($1500)	0	-
Bonus ($2500)	0	-
Options	0	-

Chapter 5
MARINE CORPS TIME SERIES REGRESSION ANALYSIS

The results of the regression analysis of Marine Corps volunteer enlistments are presented in this chapter. The volunteer groups studied are the following:

- o Mental Category I-III high school graduates
- o Mental Category I-IV high school graduates.
- o Mental Category I-III non-high school graduates.

The program variables used in this analysis are described in App D. Mean values and standard deviations for the variables are listed in Table 71. The correlation matrix of the independent variables is shown in Table 72. The Marine Corps had no paid media advertising during this period and changes in options were minimal. The only variables included on the analysis were pay, recruiting, bonus, unemployment and options. Because of the high degrees of correlation among the pay, recruiting, unemployment and options variables, separate runs were made for each of the variables. This was done to obtain upper and lower bounds on the variable effects.

REGRESSION RESULTS

The actual regressions are shown in Tables 73-78. Tables 73, 74, 75 and 76 contain the results for Marine Corps high school graduate groups, while Tables 76, 77 and 78 give results for Category I-III non-high school graduate groups.

Table 71

MEANS AND STANDARD DEVIATIONS OF MARINE CORPS VARIABLES

Variable	Symbol	Delay	Mean	Standard deviation
	Independent Variables			
Military-civilian pay ratio	MILCIVPAY	0	1.29	.227
Sum of recruiters	SMCRECR	-2	1553	206
		-1	1569	209
		0	1589	209
High school bonus	BNS-HS	0	.53	.51
$2500 Bonus	BNS-INC	0	.22	.42
Non-high school bonus	BNS-NHS (BNS1500)	0	.31	.47
Marine Corps options	OPTMAR	-2	10.7	7.8
		-1	11.2	8.0
		0	11.7	8.1
16-21 year old unemployment rate	DUNEMPL1	-2	12.2	1.5
		-1	12.2	1.6
		0	12.1	.6
	Population Variables			
High school graduates				
Category I-III	MC123HS		1394.5	547.5
Category I-IV	MC1234HS		1673.7	641.5
Non-high school graduates				
Category I-III	MC123NHS		1804.4	346.2

Table 72

CORRELATION MATRIX FOR MARINE CORPS INDEPENDENT VARIABLES

		1	2	3	4	5	6	7
1.	MILCIVPAY	1.0	.84	.37	.68	.41	-.54	.57
2.	SMCRECR	.84	1.0	.68	.79	.24	-.71	.74
3.	BNS-INC	.37	.68	1.0	.51	-.36	-.57	.75
4.	BNS-HS	.68	.79	.51	1.0	.63	-.92	.71
5.	BNS-NHS	.41	.24	-.36	.63	1.0	-.48	.09
6.	DUNEMPL1	-.54	-.71	-.57	-.92	-.48	1.0	-.77
7.	OPTMAR	.57	.74	.75	.71	.09	-.77	1.0

Table 73

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-III HIGH SCHOOL GRADUATES

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

DEPENDENT VARIABLES

	MC123HS	MC123HS	MC123HS		MC123HS	MC123HS	MC123HS
R SQUARED	.1479	.0666	.0738	R SQUARED	.1541	.0784	.0784
CONSTANT	1234.433	1306.047	1269.193	CONSTANT	1253.127	1282.764	1282.772
ELAST. CONST.	.88596	.93784	.91109	ELAST. CONST.	.89822	.92040	.92043
INDEP. VARIABLES AND MONTHLY SHIFTS				INDEP. VARIABLES AND MONTHLY SHIFTS			
SMCRECR	.1009	.0487	0.0000	MILCIVPAY	110.0398	78.3937	78.3942
-2	.0938	.1300	0.0000	-0	95.9662	104.2443	104.2442
	1.1576	.1403	.1248		1.3148	.5655	.5654
	.1140	.0551	0.0000		.1018	.0726	.0726
SMCRECR	0.0000	0.0000	.0730	BNS-INC	0.0000	44.0456	44.0560
-1	0.0000	0.0000	.1308	-0	0.0000	56.0594	56.0593
	.3487	.2248	.3118		0.0000	.6173	.6176
	0.0000	0.0000	.0836		0.0000	.0070	.0070
SMCRECR	0.0000	0.0000	0.0000	BNS-HS	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	-0	0.0000	0.0000	0.0000
	.0207	.0611	.6696		0.0000	0.0000	4.1684
	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000
BNS-INC	0.0000	44.4739	33.5495				
-8	0.0000	71.6182	74.1422				
	0.0000	.3835	.2048				
	0.0000	.0071	.0054				
BNS-HS	0.0000	0.0000	0.0000				
-8	0.0000	0.0000	0.0000				
	0.0000	0.0000	6.2306				
	0.0000	0.0000	0.0000				

Table 74

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-IV
HIGH SCHOOL GRADUATES

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES				
	MC1234HS	MC1234HS	MC1234HS	MC1234HS	MC1234HS
R SQUARED	.0075	.0114	.0203	.0075	.0075
CONSTANT	1788.003	1795.847	1836.079	1582.814	1582.814
ELAST. CONST.	1.06343	1.07435	1.09876	.94656	.94656
INDEP. VARIABLES AND MONTHLY SHIFTS					
SMCRECR	-.0674	-.0838	0.0000	0.0000	0.0000
-2	.1618	.1739	0.0000	0.0000	0.0000
	.1733	.2323	.0791	1.4336	1.4336
	-.0634	-.0789	0.0000	0.0000	0.0000
SMCRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000
	.0497	.0658	.6259	1.3067	1.3067
	0.0000	0.0000	0.0000	0.0000	0.0000
SMCRECR	0.0000	0.0000	-.1073	0.0000	0.0000
-0	0.0000	0.0000	.1632	0.0000	0.0000
	.2458	.2127	.4320	3.0371	3.0371
	0.0000	0.0000	-.1036	0.0000	0.0000
BNS1500	0.0000	25.1730	26.3784	0.0000	0.0000
-0	0.0000	86.6943	84.4868	0.0000	0.0000
	0.0000	.0843	.0975	.0006	.0006
	0.0000	.0046	.0048	0.0000	0.0000
BNS-INC	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	4.7784	3.7672	3.7672
	0.0000	0.0000	0.0000	0.0000	0.0000
MILCIVPAY	0.0000	0.0000	0.0000	69.2591	69.2591
-0	0.0000	0.0000	0.0000	166.1999	166.1999
	0.0000	0.0000	0.0000	.1737	.1737
	0.0000	0.0000	0.0000	.0534	.0534

Table 75

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-III AND CATEGORY I-IV HIGH SCHOOL GRADUATES EXCLUDING RECRUITING

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES			
	MC1234HS	MC123HS	MC1234HS	MC123HS
R SQUARED	.3784	.1072	.6000	.3297
CONSTANT	761.342	1113.964	-262.765	528.584
ELAST. CONST.	.45494	.79880	-.15646	.37817
INDEP. VARIABLES AND MONTHLY SHIFTS				
DUNEMPL1	74.5275	22.9247	111.4252	43.7922
-2	19.9160	13.7965	19.4874	14.4252
	14.0033	2.7610	32.6932	9.2161
	.5451	.2012	.8120	.3835
	.1	.12		.12
DUNEMPL1	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000
	.0000	.0046	.4040	.3157
	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000
	2.4072	1.9394	.8816	.7317
	0.0000	0.0000	0.0000	0.0000
MILCIVPAY	0.0000	0.0000	448.3085	258.1953
-0	0.0000	0.0000	132.4340	98.0317
	0.0000	0.0000	11.4592	6.9369
	0.0000	0.0000	.3444	.2384

Table 76

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-III, CATEGORY I-IV HIGH SCHOOL GRADUATES AND CATEGORY I-III NON-HIGH SCHOOL GRADUATES

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES								
	MC1234HS	MC123HS	MC123NHS	MC1234HS	MC123HS	MC123NHS	MC1234HS	MC123HS	MC123NHS
R SQUARED	.3361	.0058	.2892	.3361	.0117	.2829	.0075	.0541	.6776
CONSTANT	1820.795	1405.398	1591.613	182..402	1410.461	1574.161	1582.809	1253.137	513.921
ELAST. CONST.	1.08755	1.00805	.88050	1.08756	1.01170	.87125	.94655	.89823	.28412
INDEP. VARIABLES AND MONTHLY SHIFTS									
OPTMAR	-13.7032	-1.0503	20.1975	-13.7045	0.0000	0.0000	0.0000	0.0000	4.7136
-2	4.0161	2.8672	6.6027	4.0161	0.0000	0.0000	0.0000	0.0000	5.2337
	11.6424	.1341	9.3575	11.6444	.1477	.5554	19.5941	1.1423	.8111
	-.0976	-.0081	.1195	-.0876	0.0000	0.0000	0.0000	0.0000	.0279
OPTMAR	0.0000	0.0000	0.0000	0.0000	-1.4570	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	2.7870	0.0000	0.0000	0.0000	0.0000
	.0631	.2492	.0978	.0631	.2733	.2332	21.7425	1.8332	.1069
	0.0000	0.0000	0.0000	0.0000	-.0117	0.0000	0.0000	0.0000	0.0000
OPTMAR	0.0000	0.0000	0.0000	0.0000	0.0000	17.8944	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	6.4144	0.0000	0.0000	0.0000
	.0624	.0700	.1988	.0627	.0176	7.7748	18.2329	1.8836	.3006
	0.0000	0.0000	0.0000	0.0000	0.0000	.1158	0.0000	0.0000	0.0000
BNS1500	0.0000	0.0000	0.0000	0.0000	0.0000	76.8037	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	111.6246	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0134	1.8814	.4734	.0006	4.7795	1.9068
	0.0000	0.0000	0.0000	0.0000	0.0000	.0130	0.0000	0.0000	0.0000
MILCIVPAY	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	69.2637	110.0305	964.4428
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	166.2000	95.9661	179.2888
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.1737	1.3146	28.9365
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0534	.1018	.6880

Table 77

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-III NON-HIGH SCHOOL GRADUATES EXCLUDING RECRUITERS

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES			
	MC123NHS	MC123NHS	MC123NHS	MC123NHS
R SQUARED	.6674	.6674	.6734	
CONSTANT	457.984	457.984	251.148	
ELAST. CONST.	.25317	.25317	.13885	
INDEP. VARIABLES AND MONTHLY SHIFTS				
MILCIVPAY	1647.0178	1647.0178	1091.2606	
-0	154.1194	154.1194	183.5441	
	46.1523	46.1523	35.3489	
	.7468	.7468	.7785	
BNS-NHS	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	
	0.0000	2.7387	2.4432	
	0.0000	0.0000	0.0000	
DUNEMPL1	0.0000	0.0000	0.0000	
-2	0.0000	0.0000	0.0000	
	0.0000	0.0000	.4836	
	0.0000	0.0000	0.0000	
DUNEMPL1	0.0000	0.0000	12.2774	
-1	0.0000	0.0000	26.6428	
	0.0000	0.0000	.2123	
	0.0000	0.0000	.0827	
DUNEMPL1	0.0000	0.0000	0.0000	
-0	0.0000	0.0000	0.0000	
	0.0000	0.0000	.4248	
	0.0000	0.0000	0.0000	

	MC123NHS	MC123NHS
R SQUARED	.7473	.7473
CONSTANT	23.503	23.503
ELAST. CONST.	.01296	.01296
INDEP. VARIABLES AND MONTHLY SHIFTS		
SMCRECR	1.1370	1.1370
-2	.1379	.1379
	68.6321	68.6321
	.9870	.9870
SMCRECR	0.0000	0.0000
-1	0.0000	0.0000
	3.4909	3.4909
	0.0000	0.0000
SMCRECR	0.0000	0.0000
-0	0.0000	0.0000
	.7714	.7714
	0.0000	0.0000
BNS-NHS	0.0000	0.0000
-0	0.0000	0.0000
	0.0000	1.1818
	0.0000	0.0000

Table 78

REGRESSION RESULTS FOR MARINE CORPS CATEGORY I-III
NON-HIGH SCHOOL GRADUATES

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES		
	MC123NHS	MC123NHS	MC123NHS
R SQUARED	.2168	.2172	.6764
CONSTANT	2892.1?6	2857.005	251.149
ELAST. CONST.	1.597?3	1.57776	.13885
INDEP. VARIABLES AND MONTHLY SHIFTS			
DUNEMPL1	-88.3379	-86.0475	0.0000
-2	35.0061	37.5049	0.0000
	6.3681	5.2638	.4836
	-.5970	-.5816	0.0000
DUNEMPL1	0.0000	0.0000	12.2774
-1	0.0000	0.0000	26.6428
	.0311	.0132	.2123
	0.0000	0.0000	.0827
DUNEMPL1	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000
	.9929	.9758	.4248
	0.0000	0.0000	0.0000
BNS1500	0.0000	22.7435	0.0000
-0	0.0000	123.7046	0.0000
	0.0000	.0338	2.4432
	0.0000	.0038	0.0000
MILCIVPAY	0.0000	0.0000	1091.2606
-0	0.0000	0.0000	183.5441
	0.0000	0.0000	35.3489
	0.0000	0.0000	.7785

Of the Services measured, the Marine Corps data have the largest unexplained variance. The results for the high school graduate group, in general, have extremely low R^2 values. The non-high school graduate groups, on the other hand, show reasonably high R^2 values. The effects of each of the variables is described below.

INDEPENDENT VARIABLE EFFECTS

The independent variable effects are summarized in Table 79 according to the variable elasticities. The measurements represent an average of the highest and lowest elasticity values for each variable taken over all regressions which could include the variable. The error is derived either from an average of the standard errors or is enlarged to include the span between the highest and lowest estimates.

Table 79

PROGRAM AND UNEMPLOYMENT ELASTICITIES FOR DIFFERENT MARINE CORPS MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Military-civilian pay ratio	$.15^{\pm}.08$	$.20^{\pm}.15$	$.76^{\pm}.12$
Recruiters	$.08^{\pm}.11$	0	$.98^{\pm}.12$
$1500 bonus	0	0	0
$2500 Bonus	0	0	0
Youth unemployment rate	$.29^{\pm}.12$	$.68^{\pm}.14$	0

Military Pay

Pay elasticities for high school graduates are extremely low -- between .1 and .2 generally, but pay elasticities for non-high school graduates are close to .76. Pay elasticities for high school graduate groups are small and much less significant than for other Services. The pay raise had very little effect on Marine Corps high school graduate volunteer enlistments. Table 73 shows the military pay variable, when entered alone, to have elasticity at around .1; however, Table 75 shows that with unemployment, the pay elasticity increase to .24, and the R^2 for the regression increases substantially. The results suggest three possible

explanations. First, the Marine Corps high school graduate enlistments could be sensitive to unemployment rates, and the effect of the pay raise in terms of increasing enlistments was cancelled partially by lower unemployment rates. Second, the effect is only a spurious correlation caused in part by the correlation (-.54) between the two variables. Third, the Marine Corps recruiters did not push high school graduate enlistments.

For non-high school graduates, the pay raise is significant and high. The response of the non-high school graduate to the pay raise is similar to other Services. This might suggest that the Marine Corps recruiters were oriented primarily to the non-high school graduate volunteer market.

Recruiters

Overall recruiting activity is not highly correlated with high school graduate accessions. The additional recruiters put out by the Marine Corps were able to enlist less than one additional high school graduate per year. In addition, recruiting variables occur in regressions with small elasticities and the recruiting variable must be forced into the regressions for Category I-III high school graduates when this group is regressed on recruiting alone.

Recruiting elasticities for non-high school graduates are large and significant -- $1.15 \pm .17$. The recruiters were able to significantly expand the non-high school market, but could not expand the high school graduate market for the Marine Corps.

Youth Unemployment Rate

The national unemployment rate adjusted for youth ages 16-21 is the single most significant variable for the high school group when allowed to enter by itself. The elasticities are generally larger than for other Services for the high school graduate groups. The unemployment elasticities increase significantly when military pay is also included, and, generally, the highest R^2 value for the high school graduate groups when both variables are included.

For the non-high school graduate group, the elasticities are insignificant.

Marine Corps Bonus

The data would indicate that the effect of the bonus was insignificant in increasing any Marine Corps groups. The dummy variables that mark the start of the $1500 and $2500 bonuses do not enter the regression with any significance. This suggests again that pay is not a primany motivation for high school graduate Marine Corps enlistees. The insignificance of the bonus variable for non-high school graduates is puzzling since pay did appear to be significant for that group.

CONCLUSIONS

The Marine Corps time series analysis indicates a very small effect of any incentive program on high school graduate enlistments in the Marine Corps. Marine Corps high school graduate volunteer enlistments have not appreciably increased during the time period from CY71 to CY74. The results would indicate that increased pay is not a major motivator for high school graduate Marine Corps enlistments. The results for the non-high school group are in sharp contrast to the high school group. Additional pay and recruiting have caused significant increases in non-high school graduate Marine Corps volunteer enlistments. Recruiting emphasis may explain part of the difference. The difference is particularly disturbing in view of the current Congressional quota for 51 percent high school graduates. The Marine Corps will have a shortfall of high school graduates. The analysis here would suggest that increasing high school graduate enlistments may be difficult.

Chapter 6
ARMY TIME SERIES REGRESSION ANALYSIS

A regression analysis was performed on Army male non-prior service volunteer enlistments. The analysis involved program, policy and environmental variables that were in effect during the CY71 to CY73 period. The population groups studies are listed below:

- o Mental Category I-III high school graduates.
- o Mental Category I-IV high school graduates.
- o Mental Category I-III non-high school graduates.

Table 80 gives the standard deviation and mean values of the variables used in the analysis. The model for the time series analysis is given in App C, while the actual data and data descriptions are given in App D. Table 81 gives the correlation matrix for the variables used in the analysis. Regression results are given in Tables 82-87.

REGRESSION STRATEGY

Table 81 shows that the military pay variable is highly correlated with the recruiting variable, option variable and $1500 bonus variable. Other significant intercorrelations appear between the $1500 bonus variable and the unemployment and option variables, and between the unemployment and option variables. Estimates of elasticities and program effectiveness are made from a series of regression runs which include variables which do not have correlation coefficients above .7. The two variables with the highest correlation coefficients are recruiting and military pay. Since these two variables also have a correlation coefficient of .86, separate sets of runs were made with these variables. The elasticities for military pay and recruiting are probably somewhat overestimated.

Table 80

MEAN VALUES AND STANDARD DEVIATIONS OF ARMY VARIABLES

Variable	Symbol	Delay	Mean	Standard deviation
		Independent Variables		
Military-civilian pay ratio	MILCIVPAY	0	1.29	.227
Sum of recruiters	SMRECR	-2	4246.3	1257.6
		-1	4336.1	1213.4
		0	4430.1	1170.5
High school policy	HSPLCY	0	.18	.367
High school bonus - $1500	BNS-HS	0	.53	.51
High school bonus - $2500	BNS-INC	0	.22	.42
Non-high school bonus - $1500	BNS-NHS	0	.31	.47
Paid TV-radio advertising	PAIDTV	-3	4.4	14.9
		-2	4.4	14.9
		-1	4.4	14.9
		0	4.4	14.9
Print media insertions	PRTMEDIA	-3	22.0	9.5
		-2	22.8	
		-1	23.8	11.3
		0	24.7	11.0
Unemployment rate for 16-21 year olds (deseasonalized)	DUNEMPL1	-2	12.2	1.5
		-1	12.2	1.6
		0	12.1	1.6
Army total options available	AOPTSTO (or OPTSTO)	-3	66.0	48.9
		-2	66.7	48.8
		-1	73.4	48.4
		0	77.1	47.7
		Population Variables		
Category I-III high school graduates	A123HS	-	4660.5	1750.7
Category I-IV high school graduates	A1234HS	-	5726.4	2173.1
Category I-III non-high school graduates	A123NHS	-	4469.8	1595.3

Table 81

CORRELATION MATRIX FOR INDEPENDENT AIR FORCE VARIABLES

		1	2	3	4	5	6	7	8	9	10	11
1.	MILCIVPAY	1.0	.86	.37	.68	.37	.41	.42	-.45	-.54	.74	-.001
2.	SMRECR	.86	1.0	.17	.73	.23	.58	.36	-.50	-.56	.66	-.04
3.	HSPLCY	.37	.17	1.0	.47	.38	.17	-.10	-.15	-.52	.58	-.25
4.	BNS-HS	.68	.73	.47	1.0	.51	.63	.26	-.32	-.92	.91	-.48
5.	BNS-INC	.37	.23	.38	.51	1.0	-.36	.46	-.16	-.57	.62	-.27
6.	BNS-NHS	.41	.58	.17	.63	-.36	1.0	-.14	-.20	-.48	.43	-.27
7.	PRTMEDIA	.42	.36	-.10	.26	.46	-.14	1.0	-.21	-.22	.32	.14
8.	PAIDTV	-.45	-.50	-.15	-.32	-.16	-.20	-.21	1.0	.17	-.34	-.15
9.	DUNEMPL1	-.54	-.56	-.52	-.92	-.57	-.48	-.22	.17	1.0	-.90	.46
10.	OPTSTO	.74	.66	-.58	.91	.62	.43	.32	-.34	-.90	1.0	-.36
11.	ARMYPLCY	-.001	-.04	-.25	-.48	-.27	-.27	.14	-.15	.46	-.36	1.0

Table 82

REGRESSION RESULTS FOR ARMY CATEGORY I-III HIGH SCHOOL GRADUATES WITH MILITARY PAY EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS
R SQUARED	.6809	.7213	.7272	.7484	.7363	.7613	.8344	.8344
CONSTANT	2802.133	2940.436	2917.331	2818.242	2873.188	2655.711	-374.278	-374.278
ELAST. CONST.	.60084	.63071	.62607	.60523	.61497	.56909	-.08004	-.08004
INDEP. VARIABLES AND MONTHLY SHIFTS								
SMRECR	.4384	.3846	.3866	0.0000	.3382	0.0000	0.0000	0.0000
-2	.0626	.0615	.0631	0.0000	.0689	0.0000	0.0000	0.0000
	49.0702	39.1750	37.5084	.0670	24.1271	.2738	.0509	.0509
	.3992	.3503	.3523	0.0000	.3074	0.0000	0.0000	0.0000
SMRECR	0.0000	0.0000	0.0000	.3966	0.0000	.4293	.4913	.4913
-1	0.0000	0.0000	0.0000	.0622	0.0000	.0676	.0669	.0669
	.0671	1.2587	1.0372	40.7231	.6955	40.3197	53.8800	53.8800
	0.0000	0.0000	0.0000	.3693	0.0000	.3989	.4555	.4555
SMRECR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	.0101	.6583	.4582	.0315	.2712	.0468	.1251	.1251
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HSPLCY	0.0000	489.8980	414.1918	567.2297	573.9172	664.9531	1232.2468	1232.2468
-0	0.0000	210.8636	227.8831	216.7019	218.1082	198.9021	222.7593	222.7593
	0.0000	5.3977	3.3035	6.8516	6.9240	11.1764	30.6002	30.6002
	0.0000	.0190	.0160	.0220	.0222	.0257	.0476	.0476
BNS-INC	0.0000	0.0000	117.1453	71.7644	0.0000	0.0000	285.8500	285.8500
-0	0.0000	0.0000	195.6384	188.8500	0.0000	0.0000	199.7781	199.7781
	0.0000	0.0000	.3586	.1444	.0084	.0454	2.0473	2.0473
	0.0000	0.0000	.0056	.0034	0.0000	0.0000	.0136	.0136
BNS1500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	2.9389	1.5090	2.9996	2.7103	2.7103
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.6706	.3668	.0384	.0384
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	11.3593	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	8.1286	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	1.9529	.0529	.1025	.1025
	0.0000	0.0000	0.0000	0.0000	.0554	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0466	.0087	.0622	.0622
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0359	.1136	.0657	.0657
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 82 (continued)

	DEPENDENT VARIABLES							
	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	2.0663	.7244	.7244
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.9456	.0136	.0136
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.4792	.1423	.1423
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	6.6972	9.3849	9.3849
-0	0.0000	0.0000	0.0000	0.0000	0.0000	5.4389	5.1247	5.1247
	0.0000	0.0000	0.0000	0.0000	0.0000	1.5162	3.3537	3.3537
	0.0000	0.0000	0.0000	0.0000	0.0000	.0063	.0088	.0088
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	211.8694	211.8694
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	66.6435	66.6435
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10.1070	10.1070
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.5545	.5545
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1222	1.1222
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.3699	2.3699
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0855
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.1460
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.2066
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 83

REGRESSION RESULTS FOR ARMY CATEGORY I-III HIGH SCHOOL GRADUATES WITH RECRUITING EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES						
	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS
R SQUARED	.7175	.7469	.7552	.7552	.7575	.7723	.8409
CONSTANT	1502.045	1766.646	1868.595	1866.926	1918.154	1586.351	-1129.927
ELAST. CONST.	.32039	.37744	.39961	.39865	.40937	.33789	-.23976
INDEP. VARIABLES AND MONTHLY SHIFTS							
MILCIVPAY	2469.1919	2205.2366	2094.0751	2095.6588	1979.9335	2296.6298	2587.8508
-J	327.0958	334.8066	364.9314	364.9334	482.6507	397.4221	378.0786
	58.4082	43.3833	32.9277	32.9772	16.8281	33.3947	46.8505
	.6796	.6073	.5776	.5774	.5452	.6312	.7086
HSPLCY	0.0000	406.0582	396.9054	394.7396	432.3122	432.1237	1033.4361
-0	0.0000	207.1332	209.0186	209.0197	232.9196	208.5266	219.3353
	0.0000	3.8431	3.6058	3.5665	3.4449	4.2943	22.1999
	0.0000	.0156	.0153	.0152	.0167	.0166	.0396
BNS1500	0.0000	0.0000	133.1280	133.2786	142.0304	120.5864	157.7950
-0	0.0000	0.0000	167.0914	167.0923	175.1222	166.6821	154.0492
	0.0000	0.0000	.6348	.6362	.6578	.5234	1.0492
	0.0000	0.0000	.0087	.0087	.0093	.0078	.0102
BNS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.8378	1.3746	1.5759	.1762
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.8687	.7919	.0388
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	3.9998	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	9.2211	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.1882	.0393	.0476
	0.0000	0.0000	0.0000	0.0000	.0195	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.2961	.8177	.3146
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.5130	.5251	.3822
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 83 (continued)

	DEPENDENT VARIABLES						
	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS	A123HS
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.5122	.7805
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0475	.0783
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.5832	.0005
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	6.8877	9.6455
-0	0.0000	0.0000	0.0000	0.0000	0.0000	5.3499	4.9387
	0.0000	0.0000	0.0000	0.0000	0.0000	1.6575	3.8143
	0.0000	0.0000	0.0000	0.0000	0.0000	.0064	.0090
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	181.8930
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	56.9193
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	10.2120
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.4724
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.1128
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.1547
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 84

REGRESSION RESULTS FOR ARMY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH MILITARY PAY EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS
R SQUARED	.5994	.6039	.6169	.6308	.6317	.6410	.7730	.7730
CONSTANT	3475.573	3560.815	3518.728	3402.796	3318.381	3119.882	-2960.272	-2960.272
ELAST. CONST.	.60685	.62195	.61492	.59528	.57968	.54416	-.51645	-.51645
INDEP. VARIABLES AND MONTHLY SHIFTS								
SMRECR	.5303	.4970	.5013	0.0000	0.0000	0.0000	0.0000	0.0000
-2	.0944	.0948	.0973	0.0000	0.0000	0.0000	0.0000	0.0000
	34.4189	27.4712	26.5538	.0147	.0003	.0152	.5123	.5123
	.3932	.3686	.3720	0.0000	0.0000	0.0000	0.0000	0.0000
SMRECR	0.0000	0.0000	0.0000	.5110	.4881	.5202	.6764	.6764
-1	0.0000	0.0000	0.0000	.0973	.1020	.1139	.1067	.1067
	.2458	.7250	.5426	27.5611	22.9120	20.8528	40.1679	40.1679
	0.0000	0.0000	0.0000	.3876	.3697	.3934	.5117	.5117
SMRECR	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	.0099	.2246	.1030	.1596	.3410	.1618	1.0484	1.0484
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
HSPLCY	0.0000	299.2941	170.3407	373.8468	471.8751	523.9845	1576.7743	1576.7743
-0	0.0000	325.3693	351.2024	339.3670	322.4930	327.8947	349.8745	349.8745
	0.0000	.8461	.2352	1.2135	2.1410	2.5538	20.3102	20.3102
	0.0000	.0094	.0054	.0118	.0149	.0165	.0497	.0497
BNS-INC	0.0000	0.0000	198.2347	136.0106	0.0000	0.0000	663.8165	663.8165
-0	0.0000	0.0000	301.5054	295.7494	0.0000	0.0000	314.1341	314.1341
	0.0000	0.0000	.4323	.2115	.0033	.0254	4.4655	4.4655
	0.0000	0.0000	.0077	.0053	0.0000	0.0000	.0257	.0257
BNS1500	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	3.3089	1.5272	1.9535	.5023	.5023
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.3085	.3359	.2348	.2348
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0383	.0048	.2953	.2953
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 84 (continued)

	DEPENDENT VARIABLES							
	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	12.2249	12.2249
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	7.9482	7.9482
	0.0000	0.0000	0.0000	0.0000	0.0000	.2964	2.3657	2.3657
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.0094	.0094
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	6.9608	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	8.8315	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.6212	.2648	.2648
	0.0000	0.0000	0.0000	0.0000	0.0000	.0053	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	430.8500	430.8500
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	104.5274	104.5274
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	16.9899	16.9899
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.9200	.9200
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.6269	.6269
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.9143	.9143
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.8343
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.8687
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.8910
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 85

REGRESSION RESULTS FOR ARMY CATEGORY I-IV HIGH SCHOOL GRADUATES WITH RECRUITING EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES								
	A1234MS	A1234MS	A1234MS	A1234MS	A1234MS	A1234MS	A1234MS	A1234MS	A1234MS
R SQUARED	.6894	.6942	.6905	.6915	.6905	.7016	.8123	.8123	.8135
CONSTANT	1735.352	1811.904	1843.871	1842.668	1842.660	1405.862	-3110.363	-3110.363	-3049.659
ELAST. CONST.	.30140	.31477	.32037	.32015	.32015	.24365	-.53667	-.53667	-.52673
INDEP. VARIABLES AND MONTHLY SHIFTS									
MILCIVPAY	3117.1859	3040.5923	3035.7251	3036.5847	3036.8924	3355.7731	3819.3137	3819.3137	3299.3057
-0	436.3399	478.4723	528.6364	528.6918	528.6919	492.5476	494.5288	494.5288	637.8728
	51.3429	40.3834	32.3223	32.3466	32.3467	46.4182	59.6375	59.6375	16.6786
	.6986	.6816	.6739	.6741	.6741	.7505	.8503	.8503	.7356
HSPLCY	0.0000	116.3172	113.8630	112.3528	112.3442	0.0000	1135.2940	1135.2940	1172.3023
-0	0.0000	296.6140	302.8111	302.8142	302.8142	0.0000	299.8111	299.8111	310.5134
	0.0000	.1544	.1414	.1377	.1376	.1370	14.3391	14.3391	14.2534
	0.0000	.0036	.0036	.0035	.0035	0.0000	.0354	.0354	.0366
BNS1500	0.0000	0.0000	41.3359	41.4434	41.4434	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	242.0760	242.0725	242.0725	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.0292	.0293	.0293	.0143	.1359	.1359	.0431
	0.0000	0.0000	.0022	.0022	.0022	0.0000	0.0000	0.0000	0.0000
BNS-INC	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.4437	1.4437	1.0381	.3761	.3761	.0459
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	1.0175	1.4387	.0494	.0494	.0494	.0613
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0277	.4941	.5038	.5038	.4353
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.7067	1.5997	1.0026	1.0026	.6104
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.4704	.5902	.5421	.5421	.2201
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.8554	.8950	.8950	.7809
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 85 (continued)

	DEPENDENT VARIABLES								
	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS	A1234HS
PAIDTV -2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	1.1478	.0178	.0178	.0054
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV -1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	.6503	.0132	.0132	.0229
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV -0	0.0000	0.0000	0.0000	0.0000	0.0000	7.7245	12.9572	12.8572	13.0912
	0.0000	0.0000	0.0000	0.0000	0.0000	7.4973	6.7563	6.7563	6.9225
	0.0000	0.0000	0.0000	0.0000	0.0000	1.0615	3.6214	3.6214	3.5763
	0.0000	0.0000	0.0000	0.0000	0.0000	.0059	.0097	.0097	.0099
DUNEMPL1 -2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	303.6704	303.6704	314.2492
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	77.2820	77.2820	81.2258
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	15.4460	15.4460	14.5670
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.6413	.6413	.6645
DUNEMPL1 -1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.1227	.1227	.4292
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	.2228	.2228	.8185
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO -2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4672	2.0913
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO -1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	2.4631	2.8468
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO -0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.7380	2.8002
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

Table 86

REGRESSION RESULTS FOR ARMY CATEGORY I-III NON-HIGH SCHOOL GRADUATES WITH RECRUITING EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES			
	A123NHS	A123NHS	A123NHS	A123NHS
R SQUARED	.9433	.9463	.9479	.9730
CONSTANT	1178.707	1278.147	1037.578	5760.009
ELAST. CONST	.26657	.28908	.23454	1.29642
INDEP. VARIABLES AND MONTHLY SHIF				
MILCIVPAY	3283.9842	2973.0623	3143.3293	2729.3672
-0	369.1280	457.5129	481.8061	347.3353
	79.1495	42.2291	42.5633	61.7485
	.9583	.9677	.9169	.7927
HSPLCY	-3636.0234	-3565.6171	-3549.8743	-4224.1918
-0	214.9479	228.0953	230.2959	190.2286
	286.1456	244.3852	237.6040	493.1038
	-.1485	-.1456	-.1449	-.1717
BNS1500	63.9000	160.4405	143.3319	0.0000
-0	173.2577	188.7100	191.0039	0.0000
	.1360	.7228	.5631	.0133
	.0044	.0111	.0099	0.0000
ARMYPLCY1	-2474.9447	-2456.5588	-2400.9471	-1816.5342
-0	266.2107	267.8107	275.0282	242.2459
	86.4331	84.1392	76.2098	56.2304
	-.0808	-.0803	-.0784	-.0591
PRTMEDIA	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000
	0.0000	.0022	.0007	.1008
	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000
	0.0000	.5069	.2113	.2941
	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000
	0.0000	.1614	.0223	.5961
	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	10.3868	10.0930	6.0783
-0	0.0000	8.0769	8.1532	6.1969
	0.0000	1.6538	1.5294	.9621
	0.0000	.3590	.0563	.0338
PAIDTV	0.0000	0.0000	0.0000	6.3028
-3	0.0000	0.0000	0.0000	4.5968
	0.0000	0.0000	.0434	1.8799
	0.0000	0.0000	0.0000	.0062

Table 86 (continued)

	DEPENDENT VARIABLES			
	A123NHS	A123NHS	A123NHS	A123NHS
PAIDTV -2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.0256	.5033
	0.0000	0.0000	0.0000	0.0000
PAIDTV -1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.0059	.0000
	0.0000	0.0000	0.0000	0.0000
PAIDTV -0	0.0000	0.0000	5.7349	0.0000
	0.0000	0.0000	5.4671	0.0000
	0.0000	0.0000	1.1004	.1121
	0.0000	0.0000	.0057	0.0000
DUNEMPL1 -2	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0240
	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -1	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.4603
	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -0	0.0000	0.0000	0.0000	-330.2695
	0.0000	0.0000	0.0000	54.0138
	0.0000	0.0000	0.0000	37.3877
	0.0000	0.0000	0.0000	-.8984

Table 87

REGRESSION RESULTS FOR ARMY CATEGORY I-III NON-HIGH SCHOOL GRADAUTES WITH MILITARY PAY EXCLUDED

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES				
	A123NHS	A123NHS	A123NHS	A123NHS	A123NHS
R SQUARED	.9289	.9289	.9536	.9562	.9723
CONSTANT	2815.053	2815.053	2430.403	2172.788	5702.328
ELAST. CONST.	.63468	.63468	.54749	.48919	1.27716
INDEP. VARIABLES AND MONTHLY SHI					
SMRECR	.5972	.5972	.5416	.5729	.4894
-2	.0665	.0665	.0597	.0631	.0677
	80.7561	80.7561	82.4012	82.4197	52.2382
	.5717	.5717	.5181	.5477	.4654
SMRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000
	1.5798	1.5798	.1320	.1895	.0833
	0.0000	0.0000	0.0000	0.0000	0.0000
SMRECR	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000
	4.9051	4.9051	.5947	.5838	.5857
	0.0000	0.0000	0.0000	0.0000	0.0000
HSPLCY	-3400.1843	-3400.1843	-3338.0130	-3297.7094	-3792.1187-
-0	231.8487	231.8487	198.7579	201.5261	196.3567
	215.0778	215.0778	282.0509	267.7701	372.9686
	-.1384	-.1384	-.1358	-.1341	-.1534
ARMYPLCY1	-2087.7293	-2087.7293	-2205.6708	-2133.3078	-1624.1207-
-0	288.0557	288.0557	247.0585	253.1718	249.3488
	52.5286	52.5286	79.7043	71.0030	42.4250
	-.0680	-.0680	-.0718	-.0694	-.0525
BNS150C	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	8.5560	2.7420	2.5515	5.6548
	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000
-3	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	.0785	.0024	.0057
	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	1.3236	1.2291	.9026
	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	1.2965	1.6029	.3943
	0.0000	0.0000	0.0000	0.0000	0.0000
PRTMEDIA	0.0000	0.0000	25.5150	28.6911	27.1891
-0	0.0000	0.0000	6.5997	7.2010	6.4345
	0.0000	0.0000	14.9468	15.8748	17.8553
	0.0000	0.0000	.1419	.1595	.1504

Table 87 (continued)

	DEPENDENT VARIABLES				
	A123NHS	A123NHS	A123NHS	A123NHS	A123NHS
PAIDTV -3	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.0049	.1953
	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV -2	0.0000	0.0000	0.0000	7.1166	11.7193
	0.0000	0.0000	0.0000	5.6631	4.9348
	0.0000	0.0000	0.0000	1.5792	5.6397
	0.0000	0.0000	0.0000	.0070	.0115
PAIDTV -1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.2494	.1475
	0.0000	0.0000	0.0000	0.0000	0.0000
PAIDTV -0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	.7282	.0799
	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0472
	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.2232
	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1 -0	0.0000	0.0000	0.0000	0.0000	-258.0929
	0.0000	0.0000	0.0000	0.0000	64.3279
	0.0000	0.0000	0.0000	0.0000	16.0961
	0.0000	0.0000	0.0000	0.0000	-.6986
OPTSTO -2	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO -1	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTO -0	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000

Very good R^2 values could be obtained with Army data without use of the quota variable. This result would indicate that the three Army groups investigated were supply limited during the time period.

Military Pay Variable

Table 88 summarizes the elasticity measurements for the military/civilian pay variable. For all Army volunteer groups studies, the military/civilian pay variable was highly significant.

Table 88

ELASTICITY ESTIMATES FOR THE MILITARY PAY VARIABLE
FOR DIFFERENT ARMY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	.55 ± .13	.67 ± .12	.79 ± .10
Upper estimate	.71 ± .10	.85 ± .11	.96 ± .11
Best estimate	.62 ± .12	.76 ± .12	.88 ± .11

The elasticity is higher for the less educated, lower mental category groups. These groups probably have less job opportunity and generally lower paying jobs than the more educated groups.

Recruiter Variable

Table 89 summarizes the elasticities for the recruiter variable. The recruiter variable was highly significant, having F values generally above 30 for most runs. The delayed recruiter variable, with delays of one or two months, generally was the most significant.

Table 89

ELASTICITY ESTIMATES FOR THE RECRUITING VARIABLE
FOR DIFFERENT ARMY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	.31 ± .06	.37 ± .07	.47 ± .06
Upper estimate	.46 ± .06	.51 ± .08	.57 ± .06
Best estimate	.38 ± .07	.44 ± .08	.52 ± .06

Again, the elasticities are larger for the lower mental category, less educated groups. These groups are probably easier for the recruiter to enlist than are the more highly educated groups.

Bonus Variables

Table 90 summarizes the results of the time series analysis for the dummy $1500 and $2500 bonus variables. The variables were simply zero-one variables making the offering of the $1500 bonus and the $1000 increment in the bonus.

Table 90

SEASONALLY ADJUSTED MONTHLY ESTIMATES OF INCREASES DUE TO THE $1500 AND $2500 BONUSES

	Category I-III HS	Category I-IV HS	Category I-III NHS
	$1500 Bonus		
Lower estimate	0	0	0
Upper estimate	158 ± 154	0	160 ± 189
Best estimate	78 ± 78	0	80 ± 80
	$1000 Increment		
Lower estimate	285 ± 200	0	-
Upper estimate	0	663 ± 314	-
Best estimate	140 ± 140	330 ± 330	-

The bonus variables generally either did not enter the regressions or entered with very weak significance with F values generally less than 1. The data in Table 90 generally show small monthly increases of the order of only a few hundred at most from the bonus. The data would suggest that the $1500 bonus was generally less significant and increased volunteers less than the $1000 increment. The measurement of the bonus effect by time series methods is difficult for several reasons. The $1500 bonus variable is highly correlated with the pay variable, option variable and unemployment. The size of the effect expected is small so that a significant difference in enlistment is hard to separate from the noise level. Generally, the results would suggest that the bonus increase

did increase monthly volunteers on the order of a few hundred; however, the analysis would tend to eliminate gains larger than a few hundred per month.

Print Media Variable

Table 91 summarizes the elasticities measured for print media.

Table 91

ELASTICITY ESTIMATES FOR THE PRINT MEDIA VARIABLE FOR DIFFERENT ARMY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	0	0	0
Upper estimate	.06 ± .04	.04 ± .04	.16 ± .04
Best estimate	.03 ± .03	.02 ± .02	.08 ± .08

The print media variable generally did not enter the regression or was weakly significant in the case of the high school graduate groups. The variable entered with greater significance for the non-high school graduate group. The size of the expected effect of advertising is generally small in terms of the additional number of enlistments. However, again the measurements serve to put some bounds on the effects of advertising.

Paid TV Variable

Table 92 summarizes the measurements of the effects of the paid TV-radio campaign. The campaign was in effect prior to the pay raise and, therefore, extrapolation of the effects to a future campaign are probably not warranted.

Table 92

SEASONALLY ADJUSTED MONTHLY INCREASES PER ADVERTISEMENT DUE TO THE PAID TV-RADIO CAMPAIGN

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	7 ± 5	7 ± 8	6 ± 5
Upper estimate	10 ± 5	13 ± 7	12 ± 5
Best estimate	9 ± 5	10 ± 7	9 ± 5

The paid TV campaign variable entered each regression at an F value of between 1 and 3. The variable used in the analysis was the number of additional volunteer enlistments per advertisement.

Unemployment Variable

Table 93 summarizes the elasticities for the unemployment variable.

Table 93

ELASTICITY ESTIMATES FOR THE UNEMPLOYMENT VARIABLE FOR DIFFERENT ARMY MENTAL CATEGORY GROUPS

	Category I-III HS	Category I-IV HS	Category I-III NHS
Lower estimate	.47 ± .15	.64 ± .16	-.70 ± .17
Upper estimate	.55 ± .17	.92 ± .22	-.90 ± .15
Best estimate	.51 ± .16	.78 ± .19	-.80 ± .16

The unemployment variable is significant for all groups with high F values. The elasticities are positive for the high school graduate groups and negative for the non-high school graduate groups. Generally, the results do not agree with other values from cross-sectional or time series measurements. One possible explanation for the negative coefficient in the non-high school graduate group is that the Service represents such a strong inducement for the unemployed non-high school graduate that a significant portion of the total number of unemployed youth in this group enlisted so that the unemployment rate actually went down.

CONCLUSIONS

Good fits for all Army groups tested were obtained through use of incentive variables only. The value of R^2 for the groups was usually greater than .7. The three groups fitted were Category I-III high school graduates, Category I-IV high school graduates and Category I-III non-high school graduates, and all groups display strong effects due to incentive programs. The good fits with incentive variables is an indication of supply limitation for all groups. The two most significant variables for the high school graduate groups were recruiting and military pay. Smaller effects were measured for the bonus, print media and paid TV.

Chapter 7

ANALYSIS OF THE COST EFFECTIVENESS OF THE COMBAT ARMS BONUS BASED ON AFEES SURVEY DATA

PURPOSE

This paper provides an analysis of the relative impact of the change in bonus payments and eligibility policies on the supply of high school graduates to the combat arms field for the Army and the Marine Corps. One specific purpose is to attempt to determine whether the increase in the bonus from $1500 to $2500 has resulted in a "cost effective" improvement in the supply of bonus eligible (high school graduates, Mental Category I-III) personnel to both the Army and the Marine Corps.

BACKGROUND

Assessments of the possible expanded supply of bonus eligibles to a Service offering the cash incentive are believed to come from two sources. First, aboslute increases to the overall supply pool due to a change in the ratio of military to civilian income opportunities, and second, applicant cross-flows between the Services stimulated by the wage differential created by the Service(s) offering the bonus.

Another phenomenon worthy of a defense manager's attention is the effect the bonus has in channeling the flow of applicants with an enlistment affinity to one Service to occupations where manpower demands exceed the normal supply.

From the period June 1972 through April 1973, a $1500 bonus was offered to applicants who enlisted in the combat arms field for a four-year period. The bonus was available to both the Army and Marine Corps, although the Army was the principal user of the bonus option. In May 1973, the bonus amount was increased to $2500 and offered only to high school graduates in Mental Category I-III. It was also extended on a

test basis to certain technical skills, primarily in missile repair and operator MOSs, but this was terminated after two months, on June 30, 1973.

The number of bonus recipients from July 1972 through April 1973 averaged about 2000 per month or 70 percent of combat arms enlistments for the Army and 500 per month or about 95 percent of combat arms enlistments for the Marine Corps. The increase in payment and change in bonus eligibility standards imposed in May 1973 resulted in a substantial drop in both the number and percentage of bonus recipients from the combat arms enlistment pool. For the period July 1972 through March 1974, the Army averaged 1000 bonus recipients per month or 38 percent of their combat arms enlistments, while the Marine Corps averaged 90 per month or 50 percent of their combat arms enlistments.*

RESULTS

The criterion established for judging the cost effectiveness of the current bonus plan is to compare AFEES survey results for high school graduates during the periods in which the $1500 and $2500 bonuses were offered and draw inferences from the survey data on possible manpower supply effects due to the increase in bonus payments.

Data from the AFEES survey conducted during a period in which the $1500 bonus was offered to both high school and non-high school graduates alike, reveal that about 14 percent of those claiming to be high school graduates and accepting the bonus option indicated they would not have entered the Army at all, while the corresponding figure for the Marine Corps was 5 percent.

Table 94 displays the cumulative results of the AFEES surveys conducted during the period June through October 1972. The cumulative results for a similar question on the revised AFEES survey conducted during the period July through October 1973 are shown in Table 95. In both Services there are significant changes in the response patterns between the two survey periods. If the survey results are valid and

*These figures only represent those who enlist in the combat arms field. They exclude those general enlistments which enter with no MOS guarantee and are assigned to a combat arms specialty. Both Services, particularly the Marine Corps, have made liberal use of this pool in filling their combat arms needs.

Table 94

CUMULATIVE RESULTS OF AFEES SURVEYS,
JUNE THROUGH OCTOBER 1972

Question #66 - If the $1500 bonus had not been offered, what would you have done?

Base - Those who reported to be high school graduates and accepted the $1500 bonus option.

	High school graduates			
	Army bonus		USMC bonus	
	f	%	f	%
I would have:				
A. Enlisted in Army	1002	85.9	11	.9
B. Enlisted in Navy	34	2.9	15	1.3
C. Enlisted in Marine Corps	25	2.1	1140	95.4
D. Enlisted in Air Force	31	2.7	10	.8
E. Not enlisted at all	75	6.4	19	1.6
Total	1167	100.0	1195	100.0

Table 95

CUMULATIVE RESULTS OF AFEES SURVEYS,
JULY THROUGH OCTOBER 1973

Question #50 - If there were no cash enlistment bonus in Army and Marine Corps, what would you have done?

Base - Those who reported to be high school graduates and accepted the bonus option.

	High school graduates			
	Army bonus		USMC bonus	
	f	%	f	%
A. Not signed up at all	195	11.7	50	7.6
Would have signed up for:				
B. Army, same job	879	52.8	43	6.5
C. Army, other job	496	29.8	49	7.5
D. Navy	36	2.2	22	3.3
E. Marine Corps, same job	7	.4	333	50.8
F. Marine Corps, other job	7	.4	150	22.9
G. Air Force	44	2.7	9	1.4
Total	1664	100.0	656	100.0

representative of the high school graduate population who enlisted and accepted the bonus option, the following inferences can be drawn:

1. Both Services experienced a sizeable expansion in the relative share of the high school graduate bonus population who would not have enlisted in any Service without the bonus.

o For the Army, the proportion increased from 6.4 percent of the group when the $1500 bonus was in effect to 11.7 percent with the $2500 bonus in effect

o For the Marine Corps, the effect was relatively more dramatic, rising from 1.6 percent to 7.6 percent of the group.

2. The expansion in new supply of high school graduates (Mental Category I-III) previously unavailable to the Army and Marine Corps based upon the survey results with the $2500 bonus in effect is averaging about 1800 annually for the Army and 265 annually for the Marine Corps.

3. The degree and direction of the intra-Service flow of applicants stimulated by the increase in the bonus has not been the same for the Army and Marine Corps.

o 7.7 percent of the Army high school graduate (Mental Category I-III) bonus recipients, or about 580 annually, were drawn away from the other Services when the $1500 bonus was in effect. With the $2500 bonus in effect, the survey results show that a slightly smaller proportion, 5.7 percent or about 590 annually, were drawn away from the other Services.

o The Marine Corps was unable to provide data on the actual number of high school graduate bonus recipients while the $1500 bonus was in effect. But 3.0 percent of the survey group claiming to be high school graduate bonus recipients were drawn away from the other Services while the $1500 bonus was in effect and 18.7 percent with the $2500 bonus in effect or about 185 annually. If one speculated that 40 percent of Marine Corps $1500 bonus recipients were high school graduates (Mental Category I-III), the survey results infer that about 72 bonus recipients were drawn away annually from the other Services.

4. Slightly more than half of the high school graduate $2500 bonus recipients for both Services indicated they would have entered that

speciality and Service even without the bonus. No comparable data are available from the earlier AFEES survey while the $1500 bonus was in effect.

5. Based upon the criteria established for payment of the $2500 bonus and the results of the AFEES survey, the current option is not as cost-effective as the $1500 bonus plan for the Army.

o The average cost per additional high school graduate (Mental Category I-III) man-year obtained under the $1500 bonus option was $1054 and $1642 under the $2500 option for the Army. The calculations are as follow:

$1054 Calculation

Army high school graduate, Mental Category I-III bonus recipients for the period July 1972 through April 1973 was 5640. Of the 5640, 85.9 percent said they would have entered the Army without the bonus, but they did provide one additional man-year by accepting the four-year bonus option.

5640 x .859 x 1 = 4845 man-years

The remainder, or 14.1 percent, are classed as new supply, contributing four man-years each since they claimed they would not have entered the Army without the $1500 bonus.

5640 x .141 x 4 = 3180 man-years

Total new man-years acquired due to the bonus is (4845 + 3180) = 8025. The total bonus investment is (5640 x $1500) = $8.46 million, for an average cost per additional man-year of (8.46\overline{M}$/8025) = $1054. The cost per additional high school graduate enlistee is (8.46\overline{M}$)/(5640 x .141) = $10,600.

$1642 Calculation

Army high school graduate, Mental Category I-III bonus recipients for the period July 1973 through March 1974 was 7733. Of the 7733, 82.6 percent said they would have entered the Army without the bonus, but did provide one additional man-year by accepting the four-year option.

7733 x .826 x 1 = 6387 man years

The remainder, or 17.4 percent, are classed as new supply contributing four man-years each since they claimed they would not have entered the Army without the bonus

7733 x .174 x 4 = 5384 man-years

The total new man-years acquired due to the $2500 bonus is (6387 + 5384) = 11,771. The total bonus investment is (7733 x 2500) = $19.33 million for an average cost per new man-year of (19.33\bar{M}$/11,771) = $1642. The cost per additional high school graduate enlistee is (19.33\bar{M}$)/(7733 x .174) = $14,400.

6. The opposite of observation #5 appears to be the case for the Marine Corps. The $2500 bonus is more cost-effective under the current eligibility criteria than the $1500 bonus.

o The average cost per additional high school graduate (Mental Category I-III) man-year obtained under the $1500 bonus option was $1982 and $1677 under the $2500 option. The calculations are as follows:

$1982 Calculation

Forty percent of the 5018 total Marine Corps bonus recipients for the period July 1972 through April 1973 are believed to be high school graduates, Mental Category I-III.

5018 x .40 = 2007 high school graduate, Mental Category I-III bonus recipients

Of the 2007, 95.4 percent said they would have entered the Marine Corps without the bonus, but provided about .6 additional man-years by accepting the four-year option since average enlistments are currently running 3.4 years (as opposed to the Army's 3.0 years).

2007 x .954 x .6 = 1148 man-years

The remainder, 4.6 percent, are classed as new supply contributing four man-years each since they claimed they would not have entered the Army without the $1500 bonus.

2007 x .046 x 4 = 370 man-years

Total new man-years acquired due to the bonus is (1148 + 370) = 1518 man-years. The total bonus investment (2007 x $1500) = $3.01 million, for an average cost per additional man-year of (3.01\bar{M}$/1518) = $1982. The cost per additional high school graduate enlistee is (3.01\bar{M}$)/(2007 x .046) = $32,600.

$1677 Calculation

Marine Corps high school graduate, Mental Category I-III bonus recipients numbered 750 for the period July 1973 through March 1974.*

*The Marine Corps currently pays both a $2500 and $1500 bonus, the lower amount given to qualified high school graduates who are in Mental Category IIIB. No separate accounting of the number of $1500 payments was available.

Of the 750, 73.7 percent said they would have entered the Marine Corps without the bonus, but did provide an additional .6 man-years by accepting the four-year option.

750 x .737 x .6 = 332 man-years

The remainder, 26.3 percent, are classed as new supply, providing four additional man-year each, since they calimed they would not have entered without the bonus.

750 x .263 x 4 = 789 man-years

Total new man-years acquired due to the bonus is (332 + 789) = 1121 man-years. The total bonus investment is (750 x $2500) = $1.88 million for an average cost per additional man-year of ($1.88M/1121) = $1677. The cost per additional high school graduate enlistee is ($1.88M)/(750 x .263) = $9500.

7. One of the more interesting results is that the average cost per additional man-year acquired due to the $2500 bonus is about equal for the Army ($1642) and the Marine Corps ($1677). The survey results show that the Marine Corps bonus recipients exhibited a stronger response to the higher payment than did their Army counterparts. This could partially be accounted for by the fact that the Marine Corps does not have as diverse an enlistment option strategy as the Army, making other Army options competitive with the current bonus.

8. The survey results also reveal that more than half of the $2500 Marine Corps bonus recipients who claim they would not have enlisted without the bonus came from the Army. While the number is small (about 100 annually), a more aggressive recruiting effort by the Marine Corps, using the bonus, could lead to further losses to the Army.

SUMMARY

Table 96 summarizes the cost effectiveness measures derived from the AFEES survey data.

Table 96

BONUS COST EFFECTIVENESS MEASURES FROM AFEES DATA

	Army		Marine Corps	
	$1500 bonus	$2500 bonus	$1500 bonus	$2500 bonus
Cost per additional high school graduate man year	1,054	1,642	1,982	1,677
Cost per additional high school graduate	10,600	14,400	32,600	9,500

Chapter 8

COMPARISON OF ELASTICITIES FROM DIFFERENT MEASUREMENTS AND COST EFFECTIVENESS ANALYSIS

A definitive comparison of elasticities from different measurements is not valid since the measurements were made in different time periods and used different models and variables. These differences cause perturbations in the elasticity values which can be resolved only by a pooled time series and cross-sectional measurement over the entire time period. Currently there are significant data gaps that prevent such an approach. Nevertheless, comparison of current results from different models and time periods can reveal the extent of differences between measurements, and reveal relative trends among Services in program effectiveness.

COMPARISON OF RECRUITER ELASTICITY MEASUREMENTS

Table 97 summarizes the elasticities for the high school graduate groups from the time series and cross-sectional measurements. The high school group was chosen for comparison since this group has always been preferred by all Services and is the key to maintaining a quality force. Measurements were done on this group for both time series and cross-sectional analyses. For the Navy and Air Force, the Category I-III high school group measurements are quoted. The Category IV high school group is demand limited for both Services and it is assumed here that the recruiter elasticity for this group would be the same as the Category I-III group if the Services did not limit entry for this group. The results of previous measurements are also given in Table 97 for comparison. The previous measurements have been made generally in Mental Category groups I-II or I-III rather than high school graduates.

Table 97

COMPARISON OF RECRUITING ELASTICITIES FROM DIFFERENT MEASUREMENTS

	Army	Navy	Marine Corps	Air Force
Cross-sectional 1972 data	-	.75 ± .15	.18 ± .14	.84 ± .11
Cross-sectional 1973 data	.28 ± .21	.64 ± .17	.27 ± .11	.69 ± .15
Time series (1971-1973)	.44 ± .08	.33 ± .10[a]	.08 ± .11	.76 ± .25[a]
Previous cross-sectional measurements (1970 data)b	.28 to .69	.59 to .62	.28 to .34	.60 to .62

[a]Measurements made on Category I-III high school groups.

[b]Measurements made on Category I-II, Category I-III groups.

Comparison of measurements for the Air Force shows good agreement among the measurements with a range of elasticities from .60 to .84. In all measurements, the Air Force elasticity is higher than all other Services. Comparison of the Marine Corps data shows fair agreement among measurements with a range of elasticities between .08 and .34. The Marine Corps elasticities are generally the lowest of the Services. The Navy measurements show good agreement among the cross-sectional measurements, but the time series estimate is significantly lower. Several possible problems were mentioned in conjunction with Navy time series measurements. One additional problem not mentioned in that section is that the enlistees in the Navy 2X6 program probably were not included in the time series measurements. Inclusion of these enlistees would increase the time series elasticities for the Navy. Navy elasticities generally are lower than Air Force elasticities but higher than those for the Army and Marine Corps. Comparison of the Army data shows good agreement between time series and recent cross-sectional measurements, but poorer agreement with past measurements. The elasticity range is between .28 and .69. The Army elasticities are generally higher than the Marine Corps but lower than the Air Force and Navy.

The recruiter elasticities are important parameters in allocating incentive budgets among Services. In determining FY75-FY79 budget levels,

the elasticities from the 1973 cross-sectional measurements should probably be chosen for estimation purposes. Several considerations lead to this selection. The 1973 data are the most recent and are the first that include almost all enlistees as volunteers. Estimates from these data thus incorporate the most recent youth attitudes. In addition, the recruiting elasticities from the cross-sectional measurements are probably more accurate than the time series measurements since the time series measurements have problems of multicollinearity, especially between the recruiting and military pay variables. The values of the elasticities for the 1973 measurements are also in general agreement with prior measurements.

Using the results of the 1973 cross-sectional measurements, the number of additional high school graduates per additional recruiter can be calculated using the mean value of recruiters and enlistees for 1973. The results of this computation are given in Table 98.

Table 98

COMPARISON OF MARGINAL ANNUAL PRODUCTIVITY OF SERVICE RECRUITERS

Service	Annual marginal productivity[a]
Air Force	22 ± 5
Navy	9 ± 2
Army	4 ± 3
Marine Corps	2.5 ± 1

[a]Additional high school graduates per year per additional production recruiter.

The data show a marked and significant difference in the ability of recruiters from the Services to recruit additional high school graduates. It is interesting to compare these data with youth preference data from the Gilbert Youth Survey as well as with actual FY74 results. Table 99 shows the Service of first preference for high school seniors who express some likelihood of enlisting. Table 100 shows a comparison of predictions from the Gilbert Youth Survey, the recruiter elasticity

Table 99

FIRST SERVICE PREFERENCE[a] FOR HIGH SCHOOL SENIORS INDICATING LIKELIHOOD OF ENLISTMENT[b]

Service	Percentage
Army	25
Navy	26
Marine Corps	15
Air Force	34

[a]Aggregated from May-November 1971 and June-October 1972 Gilbert Youth Surveys.

[b]High school seniors indicating either "probably yes," "definitely yes," or "don't know."

Table 100

COMPARISON OF PERCENTAGE OF HIGH SCHOOL ENLISTMENTS EXPECTED IN EACH SERVICE FROM GILBERT YOUTH SURVEY, REGRESSION MEASUREMENTS AND ACTUAL FY74 DATA

Service	Gilbert Youth	Regressions	FY74 data
Army	25	11	37
Navy	26	24	25
Marine Corps	15	7	11
Air Force	34	59	27

estimates and FY74 results as to the relative percentage distribution of 100 high school graduate enlistees entering the service. The first column shows a prediction of the relative preference of youth as measured by the Gilbert Youth Survey. The second column is a prediction of the relative success of a recruiter from each Service in enlisting people as derived from the elasticity estimates. The third column shows the distribution of high school graduates in FY74. The data help bring into focus the relatively high marginal productivity of the Air Force recruiter during the FY71-FY73 time period. The data show that while 34 percent of high school seniors who express interest in the Services prefer the Air Force, the Air Force needs to recruit only 27 percent of high school graduates entering the Services. This would indicate a queue exists. It is thus very easy for additional Air Force recruiters to enlist extra people. The very high productivity of recruiters can probably be attributed to the existence of a queue of people; that is, each Air Force recruiter who goes out finds it fairly easy, in comparison with other Service recruiters, to find potential Air Force recruits because of the high youth preference and low requirements of the Air Force. This high Air Force productivity can also be explained by the fact that the Air Force can focus on high school graduates since they need recruit only a small number of non-high school graduates, whereas other Services have to spend substantially more time recruiting and enlisting non-high school graduates.

The Marine Corps data suggest that Marine Corps recruiting performance is relatively poor with respect to other Services. The data indicate that 15 percent of high school seniors who express interest in the Service prefere the Marine Corps, while the actual performance indicates that the Marine Corps obtains only 11 percent. The Marine Corps recruiting effort is thus not able to maintain their competitive edge with those persons who express interest in joining. The Marine Corps marginal productivity of recruiters is the lowest of any Service. One explanation of this may be the absence of a paid advertising campaign by the Marine Corps. Advertising provides many leads for recruiters of the other Services.

The Navy data suggest that they are able to maintain their share of the youth market, while the Army data indicate that they are able to enlist significantly more high school graduates than express first preference for the Army. While only 25 percent of Army enlistees express interest in the Army as first preference, 37 percent of high school graduates chose the Army in FY74. The difference in marginal productivity between the Navy and Army could probably be attributed to the larger number of recruiters the Army has in the field. Another explanation is that Army recruiters have to enlist almost an equal number of non-high school graduates so they cannot focus on the high school market to the extent Navy and Air Force recruiters can.

The cost per additional high school graduate for recruiting can be calculated from the data in Table 98 if the marginal annual cost of placing an additional recruiter on production is known. Appendix F contains the recruiting cost data collected from the Services. The data show variations among the Services. Part of the difference can be ascribed to different methods of calculating costs used by the recruiters. For instance, the Air Force included total training costs of a man to the time of recruiting duty. GRC has decided to use an average annual cost of $30,000 for all Services until more information can be obtained about cost differentials. These cost differences are much smaller in magnitude than the differences in recruiter productivity so the uncertainty is not appreciably increased by using average cost. Table 101 gives the additional cost per high school graduate using the data from Table 98 and a cost of $30,000. The data show wide variation in the cost of increasing the high school graduate supply of each Service.

Table 101

COST OF OBTAINING ONE ADDITIONAL HIGH SCHOOL GRADUATE ENLISTMENT BY ADDITIONAL PRODUCTION RECRUITERS

Service	Cost
Air Force	1400 ± 300
Navy	3300 ± 700
Army	7500 ± 5600
Marine Corps	12000 ± 4800

COMPARISON OF MILITARY PAY ELASTICITIES

Table 102 gives the results of the time series and cross sectional measurements. The results show a great deal of variation in elasticity estimates. Causes of variation include different methods of defining pay variables, inclusion of different variables in the models, different model forms and different time periods. However, there are other reasons why the pay variable should show increased sensitivity to model and variable variation. Prior to 1972, the pay of first-term personnel was extremely low compared to civilian wages. Most enlistees entering the Services were motivated by draft pressure or non-monetary incentives. Changes in military pay at these lower rates would influence only a small portion of the youth. Measurements under these conditions are likely to be extremely unstable. In addition, most measurements on data prior to 1972 were cross-sectional. Pay differentials existed only for civilian wages. The pay differentials across different parts of the country were only about 10 or 15 percent. These pay elasticity measurements were dependent on relatively small differences in civilian wages, not military wages, thus making the results again particularly sensitive to the other variables included in the model. Measurements made during and after the period of the major pay raise in 1971 should provide the best measurements of pay elasticity. The base pay of incoming personnel was doubled so that the pay was competitive with wages in civilian society. The cross-sectional measurements after the pay raise suffer from the same handicap as before, namely that only relatively small differences in civilian wages exist across the country. On the other hand, the conditions for the time series measurements are good in that a substantial change in pay was made in a short period of time. The only problem with the time series measurements is that the pay is correlated with the recruiter variable. However, a good upper limit on pay elasticity can be obtained by running the variable by itself. The results from the time series measurements appear more reasonable than other measurements since all elasticities are positive. For the purpose of calculating cost effectiveness measures, the results of the time series analysis will be chosen. The discrepancies in the measurements can be reconciled by a pooled time series cross-sectional measurement.

Table 102

SUMMARY OF MILITARY/CIVILIAN PAY ELASTICITIES FOR HIGH SCHOOL GRADUATES

	Army	Navy	Marine Corps	Air Force
Cross-sectional 1972	.60 ± .28	-.86 ± .28	-	-
Cross-sectional 1973	.65 ± .28	-.19 ± .26	-.31 ± .37	.23 ± .22
Time series 1971-1973	.76 ± .12	.44 ± .13[a]	.15 ± .08[a]	.53 ± .13
Previous measurements[b]	-.79 to 1.77	-.17 to .82	-.12 to .55	.55 to 2.23

[a]Results quoted are for Category I-III high school graduates only due to Category IV policy constraints.

[b]Results generally are for Category I-II or Category I-III groups.

The cost effectiveness of pay for attracting additional high school graduate enlistments can be calculated using the time series elasticities from Table 102 and cost data. Table 103 shows the impact on high school graduate enlistments of a 10 percent raise in regular military compensation (RMC), holding civilian wages constant.

Table 103

IMPACT OF A 10 PERCENT INCREASE IN THE RATIO OF MILITARY/CIVILIAN PAY

	Army	Navy	Marine Corps	Air Force
FY74 male diploma high school graduates (000)	77	52	23	56
Pay elasticities	.76	.41	.20	.53
Effect of 10 percent pay raise (000)	+5.9	+2.1	+0.5	+3.0

While the previous table displayed the responsiveness of a change in the military/civilian pay ratio, the cost of achieving such an enlistment change was not shown. To derive a cost-effectiveness measurement, the dollar value of a pay raise must also be computed. Average RMC will be used since the regression variable used RMS pay for an E1 as the measure of military compensation. This appears to be a reasonable assumption since the comparability pay gap between the first-term and career force has been closed by the pay raise of November 1971. Only across-the-board percentage pay increases would now be provided.

Using average RMC pay rates for FY75 and pay grade distributions supplied in the Service POMs, a 10 percent pay raise for the enlisted force only for all Services would cost approximately $1.48 billion and, based on the results shown in Table 104, 11,500 more male diploma high school graduates could be obtained. That results in a marginal cost of $128,700 per high school graduate. Table 104 summarizes the cost effectiveness measures. It is an all too obvious fact that raising basic pay to attract additional NPS volunteers is the least cost effective of any of the programs measured by GRC. Thus, a pay raise is a very ineffective method of increasing NPS enlistments since this raise must be provided to

all military members so that pay equality among the Services and pay differentials between grades are preserved. This substantially reduces the cost effectiveness of pay raises to acquire more NPS enlistments.

Table 104

PAY INCREASE COST EFFECTIVENESS MEASUREMENTS
FOR MALE DIPLOMA HIGH SCHOOL GRADUATES

	Army	Navy	Marine Corps	Air Force
Marginal cost per male diploma high school graduate	$91,000	$185,000	$268,000	$140,000
Male diploma high school per additional $1 million	11.0	5.4	3.7	7.1

COMPARISON OF UNEMPLOYMENT MEASUREMENTS

Table 105 summarizes the unemployment elasticity measurements from this report and previous measurements. The results show better agreement than the pay elasticities, but poorer agreement than the recruiter elasticities. Unemployment is generally a weaker variable in both time series and cross-sectional measurements and wider variations in elasticities are to be expected between model specifications. For the Army, the time series measurement differs significantly from the cross-sectional measurements. In general, the cross-sectional measurements are more reliable since the time series unemployment variable is collinear to a higher degree with other variables. The cross-sectional measurements for the Army are in fair agreement and show elasticities ranging from -.12 to .41 with best estimate at around .1 to .2. The Navy cross-sectional measurements show higher elasticities than previous measurements and give unemployment elasticity best estimates around .2. The Marine Corps data show fair agreement with best estimates from recent data of negligible elasticity. The Air Force data show fair agreement with elasticities of around .2 to .3.

ADVERTISING RESULTS

Table 106 summarizes the cost effectiveness results of the advertising measurements. The elasticities of the advertising measurements were

Table 105

SUMMARY OF UNEMPLOYMENT ELASTICITIES FOR HIGH SCHOOL GRADUATES

	Army	Navy	Marine Corps	Air Force
Cross-sectional 1972	.23 ± .13	.15 ± .13	.11 ± .14	0
Cross-sectional 1973	0	.23 ± .12	-.08 ± .15	.17 ± .09
Time series 1971-1973	.78 ± .19	-	.29 ± .12[a]	.30 ± .17[a]
Previous measurements[b]	-.12 to .41	-.04 to .02	.07 to .23	.22 to .34

[a]Results from Category I-III high school graduates due to policy constraints on Category IV high school graduates.

[b]Results from measurements on Category I-II or Category I-III groups.

taken from Tables 53 and 91, and average values of variables from Tables 43 and 80 in order to arrive at the annual marginal productivity of additional print media insertions given in Table 106. GRC has not obtained detailed avertising cost data. An estimate of $27,000 per print media insertion is based on Army advertising data as estimated from the FY75 advertising plan. The cost includes direct cost of insertions plus production and overhead costs. Individual insertions vary widely in cost; however, it is thought that this cost estimate is accurate for an average cost across all magazines. The data again show that the Air Force program is able to attract additional recruits at significantly less cost than the Army.

Table 106

ADVERTISING COST EFFECTIVENESS RESULTS

	Army	Navy	Marine Corps	Air Force
Annual marginal productivity[a]	3 ± 3	-	-	11 ± 5
Marginal annual cost	27,000	-	-	27,000
Cost per additional high school graduate	9000 ± 9000	-	-	2500 ± 1100

[a]Additional high school graduates per national media insertion.

The advertising measurements have more uncertainty and sensitivity than other measurements for reasons which include:

1. The effect of advertising is small with respect to other programs (signal is weak).
2. Only time series data are available.
3. Cost data are currently more uncertain.

OVERALL COMPARISON OF COST EFFECTIVENESS RESULTS

Table 107 summarizes the cost effectiveness results from the best measurements. The data show that the Army unit canvasser program is the most cost effective of all enlistment programs. For the Army, it is by far the most cost effective program. The Army results show the advertising

Table 107

SUMMARY OF COST EFFECTIVENESS RESULTS[a]

	Army	Navy	Marine Corps	Air Force
Pay	91,000 ± 14,000	185,000 ± 55,000	268,000 ± 140,000	140,000 ± 34,000
$1500 bonus	10,600[b]		32,600[b]	
$2500 bonus	14,400[b]		9,500[b]	
Advertising	9,000 ± 9,000	—[c]	—[d]	2,500 ± 1,100
Regular recruiters	7,500 ± 5,600	3,300 ± 700	12,000 ± 4,800	1,400 ± 300
Canvassers	900 ± 300[e]			

[a]Measurement is marginal cost of an additional high school graduate enlistment.

[b]Marginal cost was estimated from survey data and no error estimates could be made.

[c]The Navy did not provide advertising data.

[d]The Marine Corps had no paid print media insertions.

[e]Robert Babiskin, et al., "Cost Effectiveness of Army Recruiting and Canvasser Programs during Fiscal Year 1974," OAD-CR-51, General Research Corporation, McLean, Virginia, to be published.

and regular recruiter budgets to be in rough balance, but clearly indicate the need to maintain the canvasser program at a high level, even if funding has to come from advertising or regular recruiter budgets. For the Navy, if we assume a canvasser program would be as productive as the Army's, and that the Navy's advertising is as productive as the Air Force's, the data would show the need for an expanded recruiter assistant/canvasser program. Currently there would exist a rough balance between Navy advertising and recruiting resources. The Marine Corps data show the cost of additional personnel to be by far the highest of any Service, and a need to initiate a canvasser program as well as determine the reason for low recruiter productivity. For the Air Force, the data show that current advertising and recruiting expenditures are not in balance. The cost effectiveness of Air Force programs is the highest of any Service primarily because of the increased propensity of youth to join the Air Force.

Appendix A
PAY INDEX

The pay index for each state is defined as the ratio of the military wage to the civilian wage. A separate relative wage was constructed for 17-18 year olds and 19-21 year olds. The military wage is assumed to be equal for each state and is defined as the total 3-year pay based on the average RMC pay which includes base pay, quarters and subsistence allowances, and tax advantages.* The RMC pay was discounted at 30 percent, and the following data** on average time in grade were used.

Promotion to grade	Average time in service
E-2	3 months
E-3	6 months
E-4	14.5 months
E-5	23 months
E-6	excess of 6 years

The civilian wage was constructed from data taken from the Consumer Income Series P-60, No. 85, December 1972, US Department of Commerce. This series publishes average incomes for ages 16-19 and 20-24. A non-linear interpolation method was used to estimate the average incomes for 17-18 year olds and 19-21 year olds over a 3-year time horizon. The civilian pay also was discounted at 30 percent. The actual civilian wage used for each RMS was weighted by the relative pay recieved by individuals on manufacturing payrolls in the area. This method assumes that the income of 17-21 year olds is directly correlated with the manufacturing wage in each state.

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*Source: LTC Arcari, OSD Compensation Study Group.

**Source: LTC Jacoby, Directorate of Military Personnel Policies, Promotions, Separations, and Transitions Division.

The formula for the pay index is given as:

$$W_i = X_i\left[\frac{Z_i}{\bar{Z}}\right] \quad i = 1, \ldots, 47$$

where

W_i is the pay index in the i^{th} state

X_i is the average income for ages 17-18 or 19-21

Z_i is the average income of individuals on manufacturing payrolls in the i^{th} state

$\bar{Z}$ is the average income of individuals on manufacturing payrolls in all states

Appendix B

WEIGHTING SYSTEM FOR UNEMPLOYMENT RATES

Since unemployment rates were not directly available for the individual groups for high school graduates, non-high school graduates, Category I-II and Category I-III, a weighted index based on the actual distributions of volunteers by age for 1972 and 1973 was used for these categories. The weighted series was constructed according to the formula below:

$$X_{ijk} = \%X_{ij}(18) + \%X_{ij}(21) \qquad \begin{array}{l} i = 1,2 \\ j = 1,2,3,4,5 \\ k = 1,2,3,4 \end{array}$$

where

i is the year, 1972 or 1973

j is the Service (Army, Air Force, etc.)

k is the volunteer category (1 = high school, 2 = non-high school, 3 = Category I-II, and 4 = Category I-III)

The formula defines unemployment for each of the four volunteer categories as being equal to the percentage in the group that are 17-18 year olds times the unemployment rate for 17-18 year olds plus the percentage in the group that are 19-21 year olds times the unemployment rate for 19-21 year olds.

The following equations were used:

Army

1972

X = .46X(18) + .54X(21) high school

X = .77X(18) + .23X(21) non-high school

X = .59X(18) + .41X(21) Category I-II

X = .63X(18) + .37X(21) Category I-III

1973

X = .50X(18) + .50X(21) high school

X = .70X(18) + .30X(21) non-high school

X = .58X(18) + .42X(21) Category I-II

X = .61X(18) + .39X(21) Category I-III

Air Force

1972

X = .49X(18) + .51X(20) high school

X = .69X(18) + .31X(21) non-high school

X = .52X(18) + .48X(21) Category I-II

X = .53X(18) + .47X(21) Category I-III

1973

X = .51X(18) + .49X(21) high school

X = .74X(18) + .26X(21) non-high school

X = .55X(18) + .45X(21) Category I-II

X = .56X(18) + .44X(21) Category I-III

Marine Corps

1972

X = .51X(18) + .49X(21) high school

X = .74X(18) + .26X(21) non-high school

X = .64X(18) + .36X(21) Category I-II

X = .67X(18) + .33X(21) Category I-III

1973

X = .56X(18) + .44X(21) high school

X = .80X(18) + .20X(21) non-high school

X = .71X(18) + .29X(21) Category I-II

X = .72X(18) + .28X(21) Category I-III

Navy

1972

X = .58X(18) + .42X(21) high school

X = .80X(18) + .20X(21) non-high school

X = .62X(18) + .38X(21) Category I-II

X = .65X(18) + .35X(21) Category I-III

1973

X = .59X(18) + .41X(21) high school

X = .85X(18) + .15X(21) non-high school

X = .61X(18) + .39X(21) Category I-II

X = .67X(18) + .33X(21) Category I-III

DOD Total

1972

X = .51X(18) + .49X(21) high school

X = .76X(18) + .24X(21) non-high school

X = .58X(18) + .42X(21) Category I-II

X = .62X(18) + .38X(21) Category I-III

1973

X = .53X(18) + .47X(21) high school

X = .74X(18) + .26X(21) non-high school

X = .60X(18) + .40X(21) Category I-II

X = .63X(18) + .37X(21) Category I-III

Appendix C

TIME SERIES REGRESSION MODEL

The regression model used in this analysis differs from the standard linear model in that the seasonal dummy variables are multiplicative rather than additive. The regression model is:

$$y_i = \prod_{j=1}^{12} e^{\alpha_j \delta_{ij}} \left(\sum_{k=1}^{N} \beta_k X_{ik} + \beta_o \right)$$

where

y_i = monthly enlistments in month i

δ_{ij} = 0, 1 variable, equals 1 if month i equals month j, zero otherwise

e^{α_j} = monthly seasonal factor for month j

X_{ik} = value of independent variable k for month i

β_k = regression coefficient for variable k

β_o = regression constant

A nonlinear regression technique is used to solve for the coefficients β_o, β_k, β_j simultaneously.

The variables y_i and X_{ik} used in the analysis are given in App D.

Appendix D

TIME SERIES DATA

This appendix contains the actual time series data collected for the analyses. A brief description of the data and source is given in each variable. An index of variables is given below:

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MILITARY PAY

NAME	MO	YR	VALUE
MILPAY	1	70	11009.
MILPAY	2	70	11009.
MILPAY	3	70	11009.
MILPAY	4	70	11009.
MILPAY	5	70	11009.
MILPAY	6	70	11009.
MILPAY	7	70	11009.
MILPAY	8	70	11009.
MILPAY	9	70	11009.
MILPAY	10	70	11009.
MILPAY	11	70	11009.
MILPAY	12	70	11009.
MILPAY	1	71	11604.
MILPAY	2	71	11604.
MILPAY	3	71	11604.
MILPAY	4	71	11604.
MILPAY	5	71	11604.
MILPAY	6	71	11604.
MILPAY	7	71	11604.
MILPAY	8	71	11604.
MILPAY	9	71	11604.
MILPAY	10	71	11604.
MILPAY	11	71	13235.
MILPAY	12	71	14483.
MILPAY	1	72	15076.
MILPAY	2	72	15076.
MILPAY	3	72	15076.
MILPAY	4	72	15076.
MILPAY	5	72	15076.
MILPAY	6	72	15076.
MILPAY	7	72	15076.
MILPAY	8	72	15076.
MILPAY	9	72	15076.
MILPAY	10	72	15076.
MILPAY	11	72	15076.
MILPAY	12	72	15076.
MILPAY	1	73	15933.
MILPAY	2	73	15933.
MILPAY	3	73	15933.
MILPAY	4	73	15933.
MILPAY	5	73	15933.
MILPAY	6	73	15933.
MILPAY	7	73	15933.
MILPAY	8	73	15933.
MILPAY	9	73	15933.
MILPAY	10	73	16649.
MILPAY	11	73	16649.
MILPAY	12	73	16649.

This time series is the total 3-year pay based on the average RMC pay which includes base pay, quarters and subsistence allowances, and tax advantages.* The RMC pay was discounted at 30 percent, and the following data** on average time in grade were used.

Promotion to grade	Average time in service, months 1/1/70	1/9/73
E-2	3.0	3.0
E-3	6.0	7.0
E-4	14.5	15.7
E-5	23.0	27.1
E-6	72.0+	91.9

*Source: Wm. R. Amis, DCSPER, Director of Human Resources Development, Personnel Services Division, Compensation and Entitlement Branch, OX 7-2593.

**DCSPER, DAPE-MPE (COL Giese, OX 5-2225).

RATIO OF MILITARY RMC TO CIVILIAN AVERAGE WEEKLY WAGE

NAME	YEAR	MON	VALUE
MILCIVPAY	70	1	1.0000
MILCIVPAY	70	2	.9900
MILCIVPAY	70	3	.9850
MILCIVPAY	70	4	.9860
MILCIVPAY	70	5	.9810
MILCIVPAY	70	6	.9700
MILCIVPAY	70	7	.9480
MILCIVPAY	70	8	.9420
MILCIVPAY	70	9	.9480
MILCIVPAY	70	10	.9530
MILCIVPAY	70	11	.9440
MILCIVPAY	70	12	.9430
MILCIVPAY	71	1	.9650
MILCIVPAY	71	2	.9630
MILCIVPAY	71	3	.9570
MILCIVPAY	71	4	.9510
MILCIVPAY	71	5	.9470
MILCIVPAY	71	6	.9360
MILCIVPAY	71	7	.9170
MILCIVPAY	71	8	.9170
MILCIVPAY	71	9	.9220
MILCIVPAY	71	10	.9240
MILCIVPAY	71	11	1.1750
MILCIVPAY	71	12	1.4010
MILCIVPAY	72	1	1.4530
MILCIVPAY	72	2	1.4470
MILCIVPAY	72	3	1.4410
MILCIVPAY	72	4	1.4330
MILCIVPAY	72	5	1.4410
MILCIVPAY	72	6	1.4180
MILCIVPAY	72	7	1.3930
MILCIVPAY	72	8	1.4010
MILCIVPAY	72	9	1.3950
MILCIVPAY	72	10	1.3970
MILCIVPAY	72	11	1.3970
MILCIVPAY	72	12	1.3810
MILCIVPAY	73	1	1.4930
MILCIVPAY	73	2	1.4860
MILCIVPAY	73	3	1.4790
MILCIVPAY	73	4	1.4710
MILCIVPAY	73	5	1.4680
MILCIVPAY	73	6	1.4330
MILCIVPAY	73	7	1.4100
MILCIVPAY	73	8	1.4180
MILCIVPAY	73	9	1.4180
MILCIVPAY	73	10	1.4790
MILCIVPAY	73	11	1.4730
MILCIVPAY	73	12	1.4560

This time series is the ratio derived by GRC of military RMC for grade E-1 to the civilian average weekly wages for two industries — Wholesale and Retail Trade and Services. Source of RMC data is DCSPER, DAPE-MPE. The data on civilian average weekly earnings are the average for the two industries from the Department of Labor, BLS, monthly publication, "Employment and Earnings," Table C-2.

SUM OF DOD RECRUITING VARIABLES

NAME	YEAR	MON	VALUE
DSRECR	70	1	6911.0000
DSRECR	70	2	6860.0000
DSRECR	70	3	6882.0000
DSRECR	70	4	6914.0000
DSRECR	70	5	6909.0000
DSRECR	70	6	6882.0000
DSRECR	70	7	6862.0000
DSRECR	70	8	6951.0000
DSRECR	70	9	6896.0000
DSRECR	70	10	6975.0000
DSRECR	70	11	6983.0000
DSRECR	70	12	7032.0000
DSRECR	71	1	7083.0000
DSRECR	71	2	7162.0000
DSRECR	71	3	7206.0000
DSRECR	71	4	7325.0000
DSRECR	71	5	7388.0000
DSRECR	71	6	7653.0000
DSRECR	71	7	7839.0000
DSRECR	71	8	8058.0000
DSRECR	71	9	8413.0000
DSRECR	71	10	8819.0000
DSRECR	71	11	9231.0000
DSRECR	71	12	9394.0000
DSRECR	72	1	9822.0000
DSRECR	72	2	10378.0000
DSRECR	72	3	10858.0000
DSRECR	72	4	11350.0000
DSRECR	72	5	12275.0000
DSRECR	72	6	12496.0000
DSRECR	72	7	12632.0000
DSRECR	72	8	13056.0000
DSRECR	72	9	12812.0000
DSRECR	72	10	12536.0000
DSRECR	72	11	12413.0000
DSRECR	72	12	12333.0000
DSRECR	73	1	12069.0000
DSRECR	73	2	12084.0000
DSRECR	73	3	11830.0000
DSRECR	73	4	12244.0000
DSRECR	73	5	12183.0000
DSRECR	73	6	11834.0000
DSRECR	73	7	11461.0000
DSRECR	73	8	11943.0000
DSRECR	73	9	12096.0000
DSRECR	73	10	12050.0000
DSRECR	73	11	12495.0000
DSRECR	73	12	12706.0000

This time series is the sum of the number of persons actively engaged in recruiting programs as reported by each Service. Included in this variable are recruiters on production, unit of choice canvassers, recruiter assistants, and reserves recalled to active duty as recruiters.

SUM OF ARMY RECRUITING VARIABLES

NAME	YEAR	MON	VALUE
SMRECR	70	1	2051.0000
SMRECR	70	2	2061.0000
SMRECR	70	3	2055.0000
SMRECR	70	4	2054.0000
SMRECR	70	5	2066.0000
SMRECR	70	6	2051.0000
SMRECR	70	7	2052.0000
SMRECR	70	8	2025.0000
SMRECR	70	9	2071.0000
SMRECR	70	10	2081.0000
SMRECR	70	11	2083.0000
SMRECR	70	12	2162.0000
SMRECR	71	1	2212.0000
SMRECR	71	2	2358.0000
SMRECR	71	3	2358.0000
SMRECR	71	4	2531.2500
SMRECR	71	5	2571.0000
SMRECR	71	6	2924.7500
SMRECR	71	7	3008.7500
SMRECR	71	8	3094.0000
SMRECR	71	9	3375.7500
SMRECR	71	10	3672.5000
SMRECR	71	11	3943.2500
SMRECR	71	12	3992.7500
SMRECR	72	1	4191.0000
SMRECR	72	2	4497.0750
SMRECR	72	3	4819.2500
SMRECR	72	4	5044.0000
SMRECR	72	5	5714.3000
SMRECR	72	6	5953.2500
SMRECR	72	7	6033.3000
SMRECR	72	8	6273.2500
SMRECR	72	9	5865.9000
SMRECR	72	10	5464.0000
SMRECR	72	11	5247.0000
SMRECR	72	12	5210.0000
SMRECR	73	1	4951.0000
SMRECR	73	2	5154.0000
SMRECR	73	3	4820.0000
SMRECR	73	4	4840.0000
SMRECR	73	5	4937.0000
SMRECR	73	6	4735.0000
SMRECR	73	7	4344.0000
SMRECR	73	8	4835.0000
SMRECR	73	9	4926.0000
SMRECR	73	10	4906.0000
SMRECR	73	11	5317.0000
SMRECR	73	12	5546.0000
SMRECR	74	1	6559.0000
SMRECR	74	2	6028.0000
SMRECR	74	3	6113.0000
SMRECR	74	4	6113.0000
SMRECR	74	5	6113.0000
SMRECR	74	6	6113.0000

This time series is the number of persons actively engaged in Army recruiting programs. Included in this variable are recruiters on production, recruiter assistants, and unit of choice canvassers.

ARMY RECRUITERS ON PRODUCTION

NAME	YEAR	MON	VALUE
RECR	70	1	2051.0000
RECR	70	2	2061.0000
RECR	70	3	2055.0000
RECR	70	4	2064.0000
RECR	70	5	2066.0000
RECR	70	6	2051.0000
RECR	70	7	2052.0000
RECR	70	8	2025.0000
RECR	70	9	2071.0000
RECR	70	10	2081.0000
RECR	70	11	2083.0000
RECR	70	12	2162.0000
RECR	71	1	2212.0000
RECR	71	2	2319.0000
RECR	71	3	2356.0000
RECR	71	4	2500.0000
RECR	71	5	2538.0000
RECR	71	6	2764.0000
RECR	71	7	2851.0000
RECR	71	8	2923.0000
RECR	71	9	3187.0000
RECR	71	10	3430.0000
RECR	71	11	3657.0000
RECR	71	12	3783.0000
RECR	72	1	4006.0000
RECR	72	2	4212.0000
RECR	72	3	4404.0000
RECR	72	4	4464.0000
RECR	72	5	4827.0000
RECR	72	6	4749.0000
RECR	72	7	4684.0000
RECR	72	8	4678.0000
RECR	72	9	4605.0000
RECR	72	10	4561.0000
RECR	72	11	4536.0000
RECR	72	12	4570.0000
RECR	73	1	4446.0000
RECR	73	2	4671.0000
RECR	73	3	4326.0000
RECR	73	4	4355.0000
RECR	73	5	4280.0000
RECR	73	6	4160.0000
RECR	73	7	3835.0000
RECR	73	8	4149.0000
RECR	73	9	4276.0000
RECR	73	10	4366.0000
RECR	73	11	4456.0000
RECR	73	12	4546.0000

This time series is the number of Army recruiters on production for each month. The term, on production, refers to the number of recruiters who receive quotas. Usually a new recruiter will be on station a few months before receiving a quota. The source of the data was DCSPER, DAPE-RDP (OX 7-3587) and USAREC (312-926-3036 or 2215).

RECRUITER ASSISTANTS

NAME	YEAR	MON	VALUE
RECASS	70	1	0.0000
RECASS	70	2	0.0000
RECASS	70	3	0.0000
RECASS	70	4	0.0000
RECASS	70	5	0.0000
RECASS	70	6	0.0000
RECASS	70	7	0.0000
RECASS	70	8	0.0000
RECASS	70	9	0.0000
RECASS	70	10	0.0000
RECASS	70	11	0.0000
RECASS	70	12	0.0000
RECASS	71	1	0.0000
RECASS	71	2	0.0000
RECASS	71	3	0.0000
RECASS	71	4	0.0000
RECASS	71	5	0.0000
RECASS	71	6	0.0000
RECASS	71	7	111.0000
RECASS	71	8	110.0000
RECASS	71	9	116.0000
RECASS	71	10	130.0000
RECASS	71	11	153.0000
RECASS	71	12	70.0000
RECASS	72	1	56.0000
RECASS	72	2	43.0000
RECASS	72	3	84.0000
RECASS	72	4	146.0000
RECASS	72	5	238.0000
RECASS	72	6	377.0000
RECASS	72	7	416.0000
RECASS	72	8	403.0000
RECASS	72	9	331.0000
RECASS	72	10	186.0000
RECASS	72	11	103.0000
RECASS	72	12	127.0000
RECASS	73	1	0.0000
RECASS	73	2	0.0000
RECASS	73	3	0.0000
RECASS	73	4	0.0000
RECASS	73	5	0.0000
RECASS	73	6	0.0000
RECASS	73	7	0.0000
RECASS	73	8	0.0000
RECASS	73	9	0.0000
RECASS	73	10	0.0000
RECASS	73	11	0.0000
RECASS	73	12	0.0000

This time series is the number of Army recruiter assistants assigned to the Hometown Recruiter Assistant Plan. The source of the data is the Assistant Recruiter Report prepared by DCSPER-PD.

UNIT OF CHOICE CANVASSERS

NAME	YEAR	MON	VALUE
UOCCAN	70	1	0.0000
UOCCAN	70	2	0.0000
UOCCAN	70	3	0.0000
UOCCAN	70	4	0.0000
UOCCAN	70	5	0.0000
UOCCAN	70	6	0.0000
UOCCAN	70	7	0.0000
UOCCAN	70	8	0.0000
UOCCAN	70	9	0.0000
UOCCAN	70	10	0.0000
UOCCAN	70	11	0.0000
UOCCAN	70	12	0.0000
UOCCAN	71	1	0.0000
UOCCAN	71	2	39.0000
UOCCAN	71	3	32.0000
UOCCAN	71	4	31.2500
UOCCAN	71	5	33.0000
UOCCAN	71	6	60.7500
UOCCAN	71	7	46.7500
UOCCAN	71	8	51.0000
UOCCAN	71	9	72.7500
UOCCAN	71	10	112.5000
UOCCAN	71	11	133.2500
UOCCAN	71	12	139.7500
UOCCAN	72	1	129.0000
UOCCAN	72	2	242.0700
UOCCAN	72	3	331.2500
UOCCAN	72	4	434.0000
UOCCAN	72	5	649.3000
UOCCAN	72	6	827.2500
UOCCAN	72	7	933.3000
UOCCAN	72	8	1192.2500
UOCCAN	72	9	929.9000
UOCCAN	72	10	717.0000
UOCCAN	72	11	608.0000
UOCCAN	72	12	513.0000
UOCCAN	73	1	505.0000
UOCCAN	73	2	483.0000
UOCCAN	73	3	494.0000
UOCCAN	73	4	485.0000
UOCCAN	73	5	557.0000
UOCCAN	73	6	575.0000
UOCCAN	73	7	539.0000
UOCCAN	73	8	696.0000
UOCCAN	73	9	651.0000
UOCCAN	73	10	540.0000
UOCCAN	73	11	861.0000
UOCCAN	73	12	1000.0000

This time series is the number of Army unit of choice canvassers. Sources of the data are CONARC and USAREC (312-926-2644 or 3551).

SUM OF NAVY RECRUITING VARIABLES

NAME	YEAR	MON	VALUE
SNAVRECR	70	1	2004.0000
SNAVRECR	70	2	1952.0000
SNAVRECR	70	3	1998.0000
SNAVRECR	70	4	1997.0000
SNAVRECR	70	5	2009.0000
SNAVRECR	70	6	1995.0000
SNAVRECR	70	7	1979.0000
SNAVRECR	70	8	2022.0000
SNAVRECR	70	9	2021.0000
SNAVRECR	70	10	2091.0000
SNAVRECR	70	11	2095.0000
SNAVRECR	70	12	2107.0000
SNAVRECR	71	1	2094.0000
SNAVRECR	71	2	2072.0000
SNAVRECR	71	3	2099.0000
SNAVRECR	71	4	2093.0000
SNAVRECR	71	5	2097.0000
SNAVRECR	71	6	2079.0000
SNAVRECR	71	7	2039.0000
SNAVRECR	71	8	2065.0000
SNAVRECR	71	9	2090.0000
SNAVRECR	71	10	2122.0000
SNAVRECR	71	11	2193.0000
SNAVRECR	71	12	2213.0000
SNAVRECR	72	1	2258.0000
SNAVRECR	72	2	2372.0000
SNAVRECR	72	3	2433.0000
SNAVRECR	72	4	2618.0000
SNAVRECR	72	5	2739.0000
SNAVRECR	72	6	2812.0000
SNAVRECR	72	7	2876.0000
SNAVRECR	72	8	3107.0000
SNAVRECR	72	9	3243.0000
SNAVRECR	72	10	3396.0000
SNAVRECR	72	11	3503.0000
SNAVRECR	72	12	3456.0000
SNAVRECR	73	1	3447.0000
SNAVRECR	73	2	3450.0000
SNAVRECR	73	3	3409.0000
SNAVRECR	73	4	3617.0000
SNAVRECR	73	5	3603.0000
SNAVRECR	73	6	3497.0000
SNAVRECR	73	7	3404.0000
SNAVRECR	73	8	3413.0000
SNAVRECR	73	9	3276.0000
SNAVRECR	73	10	3234.0000
SNAVRECR	73	11	3321.0000
SNAVRECR	73	12	3325.0000
SNAVRECR	74	1	3325.0000
SNAVRECR	74	2	3325.0000
SNAVRECR	74	3	3325.0000
SNAVRECR	74	4	3325.0000
SNAVRECR	74	5	3325.0000
SNAVRECR	74	6	3325.0000

This time series is the number of persons actively engaged in Navy recruiting programs. Included in this variable are recruiters on production and recruiter assistants.

NAVY RECRUITER ASSISTANTS

NAME	YEAR	MON	VALUE
RECASSN	70	1	0.0000
RECASSN	70	2	0.0000
RECASSN	70	3	0.0000
RECASSN	70	4	0.0000
RECASSN	70	5	0.0000
RECASSN	70	6	0.0000
RECASSN	70	7	0.0000
RECASSN	70	8	0.0000
RECASSN	70	9	0.0000
RECASSN	70	10	0.0000
RECASSN	70	11	0.0000
RECASSN	70	12	0.0000
RECASSN	71	1	0.0000
RECASSN	71	2	0.0000
RECASSN	71	3	0.0000
RECASSN	71	4	0.0000
RECASSN	71	5	0.0000
RECASSN	71	6	0.0000
RECASSN	71	7	0.0000
RECASSN	71	8	0.0000
RECASSN	71	9	0.0000
RECASSN	71	10	0.0000
RECASSN	71	11	0.0000
RECASSN	71	12	0.0000
RECASSN	72	1	0.0000
RECASSN	72	2	0.0000
RECASSN	72	3	0.0000
RECASSN	72	4	70.0000
RECASSN	72	5	119.0000
RECASSN	72	6	61.0000
RECASSN	72	7	1.0000
RECASSN	72	8	2.0000
RECASSN	72	9	20.0000
RECASSN	72	10	66.0000
RECASSN	72	11	159.0000
RECASSN	72	12	135.0000
RECASSN	73	1	125.0000
RECASSN	73	2	136.0000
RECASSN	73	3	114.0000
RECASSN	73	4	115.0000
RECASSN	73	5	113.0000
RECASSN	73	6	44.0000
RECASSN	73	7	32.0000
RECASSN	73	8	49.0000
RECASSN	73	9	65.0000
RECASSN	73	10	52.0000
RECASSN	73	11	115.0000
RECASSN	73	12	120.0000

This time series is the number of recruiter assistants assigned to the 10-day, temporary duty, Recruiting Assistance Program (RAP). This Navy program was initiated in April of 1972. Source of the data is LCDR S. W. Sigmund, Director, Research Division Plans and Policy Department, Navy Recruiting Command.

NAVY RECRUITERS ON PRODUCTION

NAME	YEAR	MON	VALUE
RECRNAV	70	1	2004.0000
RECRNAV	70	2	1952.0000
RECRNAV	70	3	1988.0000
RECRNAV	70	4	1997.0000
RECRNAV	70	5	2009.0000
RECRNAV	70	6	1995.0000
RECRNAV	70	7	1979.0000
RECRNAV	70	8	2022.0000
RECRNAV	70	9	2021.0000
RECRNAV	70	10	2091.0000
RECRNAV	70	11	2095.0000
RECRNAV	70	12	2107.0000
RECRNAV	71	1	2094.0000
RECRNAV	71	2	2072.0000
RECRNAV	71	3	2099.0000
RECRNAV	71	4	2093.0000
RECRNAV	71	5	2087.0000
RECRNAV	71	6	2079.0000
RECRNAV	71	7	2039.0000
RECRNAV	71	8	2065.0000
RECRNAV	71	9	2090.0000
RECRNAV	71	10	2122.0000
RECRNAV	71	11	2193.0000
RECRNAV	71	12	2213.0000
RECRNAV	72	1	2258.0000
RECRNAV	72	2	2372.0000
RECRNAV	72	3	2433.0000
RECRNAV	72	4	2548.0000
RECRNAV	72	5	2680.0000
RECRNAV	72	6	2751.0000
RECRNAV	72	7	2875.0000
RECRNAV	72	8	3105.0000
RECRNAV	72	9	3223.0000
RECRNAV	72	10	3320.0000
RECRNAV	72	11	3344.0000
RECRNAV	72	12	3321.0000
RECRNAV	73	1	3322.0000
RECRNAV	73	2	3314.0000
RECRNAV	73	3	3295.0000
RECRNAV	73	4	3502.0000
RECRNAV	73	5	3490.0000
RECRNAV	73	6	3453.0000
RECRNAV	73	7	3372.0000
RECRNAV	73	8	3364.0000
RECRNAV	73	9	3211.0000
RECRNAV	73	10	3182.0000
RECRNAV	73	11	3206.0000
RECRNAV	73	12	3205.0000

This time series is the number of Navy recruiters on production for each month. These data are derived by the Navy from the number of personnel who are canvasser qualified, about 10 percent of whom are engaged on non-production type activities such as supervisors, administration, advertising. Source of the data is LCDC S. W. Sigmund, Navy Recruiting Command.

SUM OF MARINE CORPS RECRUITING VARIABLES

NAME	YEAR	MON	VALUE
SMCRECR	70	1	1317.0000
SMCRECR	70	2	1298.0000
SMCRECR	70	3	1300.0000
SMCRECR	70	4	1290.0000
SMCRECR	70	5	1285.0000
SMCRECR	70	6	1301.0000
SMCRECR	70	7	1295.0000
SMCRECR	70	8	1291.0000
SMCRECR	70	9	1290.0000
SMCRECR	70	10	1292.0000
SMCRECR	70	11	1310.0000
SMCRECR	70	12	1281.0000
SMCRECR	71	1	1283.0000
SMCRECR	71	2	1298.0000
SMCRECR	71	3	1281.0000
SMCRECR	71	4	1264.0000
SMCRECR	71	5	1262.0000
SMCRECR	71	6	1272.0000
SMCRECR	71	7	1303.0000
SMCRECR	71	8	1323.0000
SMCRECR	71	9	1359.0000
SMCRECR	71	10	1406.0000
SMCRECR	71	11	1406.0000
SMCRECR	71	12	1442.0000
SMCRECR	72	1	1554.0000
SMCRECR	72	2	1561.0000
SMCRECR	72	3	1635.0000
SMCRECR	72	4	1667.0000
SMCRECR	72	5	1728.0000
SMCRECR	72	6	1719.0000
SMCRECR	72	7	1687.0000
SMCRECR	72	8	1664.0000
SMCRECR	72	9	1709.0000
SMCRECR	72	10	1691.0000
SMCRECR	72	11	1690.0000
SMCRECR	72	12	1700.0000
SMCRECR	73	1	1712.0000
SMCRECR	73	2	1548.0000
SMCRECR	73	3	1696.0000
SMCRECR	73	4	1895.0000
SMCRECR	73	5	1875.0000
SMCRECR	73	6	1754.0000
SMCRECR	73	7	1827.0000
SMCRECR	73	8	1829.0000
SMCRECR	73	9	2015.0000
SMCRECR	73	10	2049.0000
SMCRECR	73	11	2004.0000
SMCRECR	73	12	1993.0000
SMCRECR	74	1	1997.0000
SMCRECR	74	2	2015.0000
SMCRECR	74	3	2021.0000
SMCRECR	74	4	2021.0000
SMCRECR	74	5	2021.0000
SMCRECR	74	6	2021.0000

This time series is the number of persons actively engaged in Marine Corps recruiting programs. Included in this variable are recruiters on production, recruiter assistants, and recruiter aides.

MARINE CORPS RECRUITERS ON PRODUCTION

NAME	YEAR	MON	VALUE
RECRMAR	70	1	1317.0000
RECRMAR	70	2	1298.0000
RECRMAR	70	3	1300.0000
RECRMAR	70	4	1290.0000
RECRMAR	70	5	1285.0000
RECRMAR	70	6	1301.0000
RECRMAR	70	7	1295.0000
RECRMAR	70	8	1291.0000
RECRMAR	70	9	1290.0000
RECRMAR	70	10	1292.0000
RECRMAR	70	11	1310.0000
RECRMAR	70	12	1281.0000
RECRMAR	71	1	1283.0000
RECRMAR	71	2	1298.0000
RECRMAR	71	3	1281.0000
RECRMAR	71	4	1264.0000
RECRMAR	71	5	1252.0000
RECRMAR	71	6	1272.0000
RECRMAR	71	7	1303.0000
RECRMAR	71	8	1323.0000
RECRMAR	71	9	1359.0000
RECRMAR	71	10	1406.0000
RECRMAR	71	11	1406.0000
RECRMAR	71	12	1442.0000
RECRMAR	72	1	1554.0000
RECRMAR	72	2	1561.0000
RECRMAR	72	3	1615.0000
RECRMAR	72	4	1647.0000
RECRMAR	72	5	1708.0000
RECRMAR	72	6	1719.0000
RECRMAR	72	7	1661.0000
RECRMAR	72	8	1638.0000
RECRMAR	72	9	1683.0000
RECRMAR	72	10	1665.0000
RECRMAR	72	11	1664.0000
RECRMAR	72	12	1674.0000
RECRMAR	73	1	1686.0000
RECRMAR	73	2	1522.0000
RECRMAR	73	3	1670.0000
RECRMAR	73	4	1739.0000
RECRMAR	73	5	1731.0000
RECRMAR	73	6	1610.0000
RECRMAR	73	7	1695.0000
RECRMAR	73	8	1685.0000
RECRMAR	73	9	1832.0000
RECRMAR	73	10	1832.0000
RECRMAR	73	11	1832.0000
RECRMAR	73	12	1832.0000

This time series is the number of Marine Corps recruiters on production for each month. The figures are below the number authorized. The difference is due to the number of recruiters not available for any given month because they are on leave, are sick, in orientation, etc. Source of the data is COL B. F. Read, Jr., MPP-48-sat.

MARINE CORPS RECRUITER ASSISTANTS

NAME	YEAR	MON	VALUE
RECASSM	70	1	0.0000
RECASSM	70	2	0.0000
RECASSM	70	3	0.0000
RECASSM	70	4	0.0000
RECASSM	70	5	0.0000
RECASSM	70	6	0.0000
RECASSM	70	7	0.0000
RECASSM	70	8	0.0000
RECASSM	70	9	0.0000
RECASSM	70	10	0.0000
RECASSM	70	11	0.0000
RECASSM	70	12	0.0000
RECASSM	71	1	0.0000
RECASSM	71	2	0.0000
RECASSM	71	3	0.0000
RECASSM	71	4	0.0000
RECASSM	71	5	0.0000
RECASSM	71	6	0.0000
RECASSM	71	7	0.0000
RECASSM	71	8	0.0000
RECASSM	71	9	0.0000
RECASSM	71	10	0.0000
RECASSM	71	11	0.0000
RECASSM	71	12	0.0000
RECASSM	72	1	0.0000
RECASSM	72	2	0.0000
RECASSM	72	3	20.0000
RECASSM	72	4	20.0000
RECASSM	72	5	20.0000
RECASSM	72	6	0.0000
RECASSM	72	7	26.0000
RECASSM	72	8	26.0000
RECASSM	72	9	26.0000
RECASSM	72	10	26.0000
RECASSM	72	11	26.0000
RECASSM	72	12	26.0000
RECASSM	73	1	26.0000
RECASSM	73	2	26.0000
RECASSM	73	3	26.0000
RECASSM	73	4	26.0000
RECASSM	73	5	26.0000
RECASSM	73	6	24.0000
RECASSM	73	7	22.0000
RECASSM	73	8	32.0000
RECASSM	73	9	90.0000
RECASSM	73	10	116.0000
RECASSM	73	11	63.0000
RECASSM	73	12	41.0000

This time series is the number of Marine Corps recruiter assistants assigned to 14-day RAP duty. Monthly data were not available prior to FY74. However, average monthly data were derived from fiscal year data since the inception of the program in March 1972. Source of the data is COL Read, Jr., MPP-48-sat.

MARINE CORPS RECRUITER
AIDES

NAME	YEAR	MON	VALUE
RECRESM	70	1	0.0000
RECRESM	70	2	0.0000
RECRESM	70	3	0.0000
RECRESM	70	4	0.0000
RECRESM	70	5	0.0000
RECRESM	70	6	0.0000
RECRESM	70	7	0.0000
RECRESM	70	8	0.0000
RECRESM	70	9	0.0000
RECRESM	70	10	0.0000
RECRESM	70	11	0.0000
RECRESM	70	12	0.0000
RECRESM	71	1	0.0000
RECRESM	71	2	0.0000
RECRESM	71	3	0.0000
RECRESM	71	4	0.0000
RECRESM	71	5	0.0000
RECRESM	71	6	0.0000
RECRESM	71	7	0.0000
RECRESM	71	8	0.0000
RECRESM	71	9	0.0000
RECRESM	71	10	0.0000
RECRESM	71	11	0.0000
RECRESM	71	12	0.0000
RECRESM	72	1	0.0000
RECRESM	72	2	0.0000
RECRESM	72	3	0.0000
RECRESM	72	4	0.0000
RECRESM	72	5	0.0000
RECRESM	72	6	0.0000
RECRESM	72	7	0.0000
RECRESM	72	8	0.0000
RECRESM	72	9	0.0000
RECRESM	72	10	0.0000
RECRESM	72	11	0.0000
RECRESM	72	12	0.0000
RECRESM	73	1	0.0000
RECRESM	73	2	0.0000
RECRESM	73	3	0.0000
RECRESM	73	4	131.0000
RECRESM	73	5	118.0000
RECRESM	73	6	120.0000
RECRESM	73	7	110.0000
RECRESM	73	8	112.0000
RECRESM	73	9	93.0000
RECRESM	73	10	93.0000
RECRESM	73	11	93.0000
RECRESM	73	12	93.0000

This variable is the number of Marine Corps Reserves recalled to active duty for a short tour (usually 90 days) for the purpose of recruiting in the local areas. The program was initiated in April 1973. Source of the data is Col. B. F. Read, Jr., MPP-48-sat.

AIR FORCE RECRUITERS ON PRODUCTION

NAME	YEAR	MON	VALUE
RECRAF	70	1	1539.0000
RECRAF	70	2	1549.0000
RECRAF	70	3	1539.0000
RECRAF	70	4	1543.0000
RECRAF	70	5	1549.0000
RECRAF	70	6	1535.0000
RECRAF	70	7	1536.0000
RECRAF	70	8	1513.0000
RECRAF	70	9	1514.0000
RECRAF	70	10	1511.0000
RECRAF	70	11	1511.0000
RECRAF	70	12	1472.0000
RECRAF	71	1	1494.0000
RECRAF	71	2	1444.0000
RECRAF	71	3	1438.0000
RECRAF	71	4	1447.0000
RECRAF	71	5	1458.0000
RECRAF	71	6	1477.0000
RECRAF	71	7	1488.0000
RECRAF	71	8	1586.0000
RECRAF	71	9	1588.0000
RECRAF	71	10	1619.0000
RECRAF	71	11	1619.0000
RECRAF	71	12	1746.0000
RECRAF	72	1	1819.0000
RECRAF	72	2	1948.0000
RECRAF	72	3	2001.0000
RECRAF	72	4	2021.0000
RECRAF	72	5	2034.0000
RECRAF	72	6	2002.0000
RECRAF	72	7	2036.0000
RECRAF	72	8	2012.0000
RECRAF	72	9	1994.0000
RECRAF	72	10	1995.0000
RECRAF	72	11	1973.0000
RECRAF	72	12	1967.0000
RECRAF	73	1	1959.0000
RECRAF	73	2	1932.0000
RECRAF	73	3	1935.0000
RECRAF	73	4	1892.0000
RECRAF	73	5	1868.0000
RECRAF	73	6	1847.0000
RECRAF	73	7	1896.0000
RECRAF	73	8	1866.0000
RECRAF	73	9	1879.0000
RECRAF	73	10	1869.0000
RECRAF	73	11	1869.0000
RECRAF	73	12	1869.0000

This time series is the number of Air Force recruiters on production for each month. Data for July 1972 to December 1973 were provided by the Air Force. Data prior to July 1972 were derived by GRC from data on recruiters on station provided by Mr. Huck, OASD(M&RA).

DESEASONALIZED UNEMPL1 RATE FOR 16-21 YEAR OLD MALES

NAME	YEAR	MON	VALUE
DUNEMPL1	70	1	9.9770
DUNEMPL1	70	2	10.4800
DUNEMPL1	70	3	11.1110
DUNEMPL1	70	4	11.2250
DUNEMPL1	70	5	12.1630
DUNEMPL1	70	6	13.7970
DUNEMPL1	70	7	12.7310
DUNEMPL1	70	8	12.3390
DUNEMPL1	70	9	13.8970
DUNEMPL1	70	10	13.9210
DUNEMPL1	70	11	12.7740
DUNEMPL1	70	12	12.9910
DUNEMPL1	71	1	14.2910
DUNEMPL1	71	2	13.4620
DUNEMPL1	71	3	13.6370
DUNEMPL1	71	4	12.2360
DUNEMPL1	71	5	13.4140
DUNEMPL1	71	6	13.7970
DUNEMPL1	71	7	13.7840
DUNEMPL1	71	8	13.5730
DUNEMPL1	71	9	12.8460
DUNEMPL1	71	10	12.8420
DUNEMPL1	71	11	13.5010
DUNEMPL1	71	12	13.1820
DUNEMPL1	72	1	14.2910
DUNEMPL1	72	2	14.7400
DUNEMPL1	72	3	14.1420
DUNEMPL1	72	4	14.7050
DUNEMPL1	72	5	13.1860
DUNEMPL1	72	6	11.3620
DUNEMPL1	72	7	11.7740
DUNEMPL1	72	8	12.4510
DUNEMPL1	72	9	11.0940
DUNEMPL1	72	10	10.3390
DUNEMPL1	72	11	10.6970
DUNEMPL1	72	12	10.6990
DUNEMPL1	73	1	10.4260
DUNEMPL1	73	2	10.3100
DUNEMPL1	73	3	10.3030
DUNEMPL1	73	4	10.8890
DUNEMPL1	73	5	10.5720
DUNEMPL1	73	6	9.9020
DUNEMPL1	73	7	10.7210
DUNEMPL1	73	8	10.4320
DUNEMPL1	73	9	10.7440
DUNEMPL1	73	10	10.5028
DUNEMPL1	73	11	10.5920
DUNEMPL1	73	12	9.6466

This variable is the deseasonalized unemployment rate for the 16-21 year old, male, out-of-school labor force. It was created at GRC by applying the deseasonalization factors derived from regressions on trend from January 1970 to September 1973.

UNEMPLOYMENT RATE 16-21 YEAR OLD MALE OUT-OF-SCHOOL LABOR FORCE

NAME	YEAR	MON	VALUE
UNEMPL1	70	1	11.1000
UNEMPL1	70	2	12.3000
UNEMPL1	70	3	11.0000
UNEMPL1	70	4	10.9000
UNEMPL1	70	5	10.7000
UNEMPL1	70	6	17.0000
UNEMPL1	70	7	13.3000
UNEMPL1	70	8	11.0000
UNEMPL1	70	9	11.9000
UNEMPL1	70	10	12.7000
UNEMPL1	70	11	12.3000
UNEMPL1	70	12	13.6000
UNEMPL1	71	1	15.9000
UNEMPL1	71	2	15.8000
UNEMPL1	71	3	13.5000
UNEMPL1	71	4	10.9000
UNEMPL1	71	5	11.8000
UNEMPL1	71	6	17.0000
UNEMPL1	71	7	14.4000
UNEMPL1	71	8	12.1000
UNEMPL1	71	9	11.0000
UNEMPL1	71	10	11.8000
UNEMPL1	71	11	13.0000
UNEMPL1	71	12	13.8000
UNEMPL1	72	1	15.9000
UNEMPL1	72	2	17.3000
UNEMPL1	72	3	14.0000
UNEMPL1	72	4	13.1000
UNEMPL1	72	5	11.6000
UNEMPL1	72	6	14.3000
UNEMPL1	72	7	12.3000
UNEMPL1	72	8	11.1000
UNEMPL1	72	9	9.5000
UNEMPL1	72	10	9.5000
UNEMPL1	72	11	10.3000
UNEMPL1	72	12	11.2000
UNEMPL1	73	1	11.6000
UNEMPL1	73	2	12.1000
UNEMPL1	73	3	10.2000
UNEMPL1	73	4	9.7000
UNEMPL1	73	5	9.3000
UNEMPL1	73	6	12.2000
UNEMPL1	73	7	11.2000
UNEMPL1	73	8	9.3000
UNEMPL1	73	9	9.2000
UNEMPL1	73	10	8.2000
UNEMPL1	73	11	10.2000
UNEMPL1	73	12	10.1000

This time series is the unemployment rate for 16-21 year old males. It is the percent of 16-21 year old unemployed males of the 16-21 year old male civilian labor force whose major activity was other. "Major activity: going to school" and "major activity: other" are terms used to describe whether the activity of young persons during the reference week (of the monthly survey) was primarily one of going to school or not. The source of the data is Table A-5 of the Bureau of Labor Statistics (BLS) monthly publication, "Employment and Earnings."

DESEASONALIZATION FACTORS FOR UNEMPL1
SERIES ON TREND 1/70-9/73

NAME	YEAR	MON	VALUE
DFCTUNMPL1	70	1	1.1130
DFCTUNMPL1	70	2	1.1740
DFCTUNMPL1	70	3	.9900
DFCTUNMPL1	70	4	.8910
DFCTUNMPL1	70	5	.8800
DFCTUNMPL1	70	6	1.2320
DFCTUNMPL1	70	7	1.0450
DFCTUNMPL1	70	8	.8910
DFCTUNMPL1	70	9	.8560
DFCTUNMPL1	70	10	.9190
DFCTUNMPL1	70	11	.9630
DFCTUNMPL1	70	12	1.0470
DFCTUNMPL1	71	1	1.1130
DFCTUNMPL1	71	2	1.1740
DFCTUNMPL1	71	3	.9900
DFCTUNMPL1	71	4	.8910
DFCTUNMPL1	71	5	.8800
DFCTUNMPL1	71	6	1.2320
DFCTUNMPL1	71	7	1.0450
DFCTUNMPL1	71	8	.8910
DFCTUNMPL1	71	9	.8560
DFCTUNMPL1	71	10	.9190
DFCTUNMPL1	71	11	.9630
DFCTUNMPL1	71	12	1.0470
DFCTUNMPL1	72	1	1.1130
DFCTUNMPL1	72	2	1.1740
DFCTUNMPL1	72	3	.9900
DFCTUNMPL1	72	4	.8910
DFCTUNMPL1	72	5	.8800
DFCTUNMPL1	72	6	1.2320
DFCTUNMPL1	72	7	1.0450
DFCTUNMPL1	72	8	.8910
DFCTUNMPL1	72	9	.8560
DFCTUNMPL1	72	10	.9190
DFCTUNMPL1	72	11	.9630
DFCTUNMPL1	72	12	1.0470
DFCTUNMPL1	73	1	1.1130
DFCTUNMPL1	73	2	1.1740
DFCTUNMPL1	73	3	.9900
DFCTUNMPL1	73	4	.8910
DFCTUNMPL1	73	5	.8800
DFCTUNMPL1	73	6	1.2320
DFCTUNMPL1	73	7	1.0450
DFCTUNMPL1	73	8	.8910
DFCTUNMPL1	73	9	.8560
DFCTUNMPL1	73	10	.9190
DFCTUNMPL1	73	11	.9630
DFCTUNMPL1	73	12	1.0470

This variable is the series of seasonal adjustment factors developed by GRC through regression on trend from January 1970 to September 1973 (DFCTUNMPL1). These factors were used to create a deseasonalized unemployment variable for the 16-21 year old male, out-of-school labor force (DUNEMPL1).

$1500 BONUS VARIABLE - NON-HIGH SCHOOL GRADUATE

NAME	YEAR	MON	VALUE
BNS-NHS	70	1	0.0000
BNS-NHS	70	2	0.0000
BNS-NHS	70	3	0.0000
BNS-NHS	70	4	0.0000
BNS-NHS	70	5	0.0000
BNS-NHS	70	6	0.0000
BNS-NHS	70	7	0.0000
BNS-NHS	70	8	0.0000
BNS-NHS	70	9	0.0000
BNS-NHS	70	10	0.0000
BNS-NHS	70	11	0.0000
BNS-NHS	70	12	0.0000
BNS-NHS	71	1	0.0000
BNS-NHS	71	2	0.0000
BNS-NHS	71	3	0.0000
BNS-NHS	71	4	0.0000
BNS-NHS	71	5	0.0000
BNS-NHS	71	6	0.0000
BNS-NHS	71	7	0.0000
BNS-NHS	71	8	0.0000
BNS-NHS	71	9	0.0000
BNS-NHS	71	10	0.0000
BNS-NHS	71	11	0.0000
BNS-NHS	71	12	0.0000
BNS-NHS	72	1	0.0000
BNS-NHS	72	2	0.0000
BNS-NHS	72	3	0.0000
BNS-NHS	72	4	0.0000
BNS-NHS	72	5	0.0000
BNS-NHS	72	6	1.0000
BNS-NHS	72	7	1.0000
BNS-NHS	72	8	1.0000
BNS-NHS	72	9	1.0000
BNS-NHS	72	10	1.0000
BNS-NHS	72	11	1.0000
BNS-NHS	72	12	1.0000
BNS-NHS	73	1	1.0000
BNS-NHS	73	2	1.0000
BNS-NHS	73	3	1.0000
BNS-NHS	73	4	1.0000
BNS-NHS	73	5	0.0000
BNS-NHS	73	6	0.0000
BNS-NHS	73	7	0.0000
BNS-NHS	73	8	0.0000
BNS-NHS	73	9	0.0000
BNS-NHS	73	10	0.0000
BNS-NHS	73	11	0.0000
BNS-NHS	73	12	0.0000

This variable is a dummy variable that is set to one when the $1500 enlistment bonus is in effect for enlistees who are non-high school graduates.

$1000 INCREMENT VARIABLE

NAME	YEAR	MON	VALUE
BNS-INC	70	1	0.0000
BNS-INC	70	2	0.0000
BNS-INC	70	3	0.0000
BNS-INC	70	4	0.0000
BNS-INC	70	5	0.0000
BNS-INC	70	6	0.0000
BNS-INC	70	7	0.0000
BNS-INC	70	8	0.0000
BNS-INC	70	9	0.0000
BNS-INC	70	10	0.0000
BNS-INC	70	11	0.0000
BNS-INC	70	12	0.0000
BNS-INC	71	1	0.0000
BNS-INC	71	2	0.0000
BNS-INC	71	3	0.0000
BNS-INC	71	4	0.0000
BNS-INC	71	5	0.0000
BNS-INC	71	6	0.0000
BNS-INC	71	7	0.0000
BNS-INC	71	8	0.0000
BNS-INC	71	9	0.0000
BNS-INC	71	10	0.0000
BNS-INC	71	11	0.0000
BNS-INC	71	12	0.0000
BNS-INC	72	1	0.0000
BNS-INC	72	2	0.0000
BNS-INC	72	3	0.0000
BNS-INC	72	4	0.0000
BNS-INC	72	5	0.0000
BNS-INC	72	6	0.0000
BNS-INC	72	7	0.0000
BNS-INC	72	8	0.0000
BNS-INC	72	9	0.0000
BNS-INC	72	10	0.0000
BNS-INC	72	11	0.0000
BNS-INC	72	12	0.0000
BNS-INC	73	1	0.0000
BNS-INC	73	2	0.0000
BNS-INC	73	3	0.0000
BNS-INC	73	4	0.0000
BNS-INC	73	5	1.0000
BNS-INC	73	6	1.0000
BNS-INC	73	7	1.0000
BNS-INC	73	8	1.0000
BNS-INC	73	9	1.0000
BNS-INC	73	10	1.0000
BNS-INC	73	11	1.0000
BNS-INC	73	12	1.0000

This variable is a dummy variable that is set to one when the $1000 incremental bonus is in effect for enlistees.

$1500 BONUS VARIABLE - HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
BNS-HS	70	1	0.0000
BNS-HS	70	2	0.0000
BNS-HS	70	3	0.0000
BNS-HS	70	4	0.0000
BNS-HS	70	5	0.0000
BNS-HS	70	6	0.0000
BNS-HS	70	7	0.0000
BNS-HS	70	8	0.0000
BNS-HS	70	9	0.0000
BNS-HS	70	10	0.0000
BNS-HS	70	11	0.0000
BNS-HS	70	12	0.0000
BNS-HS	71	1	0.0000
BNS-HS	71	2	0.0000
BNS-HS	71	3	0.0000
BNS-HS	71	4	0.0000
BNS-HS	71	5	0.0000
BNS-HS	71	6	0.0000
BNS-HS	71	7	0.0000
BNS-HS	71	8	0.0000
BNS-HS	71	9	0.0000
BNS-HS	71	10	0.0000
BNS-HS	71	11	0.0000
BNS-HS	71	12	0.0000
BNS-HS	72	1	0.0000
BNS-HS	72	2	0.0000
BNS-HS	72	3	0.0000
BNS-HS	72	4	0.0000
BNS-HS	72	5	0.0000
BNS-HS	72	6	1.0000
BNS-HS	72	7	1.0000
BNS-HS	72	8	1.0000
BNS-HS	72	9	1.0000
BNS-HS	72	10	1.0000
BNS-HS	72	11	1.0000
BNS-HS	72	12	1.0000
BNS-HS	73	1	1.0000
BNS-HS	73	2	1.0000
BNS-HS	73	3	1.0000
BNS-HS	73	4	1.0000
BNS-HS	73	5	1.0000
BNS-HS	73	6	1.0000
BNS-HS	73	7	1.0000
BNS-HS	73	8	1.0000
BNS-HS	73	9	1.0000
BNS-HS	73	10	1.0000
BNS-HS	73	11	1.0000
BNS-HS	73	12	1.0000

This variable is a dummy variable that is set to one when the $1500 enlistment bonus is in effect for enlistees who are high school graduates.

$1500 ENLISTMENT BONUS

NAME	YEAR	MON	VALUE
BNS1500	70	1	0.0000
BNS1500	70	2	0.0000
BNS1500	70	3	0.0000
BNS1500	70	4	0.0000
BNS1500	70	5	0.0000
BNS1500	70	6	0.0000
BNS1500	70	7	0.0000
BNS1500	70	8	0.0000
BNS1500	70	9	0.0000
BNS1500	70	10	0.0000
BNS1500	70	11	0.0000
BNS1500	70	12	0.0000
BNS1500	71	1	0.0000
BNS1500	71	2	0.0000
BNS1500	71	3	0.0000
BNS1500	71	4	0.0000
BNS1500	71	5	0.0000
BNS1500	71	6	0.0000
BNS1500	71	7	0.0000
BNS1500	71	8	0.0000
BNS1500	71	9	0.0000
BNS1500	71	10	0.0000
BNS1500	71	11	0.0000
BNS1500	71	12	0.0000
BNS1500	72	1	0.0000
BNS1500	72	2	0.0000
BNS1500	72	3	0.0000
BNS1500	72	4	0.0000
BNS1500	72	5	0.0000
BNS1500	72	6	1.0000
BNS1500	72	7	1.0000
BNS1500	72	8	1.0000
BNS1500	72	9	1.0000
BNS1500	72	10	1.0000
BNS1500	72	11	1.0000
BNS1500	72	12	1.0000
BNS1500	73	1	1.0000
BNS1500	73	2	1.0000
BNS1500	73	3	1.0000
BNS1500	73	4	1.0000
BNS1500	73	5	0.0000
BNS1500	73	6	0.0000
BNS1500	73	7	0.0000
BNS1500	73	8	0.0000
BNS1500	73	9	0.0000
BNS1500	73	10	0.0000
BNS1500	73	11	0.0000
BNS1500	73	12	0.0000
BNS1500	74	1	0.0000
BNS1500	74	2	0.0000
BNS1500	74	3	0.0000
BNS1500	74	4	0.0000
BNS1500	74	5	0.0000
BNS1500	74	6	0.0000

This variable is a dummy variable that is set to one when the $1500 enlistment bonus is in effect both for high school and non-high school graduate enlistees.

NUMBER OF OPTIONS AVAILABLE TO
MARINE CORPS RECRUITS

NAME	YEAR	MON	VALUE
OPTMAR	70	1	1.0000
OPTMAR	70	2	1.0000
OPTMAR	70	3	1.0000
OPTMAR	70	4	1.0000
OPTMAR	70	5	1.0000
OPTMAR	70	6	1.0000
OPTMAR	70	7	1.0000
OPTMAR	70	8	1.0000
OPTMAR	70	9	1.0000
OPTMAR	70	10	5.0000
OPTMAR	70	11	5.0000
OPTMAR	70	12	5.0000
OPTMAR	71	1	5.0000
OPTMAR	71	2	5.0000
OPTMAR	71	3	5.0000
OPTMAR	71	4	5.0000
OPTMAR	71	5	5.0000
OPTMAR	71	6	5.0000
OPTMAR	71	7	6.0000
OPTMAR	71	8	6.0000
OPTMAR	71	9	6.0000
OPTMAR	71	10	6.0000
OPTMAR	71	11	6.0000
OPTMAR	71	12	6.0000
OPTMAR	72	1	6.0000
OPTMAR	72	2	6.0000
OPTMAR	72	3	6.0000
OPTMAR	72	4	6.0000
OPTMAR	72	5	6.0000
OPTMAR	72	6	7.0000
OPTMAR	72	7	7.0000
OPTMAR	72	8	7.0000
OPTMAR	72	9	7.0000
OPTMAR	72	10	7.0000
OPTMAR	72	11	7.0000
OPTMAR	72	12	7.0000
OPTMAR	73	1	23.0000
OPTMAR	73	2	23.0000
OPTMAR	73	3	23.0000
OPTMAR	73	4	23.0000
OPTMAR	73	5	23.0000
OPTMAR	73	6	23.0000
OPTMAR	73	7	23.0000
OPTMAR	73	8	23.0000
OPTMAR	73	9	23.0000
OPTMAR	73	10	23.0000
OPTMAR	73	11	23.0000
OPTMAR	73	12	23.0000

This variable is the number of new separate options available to an incoming recruit to the Marine Corps. Source of the data is COL B. F. Read, Jr., MPP-48-sat.

NUMBER OF OPTIONS AVAILABLE
TO AIR FORCE RECRUITS

NAME	YEAR	MON	VALUE
OPTSTOAF	70	1	2.0000
OPTSTOAF	70	2	2.0000
OPTSTOAF	70	3	2.0000
OPTSTOAF	70	4	2.0000
OPTSTOAF	70	5	2.0000
OPTSTOAF	70	6	2.0000
OPTSTOAF	70	7	2.0000
OPTSTOAF	70	8	2.0000
OPTSTOAF	70	9	2.0000
OPTSTOAF	70	10	2.0000
OPTSTOAF	70	11	2.0000
OPTSTOAF	70	12	2.0000
OPTSTOAF	71	1	2.0000
OPTSTOAF	71	2	2.0000
OPTSTOAF	71	3	2.0000
OPTSTOAF	71	4	2.0000
OPTSTOAF	71	5	2.0000
OPTSTOAF	71	6	2.0000
OPTSTOAF	71	7	3.0000
OPTSTOAF	71	8	3.0000
OPTSTOAF	71	9	4.0000
OPTSTOAF	71	10	4.0000
OPTSTOAF	71	11	4.0000
OPTSTOAF	71	12	4.0000
OPTSTOAF	72	1	4.0000
OPTSTOAF	72	2	4.0000
OPTSTOAF	72	3	4.0000
OPTSTOAF	72	4	4.0000
OPTSTOAF	72	5	4.0000
OPTSTOAF	72	6	4.0000
OPTSTOAF	72	7	4.0000
OPTSTOAF	72	8	4.0000
OPTSTOAF	72	9	4.0000
OPTSTOAF	72	10	4.0000
OPTSTOAF	72	11	4.0000
OPTSTOAF	72	12	4.0000
OPTSTOAF	73	1	5.0000
OPTSTOAF	73	2	5.0000
OPTSTOAF	73	3	5.0000
OPTSTOAF	73	4	5.0000
OPTSTOAF	73	5	5.0000
OPTSTOAF	73	6	5.0000
OPTSTOAF	73	7	6.0000
OPTSTOAF	73	8	6.0000
OPTSTOAF	73	9	6.0000
OPTSTOAF	73	10	6.0000
OPTSTOAF	73	11	6.0000
OPTSTOAF	73	12	6.0000

This variable is the number of new separate options available to an incoming recruit to the Air Force. Source of the data is LTC Radke, AF/DPXOV.

NUMBER OF OPTIONS AVAILABLE TO NAVY RECRUITS

NAME	YEAR	MON	VALUE
OPTSTONAV	70	1	12.0000
OPTSTONAV	70	2	12.0000
OPTSTONAV	70	3	12.0000
OPTSTONAV	70	4	12.0000
OPTSTONAV	70	5	13.0000
OPTSTONAV	70	6	13.0000
OPTSTONAV	70	7	14.0000
OPTSTONAV	70	8	14.0000
OPTSTONAV	70	9	14.0000
OPTSTONAV	70	10	14.0000
OPTSTONAV	70	11	14.0000
OPTSTONAV	70	12	14.0000
OPTSTONAV	71	1	14.0000
OPTSTONAV	71	2	14.0000
OPTSTONAV	71	3	14.0000
OPTSTONAV	71	4	15.0000
OPTSTONAV	71	5	15.0000
OPTSTONAV	71	6	15.0000
OPTSTONAV	71	7	15.0000
OPTSTONAV	71	8	15.0000
OPTSTONAV	71	9	15.0000
OPTSTONAV	71	10	15.0000
OPTSTONAV	71	11	14.0000
OPTSTONAV	71	12	14.0000
OPTSTONAV	72	1	17.0000
OPTSTONAV	72	2	17.0000
OPTSTONAV	72	3	17.0000
OPTSTONAV	72	4	17.0000
OPTSTONAV	72	5	16.0000
OPTSTONAV	72	6	16.0000
OPTSTONAV	72	7	18.0000
OPTSTONAV	72	8	18.0000
OPTSTONAV	72	9	17.0000
OPTSTONAV	72	10	17.0000
OPTSTONAV	72	11	17.0000
OPTSTONAV	72	12	16.0000
OPTSTONAV	73	1	16.0000
OPTSTONAV	73	2	15.0000
OPTSTONAV	73	3	14.0000
OPTSTONAV	73	4	14.0000
OPTSTONAV	73	5	14.0000
OPTSTONAV	73	6	13.0000
OPTSTONAV	73	7	13.0000
OPTSTONAV	73	8	13.0000
OPTSTONAV	73	9	13.0000
OPTSTONAV	73	10	13.0000
OPTSTONAV	73	11	13.0000
OPTSTONAV	73	12	13.0000

This variable is the number of new separate options available to an incoming recruit to the Navy. Source of the data is LCDR S.W. Sigmund, Navy Recruiting Command.

TOTAL OPTIONS

NAME	YEAR	MON	VALUE
OPTSTO	70	1	0.0000
OPTSTO	70	2	0.0000
OPTSTO	70	3	0.0000
OPTSTO	70	4	0.0000
OPTSTO	70	5	0.0000
OPTSTO	70	6	0.0000
OPTSTO	70	7	0.0000
OPTSTO	70	8	0.0000
OPTSTO	70	9	0.0000
OPTSTO	70	10	0.0000
OPTSTO	70	11	0.0000
OPTSTO	70	12	0.0000
OPTSTO	71	1	0.0000
OPTSTO	71	2	15.0000
OPTSTO	71	3	17.0000
OPTSTO	71	4	24.0000
OPTSTO	71	5	25.0000
OPTSTO	71	6	28.0000
OPTSTO	71	7	29.0000
OPTSTO	71	8	30.0000
OPTSTO	71	9	30.0000
OPTSTO	71	10	39.0000
OPTSTO	71	11	39.0000
OPTSTO	71	12	39.0000
OPTSTO	72	1	41.0000
OPTSTO	72	2	47.0000
OPTSTO	72	3	47.0000
OPTSTO	72	4	47.0000
OPTSTO	72	5	47.0000
OPTSTO	72	6	71.0000
OPTSTO	72	7	71.0000
OPTSTO	72	8	71.0000
OPTSTO	72	9	71.0000
OPTSTO	72	10	107.0000
OPTSTO	72	11	131.0000
OPTSTO	72	12	131.0000
OPTSTO	73	1	131.0000
OPTSTO	73	2	131.0000
OPTSTO	73	3	131.0000
OPTSTO	73	4	131.0000
OPTSTO	73	5	131.0000
OPTSTO	73	6	131.0000
OPTSTO	73	7	131.0000
OPTSTO	73	8	131.0000
OPTSTO	73	9	131.0000
OPTSTO	73	10	133.0000
OPTSTO	73	11	133.0000
OPTSTO	73	12	133.0000

This variable is essentially the sum of the combat arms options variable and the service school options variable. It measures the number of new separate options available to an incoming recruit to the Army.

NUMBER OF DOD OPTIONS AVAILABLE
TO NEW RECRUITS

NAME	MO	YR	VALUE
DOPTSTO	1	70	15.
DOPTSTO	2	70	15.
DOPTSTO	3	70	15.
DOPTSTO	4	70	15.
DOPTSTO	5	70	16.
DOPTSTO	6	70	16.
DOPTSTO	7	70	17.
DOPTSTO	8	70	17.
DOPTSTO	9	70	17.
DOPTSTO	10	70	21.
DOPTSTO	11	70	21.
DOPTSTO	12	70	21.
DOPTSTO	1	71	21.
DOPTSTO	2	71	36.
DOPTSTO	3	71	38.
DOPTSTO	4	71	46.
DOPTSTO	5	71	47.
DOPTSTO	6	71	50.
DOPTSTO	7	71	53.
DOPTSTO	8	71	54.
DOPTSTO	9	71	55.
DOPTSTO	10	71	64.
DOPTSTO	11	71	63.
DOPTSTO	12	71	63.
DOPTSTO	1	72	68.
DOPTSTO	2	72	74.
DOPTSTO	3	72	74.
DOPTSTO	4	72	74.
DOPTSTO	5	72	73.
DOPTSTO	6	72	98.
DOPTSTO	7	72	100.
DOPTSTO	8	72	100.
DOPTSTO	9	72	99.
DOPTSTO	10	72	135.
DOPTSTO	11	72	159.
DOPTSTO	12	72	158.
DOPTSTO	1	73	175.
DOPTSTO	2	73	174.
DOPTSTO	3	73	173.
DOPTSTO	4	73	173.
DOPTSTO	5	73	173.
DOPTSTO	6	73	173.
DOPTSTO	7	73	173.
DOPTSTO	8	73	173.
DOPTSTO	9	73	173.
DOPTSTO	10	73	175.
DOPTSTO	11	73	175.
DOPTSTO	12	73	175.

This variable is the sum of new, separate options available to new recruits as reported by each Service.

MARINE CORPS POLICY

NAME	MO	YR	VALUE
MCPLCY	1	70	0.0000
MCPLCY	2	70	0.0000
MCPLCY	3	70	0.0000
MCPLCY	4	70	0.0000
MCPLCY	5	70	0.0000
MCPLCY	6	70	0.0000
MCPLCY	7	70	1.0000
MCPLCY	8	70	1.0000
MCPLCY	9	70	1.0000
MCPLCY	10	70	1.0000
MCPLCY	11	70	1.0000
MCPLCY	12	70	1.0000
MCPLCY	1	71	1.0000
MCPLCY	2	71	1.0000
MCPLCY	3	71	1.0000
MCPLCY	4	71	1.0000
MCPLCY	5	71	1.0000
MCPLCY	6	71	1.0000
MCPLCY	7	71	1.0000
MCPLCY	8	71	1.0000
MCPLCY	9	71	1.0000
MCPLCY	10	71	1.0000
MCPLCY	11	71	1.0000
MCPLCY	12	71	1.0000
MCPLCY	1	72	1.0000
MCPLCY	2	72	1.0000
MCPLCY	3	72	1.0000
MCPLCY	4	72	1.0000
MCPLCY	5	72	1.0000
MCPLCY	6	72	1.0000
MCPLCY	7	72	1.0000
MCPLCY	8	72	1.0000
MCPLCY	9	72	1.0000
MCPLCY	10	72	1.0000
MCPLCY	11	72	1.0000
MCPLCY	12	72	1.0000
MCPLCY	1	73	1.0000
MCPLCY	2	73	1.0000
MCPLCY	3	73	1.0000
MCPLCY	4	73	1.0000
MCPLCY	5	73	1.0000
MCPLCY	6	73	1.0000
MCPLCY	7	73	1.0000
MCPLCY	8	73	0.0000
MCPLCY	9	73	0.0000
MCPLCY	10	73	0.0000
MCPLCY	11	73	0.0000
MCPLCY	12	73	0.0000
MCPLCY	1	74	0.0000
MCPLCY	2	74	0.0000
MCPLCY	3	74	0.0000
MCPLCY	4	74	0.0000
MCPLCY	5	74	0.0000
MCPLCY	6	74	0.0000

This variable is a dummy variable that is set to one when Marine Corps policy is in effect restricting recruitment of 17 year old males to those with Mental Category I, II, III or those who are high school graduates.

AIR FORCE POLICY

NAME	MO	YR	VALUE
AFPLCY	1	70	0.
AFPLCY	2	70	0.
AFPLCY	3	70	0.
AFPLCY	4	70	0.
AFPLCY	5	70	0.
AFPLCY	6	70	0.
AFPLCY	7	70	0.
AFPLCY	8	70	0.
AFPLCY	9	70	0.
AFPLCY	10	70	0.
AFPLCY	11	70	0.
AFPLCY	12	70	0.
AFPLCY	1	71	0.
AFPLCY	2	71	0.
AFPLCY	3	71	0.
AFPLCY	4	71	0.
AFPLCY	5	71	0.
AFPLCY	6	71	0.
AFPLCY	7	71	0.
AFPLCY	8	71	0.
AFPLCY	9	71	0.
AFPLCY	10	71	0.
AFPLCY	11	71	0.
AFPLCY	12	71	0.
AFPLCY	1	72	0.
AFPLCY	2	72	.5
AFPLCY	3	72	.5
AFPLCY	4	72	.5
AFPLCY	5	72	.5
AFPLCY	6	72	.5
AFPLCY	7	72	.5
AFPLCY	8	72	.5
AFPLCY	9	72	.5
AFPLCY	10	72	.5
AFPLCY	11	72	.5
AFPLCY	12	72	.5
AFPLCY	1	73	.5
AFPLCY	2	73	.5
AFPLCY	3	73	1.
AFPLCY	4	73	1.
AFPLCY	5	73	1.
AFPLCY	6	73	1.
AFPLCY	7	73	1.
AFPLCY	8	73	1.
AFPLCY	9	73	1.
AFPLCY	10	73	1.
AFPLCY	11	73	1.
AFPLCY	12	73	1.

This variable is a dummy variable that is set to .5 when Air Force policy restricts recruitment of Category IV males who are high school graduates or Category III males who are non-high school graduates, and is set to 1. if both are restricted.

NAVY POLICY

NAME	YEAR	MON	VALUE
NAVPLCY	70	1	0.0000
NAVPLCY	70	2	0.0000
NAVPLCY	70	3	0.0000
NAVPLCY	70	4	0.0000
NAVPLCY	70	5	0.0000
NAVPLCY	70	6	0.0000
NAVPLCY	70	7	0.0000
NAVPLCY	70	8	0.0000
NAVPLCY	70	9	0.0000
NAVPLCY	70	10	0.0000
NAVPLCY	70	11	0.0000
NAVPLCY	70	12	0.0000
NAVPLCY	71	1	0.0000
NAVPLCY	71	2	0.0000
NAVPLCY	71	3	0.0000
NAVPLCY	71	4	0.0000
NAVPLCY	71	5	0.0000
NAVPLCY	71	6	0.0000
NAVPLCY	71	7	0.0000
NAVPLCY	71	8	0.0000
NAVPLCY	71	9	0.0000
NAVPLCY	71	10	0.0000
NAVPLCY	71	11	0.0000
NAVPLCY	71	12	0.0000
NAVPLCY	72	1	0.0000
NAVPLCY	72	2	0.0000
NAVPLCY	72	3	0.0000
NAVPLCY	72	4	0.0000
NAVPLCY	72	5	0.0000
NAVPLCY	72	6	0.0000
NAVPLCY	72	7	0.0000
NAVPLCY	72	8	0.0000
NAVPLCY	72	9	0.0000
NAVPLCY	72	10	0.0000
NAVPLCY	72	11	0.0000
NAVPLCY	72	12	0.0000
NAVPLCY	73	1	0.0000
NAVPLCY	73	2	0.0000
NAVPLCY	73	3	0.0000
NAVPLCY	73	4	0.0000
NAVPLCY	73	5	0.0000
NAVPLCY	73	6	0.0000
NAVPLCY	73	7	1.0000
NAVPLCY	73	8	1.0000
NAVPLCY	73	9	1.0000
NAVPLCY	73	10	1.0000
NAVPLCY	73	11	1.0000
NAVPLCY	73	12	1.0000

This variable is a dummy variable that is set to one when Navy policy restricts recruitment of Category IV males who are high school graduates.

MARINE CORPS POLICY

NAME	YEAR	MON	VALUE
MCPLCY	70	1	0.0000
MCPLCY	70	2	0.0000
MCPLCY	70	3	0.0000
MCPLCY	70	4	0.0000
MCPLCY	70	5	0.0000
MCPLCY	70	6	0.0000
MCPLCY	70	7	1.0000
MCPLCY	70	8	1.0000
MCPLCY	70	9	1.0000
MCPLCY	70	10	1.0000
MCPLCY	70	11	1.0000
MCPLCY	70	12	1.0000
MCPLCY	71	1	1.0000
MCPLCY	71	2	1.0000
MCPLCY	71	3	1.0000
MCPLCY	71	4	1.0000
MCPLCY	71	5	1.0000
MCPLCY	71	6	1.0000
MCPLCY	71	7	1.0000
MCPLCY	71	8	1.0000
MCPLCY	71	9	1.0000
MCPLCY	71	10	1.0000
MCPLCY	71	11	1.0000
MCPLCY	71	12	1.0000
MCPLCY	72	1	1.0000
MCPLCY	72	2	1.0000
MCPLCY	72	3	1.0000
MCPLCY	72	4	1.0000
MCPLCY	72	5	1.0000
MCPLCY	72	6	1.0000
MCPLCY	72	7	1.0000
MCPLCY	72	8	1.0000
MCPLCY	72	9	1.0000
MCPLCY	72	10	1.0000
MCPLCY	72	11	1.0000
MCPLCY	72	12	1.0000
MCPLCY	73	1	1.0000
MCPLCY	73	2	1.0000
MCPLCY	73	3	1.0000
MCPLCY	73	4	1.0000
MCPLCY	73	5	1.0000
MCPLCY	73	6	1.0000
MCPLCY	73	7	1.0000
MCPLCY	73	8	0.0000
MCPLCY	73	9	0.0000
MCPLCY	73	10	0.0000
MCPLCY	73	11	0.0000
MCPLCY	73	12	0.0000

This variable is a dummy variable that is set to one when Marine Corps policy restricts recruitment of 17 year olds to Mental Category I-III, or to high school graduates.

ARMY POLICY VARIABLE RESTRICTING CATEGORY III HIGH SCHOOL DROPOUTS

NAME	YEAR	MON	VALUE
ARMYPLCY1	70	1	0.0000
ARMYPLCY1	70	2	0.0000
ARMYPLCY1	70	3	0.0000
ARMYPLCY1	70	4	0.0000
ARMYPLCY1	70	5	0.0000
ARMYPLCY1	70	6	0.0000
ARMYPLCY1	70	7	0.0000
ARMYPLCY1	70	8	0.0000
ARMYPLCY1	70	9	0.0000
ARMYPLCY1	70	10	0.0000
ARMYPLCY1	70	11	0.0000
ARMYPLCY1	70	12	0.0000
ARMYPLCY1	71	1	0.0000
ARMYPLCY1	71	2	0.0000
ARMYPLCY1	71	3	0.0000
ARMYPLCY1	71	4	0.0000
ARMYPLCY1	71	5	0.0000
ARMYPLCY1	71	6	0.0000
ARMYPLCY1	71	7	0.0000
ARMYPLCY1	71	8	0.0000
ARMYPLCY1	71	9	0.0000
ARMYPLCY1	71	10	1.0000
ARMYPLCY1	71	11	.9000
ARMYPLCY1	71	12	.8000
ARMYPLCY1	72	1	.7000
ARMYPLCY1	72	2	.6000
ARMYPLCY1	72	3	.3000
ARMYPLCY1	72	4	.3000
ARMYPLCY1	72	5	.3000
ARMYPLCY1	72	6	.3000
ARMYPLCY1	72	7	0.0000
ARMYPLCY1	72	8	0.0000
ARMYPLCY1	72	9	0.0000
ARMYPLCY1	72	10	0.0000
ARMYPLCY1	72	11	0.0000
ARMYPLCY1	72	12	0.0000
ARMYPLCY1	73	1	0.0000
ARMYPLCY1	73	2	0.0000
ARMYPLCY1	73	3	0.0000
ARMYPLCY1	73	4	0.0000
ARMYPLCY1	73	5	0.0000
ARMYPLCY1	73	6	0.0000
ARMYPLCY1	73	7	0.0000
ARMYPLCY1	73	8	0.0000
ARMYPLCY1	73	9	0.0000
ARMYPLCY1	73	10	0.0000
ARMYPLCY1	73	11	0.0000
ARMYPLCY1	73	12	0.0000

This variable is a dummy variable that is set during the time period when recruiter credit was not given for Category III non-high school enlistees and is set to zero otherwise. When set, it was initialized at 1 and phased down to 0.3 to represent the gradual withdrawal of the policy.

MAXIMUM HIGH SCHOOL GRADUATE RECRUITING POLICY

NAME	YEAR	MON	VALUE
HSPLCY	70	1	0.0000
HSPLCY	70	2	0.0000
HSPLCY	70	3	0.0000
HSPLCY	70	4	0.0000
HSPLCY	70	5	0.0000
HSPLCY	70	6	0.0000
HSPLCY	70	7	0.0000
HSPLCY	70	8	0.0000
HSPLCY	70	9	0.0000
HSPLCY	70	10	0.0000
HSPLCY	70	11	0.0000
HSPLCY	70	12	0.0000
HSPLCY	71	1	0.0000
HSPLCY	71	2	0.0000
HSPLCY	71	3	0.0000
HSPLCY	71	4	0.0000
HSPLCY	71	5	0.0000
HSPLCY	71	6	0.0000
HSPLCY	71	7	0.0000
HSPLCY	71	8	0.0000
HSPLCY	71	9	0.0000
HSPLCY	71	10	0.0000
HSPLCY	71	11	0.0000
HSPLCY	71	12	0.0000
HSPLCY	72	1	0.0000
HSPLCY	72	2	0.0000
HSPLCY	72	3	0.0000
HSPLCY	72	4	0.0000
HSPLCY	72	5	0.0000
HSPLCY	72	6	0.0000
HSPLCY	72	7	0.0000
HSPLCY	72	8	0.0000
HSPLCY	72	9	0.0000
HSPLCY	72	10	0.0000
HSPLCY	72	11	0.0000
HSPLCY	72	12	0.0000
HSPLCY	73	1	0.0000
HSPLCY	73	2	1.0000
HSPLCY	73	3	1.0000
HSPLCY	73	4	1.0000
HSPLCY	73	5	1.0000
HSPLCY	73	6	1.0000
HSPLCY	73	7	.7500
HSPLCY	73	8	.5000
HSPLCY	73	9	.2500
HSPLCY	73	10	0.0000
HSPLCY	73	11	0.0000
HSPLCY	73	12	0.0000

This variable is a dummy variable that is set to one when maximum high school graduate recruiting policy is in effect. The withdrawal of the policy is modeled by a ramp since a period of time is required for the rewriter to develop the non-high school market again.

AIR FORCE ADVERTISING PRINT MEDIA INSERTIONS -
NATIONAL CIRCULATION

NAME	MO	YR	VALUE
AFPRTMEDIA	1	71	1.
AFPRTMEDIA	2	71	1.
AFPRTMEDIA	3	71	3.
AFPRTMEDIA	4	71	3.
AFPRTMEDIA	5	71	8.
AFPRTMEDIA	6	71	6.
AFPRTMEDIA	7	71	8.
AFPRTMEDIA	8	71	3.
AFPRTMEDIA	9	71	5.
AFPRTMEDIA	10	71	5.
AFPRTMEDIA	11	71	15.
AFPRTMEDIA	12	71	4.
AFPRTMEDIA	1	72	3.
AFPRTMEDIA	2	72	19.
AFPRTMEDIA	3	72	10.
AFPRTMEDIA	4	72	17.
AFPRTMEDIA	5	72	16.
AFPRTMEDIA	6	72	17.
AFPRTMEDIA	7	72	6.
AFPRTMEDIA	8	72	6.
AFPRTMEDIA	9	72	12.
AFPRTMEDIA	10	72	10.
AFPRTMEDIA	11	72	12.
AFPRTMEDIA	12	72	6.
AFPRTMEDIA	1	73	16.
AFPRTMEDIA	2	73	30.
AFPRTMEDIA	3	73	51.
AFPRTMEDIA	4	73	35.
AFPRTMEDIA	5	73	33.
AFPRTMEDIA	6	73	17.
AFPRTMEDIA	7	73	10.
AFPRTMEDIA	8	73	13.
AFPRTMEDIA	9	73	48.
AFPRTMEDIA	10	73	41.
AFPRTMEDIA	11	73	25.
AFPRTMEDIA	12	73	15.
AFPRTMEDIA	1	74	29.
AFPRTMEDIA	2	74	33.
AFPRTMEDIA	3	74	45.
AFPRTMEDIA	4	74	68.
AFPRTMEDIA	5	74	58.
AFPRTMEDIA	6	74	35.
AFPRTMEDIA	7	74	14.
AFPRTMEDIA	8	74	11.
AFPRTMEDIA	9	74	64.
AFPRTMEDIA	10	74	67.
AFPRTMEDIA	11	74	45.
AFPRTMEDIA	12	74	30.

This variable is the number of media insertions placed in national circulation magazines. It includes advertising support for AFROTC, AF Reserve, and Air Force Academy. Source of the data is COL A. S. Ragen, Director of Advertising, HQ Air Training Command, Randolph Air Force Base, Texas.

ADVERTISING PRINT MEDIA INSERTIONS - NATIONAL CIRCULATION

NAME	YEAR	MON	VALUE
PRTMEDIA	70	1	9.0000
PRTMEDIA	70	2	15.0000
PRTMEDIA	70	3	8.0000
PRTMEDIA	70	4	14.0000
PRTMEDIA	70	5	10.0000
PRTMEDIA	70	6	3.0000
PRTMEDIA	70	7	2.0000
PRTMEDIA	70	8	3.0000
PRTMEDIA	70	9	17.0000
PRTMEDIA	70	10	19.0000
PRTMEDIA	70	11	16.0000
PRTMEDIA	70	12	4.0000
PRTMEDIA	71	1	17.0000
PRTMEDIA	71	2	23.0000
PRTMEDIA	71	3	38.0000
PRTMEDIA	71	4	10.0000
PRTMEDIA	71	5	7.0000
PRTMEDIA	71	6	14.0000
PRTMEDIA	71	7	0.0000
PRTMEDIA	71	8	17.0000
PRTMEDIA	71	9	20.0000
PRTMEDIA	71	10	28.0000
PRTMEDIA	71	11	34.0000
PRTMEDIA	71	12	17.0000
PRTMEDIA	72	1	30.0000
PRTMEDIA	72	2	28.0000
PRTMEDIA	72	3	28.0000
PRTMEDIA	72	4	32.0000
PRTMEDIA	72	5	27.0000
PRTMEDIA	72	6	25.0000
PRTMEDIA	72	7	23.0000
PRTMEDIA	72	8	20.0000
PRTMEDIA	72	9	22.0000
PRTMEDIA	72	10	32.0000
PRTMEDIA	72	11	23.0000
PRTMEDIA	72	12	18.0000
PRTMEDIA	73	1	19.0000
PRTMEDIA	73	2	16.0000
PRTMEDIA	73	3	23.0000
PRTMEDIA	73	4	23.0000
PRTMEDIA	73	5	24.0000
PRTMEDIA	73	6	19.0000
PRTMEDIA	73	7	15.0000
PRTMEDIA	73	8	30.0000
PRTMEDIA	73	9	50.0000
PRTMEDIA	73	10	47.0000
PRTMEDIA	73	11	52.0000
PRTMEDIA	73	12	36.0000

This variable is the number of media insertions placed in national circulation magazines plus the number of national newspaper campaigns. The source is N. W. Ayer Co., the Army advertising agency.

PAID TV ADVERTISEMENTS

NAME	YEAR	MON	VALUE
PAIDTV	70	1	0.0000
PAIDTV	70	2	0.0000
PAIDTV	70	3	0.0000
PAIDTV	70	4	0.0000
PAIDTV	70	5	0.0000
PAIDTV	70	6	0.0000
PAIDTV	70	7	0.0000
PAIDTV	70	8	0.0000
PAIDTV	70	9	0.0000
PAIDTV	70	10	0.0000
PAIDTV	70	11	0.0000
PAIDTV	70	12	0.0000
PAIDTV	71	1	0.0000
PAIDTV	71	2	0.0000
PAIDTV	71	3	46.0000
PAIDTV	71	4	62.0000
PAIDTV	71	5	50.0000
PAIDTV	71	6	0.0000
PAIDTV	71	7	0.0000
PAIDTV	71	8	0.0000
PAIDTV	71	9	0.0000
PAIDTV	71	10	0.0000
PAIDTV	71	11	0.0000
PAIDTV	71	12	0.0000
PAIDTV	72	1	0.0000
PAIDTV	72	2	0.0000
PAIDTV	72	3	0.0000
PAIDTV	72	4	0.0000
PAIDTV	72	5	0.0000
PAIDTV	72	6	0.0000
PAIDTV	72	7	0.0000
PAIDTV	72	8	0.0000
PAIDTV	72	9	0.0000
PAIDTV	72	10	0.0000
PAIDTV	72	11	0.0000
PAIDTV	72	12	0.0000
PAIDTV	73	1	0.0000
PAIDTV	73	2	0.0000
PAIDTV	73	3	0.0000
PAIDTV	73	4	0.0000
PAIDTV	73	5	0.0000
PAIDTV	73	6	0.0000
PAIDTV	73	7	0.0000
PAIDTV	73	8	0.0000
PAIDTV	73	9	0.0000
PAIDTV	73	10	0.0000
PAIDTV	73	11	0.0000
PAIDTV	73	12	0.0000

This variable measures the number of paid TV advertisements sponsored by the Army during their paid TV and radio advertising campaign. Source for the data is "Effectiveness of Modern Volunteer Army Advertising Program," prepared by Stanford Research Institute for OSAMVA, December 1971.

RECRUITING QUOTA FOR ARMY MINUS
DRAFT-MOTIVATED ENLISTEES

NAME	YEAR	MON	VALUE
AQOT-DM	70	1	0.0000
AQOT-DM	70	2	0.0000
AQOT-DM	70	3	0.0000
AQOT-DM	70	4	0.0000
AQOT-DM	70	5	0.0000
AQOT-DM	70	6	0.0000
AQOT-DM	70	7	9074.0000
AQOT-DM	70	8	7559.0000
AQOT-DM	70	9	6633.0000
AQOT-DM	70	10	7238.0000
AQOT-DM	70	11	7697.0000
AQOT-DM	70	12	4756.0000
AQOT-DM	71	1	9910.0000
AQOT-DM	71	2	9427.0000
AQOT-DM	71	3	7978.0000
AQOT-DM	71	4	7546.0000
AQOT-DM	71	5	6466.0000
AQOT-DM	71	6	10992.0000
AQOT-DM	71	7	11281.0000
AQOT-DM	71	8	11609.0000
AQOT-DM	71	9	13098.0000
AQOT-DM	71	10	9889.0000
AQOT-DM	71	11	10562.0000
AQOT-DM	71	12	10297.0000
AQOT-DM	72	1	11928.0000
AQOT-DM	72	2	13230.0000
AQOT-DM	72	3	13977.0000
AQOT-DM	72	4	10790.0000
AQOT-DM	72	5	8902.0000
AQOT-DM	72	6	16686.0000
AQOT-DM	72	7	15354.0000
AQOT-DM	72	8	14094.0000
AQOT-DM	72	9	14736.0000
AQOT-DM	72	10	12601.0000
AQOT-DM	72	11	12550.0000
AQOT-DM	72	12	12229.0000
AQOT-DM	73	1	16200.0000
AQOT-DM	73	2	11099.0000
AQOT-DM	73	3	9754.0000
AQOT-DM	73	4	8958.0000
AQOT-DM	73	5	8000.0000
AQOT-DM	73	6	16500.0000
AQOT-DM	73	7	17300.0000
AQOT-DM	73	8	17000.0000
AQOT-DM	73	9	17800.0000
AQOT-DM	73	10	16100.0000
AQOT-DM	73	11	12900.0000
AQOT-DM	73	12	11600.0000
AQOT-DM	74	1	18000.0000
AQOT-DM	74	2	14800.0000
AQOT-DM	74	3	14000.0000
AQOT-DM	74	4	14300.0000
AQOT-DM	74	5	13300.0000
AQOT-DM	74	6	17500.0000

This variable is the number of non-prior service males to be recruited each month by the Army minus the number of Army draft-motivated enlistees as estimated by the GRC maximum method. This variable is the GRC estimate of the demand for non-prior service male volunteers.

MONTHLY RECRUITING QUOTA FOR MALES IN ARMY

NAME	YEAR	MON	VALUE
QOTARMY	70	1	13.6000
QOTARMY	70	2	10.8000
QOTARMY	70	3	10.9000
QOTARMY	70	4	10.5000
QOTARMY	70	5	10.6000
QOTARMY	70	6	12.2000
QOTARMY	70	7	12.1000
QOTARMY	70	8	11.0000
QOTARMY	70	9	11.2000
QOTARMY	70	10	11.5000
QOTARMY	70	11	10.5000
QOTARMY	70	12	7.7000
QOTARMY	71	1	14.5000
QOTARMY	71	2	13.4000
QOTARMY	71	3	11.7000
QOTARMY	71	4	10.4000
QOTARMY	71	5	8.2300
QOTARMY	71	6	13.8000
QOTARMY	71	7	13.0000
QOTARMY	71	8	13.5000
QOTARMY	71	9	16.4000
QOTARMY	71	10	13.3000
QOTARMY	71	11	13.4000
QOTARMY	71	12	13.0000
QOTARMY	72	1	15.0000
QOTARMY	72	2	15.0000
QOTARMY	72	3	15.0000
QOTARMY	72	4	12.0000
QOTARMY	72	5	10.0000
QOTARMY	72	6	19.4000
QOTARMY	72	7	18.0000
QOTARMY	72	8	17.7000
QOTARMY	72	9	18.9000
QOTARMY	72	10	16.4000
QOTARMY	72	11	14.5000
QOTARMY	72	12	14.0000
QOTARMY	73	1	17.9000
QOTARMY	73	2	11.5000
QOTARMY	73	3	10.0000
QOTARMY	73	4	9.0000
QOTARMY	73	5	8.0000
QOTARMY	73	6	16.5000
QOTARMY	73	7	17.3000
QOTARMY	73	8	17.0000
QOTARMY	73	9	17.8000
QOTARMY	73	10	16.1000
QOTARMY	73	11	12.9000
QOTARMY	73	12	11.6000
QOTARMY	74	1	18.0000
QOTARMY	74	2	14.8000
QOTARMY	74	3	14.0000
QOTARMY	74	4	14.3000
QOTARMY	74	5	13.3000
QOTARMY	74	6	17.5000

This variable is the number of non-prior service males to be recruited each month by the Army. The quota is set by the Department of the Army. Source of the data is OASD(M&RA).

MONTHLY RECRUITING QUOTA FOR
MALES IN THE MARINE CORPS

NAME	YEAR	MON	VALUE
QOTMAR	70	1	5.1000
QOTMAR	70	2	5.8000
QOTMAR	70	3	3.6000
QOTMAR	70	4	3.6000
QOTMAR	70	5	3.6000
QOTMAR	70	6	5.0000
QOTMAR	70	7	5.7000
QOTMAR	70	8	6.7000
QOTMAR	70	9	6.7000
QOTMAR	70	10	4.5000
QOTMAR	70	11	4.5000
QOTMAR	70	12	3.6000
QOTMAR	71	1	5.0000
QOTMAR	71	2	4.3000
QOTMAR	71	3	3.2000
QOTMAR	71	4	3.2000
QOTMAR	71	5	3.0000
QOTMAR	71	6	3.8000
QOTMAR	71	7	5.5000
QOTMAR	71	8	5.6000
QOTMAR	71	9	5.3000
QOTMAR	71	10	4.2000
QOTMAR	71	11	3.8000
QOTMAR	71	12	3.6000
QOTMAR	72	1	4.6000
QOTMAR	72	2	4.9000
QOTMAR	72	3	5.9000
QOTMAR	72	4	5.1000
QOTMAR	72	5	4.4000
QOTMAR	72	6	6.5000
QOTMAR	72	7	6.0000
QOTMAR	72	8	6.0000
QOTMAR	72	9	5.7000
QOTMAR	72	10	4.4000
QOTMAR	72	11	3.7000
QOTMAR	72	12	3.6000
QOTMAR	73	1	5.0000
QOTMAR	73	2	4.1000
QOTMAR	73	3	3.4000
QOTMAR	73	4	3.0000
QOTMAR	73	5	3.2000
QOTMAR	73	6	5.6000
QOTMAR	73	7	5.7000
QOTMAR	73	8	5.7000
QOTMAR	73	9	6.5000
QOTMAR	73	10	5.2000
QOTMAR	73	11	4.4000
QOTMAR	73	12	4.1000
QOTMAR	74	1	5.0000
QOTMAR	74	2	4.5000
QOTMAR	74	3	4.2000
QOTMAR	74	4	3.5000
QOTMAR	74	5	4.0000
QOTMAR	74	6	6.1000

This variable is the number of non-prior service males to be recruited each month by the Marine Corps. The quota is set by the Commandant, Marine Corps. Source of the data is OASD (M&RA).

MARINE CORPS QUOTA MINUS
DRAFT-MOTIVATED ENLISTEES

NAME	YEAR	MON	VALUE
MCQOT-DM	70	1	0.0000
MCQOT-DM	70	2	0.0000
MCQOT-DM	70	3	0.0000
MCQOT-DM	70	4	0.0000
MCQOT-DM	70	5	0.0000
MCQOT-DM	70	6	0.0000
MCQOT-DM	70	7	5167.0000
MCQOT-DM	70	8	5948.0000
MCQOT-DM	70	9	5714.0000
MCQOT-DM	70	10	3837.0000
MCQOT-DM	70	11	4058.0000
MCQOT-DM	70	12	3103.0000
MCQOT-DM	71	1	4136.0000
MCQOT-DM	71	2	3663.0000
MCQOT-DM	71	3	2667.0000
MCQOT-DM	71	4	2820.0000
MCQOT-DM	71	5	2575.0000
MCQOT-DM	71	6	3404.0000
MCQOT-DM	71	7	5120.0000
MCQOT-DM	71	8	5188.0000
MCQOT-DM	71	9	4751.0000
MCQOT-DM	71	10	3637.0000
MCQOT-DM	71	11	3340.0000
MCQOT-DM	71	12	3364.0000.
MCQOT-DM	72	1	4086.0000
MCQOT-DM	72	2	4528.0000
MCQOT-DM	72	3	5664.0000
MCQOT-DM	72	4	4955.0000
MCQOT-DM	72	5	4228.0000
MCQOT-DM	72	6	6204.0000
MCQOT-DM	72	7	5747.0000
MCQOT-DM	72	8	5810.0000
MCQOT-DM	72	9	5252.0000
MCQOT-DM	72	10	4121.0000
MCQOT-DM	72	11	3535.0000
MCQOT-DM	72	12	3471.0000
MCQOT-DM	73	1	4695.0000
MCQOT-DM	73	2	3915.0000
MCQOT-DM	73	3	3364.0000
MCQOT-DM	73	4	2981.0000
MCQOT-DM	73	5	3194.0000
MCQOT-DM	73	6	5571.0000
MCQOT-DM	73	7	5700.0000
MCQOT-DM	73	8	5700.0000
MCQOT-DM	73	9	6500.0000
MCQOT-DM	73	10	5200.0000
MCQOT-DM	73	11	4400.0000
MCQOT-DM	73	12	4100.0000
MCQOT-DM	74	1	5000.0000
MCQOT-DM	74	2	4500.0000
MCQOT-DM	74	3	4200.0000
MCQOT-DM	74	4	3500.0000
MCQOT-DM	74	5	4000.0000
MCQOT-DM	74	6	6100.0000

This variable is the number of non-prior service males to be recruited each month by the Marine Corps minus the number of draft-motivated enlistees as estimated by the GRC maximum method. This variable is the GRC estimate of the demand for non-prior service male volunteers.

AIR FORCE RECRUITING QUOTA
MINUS DRAFT-MOTIVATED ENLISTEES

NAME	YEAR	MON	VALUE
AFQOT-DM	70	1	0.0000
AFQOT-DM	70	2	0.0000
AFQOT-DM	70	3	0.0000
AFQOT-DM	70	4	0.0000
AFQOT-DM	70	5	0.0000
AFQOT-DM	70	6	0.0000
AFQOT-DM	70	7	3945.0000
AFQOT-DM	70	8	3586.0000
AFQOT-DM	70	9	3699.0000
AFQOT-DM	70	10	4833.0000
AFQOT-DM	70	11	5122.0000
AFQOT-DM	70	12	4057.0000
AFQOT-DM	71	1	3992.0000
AFQOT-DM	71	2	4082.0000
AFQOT-DM	71	3	5883.0000
AFQOT-DM	71	4	6377.0000
AFQOT-DM	71	5	7617.0000
AFQOT-DM	71	6	7078.0000
AFQOT-DM	71	7	7655.0000
AFQOT-DM	71	8	7901.0000
AFQOT-DM	71	9	7240.0000
AFQOT-DM	71	10	5991.0000
AFQOT-DM	71	11	4431.0000
AFQOT-DM	71	12	4489.0000
AFQOT-DM	72	1	4181.0000
AFQOT-DM	72	2	3263.0000
AFQOT-DM	72	3	3888.0000
AFQOT-DM	72	4	4603.0000
AFQOT-DM	72	5	5773.0000
AFQOT-DM	72	6	5126.0000
AFQOT-DM	72	7	7853.0000
AFQOT-DM	72	8	7865.0000
AFQOT-DM	72	9	7120.0000
AFQOT-DM	72	10	7179.0000
AFQOT-DM	72	11	6700.0000
AFQOT-DM	72	12	3901.0000
AFQOT-DM	73	1	6879.0000
AFQOT-DM	73	2	6506.0000
AFQOT-DM	73	3	4848.0000
AFQOT-DM	73	4	4675.0000
AFQOT-DM	73	5	6000.0000
AFQOT-DM	73	6	7995.0000
AFQOT-DM	73	7	6900.0000
AFQOT-DM	73	8	6800.0000
AFQOT-DM	73	9	5600.0000
AFQOT-DM	73	10	5500.0000
AFQOT-DM	73	11	5000.0000
AFQOT-DM	73	12	3400.0000
AFQOT-DM	74	1	6500.0000
AFQOT-DM	74	2	5300.0000
AFQOT-DM	74	3	5300.0000
AFQOT-DM	74	4	5000.0000
AFQOT-DM	74	5	5100.0000
AFQOT-DM	74	6	5000.0000

This variable is the number of non-prior service males to be recruited each month by the Air Force minus the number of draft-motivated enlistees as estimated by the GRC maximum method. This variable is the GRC estimate of the demand for non-prior service male volunteers.

MONTHLY RECRUITING QUOTA FOR MALES IN AIR FORCE

NAME	YEAR	MON	VALUE
QOTAF	70	1	0.0000
QOTAF	70	2	4.7000
QOTAF	70	3	4.7000
QOTAF	70	4	4.8000
QOTAF	70	5	5.8000
QOTAF	70	6	7.2000
QOTAF	70	7	6.0000
QOTAF	70	8	6.0000
QOTAF	70	9	6.0000
QOTAF	70	10	7.7000
QOTAF	70	11	7.9000
QOTAF	70	12	6.8000
QOTAF	71	1	7.4000
QOTAF	71	2	7.2000
QOTAF	71	3	9.9000
QOTAF	71	4	9.5000
QOTAF	71	5	10.0000
QOTAF	71	6	9.0000
QOTAF	71	7	8.6000
QOTAF	71	8	9.4000
QOTAF	71	9	9.3000
QOTAF	71	10	8.5000
QOTAF	71	11	6.4000
QOTAF	71	12	5.8000
QOTAF	72	1	6.2000
QOTAF	72	2	4.5000
QOTAF	72	3	4.5000
QOTAF	72	4	5.3000
QOTAF	72	5	6.4000
QOTAF	72	6	6.1000
QOTAF	72	7	8.9000
QOTAF	72	8	9.1000
QOTAF	72	9	9.2000
QOTAF	72	10	8.7000
QOTAF	72	11	7.8000
QOTAF	72	12	4.6000
QOTAF	73	1	8.1000
QOTAF	73	2	6.8000
QOTAF	73	3	5.0000
QOTAF	73	4	4.7000
QOTAF	73	5	6.0000
QOTAF	73	6	8.0000
QOTAF	73	7	6.9000
QOTAF	73	8	6.8000
QOTAF	73	9	5.6000
QOTAF	73	10	5.5000
QOTAF	73	11	5.0000
QOTAF	73	12	3.4000
QOTAF	74	1	6.5000
QOTAF	74	2	5.3000
QOTAF	74	3	5.3000
QOTAF	74	4	5.0000
QOTAF	74	5	5.1000
QOTAF	74	6	5.8000

This variable is the number of non-prior service males to be recruited each month by the Air Force. The quota is set by the Department of the Air Force. Source of the data is OASD(M&RA).

NAVY QUOTA INCREASES

NAME	PO	YP	VALUE
NAVQOTINC	1	70	0.
NAVQOTINC	2	70	0.
NAVQOTINC	3	70	0.
NAVQOTINC	4	70	0.
NAVQOTINC	5	70	0.
NAVQOTINC	6	70	0.
NAVQOTINC	7	70	0.
NAVQOTINC	8	70	0.
NAVQOTINC	9	70	0.
NAVQOTINC	10	70	0.
NAVQOTINC	11	70	0.
NAVQOTINC	12	70	0.
NAVQOTINC	1	71	0.
NAVQOTINC	2	71	0.
NAVQOTINC	3	71	0.
NAVQOTINC	4	71	0.
NAVQOTINC	5	71	0.
NAVQOTINC	6	71	0.
NAVQOTINC	7	71	0.
NAVQOTINC	8	71	0.
NAVQOTINC	9	71	0.
NAVQOTINC	10	71	0.
NAVQOTINC	11	71	0.
NAVQOTINC	12	71	0.
NAVQOTINC	1	72	0.
NAVQOTINC	2	72	0.
NAVQOTINC	3	72	0.
NAVQOTINC	4	72	0.
NAVQOTINC	5	72	0.
NAVQOTINC	6	72	1.0
NAVQOTINC	7	72	1.0
NAVQOTINC	8	72	1.0
NAVQOTINC	9	72	1.0
NAVQOTINC	10	72	0.
NAVQOTINC	11	72	0.
NAVQOTINC	12	72	0.
NAVQOTINC	1	73	0.
NAVQOTINC	2	73	0.
NAVQOTINC	3	73	0.
NAVQOTINC	4	73	0.
NAVQOTINC	5	73	0.
NAVQOTINC	6	73	0.
NAVQOTINC	7	73	0.
NAVQOTINC	8	73	0.
NAVQOTINC	9	73	0.
NAVQOTINC	10	73	0.
NAVQOTINC	11	73	0.
NAVQOTINC	12	73	0.

This variable is a dummy variable that is set to one when the Navy quota is increased suddenly.

NAVY RECRUITING QUOTA
MINUS DRAFT-MOTIVATED ENLISTEES

NAME	YEAR	MON	VALUE
NQOT-DM	70	1	0.0000
NQOT-DM	70	2	0.0000
NQOT-DM	70	3	0.0000
NQOT-DM	70	4	0.0000
NQOT-DM	70	5	0.0000
NQOT-DM	70	6	0.0000
NQOT-DM	70	7	6943.0000
NQOT-DM	70	8	6061.0000
NQOT-DM	70	9	3122.0000
NQOT-DM	70	10	3112.0000
NQOT-DM	70	11	3394.0000
NQOT-DM	70	12	3035.0000
NQOT-DM	71	1	5495.0000
NQOT-DM	71	2	5464.0000
NQOT-DM	71	3	4683.0000
NQOT-DM	71	4	3215.0000
NQOT-DM	71	5	2266.0000
NQOT-DM	71	6	5761.0000
NQOT-DM	71	7	7155.0000
NQOT-DM	71	8	8904.0000
NQOT-DM	71	9	7412.0000
NQOT-DM	71	10	7057.0000
NQOT-DM	71	11	7526.0000
NQOT-DM	71	12	8275.0000
NQOT-DM	72	1	3610.0000
NQOT-DM	72	2	6783.0000
NQOT-DM	72	3	6978.0000
NQOT-DM	72	4	7015.0000
NQOT-DM	72	5	7188.0000
NQOT-DM	72	6	12784.0000
NQOT-DM	72	7	13063.0000
NQOT-DM	72	8	13358.0000
NQOT-DM	72	9	12339.0000
NQOT-DM	72	10	6897.0000
NQOT-DM	72	11	6434.0000
NQOT-DM	72	12	4393.0000
NQOT-DM	73	1	4152.0000
NQOT-DM	73	2	4112.0000
NQOT-DM	73	3	4405.0000
NQOT-DM	73	4	4199.0000
NQOT-DM	73	5	4480.0000
NQOT-DM	73	6	14189.0000
NQOT-DM	73	7	8100.0000
NQOT-DM	73	8	8100.0000
NQOT-DM	73	9	8300.0000
NQOT-DM	73	10	5000.0000
NQOT-DM	73	11	4600.0000
NQOT-DM	73	12	4000.0000
NQOT-DM	74	1	9100.0000
NQOT-DM	74	2	6000.0000
NQOT-DM	74	3	5300.0000
NQOT-DM	74	4	3500.0000
NQOT-DM	74	5	3300.0000
NQOT-DM	74	6	9900.0000

This variable is the number of non-prior service males to be recruited each month by the Navy minus the number of Navy draft-motivated enlistees as estimated by the GRC maximum method. This variable is the GRC estimate of the demand for non-prior service male volunteers.

MONTHLY RECRUITING QUOTA FOR MALES
IN NAVY

NAME	YEAR	MON	VALUE
QOTNAVY	70	1	9.8000
QOTNAVY	70	2	9.5000
QOTNAVY	70	3	7.2000
QOTNAVY	70	4	6.5000
QOTNAVY	70	5	6.0000
QOTNAVY	70	6	6.5000
QOTNAVY	70	7	9.0000
QOTNAVY	70	8	8.0000
QOTNAVY	70	9	5.0000
QOTNAVY	70	10	5.0000
QOTNAVY	70	11	5.0000
QOTNAVY	70	12	4.5000
QOTNAVY	71	1	8.2000
QOTNAVY	71	2	7.5000
QOTNAVY	71	3	6.5000
QOTNAVY	71	4	4.5000
QOTNAVY	71	5	3.5000
QOTNAVY	71	6	7.3000
QOTNAVY	71	7	8.3000
QOTNAVY	71	8	10.3000
QOTNAVY	71	9	8.8000
QOTNAVY	71	10	8.8000
QOTNAVY	71	11	8.5000
QOTNAVY	71	12	9.0000
QOTNAVY	72	1	9.7000
QOTNAVY	72	2	7.4000
QOTNAVY	72	3	7.4000
QOTNAVY	72	4	7.5000
QOTNAVY	72	5	7.5000
QOTNAVY	72	6	13.8000
QOTNAVY	72	7	14.2000
QOTNAVY	72	8	14.6000
QOTNAVY	72	9	13.9000
QOTNAVY	72	10	8.1000
QOTNAVY	72	11	7.4000
QOTNAVY	72	12	4.8000
QOTNAVY	73	1	5.0000
QOTNAVY	73	2	4.5000
QOTNAVY	73	3	4.5000
QOTNAVY	73	4	4.2000
QOTNAVY	73	5	4.5000
QOTNAVY	73	6	14.2000
QOTNAVY	73	7	8.1000
QOTNAVY	73	8	8.1000
QOTNAVY	73	9	8.3000
QOTNAVY	73	10	5.0000
QOTNAVY	73	11	4.6000
QOTNAVY	73	12	4.0000
QOTNAVY	74	1	9.1000
QOTNAVY	74	2	6.0000
QOTNAVY	74	3	5.3000
QOTNAVY	74	4	3.5000
QOTNAVY	74	5	3.3000
QOTNAVY	74	6	9.9000

This variable is the number of non-prior service males to be recruited each month by the Navy. The quota is set by the Department of the Navy. Source of the data is OASD(M&RA).

DOD RECRUITING QUOTA MINUS DRAFT-MOTIVATED ENLISTEES

NAME	YEAR	MON	VALUE
DDQDT-DM	70	1	0.0000
DDQDT-DM	70	2	0.0000
DDQDT-DM	70	3	0.0000
DDQDT-DM	70	4	0.0000
DDQDT-DM	70	5	0.0000
DDQDT-DM	70	6	0.0000
DDQDT-DM	70	7	25129.0000
DDQDT-DM	70	8	23154.0000
DDQDT-DM	70	9	13168.0000
DDQDT-DM	70	10	16990.0000
DDQDT-DM	70	11	20271.0000
DDQDT-DM	70	12	14951.0000
DDQDT-DM	71	1	23533.0000
DDQDT-DM	71	2	22636.0000
DDQDT-DM	71	3	21211.0000
DDQDT-DM	71	4	19958.0000
DDQDT-DM	71	5	18918.0000
DDQDT-DM	71	6	27225.0000
DDQDT-DM	71	7	31211.0000
DDQDT-DM	71	8	33602.0000
DDQDT-DM	71	9	32501.0000
DDQDT-DM	71	10	26574.0000
DDQDT-DM	71	11	25859.0000
DDQDT-DM	71	12	26425.0000
DDQDT-DM	72	1	28805.0000
DDQDT-DM	72	2	27804.0000
DDQDT-DM	72	3	31507.0000
DDQDT-DM	72	4	27363.0000
DDQDT-DM	72	5	26091.0000
DDQDT-DM	72	6	40800.0000
DDQDT-DM	72	7	42117.0000
DDQDT-DM	72	8	41127.0000
DDQDT-DM	72	9	39387.0000
DDQDT-DM	72	10	30798.0000
DDQDT-DM	72	11	29219.0000
DDQDT-DM	72	12	23984.0000
DDQDT-DM	73	1	31926.0000
DDQDT-DM	73	2	25622.0000
DDQDT-DM	73	3	22371.0000
DDQDT-DM	73	4	20813.0000
DDQDT-DM	73	5	21674.0000
DDQDT-DM	73	6	44255.0000
DDQDT-DM	73	7	38300.0000
DDQDT-DM	73	8	37600.0000
DDQDT-DM	73	9	38200.0000
DDQDT-DM	73	10	31400.0000
DDQDT-DM	73	11	26900.0000
DDQDT-DM	73	12	23100.0000
DDQDT-DM	74	1	38600.0000
DDQDT-DM	74	2	30600.0000
DDQDT-DM	74	3	28800.0000
DDQDT-DM	74	4	26300.0000
DDQDT-DM	74	5	25700.0000
DDQDT-DM	74	6	39300.0000

This variable is the number of non-prior service males to be recruited each month by DOD minus the number of DOD draft-motivated enlistees as estimated by the GRC maximum method. This variable is the GRC estimate of the DOD recruiting quota for non-prior service male volunteers and provides a quantitative estimate of the demand for volunteer enlistees in DOD.

MONTHLY RECRUITING QUOTA FOR MALES IN DOD

NAME	YEAR	MON	VALUE
QOTDOD	70	1	33.3000
QOTDOD	70	2	30.8000
QOTDOD	70	3	26.4000
QOTDOD	70	4	25.4000
QOTDOD	70	5	26.0000
QOTDOD	70	6	30.9000
QOTDOD	70	7	32.8000
QOTDOD	70	8	31.7000
QOTDOD	70	9	28.9000
QOTDOD	70	10	28.7000
QOTDOD	70	11	27.9000
QOTDOD	70	12	22.6000
QOTDOD	71	1	34.9000
QOTDOD	71	2	32.4000
QOTDOD	71	3	31.3000
QOTDOD	71	4	27.6000
QOTDOD	71	5	24.7000
QOTDOD	71	6	33.6000
QOTDOD	71	7	35.4000
QOTDOD	71	8	38.8000
QOTDOD	71	9	39.8000
QOTDOD	71	10	34.8000
QOTDOD	71	11	32.1000
QOTDOD	71	12	31.4000
QOTDOD	72	1	35.5000
QOTDOD	72	2	31.8000
QOTDOD	72	3	32.8000
QOTDOD	72	4	29.9000
QOTDOD	72	5	28.3000
QOTDOD	72	6	45.8000
QOTDOD	72	7	47.1000
QOTDOD	72	8	47.4000
QOTDOD	72	9	47.7000
QOTDOD	72	10	37.6000
QOTDOD	72	11	33.4000
QOTDOD	72	12	26.9000
QOTDOD	73	1	36.0000
QOTDOD	73	2	26.9000
QOTDOD	73	3	23.0000
QOTDOD	73	4	20.9000
QOTDOD	73	5	21.7000
QOTDOD	73	6	44.3000
QOTDOD	73	7	38.0000
QOTDOD	73	8	37.6000
QOTDOD	73	9	38.2000
QOTDOD	73	10	31.8000
QOTDOD	73	11	26.9000
QOTDOD	73	12	23.1000
QOTDOD	74	1	38.6000
QOTDOD	74	2	30.6000
QOTDOD	74	3	28.8000
QOTDOD	74	4	26.3000
QOTDOD	74	5	25.7000
QOTDOD	74	6	39.3000

This variable is the number of non-prior service males to be recruited each month by DOD. It is the sum of the quotas set by each Service — Army, Navy, Air Force, and Marine Corps. The source of the data is OASD(M&RA).

MARINE CORPS CASUALTIES KILLED
IN HOSTILE ACTION

NAME	MO	YR	VALUE
KIA MAR	1	70	62.
KIA MAR	2	70	91.
KIA MAR	3	70	55.
KIA MAR	4	70	54.
KIA MAR	5	70	39.
KIA MAR	6	70	69.
KIA MAR	7	70	27.
KIA MAR	8	70	46.
KIA MAR	9	70	29.
KIA MAR	10	70	23.
KIA MAR	11	70	27.
KIA MAR	12	70	16.
KIA MAR	1	71	18.
KIA MAR	2	71	9.
KIA MAR	3	71	8.
KIA MAR	4	71	2.
KIA MAR	5	71	0.
KIA MAR	6	71	1.
KIA MAR	7	71	0.
KIA MAR	8	71	0.
KIA MAR	9	71	1.
KIA MAR	10	71	1.
KIA MAR	11	71	0.
KIA MAR	12	71	1.
KIA MAR	1	72	0.
KIA MAR	2	72	0.
KIA MAR	3	72	1.
KIA MAR	4	72	0.
KIA MAR	5	72	0.
KIA MAR	6	72	3.
KIA MAR	7	72	5.
KIA MAR	8	72	1.
KIA MAR	9	72	0.
KIA MAR	10	72	1.
KIA MAR	11	72	0.
KIA MAR	12	72	0.
KIA MAR	1	73	1.
KIA MAR	2	73	0.
KIA MAR	3	73	0.
KIA MAR	4	73	2.
KIA MAR	5	73	1.
KIA MAR	6	73	1.
KIA MAR	7	73	0.
KIA MAR	8	73	0.
KIA MAR	9	73	0.
KIA MAR	10	73	2.
KIA MAR	11	73	4.
KIA MAR	12	73	3.
KIA MAR	1	74	0.
KIA MAR	2	74	0.
KIA MAR	3	74	0.

This time series is the number of Marine Corps casualties killed in hostile action each month in Vietnam. Source of the data is COL B. F. Read, Jr., MPP-48-sat.

AIR FORCE CASUALTIES KILLED
IN HOSTILE ACTION

NAME	MO	YR	VALUE
KIA AF	1	70	10.
KIA AF	2	70	2.
KIA AF	3	70	11.
KIA AF	4	70	23.
KIA AF	5	70	6.
KIA AF	6	70	11.
KIA AF	7	70	4.
KIA AF	8	70	11.
KIA AF	9	70	0.
KIA AF	10	70	3.
KIA AF	11	70	6.
KIA AF	12	70	5.
KIA AF	1	71	2.
KIA AF	2	71	8.
KIA AF	3	71	6.
KIA AF	4	71	3.
KIA AF	5	71	0.
KIA AF	6	71	2.
KIA AF	7	71	5.
KIA AF	8	71	2.
KIA AF	9	71	2.
KIA AF	10	71	3.
KIA AF	11	71	5.
KIA AF	12	71	4.
KIA AF	1	72	0.
KIA AF	2	72	1.
KIA AF	3	72	8.
KIA AF	4	72	15.
KIA AF	5	72	20.
KIA AF	6	72	20.
KIA AF	7	72	6.
KIA AF	8	72	11.
KIA AF	9	72	6.
KIA AF	10	72	2.
KIA AF	11	72	2.
KIA AF	12	72	16.
KIA AF	1	73	8.
KIA AF	2	73	8.
KIA AF	3	73	8.
KIA AF	4	73	20.
KIA AF	5	73	15.
KIA AF	6	73	19.
KIA AF	7	73	16.
KIA AF	8	73	1.
KIA AF	9	73	9.
KIA AF	10	73	15.
KIA AF	11	73	22.
KIA AF	12	73	2.

This time series is the number of Marine Corps casualties killed in hostile action each month in Vietnam. Source of the data is LTC Radke, AF/DPXOV.

NAVY CASUALTIES KILLED IN HOSTILE ACTION

NAME	MO	YR	VALUE
KIA N	1	70	10.
KIA N	2	70	10.
KIA N	3	70	6.
KIA N	4	70	8.
KIA N	5	70	5.
KIA N	6	70	9.
KIA N	7	70	5.
KIA N	8	70	5.
KIA N	9	70	8.
KIA N	10	70	7.
KIA N	11	70	2.
KIA N	12	70	13.
KIA N	1	71	7.
KIA N	2	71	3.
KIA N	3	71	3.
KIA N	4	71	2.
KIA N	5	71	0.
KIA N	6	71	0.
KIA N	7	71	0.
KIA N	8	71	0.
KIA N	9	71	5.
KIA N	10	71	1.
KIA N	11	71	0.
KIA N	12	71	0.
KIA N	1	72	0.
KIA N	2	72	2.
KIA N	3	72	0.
KIA N	4	72	7.
KIA N	5	72	2.
KIA N	6	72	3.
KIA N	7	72	2.
KIA N	9	72	2.
KIA N	9	72	0.
KIA N	10	72	26.
KIA N	11	72	0.
KIA N	12	72	3.
KIA N	1	73	1.
KIA N	2	73	0.
KIA N	3	73	0.
KIA N	4	73	5.
KIA N	5	73	17.
KIA N	6	73	3.
KIA N	7	73	0.
KIA N	8	73	0.
KIA N	9	73	1.
KIA N	10	73	7.
KIA N	11	73	9.
KIA N	12	73	1.

This time series is the number of Navy casualties killed in hostile action each month in Vietnam. Source of the data is OSD, Directorate for Information Services.

VIETNAM CASUALTIES

NAME	MO	YR	VALUE
VIETNAM	1	70	269.0
VIETNAM	2	70	293.0
VIETNAM	3	70	364.0
VIETNAM	4	70	453.0
VIETNAM	5	70	693.0
VIETNAM	6	70	337.0
VIETNAM	7	70	293.0
VIETNAM	8	70	263.0
VIETNAM	9	70	176.0
VIETNAM	10	70	139.0
VIETNAM	11	70	132.0
VIETNAM	12	70	109.0
VIETNAM	1	71	113.0
VIETNAM	2	71	201.0
VIETNAM	3	71	256.0
VIETNAM	4	71	214.0
VIETNAM	5	71	134.0
VIETNAM	6	71	105.0
VIETNAM	7	71	59.0
VIETNAM	8	71	64.0
VIETNAM	9	71	68.0
VIETNAM	10	71	25.0
VIETNAM	11	71	16.0
VIETNAM	12	71	14.0
VIETNAM	1	72	16.0
VIETNAM	2	72	15.0
VIETNAM	3	72	11.0
VIETNAM	4	72	30.0
VIETNAM	5	72	24.0
VIETNAM	6	72	18.0
VIETNAM	7	72	27.0
VIETNAM	8	72	4.0
VIETNAM	9	72	2.0
VIETNAM	10	72	21.0
VIETNAM	11	72	3.0
VIETNAM	12	72	1.0
VIETNAM	1	73	3.0
VIETNAM	2	73	1.0
VIETNAM	3	73	0.0
VIETNAM	4	73	17.0
VIETNAM	5	73	5.0
VIETNAM	6	73	0.0
VIETNAM	7	73	0.0
VIETNAM	8	73	1.0
VIETNAM	9	73	0.0
VIETNAM	10	73	3.0
VIETNAM	11	73	3.0
VIETNAM	12	73	3.0

This variable is the number of Army casualties killed in hostile action each month in Vietnam. Source of the data is AGO.

CATEGORY I DOD VOLUNTEERS WHO ARE

HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D1HS	70	1	0.0000
D1HS	70	2	0.0000
D1HS	70	3	0.0000
D1HS	70	4	0.0000
D1HS	70	5	0.0000
D1HS	70	6	0.0000
D1HS	70	7	730.0000
D1HS	70	8	715.0000
D1HS	70	9	686.0000
D1HS	70	10	693.0000
D1HS	70	11	586.0000
D1HS	70	12	514.0000
D1HS	71	1	669.0000
D1HS	71	2	681.0000
D1HS	71	3	547.0000
D1HS	71	4	512.0000
D1HS	71	5	393.0000
D1HS	71	6	741.0000
D1HS	71	7	748.0000
D1HS	71	8	827.0000
D1HS	71	9	851.0000
D1HS	71	10	825.0000
D1HS	71	11	630.0000
D1HS	71	12	569.0000
D1HS	72	1	938.0000
D1HS	72	2	723.0000
D1HS	72	3	696.0000
D1HS	72	4	593.0000
D1HS	72	5	559.0000
D1HS	72	6	890.0000
D1HS	72	7	857.0000
D1HS	72	8	1111.0000
D1HS	72	9	1170.0000
D1HS	72	10	947.0000
D1HS	72	11	797.0000
D1HS	72	12	613.0000
D1HS	73	1	899.0000
D1HS	73	2	756.0000
D1HS	73	3	661.0000
D1HS	73	4	514.0000
D1HS	73	5	593.0000
D1HS	73	6	940.0000
D1HS	73	7	780.0000
D1HS	73	8	886.0000
D1HS	73	9	872.0000
D1HS	73	10	775.0000
D1HS	73	11	537.0000
D1HS	73	12	366.0000

This time series is the number of Category I DOD volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II DOD VOLUNTEERS WHO ARE
HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D12HS	70	1	9618.0000
D12HS	70	2	7482.0000
D12HS	70	3	5311.0000
D12HS	70	4	3484.0000
D12HS	70	5	3214.0000
D12HS	70	6	6257.0000
D12HS	70	7	6152.0000
D12HS	70	8	5945.0000
D12HS	70	9	5602.0000
D12HS	70	10	5416.0000
D12HS	70	11	4797.0000
D12HS	70	12	3795.0000
D12HS	71	1	5482.0000
D12HS	71	2	4887.0000
D12HS	71	3	4699.0000
D12HS	71	4	3774.0000
D12HS	71	5	3310.0000
D12HS	71	6	7332.0000
D12HS	71	7	7274.0000
D12HS	71	8	8255.0000
D12HS	71	9	7617.0000
D12HS	71	10	6437.0000
D12HS	71	11	5194.0000
D12HS	71	12	4500.0000
D12HS	72	1	6711.0000
D12HS	72	2	5388.0000
D12HS	72	3	5061.0000
D12HS	72	4	4487.0000
D12HS	72	5	4440.0000
D12HS	72	6	8700.0000
D12HS	72	7	8659.0000
D12HS	72	8	9694.0000
D12HS	72	9	9849.0000
D12HS	72	10	7513.0000
D12HS	72	11	6593.0000
D12HS	72	12	4695.0000
D12HS	73	1	7339.0000
D12HS	73	2	6201.0000
D12HS	73	3	5429.0000
D12HS	73	4	4276.0000
D12HS	73	5	4689.0000
D12HS	73	6	10387.0000
D12HS	73	7	8206.0000
D12HS	73	8	9064.0000
D12HS	73	9	9014.0000
D12HS	73	10	7227.0000
D12HS	73	11	5740.0000
D12HS	73	12	4215.0000
D12HS	74	1	8290.0000
D12HS	74	2	6506.0000
D12HS	74	3	5921.0000

This time series is the number of Category I, II DOD volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes drafted volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III DOD VOLUNTEERS

NAME	YEAR	MON	VALUE
123110	70	1	24544.7000
123110	70	2	20505.7000
123110	70	3	16035.6000
123110	70	4	12928.4000
123110	70	5	11779.2000
123110	70	6	20381.0000
123110	70	7	20334.1000
123110	70	8	19144.9000
123110	70	9	17327.9000
123110	70	10	16328.6000
123110	70	11	15642.9000
123110	70	12	13233.2000
123110	71	1	19595.7000
123110	71	2	17520.7000
123110	71	3	17714.8000
123110	71	4	14742.1000
123110	71	5	13225.2000
123110	71	6	24938.8000
123110	71	7	24018.6000
123110	71	8	26682.3000
123110	71	9	24582.6000
123110	71	10	19361.8000
123110	71	11	17540.3000
123110	71	12	16191.3000
123110	72	1	22533.9000
123110	72	2	18391.4000
123110	72	3	19297.8000
123110	72	4	17668.2000
123110	72	5	18618.3000
123110	72	6	30166.6000
123110	72	7	31750.0000
123110	72	8	32743.0000
123110	72	9	33008.0000
123110	72	10	26853.0000
123110	72	11	24478.0000
123110	72	12	19653.0000
123110	73	1	27693.0000
123110	73	2	21146.0000
123110	73	3	17586.0000
123110	73	4	14710.0000
123110	73	5	17468.0000
123110	73	6	34274.0000
123110	73	7	27512.0000
123110	73	8	30635.0000
123110	73	9	29666.0000
123110	73	10	25893.0000
123110	73	11	24594.0000
123110	73	12	19877.0000

This time series is the number of Category I, II, III DOD volunteers as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs.

CATEGORY I, II, III DOD VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D123HS	70	1	16954.0000
D123HS	70	2	13363.0000
D123HS	70	3	9715.0000
D123HS	70	4	7064.0000
D123HS	70	5	6629.0000
D123HS	70	6	12711.0000
D123HS	70	7	12690.0000
D123HS	70	8	12274.0000
D123HS	70	9	11069.0000
D123HS	70	10	10778.0000
D123HS	70	11	9529.0000
D123HS	70	12	7753.0000
D123HS	71	1	11174.0000
D123HS	71	2	9955.0000
D123HS	71	3	9783.0000
D123HS	71	4	7873.0000
D123HS	71	5	7128.0000
D123HS	71	6	17024.0000
D123HS	71	7	16668.0000
D123HS	71	8	18334.0000
D123HS	71	9	16772.0000
D123HS	71	10	13869.0000
D123HS	71	11	11224.0000
D123HS	71	12	9953.0000
D123HS	72	1	14047.0000
D123HS	72	2	11580.0000
D123HS	72	3	10356.0000
D123HS	72	4	9435.0000
D123HS	72	5	10256.0000
D123HS	72	6	23841.0000
D123HS	72	7	20293.0000
D123HS	72	8	21133.0000
D123HS	72	9	21020.0000
D123HS	72	10	16333.0000
D123HS	72	11	14039.0000
D123HS	72	12	9984.0000
D123HS	73	1	14975.0000
D123HS	73	2	13495.0000
D123HS	73	3	11420.0000
D123HS	73	4	9032.0000
D123HS	73	5	10764.0000
D123HS	73	6	26431.0000
D123HS	73	7	19747.0000
D123HS	73	8	20702.0000
D123HS	73	9	19452.0000
D123HS	73	10	15258.0000
D123HS	73	11	12806.0000
D123HS	73	12	9517.0000

This time series is the number of Category I, II, III DOD volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III DOD BLACK
VOLUNTEERS WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D123BHS	70	1	877.2000
D123BHS	70	2	706.8000
D123BHS	70	3	584.0000
D123BHS	70	4	480.4000
D123BHS	70	5	504.7000
D123BHS	70	6	646.1000
D123BHS	70	7	700.4000
D123BHS	70	8	684.3000
D123BHS	70	9	613.5000
D123BHS	70	10	841.4000
D123BHS	70	11	991.4000
D123BHS	70	12	732.8000
D123BHS	71	1	971.1000
D123BHS	71	2	934.6000
D123BHS	71	3	972.4000
D123BHS	71	4	956.3000
D123BHS	71	5	899.4000
D123BHS	71	6	1633.4000
D123BHS	71	7	1638.3000
D123BHS	71	8	1855.1000
D123BHS	71	9	1728.8000
D123BHS	71	10	1539.2000
D123BHS	71	11	1145.5000
D123BHS	71	12	1113.5000
D123BHS	72	1	1476.6000
D123BHS	72	2	1334.1000
D123BHS	72	3	1213.3000
D123BHS	72	4	1206.4000
D123BHS	72	5	1549.7000
D123BHS	72	6	2519.5000
D123BHS	72	7	2075.7000
D123BHS	72	8	2192.0000
D123BHS	72	9	1767.2000
D123BHS	72	10	1252.9000
D123BHS	72	11	1738.2000
D123BHS	72	12	4371.9000
D123BHS	73	1	2075.7000
D123BHS	73	2	2192.0000
D123BHS	73	3	1767.2000
D123BHS	73	4	1252.9000
D123BHS	73	5	1738.2000
D123BHS	73	6	4371.9000
D123BHS	73	7	3395.1000
D123BHS	73	8	3311.8000
D123BHS	73	9	2858.5000
D123BHS	73	10	2423.0000
D123BHS	73	11	2225.5000
D123BHS	73	12	1790.8000

This time series is the number of Category I, II, III DOD black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III, IV DOD VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D1234HS	70	1	19473.0000
D1234HS	70	2	15678.0000
D1234HS	70	3	11685.0000
D1234HS	70	4	9634.0000
D1234HS	70	5	8226.0000
D1234HS	70	6	15240.0000
D1234HS	70	7	15293.0000
D1234HS	70	8	14666.0000
D1234HS	70	9	13162.0000
D1234HS	70	10	13006.0000
D1234HS	70	11	11645.0000
D1234HS	70	12	9407.0000
D1234HS	71	1	13522.0000
D1234HS	71	2	12131.0000
D1234HS	71	3	12035.0000
D1234HS	71	4	9734.0000
D1234HS	71	5	8775.0000
D1234HS	71	6	20831.0000
D1234HS	71	7	19906.0000
D1234HS	71	8	21628.0000
D1234HS	71	9	19467.0000
D1234HS	71	10	15823.0000
D1234HS	71	11	12936.0000
D1234HS	71	12	12325.0000
D1234HS	72	1	16524.0000
D1234HS	72	2	12963.0000
D1234HS	72	3	12587.0000
D1234HS	72	4	11237.0000
D1234HS	72	5	12000.0000
D1234HS	72	6	25458.0000
D1234HS	72	7	24029.0000
D1234HS	72	8	25210.0000
D1234HS	72	9	24625.0000
D1234HS	72	10	18931.0000
D1234HS	72	11	15711.0000
D1234HS	72	12	11343.0000
D1234HS	73	1	16936.0000
D1234HS	73	2	15318.0000
D1234HS	73	3	12594.0000
D1234HS	73	4	9862.0000
D1234HS	73	5	11737.0000
D1234HS	73	6	28891.0000
D1234HS	73	7	22531.0000
D1234HS	73	8	22650.0000
D1234HS	73	9	21125.0000
D1234HS	73	10	16588.0000
D1234HS	73	11	13750.0000
D1234HS	73	12	10242.0000

This time series is the number of Category I, II, III, IV DOD volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III, IV DOD BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
D1234BHS	70	1	1752.6000
D1234BHS	70	2	1567.2000
D1234BHS	70	3	1317.8000
D1234BHS	70	4	1329.8000
D1234BHS	70	5	1059.4000
D1234BHS	70	6	1385.6000
D1234BHS	70	7	1452.2000
D1234BHS	70	8	1441.3000
D1234BHS	70	9	1249.1000
D1234BHS	70	10	1799.6000
D1234BHS	70	11	1732.8000
D1234BHS	70	12	1499.2000
D1234BHS	71	1	1983.5000
D1234BHS	71	2	1895.1000
D1234BHS	71	3	1966.2000
D1234BHS	71	4	1981.8000
D1234BHS	71	5	1662.8000
D1234BHS	71	6	3141.9000
D1234BHS	71	7	3144.3000
D1234BHS	71	8	3415.9000
D1234BHS	71	9	2993.1000
D1234BHS	71	10	2481.1000
D1234BHS	71	11	1792.9000
D1234BHS	71	12	2246.3000
D1234BHS	72	1	2625.4000
D1234BHS	72	2	2284.7000
D1234BHS	72	3	2397.5000
D1234BHS	72	4	2095.7000
D1234BHS	72	5	2334.1000
D1234BHS	72	6	4696.7000
D1234BHS	72	7	3356.2000
D1234BHS	72	8	3004.4000
D1234BHS	72	9	2339.0000
D1234BHS	72	10	1678.9000
D1234BHS	72	11	2334.0000
D1234BHS	72	12	5628.4000
D1234BHS	73	1	3066.2000
D1234BHS	73	2	3334.4000
D1234BHS	73	3	2339.0000
D1234BHS	73	4	1678.9000
D1234BHS	73	5	2334.0000
D1234BHS	73	6	5628.4000
D1234BHS	73	7	4915.2000
D1234BHS	73	8	4345.0000
D1234BHS	73	9	3813.3000
D1234BHS	73	10	3117.7000
D1234BHS	73	11	2719.0000
D1234BHS	73	12	2133.6000

This time series is the number of Category I, II, III, IV DOD black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III ARMY VOLUNTEERS

NAME	YEAR	MON	VALUE
123111	70	1	11133.1000
123111	70	2	8421.0000
123111	70	3	6874.2000
123111	70	4	5425.2000
123111	70	5	4439.3000
123111	70	6	9133.4000
123111	70	7	7776.0000
123111	70	8	7280.9000
123111	70	9	7225.0000
123111	70	10	6778.0000
123111	70	11	6114.6000
123111	70	12	5349.0000
123111	71	1	8747.3000
123111	71	2	7266.8000
123111	71	3	6965.8000
123111	71	4	5801.5000
123111	71	5	5542.9000
123111	71	6	10153.4000
123111	71	7	8358.0000
123111	71	8	8971.5000
123111	71	9	9459.3000
123111	71	10	6734.5000
123111	71	11	7167.1000
123111	71	12	7318.0000
123111	72	1	9995.0000
123111	72	2	8123.0000
123111	72	3	8048.0000
123111	72	4	7251.0000
123111	72	5	6665.0000
123111	72	6	13589.2000
123111	72	7	11829.0000
123111	72	8	12839.0000
123111	72	9	13394.0000
123111	72	10	11423.0000
123111	72	11	10067.0000
123111	72	12	9729.0000
123111	73	1	13707.0000
123111	73	2	8148.0000
123111	73	3	6041.0000
123111	73	4	3901.0000
123111	73	5	4575.0000
123111	73	6	13158.0000
123111	73	7	9170.0000
123111	73	8	11194.0000
123111	73	9	11870.0000
123111	73	10	13945.0000
123111	73	11	11089.0000
123111	73	12	9456.0000

This time series if the number of Category I, II, III Army volunteers as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs.

CATEGORY I, II, III ARMY VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
A123HS	70	1	7205.0000
A123HS	70	2	5129.0000
A123HS	70	3	3933.0000
A123HS	70	4	3933.0000
A123HS	70	5	3933.0000
A123HS	70	6	5599.0000
A123HS	70	7	4610.0000
A123HS	70	8	4230.0000
A123HS	70	9	4102.0000
A123HS	70	10	3572.0000
A123HS	70	11	2797.0000
A123HS	70	12	2454.0000
A123HS	71	1	4007.0000
A123HS	71	2	3374.0000
A123HS	71	3	2851.0000
A123HS	71	4	2302.0000
A123HS	71	5	2291.0000
A123HS	71	6	5972.0000
A123HS	71	7	4476.0000
A123HS	71	8	4455.0000
A123HS	71	9	4693.0000
A123HS	71	10	4120.0000
A123HS	71	11	4076.0000
A123HS	71	12	4020.0000
A123HS	72	1	5210.0000
A123HS	72	2	3995.0000
A123HS	72	3	3436.0000
A123HS	72	4	3012.0000
A123HS	72	5	2748.0000
A123HS	72	6	8380.0000
A123HS	72	7	6399.0000
A123HS	72	8	6595.0000
A123HS	72	9	6791.0000
A123HS	72	10	5264.0000
A123HS	72	11	4034.0000
A123HS	72	12	3833.0000
A123HS	73	1	5246.0000
A123HS	73	2	5111.0000
A123HS	73	3	3977.0000
A123HS	73	4	2500.0000
A123HS	73	5	3084.0000
A123HS	73	6	10536.0000
A123HS	73	7	6272.0000
A123HS	73	8	6413.0000
A123HS	73	9	6196.0000
A123HS	73	10	4640.0000
A123HS	73	11	4086.0000
A123HS	73	12	3394.0000

This time series is the number of Category I, II, III Army volunteers who are diploma high school graduates, as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs.

CATEGORY I, II, III ARMY BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
A123BHS	70	1	338.4000
A123BHS	70	2	240.2000
A123BHS	70	3	237.2000
A123BHS	70	4	172.6000
A123BHS	70	5	166.2000
A123BHS	70	6	251.7000
A123BHS	70	7	261.1000
A123BHS	70	8	237.2000
A123BHS	70	9	259.4000
A123BHS	70	10	235.0000
A123BHS	70	11	199.1000
A123BHS	70	12	181.4000
A123BHS	71	1	348.3000
A123BHS	71	2	317.6000
A123BHS	71	3	237.6000
A123BHS	71	4	229.7000
A123BHS	71	5	249.2000
A123BHS	71	6	532.5000
A123BHS	71	7	457.6000
A123BHS	71	8	517.5000
A123BHS	71	9	528.7000
A123BHS	71	10	526.2000
A123BHS	71	11	537.4000
A123BHS	71	12	562.6000
A123BHS	72	1	678.1000
A123BHS	72	2	589.1000
A123BHS	72	3	492.9000
A123BHS	72	4	402.0000
A123BHS	72	5	560.9000
A123BHS	72	6	1339.8000
A123BHS	72	7	977.2000
A123BHS	72	8	1138.6000
A123BHS	72	9	896.3000
A123BHS	72	10	500.2000
A123BHS	72	11	659.8000
A123BHS	72	12	2174.9000
A123BHS	73	1	977.2000
A123BHS	73	2	1138.6000
A123BHS	73	3	896.3000
A123BHS	73	4	500.2000
A123BHS	73	5	659.8000
A123BHS	73	6	2174.9000
A123BHS	73	7	1492.4000
A123BHS	73	8	1454.6000
A123BHS	73	9	1347.7000
A123BHS	73	10	1032.3000
A123BHS	73	11	897.9000
A123BHS	73	12	693.7000

This time series is the number of Category I, II, III Army black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs.

CATEGORY I, II, III, IV ARMY VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
A1234HS	70	1	8303.0000
A1234HS	70	2	6038.0000
A1234HS	70	3	4765.0000
A1234HS	70	4	3452.0000
A1234HS	70	5	2872.0000
A1234HS	70	6	6771.0000
A1234HS	70	7	5745.0000
A1234HS	70	8	5171.0000
A1234HS	70	9	5038.0000
A1234HS	70	10	4534.0000
A1234HS	70	11	3553.0000
A1234HS	70	12	3036.0000
A1234HS	71	1	5060.0000
A1234HS	71	2	4321.0000
A1234HS	71	3	3685.0000
A1234HS	71	4	2858.0000
A1234HS	71	5	2857.0000
A1234HS	71	6	7436.0000
A1234HS	71	7	5530.0000
A1234HS	71	8	5425.0000
A1234HS	71	9	5631.0000
A1234HS	71	10	4415.0000
A1234HS	71	11	4596.0000
A1234HS	71	12	5393.0000
A1234HS	72	1	6619.0000
A1234HS	72	2	4961.0000
A1234HS	72	3	4275.0000
A1234HS	72	4	4049.0000
A1234HS	72	5	3659.0000
A1234HS	72	6	10880.0000
A1234HS	72	7	8038.0000
A1234HS	72	8	8266.0000
A1234HS	72	9	8284.0000
A1234HS	72	10	6473.0000
A1234HS	72	11	4684.0000
A1234HS	72	12	4423.0000
A1234HS	73	1	6282.0000
A1234HS	73	2	6007.0000
A1234HS	73	3	4832.0000
A1234HS	73	4	3023.0000
A1234HS	73	5	3726.0000
A1234HS	73	6	12449.0000
A1234HS	73	7	8537.0000
A1234HS	73	8	7829.0000
A1234HS	73	9	7463.0000
A1234HS	73	10	5628.0000
A1234HS	73	11	4758.0000
A1234HS	73	12	3889.0000
A1234HS	74	1	7070.0000

This time series is the number of Category I, II, III, IV Army volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of the enlistees without LSNs.

CATEGORY I, II, III, IV ARMY BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
A1234BHS	70	1	636.5000
A1234BHS	70	2	489.7000
A1234BHS	70	3	517.1000
A1234BHS	70	4	338.2000
A1234BHS	70	5	327.7000
A1234BHS	70	6	540.9000
A1234BHS	70	7	531.1000
A1234BHS	70	8	525.1000
A1234BHS	70	9	522.2000
A1234BHS	70	10	589.0000
A1234BHS	70	11	452.6000
A1234BHS	70	12	414.0000
A1234BHS	71	1	716.0000
A1234BHS	71	2	641.4000
A1234BHS	71	3	536.8000
A1234BHS	71	4	419.6000
A1234BHS	71	5	428.7000
A1234BHS	71	6	1055.9000
A1234BHS	71	7	948.7000
A1234BHS	71	8	957.9000
A1234BHS	71	9	956.2000
A1234BHS	71	10	601.3000
A1234BHS	71	11	559.9000
A1234BHS	71	12	1155.2000
A1234BHS	72	1	1337.8000
A1234BHS	72	2	1123.8000
A1234BHS	72	3	929.4000
A1234BHS	72	4	899.0000
A1234BHS	72	5	996.3000
A1234BHS	72	6	2650.2000
A1234BHS	72	7	1522.2000
A1234BHS	72	8	1611.0000
A1234BHS	72	9	1309.5000
A1234BHS	72	10	761.7000
A1234BHS	72	11	1063.5000
A1234BHS	72	12	3214.1000
A1234BHS	73	1	1522.2000
A1234BHS	73	2	1611.0000
A1234BHS	73	3	1309.5000
A1234BHS	73	4	761.7000
A1234BHS	73	5	1063.5000
A1234BHS	73	6	3214.1000
A1234BHS	73	7	2824.0000
A1234BHS	73	8	2311.7000
A1234BHS	73	9	2117.7000
A1234BHS	73	10	1632.5000
A1234BHS	73	11	1280.0000
A1234BHS	73	12	957.9000

This time series is the number of Category I, II, III, IV Army black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs.

CATEGORY I, II, III ARMY VOLUNTEERS WHO ARE NOT HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
A123NHS	70	1	3928.1000
A123NHS	70	2	3292.0000
A123NHS	70	3	2971.2000
A123NHS	70	4	1522.2000
A123NHS	70	5	536.3000
A123NHS	70	6	3534.4000
A123NHS	70	7	3166.0000
A123NHS	70	8	3050.9000
A123NHS	70	9	3123.0000
A123NHS	70	10	3206.0000
A123NHS	70	11	3317.6000
A123NHS	70	12	2895.6000
A123NHS	71	1	4740.3000
A123NHS	71	2	3892.8000
A123NHS	71	3	4114.8000
A123NHS	71	4	3499.5000
A123NHS	71	5	3261.9000
A123NHS	71	6	4181.4000
A123NHS	71	7	3882.0000
A123NHS	71	8	4516.5000
A123NHS	71	9	4766.3000
A123NHS	71	10	2614.5000
A123NHS	71	11	3091.1000
A123NHS	71	12	3298.0000
A123NHS	72	1	4785.0000
A123NHS	72	2	4128.0000
A123NHS	72	3	4612.0000
A123NHS	72	4	4239.0000
A123NHS	72	5	3917.0000
A123NHS	72	6	5209.2000
A123NHS	72	7	5430.0000
A123NHS	72	8	6244.0000
A123NHS	72	9	6603.0000
A123NHS	72	10	6159.0000
A123NHS	72	11	6033.0000
A123NHS	72	12	5996.0000
A123NHS	73	1	8461.0000
A123NHS	73	2	3037.0000
A123NHS	73	3	2064.0000
A123NHS	73	4	1401.0000
A123NHS	73	5	1491.0000
A123NHS	73	6	2622.0000
A123NHS	73	7	2898.0000
A123NHS	73	8	4781.0000
A123NHS	73	9	5674.0000
A123NHS	73	10	6305.0000
A123NHS	73	11	7003.0000
A123NHS	73	12	6062.0000
A123NHS	74	1	6062.0000
A123NHS	74	2	6062.0000
A123NHS	74	3	6062.0000
A123NHS	74	4	6062.0000
A123NHS	74	5	6062.0000
A123NHS	74	6	6062.0000

This time series is the number of Category I, II, III Army volunteers who are not diploma high school graduates as estimated by the GRC maximum method that includes draftee volunteers and 100 percent of enlistees without LSNs. The data were derived from the GRC Data Bases by subtracting Category I, II, III Army volunteers who are diploma high school graduates from Category I, II, III Army volunteers.

CATEGORY I NAVY VOLUNTEERS WHO
ARE HIGH SCHOOL GRADUATES

NAME	MO	YR	VALUE
N1HS	7	70	246.
N1HS	8	70	201.
N1HS	9	70	180.
N1HS	10	70	205.
N1HS	11	70	163.
N1HS	12	70	131.
N1HS	1	71	175.
N1HS	2	71	252.
N1HS	3	71	175.
N1HS	4	71	152.
N1HS	5	71	76.
N1HS	6	71	186.
N1HS	7	71	226.
N1HS	8	71	339.
N1HS	9	71	223.
N1HS	10	71	303.
N1HS	11	71	208.
N1HS	12	71	129.
N1HS	1	72	279.
N1HS	2	72	232.
N1HS	3	72	214.
N1HS	4	72	143.
N1HS	5	72	123.
N1HS	6	72	239.
N1HS	7	72	232.
N1HS	8	72	356.
N1HS	9	72	356.
N1HS	10	72	255.
N1HS	11	72	241.
N1HS	12	72	223.
N1HS	1	73	192.
N1HS	2	73	152.
N1HS	3	73	143.
N1HS	4	73	128.
N1HS	5	73	135.
N1HS	6	73	202.
N1HS	7	73	180.
N1HS	8	73	187.
N1HS	9	73	223.
N1HS	10	73	197.
N1HS	11	73	94.
N1HS	12	73	56.

This time series is the number of Category I Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers.

CATEGORY II NAVY VOLUNTEERS WHO ARE
HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N2HS	70	1	3397.0000
N2HS	70	2	2661.0000
N2HS	70	3	1644.0000
N2HS	70	4	938.0000
N2HS	70	5	814.0000
N2HS	70	6	1319.0000
N2HS	70	7	1723.0000
N2HS	70	8	1665.0000
N2HS	70	9	1276.0000
N2HS	70	10	1310.0000
N2HS	70	11	1138.0000
N2HS	70	12	826.0000
N2HS	71	1	1600.0000
N2HS	71	2	1435.0000
N2HS	71	3	1234.0000
N2HS	71	4	865.0000
N2HS	71	5	672.0000
N2HS	71	6	1694.0000
N2HS	71	7	2099.0000
N2HS	71	8	2762.0000
N2HS	71	9	2010.0000
N2HS	71	10	2076.0000
N2HS	71	11	1605.0000
N2HS	71	12	994.0000
N2HS	72	1	1883.0000
N2HS	72	2	1535.0000
N2HS	72	3	1215.0000
N2HS	72	4	883.0000
N2HS	72	5	924.0000
N2HS	72	6	2047.0000
N2HS	72	7	2387.0000
N2HS	72	8	2863.0000
N2HS	72	9	2719.0000
N2HS	72	10	1746.0000
N2HS	72	11	1735.0000
N2HS	72	12	1194.0000
N2HS	73	1	1513.0000
N2HS	73	2	1299.0000
N2HS	73	3	1480.0000
N2HS	73	4	1219.0000
N2HS	73	5	1120.0000
N2HS	73	6	2454.0000
N2HS	73	7	2397.0000
N2HS	73	8	2642.0000
N2HS	73	9	2674.0000
N2HS	73	10	2458.0000
N2HS	73	11	1648.0000
N2HS	73	12	1198.0000
N2HS	74	1	2397.0000
N2HS	74	2	1817.0000
N2HS	74	3	1623.0000
N2HS	74	4	1623.0000
N2HS	74	5	1623.0000
N2HS	74	6	1623.0000

This time series is the number of Category II Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers.

CATEGORY I, II NAVY VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	MO	YR	VALUE
N12HS	1	70	3397.
N12HS	2	70	2661.
N12HS	3	70	1644.
N12HS	4	70	938.
N12HS	5	70	814.
N12HS	6	70	1319.
N12HS	7	70	1969.
N12HS	8	70	1866.
N12HS	9	70	1456.
N12HS	10	70	1515.
N12HS	11	70	1301.
N12HS	12	70	957.
N12HS	1	71	1775.
N12HS	2	71	1657.
N12HS	3	71	1409.
N12HS	4	71	1017.
N12HS	5	71	748.
N12HS	6	71	1880.
N12HS	7	71	2325.
N12HS	8	71	3101.
N12HS	9	71	2233.
N12HS	10	71	2379.
N12HS	11	71	1813.
N12HS	12	71	1119.
N12HS	1	72	2162.
N12HS	2	72	1767.
N12HS	3	72	1429.
N12HS	4	72	1026.
N12HS	5	72	1047.
N12HS	6	72	2325.
N12HS	7	72	2619.
N12HS	8	72	3219.
N12HS	9	72	3075.
N12HS	10	72	2001.
N12HS	11	72	1976.
N12HS	12	72	1407.
N12HS	1	73	1745.
N12HS	2	73	1451.
N12HS	3	73	1623.
N12HS	4	73	1347.
N12HS	5	73	1255.
N12HS	6	73	2656.
N12HS	7	73	2577.
N12HS	8	73	2829.
N12HS	9	73	2897.
N12HS	10	73	2255.
N12HS	11	73	1742.
N12HS	12	73	1244.

This time series is the number of Category I, II Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY III NAVY VOLUNTEERS WHO ARE
HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N3HS	70	1	1926.0000
N3HS	70	2	1671.0000
N3HS	70	3	1127.0000
N3HS	70	4	845.0000
N3HS	70	5	772.0000
N3HS	70	6	1126.0000
N3HS	70	7	1869.0000
N3HS	70	8	1621.0000
N3HS	70	9	993.0000
N3HS	70	10	990.0000
N3HS	70	11	997.0000
N3HS	70	12	870.0000
N3HS	71	1	1399.0000
N3HS	71	2	1202.0000
N3HS	71	3	1096.0000
N3HS	71	4	693.0000
N3HS	71	5	551.0000
N3HS	71	6	1871.0000
N3HS	71	7	2519.0000
N3HS	71	8	3012.0000
N3HS	71	9	2518.0000
N3HS	71	10	1892.0000
N3HS	71	11	1525.0000
N3HS	71	12	1106.0000
N3HS	72	1	2054.0000
N3HS	72	2	1574.0000
N3HS	72	3	1483.0000
N3HS	72	4	1009.0000
N3HS	72	5	1193.0000
N3HS	72	6	3056.0000
N3HS	72	7	2910.0000
N3HS	72	8	3241.0000
N3HS	72	9	3294.0000
N3HS	72	10	1931.0000
N3HS	72	11	1803.0000
N3HS	72	12	1095.0000
N3HS	73	1	1300.0000
N3HS	73	2	1147.0000
N3HS	73	3	1495.0000
N3HS	73	4	1252.0000
N3HS	73	5	1354.0000
N3HS	73	6	3563.0000
N3HS	73	7	3157.0000
N3HS	73	8	3252.0000
N3HS	73	9	3028.0000
N3HS	73	10	1985.0000
N3HS	73	11	1696.0000
N3HS	73	12	1223.0000
N3HS	74	1	-149.0000
N3HS	74	2	509.0000
N3HS	74	3	720.0000
N3HS	74	4	720.0000
N3HS	74	5	720.0000
N3HS	74	6	720.0000

This time series is the number of Category III Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers.

CATEGORY I, II, III NAVY VOLUNTEERS

NAME	YEAR	MON	VALUE
12315	70	1	7119.0000
12315	70	2	6208.9000
12315	70	3	4344.4000
12315	70	4	3291.6000
12315	70	5	3032.1000
12315	70	6	4201.2000
12315	70	7	5991.8000
12315	70	8	5038.9000
12315	70	9	3345.2000
12315	70	10	2946.0000
12315	70	11	2922.4000
12315	70	12	2527.5000
12315	71	1	4607.2000
12315	71	2	4313.3000
12315	71	3	3837.0000
12315	71	4	2553.5000
12315	71	5	1824.0000
12315	71	6	4725.9000
12315	71	7	5797.9000
12315	71	8	7294.9000
12315	71	9	5429.0000
12315	71	10	4937.0000
12315	71	11	4302.8000
12315	71	12	2891.4000
12315	72	1	5399.3000
12315	72	2	4173.8000
12315	72	3	3786.2000
12315	72	4	2988.9000
12315	72	5	3575.1000
12315	72	6	6943.8000
12315	72	7	7432.0000
12315	72	8	8869.0000
12315	72	9	8851.0000
12315	72	10	5503.0000
12315	72	11	5489.0000
12315	72	12	3930.0000
12315	73	1	4133.0000
12315	73	2	3913.0000
12315	73	3	4243.0000
12315	73	4	3821.0000
12315	73	5	3912.0000
12315	73	6	8133.0000
12315	73	7	7823.0000
12315	73	8	8280.0000
12315	73	9	8248.0000
12315	73	10	6113.0000
12315	73	11	5519.0000
12315	73	12	4176.0000

This time series is the number of Category I, II, III Navy volunteers as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III NAVY VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N123HS	70	1	5323.0000
N123HS	70	2	4332.0000
N123HS	70	3	2771.0000
N123HS	70	4	1783.0000
N123HS	70	5	1586.0000
N123HS	70	6	2445.0000
N123HS	70	7	3838.0000
N123HS	70	8	3487.0000
N123HS	70	9	2439.0000
N123HS	70	10	2505.0000
N123HS	70	11	2298.0000
N123HS	70	12	1827.0000
N123HS	71	1	3164.0000
N123HS	71	2	2859.0000
N123HS	71	3	2495.0000
N123HS	71	4	1700.0000
N123HS	71	5	1299.0000
N123HS	71	6	3751.0000
N123HS	71	7	4844.0000
N123HS	71	8	6113.0000
N123HS	71	9	4751.0000
N123HS	71	10	4261.0000
N123HS	71	11	3338.0000
N123HS	71	12	2225.0000
N123HS	72	1	4216.0000
N123HS	72	2	3341.0000
N123HS	72	3	2912.0000
N123HS	72	4	2035.0000
N123HS	72	5	2240.0000
N123HS	72	6	5381.0000
N123HS	72	7	5529.0000
N123HS	72	8	6460.0000
N123HS	72	9	6369.0000
N123HS	72	10	3932.0000
N123HS	72	11	3779.0000
N123HS	72	12	2502.0000
N123HS	73	1	3005.0000
N123HS	73	2	2598.0000
N123HS	73	3	3108.0000
N123HS	73	4	2599.0000
N123HS	73	5	2609.0000
N123HS	73	6	6219.0000
N123HS	73	7	5734.0000
N123HS	73	8	6381.0000
N123HS	73	9	5925.0000
N123HS	73	10	4240.0000
N123HS	73	11	3428.0000
N123HS	73	12	2467.0000

This time series is the number of Category I, II, III Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III NAVY BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N123BHS	70	1	235.3000
N123BHS	70	2	192.7000
N123BHS	70	3	92.6000
N123BHS	70	4	89.4000
N123BHS	70	5	78.5000
N123BHS	70	6	50.4000
N123BHS	70	7	95.2000
N123BHS	70	8	92.8000
N123BHS	70	9	74.0000
N123BHS	70	10	138.5000
N123BHS	70	11	143.1000
N123BHS	70	12	98.9000
N123BHS	71	1	180.3000
N123BHS	71	2	145.7000
N123BHS	71	3	144.7000
N123BHS	71	4	120.2000
N123BHS	71	5	98.0000
N123BHS	71	6	236.6000
N123BHS	71	7	263.2000
N123BHS	71	8	311.9000
N123BHS	71	9	302.6000
N123BHS	71	10	253.7000
N123BHS	71	11	164.2000
N123BHS	71	12	104.4000
N123BHS	72	1	316.5000
N123BHS	72	2	252.1000
N123BHS	72	3	217.3000
N123BHS	72	4	158.1000
N123BHS	72	5	221.7000
N123BHS	72	6	421.9000
N123BHS	72	7	206.2000
N123BHS	72	8	166.5000
N123BHS	72	9	270.0000
N123BHS	72	10	150.7000
N123BHS	72	11	218.6000
N123BHS	72	12	659.5000
N123BHS	73	1	206.2000
N123BHS	73	2	166.5000
N123BHS	73	3	270.3000
N123BHS	73	4	150.7000
N123BHS	73	5	218.6000
N123BHS	73	6	659.5000
N123BHS	73	7	511.3000
N123BHS	73	8	560.3000
N123BHS	73	9	547.0000
N123BHS	73	10	346.8000
N123BHS	73	11	309.3000
N123BHS	73	12	256.5000

This time series is the number of Category I, II, III Navy black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III NAVY VOLUNTEERS WHO ARE NOT HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N123NHS	70	1	1796.0000
N123NHS	70	2	1876.9000
N123NHS	70	3	1573.4000
N123NHS	70	4	1508.6000
N123NHS	70	5	1446.1000
N123NHS	70	6	1756.2000
N123NHS	70	7	2153.9000
N123NHS	70	8	1551.9000
N123NHS	70	9	946.2000
N123NHS	70	10	441.0000
N123NHS	70	11	624.4000
N123NHS	70	12	700.5000
N123NHS	71	1	1443.2000
N123NHS	71	2	1454.3000
N123NHS	71	3	1312.4000
N123NHS	71	4	853.5000
N123NHS	71	5	525.0000
N123NHS	71	6	974.9000
N123NHS	71	7	953.9000
N123NHS	71	8	1181.9000
N123NHS	71	9	678.0000
N123NHS	71	10	646.0000
N123NHS	71	11	964.8000
N123NHS	71	12	666.4000
N123NHS	72	1	1193.3000
N123NHS	72	2	832.8000
N123NHS	72	3	874.2000
N123NHS	72	4	953.9000
N123NHS	72	5	1335.1000
N123NHS	72	6	1562.8000
N123NHS	72	7	1903.0000
N123NHS	72	8	2409.8000
N123NHS	72	9	2482.0000
N123NHS	72	10	1571.0000
N123NHS	72	11	1710.0000
N123NHS	72	12	1428.0000
N123NHS	73	1	1128.0000
N123NHS	73	2	1315.0000
N123NHS	73	3	1135.0000
N123NHS	73	4	1222.0000
N123NHS	73	5	1303.0000
N123NHS	73	6	1911.0000
N123NHS	73	7	2049.0000
N123NHS	73	8	2199.0000
N123NHS	73	9	2323.0000
N123NHS	73	10	1873.0000
N123NHS	73	11	2091.0000
N123NHS	73	12	1709.0000
N123NHS	74	1	1709.0000
N123NHS	74	2	1709.0000
N123NHS	74	3	1709.0000
N123NHS	74	4	1709.0000
N123NHS	74	5	1709.0000
N123NHS	74	6	1709.0000

This time series is the number of Category I, II, III Navy volunteers who are not diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers. The data were derived from the GRC Data Bases by subtracting Category I, II, III Navy volunteers who are diploma high school graduates from Category I, II, III Navy volunteers.

CATEGORY IV NAVY VOLUNTEERS WHO ARE
HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N4HS	70	1	542.0000
N4HS	70	2	563.0000
N4HS	70	3	410.0000
N4HS	70	4	320.0000
N4HS	70	5	294.0000
N4HS	70	6	377.0000
N4HS	70	7	414.0000
N4HS	70	8	368.0000
N4HS	70	9	174.0000
N4HS	70	10	179.0000
N4HS	70	11	272.0000
N4HS	70	12	189.0000
N4HS	71	1	376.0000
N4HS	71	2	390.0000
N4HS	71	3	418.0000
N4HS	71	4	293.0000
N4HS	71	5	277.0000
N4HS	71	6	809.0000
N4HS	71	7	837.0000
N4HS	71	8	1042.0000
N4HS	71	9	783.0000
N4HS	71	10	664.0000
N4HS	71	11	523.0000
N4HS	71	12	499.0000
N4HS	72	1	547.0000
N4HS	72	2	452.0000
N4HS	72	3	777.0000
N4HS	72	4	496.0000
N4HS	72	5	460.0000
N4HS	72	6	1341.0000
N4HS	72	7	1331.0000
N4HS	72	8	1473.0000
N4HS	72	9	1324.0000
N4HS	72	10	639.0000
N4HS	72	11	433.0000
N4HS	72	12	290.0000
N4HS	73	1	164.0000
N4HS	73	2	81.0000
N4HS	73	3	28.0000
N4HS	73	4	40.0000
N4HS	73	5	75.0000
N4HS	73	6	232.0000
N4HS	73	7	328.0000
N4HS	73	8	321.0000
N4HS	73	9	237.0000
N4HS	73	10	170.0000
N4HS	73	11	136.0000
N4HS	73	12	85.0000
N4HS	74	1	85.0000
N4HS	74	2	85.0000
N4HS	74	3	85.0000
N4HS	74	4	85.0000
N4HS	74	5	85.0000
N4HS	74	6	85.0000

This time series is the number of Category IV Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers.

CATEGORY I, II, III, IV NAVY VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N1234HS	70	1	5865.0000
N1234HS	70	2	4895.0000
N1234HS	70	3	3181.0000
N1234HS	70	4	2103.0000
N1234HS	70	5	1880.0000
N1234HS	70	6	2822.0000
N1234HS	70	7	4252.0000
N1234HS	70	8	3855.0000
N1234HS	70	9	2613.0000
N1234HS	70	10	2684.0000
N1234HS	70	11	2570.0000
N1234HS	70	12	2016.0000
N1234HS	71	1	3540.0000
N1234HS	71	2	3249.0000
N1234HS	71	3	2913.0000
N1234HS	71	4	1993.0000
N1234HS	71	5	1576.0000
N1234HS	71	6	4560.0000
N1234HS	71	7	5681.0000
N1234HS	71	8	7155.0000
N1234HS	71	9	5534.0000
N1234HS	71	10	4925.0000
N1234HS	71	11	3861.0000
N1234HS	71	12	2724.0000
N1234HS	72	1	4763.0000
N1234HS	72	2	3793.0000
N1234HS	72	3	3689.0000
N1234HS	72	4	2531.0000
N1234HS	72	5	2700.0000
N1234HS	72	6	6722.0000
N1234HS	72	7	6830.0000
N1234HS	72	8	7933.0000
N1234HS	72	9	7693.0000
N1234HS	72	10	4571.0000
N1234HS	72	11	4212.0000
N1234HS	72	12	2782.0000
N1234HS	73	1	3169.0000
N1234HS	73	2	2679.0000
N1234HS	73	3	3136.0000
N1234HS	73	4	2639.0000
N1234HS	73	5	2684.0000
N1234HS	73	6	6421.0000
N1234HS	73	7	6062.0000
N1234HS	73	8	6402.0000
N1234HS	73	9	6162.0000
N1234HS	73	10	4410.0000
N1234HS	73	11	3564.0000
N1234HS	73	12	2552.0000

This time series is the number of Category I, II, III, IV Navy volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III, IV NAVY BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
N1234BHS	70	1	417.5000
N1234BHS	70	2	438.4000
N1234BHS	70	3	273.2000
N1234BHS	70	4	229.4000
N1234BHS	70	5	174.3000
N1234BHS	70	6	141.7000
N1234BHS	70	7	237.7000
N1234BHS	70	8	230.8000
N1234BHS	70	9	126.0000
N1234BHS	70	10	227.7000
N1234BHS	70	11	267.6000
N1234BHS	70	12	188.3000
N1234BHS	71	1	360.6000
N1234BHS	71	2	346.1000
N1234BHS	71	3	361.0000
N1234BHS	71	4	284.5000
N1234BHS	71	5	273.4000
N1234BHS	71	6	580.4000
N1234BHS	71	7	622.4000
N1234BHS	71	8	775.9000
N1234BHS	71	9	664.0000
N1234BHS	71	10	611.3000
N1234BHS	71	11	439.0000
N1234BHS	71	12	367.9000
N1234BHS	72	1	566.3000
N1234BHS	72	2	463.5000
N1234BHS	72	3	640.3000
N1234BHS	72	4	405.7000
N1234BHS	72	5	377.6000
N1234BHS	72	6	923.7000
N1234BHS	72	7	276.6000
N1234BHS	72	8	198.5000
N1234BHS	72	9	284.5000
N1234BHS	72	10	170.1000
N1234BHS	72	11	247.7000
N1234BHS	72	12	716.2000
N1234BHS	73	1	276.6000
N1234BHS	73	2	198.5000
N1234BHS	73	3	284.5000
N1234BHS	73	4	170.1000
N1234BHS	73	5	247.7000
N1234BHS	73	6	716.2000
N1234BHS	73	7	608.8000
N1234BHS	73	8	636.8000
N1234BHS	73	9	613.4000
N1234BHS	73	10	392.9000
N1234BHS	73	11	351.3000
N1234BHS	73	12	251.1000

This time series is the number of Category I, II, III, IV Navy black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I AIR FORCE VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	MO	YR	VALUE
AF1HS	7	70	148.
AF1HS	8	70	125.
AF1HS	9	70	137.
AF1HS	10	70	181.
AF1HS	11	70	173.
AF1HS	12	70	164.
AF1HS	1	71	173.
AF1HS	2	71	179.
AF1HS	3	71	188.
AF1HS	4	71	214.
AF1HS	5	71	157.
AF1HS	6	71	227.
AF1HS	7	71	233.
AF1HS	8	71	243.
AF1HS	9	71	293.
AF1HS	10	71	224.
AF1HS	11	71	165.
AF1HS	12	71	188.
AF1HS	1	72	254.
AF1HS	2	72	170.
AF1HS	3	72	214.
AF1HS	4	72	244.
AF1HS	5	72	271.
AF1HS	6	72	237.
AF1HS	7	72	268.
AF1HS	8	72	369.
AF1HS	9	72	382.
AF1HS	10	72	340.
AF1HS	11	72	311.
AF1HS	12	72	155.
AF1HS	1	73	378.
AF1HS	2	73	311.
AF1HS	3	73	256.
AF1HS	4	73	241.
AF1HS	5	73	239.
AF1HS	6	73	258.
AF1HS	7	73	307.
AF1HS	8	73	357.
AF1HS	9	73	321.
AF1HS	10	73	275.
AF1HS	11	73	226.
AF1HS	12	73	121.

This time series is the number of Category I Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY II AIR FORCE VOLUNTEERS WHO ARE
HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF2HS	70	1	1472.0000
AF2HS	70	2	1426.0000
AF2HS	70	3	1179.0000
AF2HS	70	4	837.0000
AF2HS	70	5	1037.0000
AF2HS	70	6	1326.0000
AF2HS	70	7	1051.0000
AF2HS	70	8	903.0000
AF2HS	70	9	989.0000
AF2HS	70	10	1458.0000
AF2HS	70	11	1425.0000
AF2HS	70	12	1054.0000
AF2HS	71	1	1101.0000
AF2HS	71	2	1095.0000
AF2HS	71	3	1464.0000
AF2HS	71	4	1196.0000
AF2HS	71	5	1108.0000
AF2HS	71	6	2066.0000
AF2HS	71	7	2027.0000
AF2HS	71	8	2170.0000
AF2HS	71	9	2131.0000
AF2HS	71	10	1626.0000
AF2HS	71	11	1251.0000
AF2HS	71	12	1220.0000
AF2HS	72	1	1386.0000
AF2HS	72	2	1178.0000
AF2HS	72	3	1340.0000
AF2HS	72	4	1484.0000
AF2HS	72	5	1730.0000
AF2HS	72	6	1828.0000
AF2HS	72	7	2256.0000
AF2HS	72	8	2472.0000
AF2HS	72	9	2617.0000
AF2HS	72	10	2352.0000
AF2HS	72	11	2164.0000
AF2HS	72	12	1128.0000
AF2HS	73	1	2297.0000
AF2HS	73	2	1889.0000
AF2HS	73	3	1454.0000
AF2HS	73	4	1346.0000
AF2HS	73	5	1597.0000
AF2HS	73	6	2488.0000
AF2HS	73	7	2128.0000
AF2HS	73	8	2364.0000
AF2HS	73	9	2227.0000
AF2HS	73	10	2022.0000
AF2HS	73	11	1624.0000
AF2HS	73	12	965.0000
AF2HS	74	1	965.0000
AF2HS	74	2	965.0000
AF2HS	74	3	965.0000
AF2HS	74	4	965.0000
AF2HS	74	5	965.0000
AF2HS	74	6	965.0000

This time series is the number of Category II Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of men without LSNs as volunteers.

CATEGORY I, II AIR FORCE VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	MO	YR	VALUE
AF12HS	1	70	1472.
AF12HS	2	70	1426.
AF12HS	3	70	1179.
AF12HS	4	70	837.
AF12HS	5	70	1037.
AF12HS	6	70	1326.
AF12HS	7	70	1149.
AF12HS	8	70	1028.
AF12HS	9	70	1126.
AF12HS	10	70	1639.
AF12HS	11	70	1598.
AF12HS	12	70	1218.
AF12HS	1	71	1274.
AF12HS	2	71	1274.
AF12HS	3	71	1652.
AF12HS	4	71	1410.
AF12HS	5	71	1265.
AF12HS	6	71	2293.
AF12HS	7	71	2260.
AF12HS	8	71	2413.
AF12HS	9	71	2424.
AF12HS	10	71	1850.
AF12HS	11	71	1416.
AF12HS	12	71	1408.
AF12HS	1	72	1640.
AF12HS	2	72	1348.
AF12HS	3	72	1554.
AF12HS	4	72	1728.
AF12HS	5	72	2001.
AF12HS	6	72	2035.
AF12HS	7	72	2524.
AF12HS	8	72	2841.
AF12HS	9	72	2999.
AF12HS	10	72	2692.
AF12HS	11	72	2475.
AF12HS	12	72	1283.
AF12HS	1	73	2673.
AF12HS	2	73	2200.
AF12HS	3	73	1710.
AF12HS	4	73	1587.
AF12HS	5	73	1836.
AF12HS	6	73	2746.
AF12HS	7	73	2435.
AF12HS	8	73	2721.
AF12HS	9	73	2548.
AF12HS	10	73	2297.
AF12HS	11	73	1850.
AF12HS	12	73	1086.

This time series is the number of Category I, II Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III AIR FORCE VOLUNTEERS

NAME	YEAR	MON	VALUE
12316	70	1	2874.1000
12316	70	2	2571.1000
12316	70	3	2251.4000
12316	70	4	1958.4000
12316	70	5	2344.7000
12316	70	6	3467.4000
12316	70	7	2836.4000
12316	70	8	2610.4000
12316	70	9	2604.8000
12316	70	10	3706.4000
12316	70	11	3993.8000
12316	70	12	3062.0000
12316	71	1	2998.2000
12316	71	2	3207.1000
12316	71	3	4566.1000
12316	71	4	4138.5000
12316	71	5	3878.9000
12316	71	6	6753.0000
12316	71	7	6307.8000
12316	71	8	6730.7000
12316	71	9	6282.7000
12316	71	10	5053.6000
12316	71	11	3783.2000
12316	71	12	3710.4000
12316	72	1	3867.1000
12316	72	2	3025.9000
12316	72	3	3591.7000
12316	72	4	4533.7000
12316	72	5	5725.0000
12316	72	6	4968.5000
12316	72	7	7354.0000
12316	72	8	6946.0000
12316	72	9	6849.0000
12316	72	10	6953.0000
12316	72	11	6231.0000
12316	72	12	3628.0000
12316	73	1	6446.0000
12316	73	2	6138.0000
12316	73	3	4593.0000
12316	73	4	4497.0000
12316	73	5	6171.0000
12316	73	6	7887.0000
12316	73	7	6235.0000
12316	73	8	6756.0000
12316	73	9	5786.0000
12316	73	10	5643.0000
12316	73	11	5125.0000
12316	73	12	3480.0000

This time series is the number of Category I, II, III Air Force volunteers as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY III AIR FORCE VOLUNTEERS WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF3HS	70	1	1242.0000
AF3HS	70	2	1007.0000
AF3HS	70	3	903.0000
AF3HS	70	4	909.0000
AF3HS	70	5	985.0000
AF3HS	70	6	1404.0000
AF3HS	70	7	1216.0000
AF3HS	70	8	1167.0000
AF3HS	70	9	1161.0000
AF3HS	70	10	1705.0000
AF3HS	70	11	1799.0000
AF3HS	70	12	1256.0000
AF3HS	71	1	1244.0000
AF3HS	71	2	1309.0000
AF3HS	71	3	1880.0000
AF3HS	71	4	1638.0000
AF3HS	71	5	1574.0000
AF3HS	71	6	3150.0000
AF3HS	71	7	3098.0000
AF3HS	71	8	3276.0000
AF3HS	71	9	2930.0000
AF3HS	71	10	2273.0000
AF3HS	71	11	1452.0000
AF3HS	71	12	1359.0000
AF3HS	72	1	1150.0000
AF3HS	72	2	1196.0000
AF3HS	72	3	1284.0000
AF3HS	72	4	1811.0000
AF3HS	72	5	2448.0000
AF3HS	72	6	2512.0000
AF3HS	72	7	3351.0000
AF3HS	72	8	3261.0000
AF3HS	72	9	3001.0000
AF3HS	72	10	3068.0000
AF3HS	72	11	2637.0000
AF3HS	72	12	1553.0000
AF3HS	73	1	2552.0000
AF3HS	73	2	2503.0000
AF3HS	73	3	1797.0000
AF3HS	73	4	1662.0000
AF3HS	73	5	2445.0000
AF3HS	73	6	4440.0000
AF3HS	73	7	3234.0000
AF3HS	73	8	3368.0000
AF3HS	73	9	2813.0000
AF3HS	73	10	2689.0000
AF3HS	73	11	2446.0000
AF3HS	73	12	1667.0000
AF3HS	74	1	1667.0000
AF3HS	74	2	1667.0000
AF3HS	74	3	1667.0000
AF3HS	74	4	1667.0000
AF3HS	74	5	1667.0000
AF3HS	74	6	1667.0000

This time series is the number of Category III Air Force volunters who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of men without LSNs as volunteers.

CATEGORY I, II, III AIR FORCE VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF123HS	70	1	2714.0000
AF123HS	70	2	2433.0000
AF123HS	70	3	2082.0000
AF123HS	70	4	1746.0000
AF123HS	70	5	2022.0000
AF123HS	70	6	2730.0000
AF123HS	70	7	2365.0000
AF123HS	70	8	2195.0000
AF123HS	70	9	2287.0000
AF123HS	70	10	3344.0000
AF123HS	70	11	3397.0000
AF123HS	70	12	2474.0000
AF123HS	71	1	2518.0000
AF123HS	71	2	2583.0000
AF123HS	71	3	3532.0000
AF123HS	71	4	3018.0000
AF123HS	71	5	2839.0000
AF123HS	71	6	5443.0000
AF123HS	71	7	5358.0000
AF123HS	71	8	5699.0000
AF123HS	71	9	5354.0000
AF123HS	71	10	4123.0000
AF123HS	71	11	2868.0000
AF123HS	71	12	2777.0000
AF123HS	72	1	2790.0000
AF123HS	72	2	2544.0000
AF123HS	72	3	2838.0000
AF123HS	72	4	3539.0000
AF123HS	72	5	4449.0000
AF123HS	72	6	4547.0000
AF123HS	72	7	6375.0000
AF123HS	72	8	6102.0000
AF123HS	72	9	6030.0000
AF123HS	72	10	5760.0000
AF123HS	72	11	5112.0000
AF123HS	72	12	2836.0000
AF123HS	73	1	5225.0000
AF123HS	73	2	4703.0000
AF123HS	73	3	3507.0000
AF123HS	73	4	3249.0000
AF123HS	73	5	4281.0000
AF123HS	73	6	7186.0000
AF123HS	73	7	5639.0000
AF123HS	73	8	6089.0000
AF123HS	73	9	5361.0000
AF123HS	73	10	4986.0000
AF123HS	73	11	4296.0000
AF123HS	73	12	2753.0000

This time series is the number of Category I, II, III Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III AIR FORCE VOLUNTEERS WHO ARE NOT HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF123NHS	70	1	160.1000
AF123NHS	70	2	138.1000
AF123NHS	70	3	169.4000
AF123NHS	70	4	212.4000
AF123NHS	70	5	322.7000
AF123NHS	70	6	737.4000
AF123NHS	70	7	531.4000
AF123NHS	70	8	415.4000
AF123NHS	70	9	317.8000
AF123NHS	70	10	362.4000
AF123NHS	70	11	586.8000
AF123NHS	70	12	588.0000
AF123NHS	71	1	480.2000
AF123NHS	71	2	624.1000
AF123NHS	71	3	1034.1000
AF123NHS	71	4	1120.5000
AF123NHS	71	5	1039.9000
AF123NHS	71	6	1310.0000
AF123NHS	71	7	949.8000
AF123NHS	71	8	1041.7000
AF123NHS	71	9	928.7000
AF123NHS	71	10	930.6000
AF123NHS	71	11	915.2000
AF123NHS	71	12	933.4000
AF123NHS	72	1	1077.1000
AF123NHS	72	2	491.9000
AF123NHS	72	3	753.7000
AF123NHS	72	4	994.7000
AF123NHS	72	5	1276.0000
AF123NHS	72	6	421.5000
AF123NHS	72	7	979.0000
AF123NHS	72	8	844.0000
AF123NHS	72	9	849.0000
AF123NHS	72	10	1190.0000
AF123NHS	72	11	1119.0000
AF123NHS	72	12	792.0000
AF123NHS	73	1	1221.0000
AF123NHS	73	2	1405.0000
AF123NHS	73	3	1096.0000
AF123NHS	73	4	1248.0000
AF123NHS	73	5	1890.0000
AF123NHS	73	6	701.0000
AF123NHS	73	7	596.0000
AF123NHS	73	8	667.0000
AF123NHS	73	9	425.0000
AF123NHS	73	10	657.0000
AF123NHS	73	11	829.0000
AF123NHS	73	12	727.0000
AF123NHS	74	1	727.0000
AF123NHS	74	2	727.0000
AF123NHS	74	3	727.0000
AF123NHS	74	4	727.0000
AF123NHS	74	5	727.0000
AF123NHS	74	6	727.0000

This time series is the number of Category I, II, III Air Force volunteers who are not diploma high school graduates, as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers. The data were derived from the GRC Data Bases by subtracting Category I, II, III Air Force volunteers who are diploma high school graduates from Category I, II, III Air Force volunteers.

CATEGORY I, II, III AIR FORCE BLACK
VOLUNTEERS WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF123BHS	70	1	210.3000
AF123BHS	70	2	177.0000
AF123BHS	70	3	166.8000
AF123BHS	70	4	163.3000
AF123BHS	70	5	192.2000
AF123BHS	70	6	240.5000
AF123BHS	70	7	230.8000
AF123BHS	70	8	239.1000
AF123BHS	70	9	205.7000
AF123BHS	70	10	318.0000
AF123BHS	70	11	408.5000
AF123BHS	70	12	289.4000
AF123BHS	71	1	273.7000
AF123BHS	71	2	335.5000
AF123BHS	71	3	494.1000
AF123BHS	71	4	477.3000
AF123BHS	71	5	444.4000
AF123BHS	71	6	648.1000
AF123BHS	71	7	685.2000
AF123BHS	71	8	797.6000
AF123BHS	71	9	703.4000
AF123BHS	71	10	600.2000
AF123BHS	71	11	355.3000
AF123BHS	71	12	334.6000
AF123BHS	72	1	285.4000
AF123BHS	72	2	288.5000
AF123BHS	72	3	305.0000
AF123BHS	72	4	481.2000
AF123BHS	72	5	578.3000
AF123BHS	72	6	405.4000
AF123BHS	72	7	604.4000
AF123BHS	72	8	673.6000
AF123BHS	72	9	425.6000
AF123BHS	72	10	466.9000
AF123BHS	72	11	701.9000
AF123BHS	72	12	1143.2000
AF123BHS	73	1	604.4000
AF123BHS	73	2	673.6000
AF123BHS	73	3	425.6000
AF123BHS	73	4	466.9000
AF123BHS	73	5	701.9000
AF123BHS	73	6	1143.2000
AF123BHS	73	7	971.0000
AF123BHS	73	8	887.5000
AF123BHS	73	9	692.9000
AF123BHS	73	10	804.6000
AF123BHS	73	11	825.0000
AF123BHS	73	12	600.3000

This time series is the number of Category I, II, III Air Force black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY IV AIR FORCE VOLUNTEERS WHO ARE

HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF4HS	70	1	534.0000
AF4HS	70	2	533.0000
AF4HS	70	3	493.0000
AF4HS	70	4	427.0000
AF4HS	70	5	546.0000
AF4HS	70	6	595.0000
AF4HS	70	7	646.0000
AF4HS	70	8	587.0000
AF4HS	70	9	595.0000
AF4HS	70	10	893.0000
AF4HS	70	11	808.0000
AF4HS	70	12	718.0000
AF4HS	71	1	690.0000
AF4HS	71	2	641.0000
AF4HS	71	3	834.0000
AF4HS	71	4	843.0000
AF4HS	71	5	643.0000
AF4HS	71	6	1182.0000
AF4HS	71	7	943.0000
AF4HS	71	8	788.0000
AF4HS	71	9	551.0000
AF4HS	71	10	644.0000
AF4HS	71	11	363.0000
AF4HS	71	12	270.0000
AF4HS	72	1	581.0000
AF4HS	72	2	217.0000
AF4HS	72	3	239.0000
AF4HS	72	4	9.0000
AF4HS	72	5	102.0000
AF4HS	72	6	116.0000
AF4HS	72	7	348.0000
AF4HS	72	8	373.0000
AF4HS	72	9	302.0000
AF4HS	72	10	313.0000
AF4HS	72	11	275.0000
AF4HS	72	12	199.0000
AF4HS	73	1	302.0000
AF4HS	73	2	319.0000
AF4HS	73	3	200.0000
AF4HS	73	4	210.0000
AF4HS	73	5	172.0000
AF4HS	73	6	110.0000
AF4HS	73	7	53.0000
AF4HS	73	8	48.0000
AF4HS	73	9	34.0000
AF4HS	73	10	32.0000
AF4HS	73	11	36.0000
AF4HS	73	12	36.0000
AF4HS	74	1	36.0000
AF4HS	74	2	36.0000
AF4HS	74	3	36.0000
AF4HS	74	4	36.0000
AF4HS	74	5	36.0000
AF4HS	74	6	36.0000

This time series is the number of Category IV Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III, IV AIR FORCE VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF1234HS	70	1	3248.0000
AF1234HS	70	2	2966.0000
AF1234HS	70	3	2575.0000
AF1234HS	70	4	2173.0000
AF1234HS	70	5	2568.0000
AF1234HS	70	6	3325.0000
AF1234HS	70	7	3011.0000
AF1234HS	70	8	2782.0000
AF1234HS	70	9	2882.0000
AF1234HS	70	10	4237.0000
AF1234HS	70	11	4205.0000
AF1234HS	70	12	3192.0000
AF1234HS	71	1	3238.0000
AF1234HS	71	2	3224.0000
AF1234HS	71	3	4366.0000
AF1234HS	71	4	3861.0000
AF1234HS	71	5	3482.0000
AF1234HS	71	6	6625.0000
AF1234HS	71	7	6301.0000
AF1234HS	71	8	6477.0000
AF1234HS	71	9	5905.0000
AF1234HS	71	10	4767.0000
AF1234HS	71	11	3231.0000
AF1234HS	71	12	3047.0000
AF1234HS	72	1	3371.0000
AF1234HS	72	2	2761.0000
AF1234HS	72	3	3077.0000
AF1234HS	72	4	3548.0000
AF1234HS	72	5	4551.0000
AF1234HS	72	6	4653.0000
AF1234HS	72	7	6723.0000
AF1234HS	72	8	6475.0000
AF1234HS	72	9	6302.0000
AF1234HS	72	10	6073.0000
AF1234HS	72	11	5387.0000
AF1234HS	72	12	3035.0000
AF1234HS	73	1	5527.0000
AF1234HS	73	2	5022.0000
AF1234HS	73	3	3707.0000
AF1234HS	73	4	3459.0000
AF1234HS	73	5	4453.0000
AF1234HS	73	6	7296.0000
AF1234HS	73	7	5692.0000
AF1234HS	73	8	6137.0000
AF1234HS	73	9	5395.0000
AF1234HS	73	10	5018.0000
AF1234HS	73	11	4332.0000
AF1234HS	73	12	2789.0000

This time series is the number of Category I, II, III, IV Air Force volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III, IV AIR FORCE BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
AF1234BHS	70	1	438.8000
AF1234BHS	70	2	426.6000
AF1234BHS	70	3	394.4000
AF1234BHS	70	4	351.2000
AF1234BHS	70	5	460.3000
AF1234BHS	70	6	506.5000
AF1234BHS	70	7	461.5000
AF1234BHS	70	8	455.1000
AF1234BHS	70	9	441.1000
AF1234BHS	70	10	743.3000
AF1234BHS	70	11	799.1000
AF1234BHS	70	12	687.2000
AF1234BHS	71	1	629.6000
AF1234BHS	71	2	676.2000
AF1234BHS	71	3	909.6000
AF1234BHS	71	4	962.6000
AF1234BHS	71	5	784.3000
AF1234BHS	71	6	1171.5000
AF1234BHS	71	7	1145.4000
AF1234BHS	71	8	1184.8000
AF1234BHS	71	9	971.3000
AF1234BHS	71	10	928.8000
AF1234BHS	71	11	548.1000
AF1234BHS	71	12	486.0000
AF1234BHS	72	1	399.7000
AF1234BHS	72	2	413.4000
AF1234BHS	72	3	435.6000
AF1234BHS	72	4	487.0000
AF1234BHS	72	5	620.0000
AF1234BHS	72	6	443.2000
AF1234BHS	72	7	807.5000
AF1234BHS	72	8	862.1000
AF1234BHS	72	9	516.0000
AF1234BHS	72	10	569.4000
AF1234BHS	72	11	793.0000
AF1234BHS	72	12	1207.6000
AF1234BHS	73	1	807.5000
AF1234BHS	73	2	862.1000
AF1234BHS	73	3	516.0000
AF1234BHS	73	4	569.4000
AF1234BHS	73	5	793.0000
AF1234BHS	73	6	1207.6000
AF1234BHS	73	7	995.5000
AF1234BHS	73	8	927.3000
AF1234BHS	73	9	723.1000
AF1234BHS	73	10	821.3000
AF1234BHS	73	11	853.2000
AF1234BHS	73	12	611.1000

This time series is the number of Category I, II, III, IV Air Force black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III MARINE CORPS VOLUNTEERS

NAME	YEAR	MON	VALUE
12317	70	1	3418.4000
12317	70	2	3304.7000
12317	70	3	2565.6000
12317	70	4	2153.2000
12317	70	5	1963.1000
12317	70	6	3578.9000
12317	70	7	3669.9000
12317	70	8	4214.6000
12317	70	9	4152.8000
12317	70	10	2898.2000
12317	70	11	2622.2000
12317	70	12	2294.6000
12317	71	1	3242.9000
12317	71	2	2733.5000
12317	71	3	2375.8000
12317	71	4	2248.6000
12317	71	5	1979.3000
12317	71	6	3306.5000
12317	71	7	3525.0000
12317	71	8	3685.2000
12317	71	9	3411.6000
12317	71	10	2666.7000
12317	71	11	2287.2000
12317	71	12	2270.1000
12317	72	1	3286.1000
12317	72	2	3115.1000
12317	72	3	3902.2000
12317	72	4	2894.5000
12317	72	5	2613.7000
12317	72	6	4665.1000
12317	72	7	4136.0000
12317	72	8	4096.0000
12317	72	9	3913.0000
12317	72	10	2976.0000
12317	72	11	2691.0000
12317	72	12	2356.0000
12317	73	1	3408.0000
12317	73	2	2977.0000
12317	73	3	2709.0000
12317	73	4	2492.0000
12317	73	5	2810.0000
12317	73	6	5100.0000
12317	73	7	4284.0000
12317	73	8	4404.0000
12317	73	9	3762.0000
12317	73	10	3181.0000
12317	73	11	2861.0000
12317	73	12	2765.0000

This time series is the number of Category I, II, III Marine Corps volunteers as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III MARINE CORPS VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
MC123HS	70	1	1712.0000
MC123HS	70	2	1468.0000
MC123HS	70	3	959.0000
MC123HS	70	4	717.0000
MC123HS	70	5	741.0000
MC123HS	70	6	1937.0000
MC123HS	70	7	1867.0000
MC123HS	70	8	2362.0000
MC123HS	70	9	2241.0000
MC123HS	70	10	1357.0000
MC123HS	70	11	1137.0000
MC123HS	70	12	998.0000
MC123HS	71	1	1486.0000
MC123HS	71	2	1139.0000
MC123HS	71	3	936.0000
MC123HS	71	4	854.0000
MC123HS	71	5	738.0000
MC123HS	71	6	1858.0000
MC123HS	71	7	1991.0000
MC123HS	71	8	2048.0000
MC123HS	71	9	1973.0000
MC123HS	71	10	1365.0000
MC123HS	71	11	942.0000
MC123HS	71	12	931.0000
MC123HS	72	1	1504.0000
MC123HS	72	2	1139.0000
MC123HS	72	3	1171.0000
MC123HS	72	4	849.0000
MC123HS	72	5	819.0000
MC123HS	72	6	2533.0000
MC123HS	72	7	1930.0000
MC123HS	72	8	1976.0000
MC123HS	72	9	1859.0000
MC123HS	72	10	1378.0000
MC123HS	72	11	1094.0000
MC123HS	72	12	813.0000
MC123HS	73	1	1499.0000
MC123HS	73	2	1083.0000
MC123HS	73	3	828.0000
MC123HS	73	4	654.0000
MC123HS	73	5	791.0000
MC123HS	73	6	2489.0000
MC123HS	73	7	2102.0000
MC123HS	73	8	2119.0000
MC123HS	73	9	1969.0000
MC123HS	73	10	1391.0000
MC123HS	73	11	996.0000
MC123HS	73	12	904.0000

This time series is the number of Category I, II, III Marine Corps volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III MARINE CORPS BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
MC123BHS	70	1	123.2000
MC123BHS	70	2	96.9000
MC123BHS	70	3	87.4000
MC123BHS	70	4	55.1000
MC123BHS	70	5	67.8000
MC123BHS	70	6	103.5000
MC123BHS	70	7	113.3000
MC123BHS	70	8	115.2000
MC123BHS	70	9	74.4000
MC123BHS	70	10	149.9000
MC123BHS	70	11	140.7000
MC123BHS	70	12	133.1000
MC123BHS	71	1	168.8000
MC123BHS	71	2	136.4000
MC123BHS	71	3	96.0000
MC123BHS	71	4	129.1000
MC123BHS	71	5	107.8000
MC123BHS	71	6	216.2000
MC123BHS	71	7	232.3000
MC123BHS	71	8	228.1000
MC123BHS	71	9	194.1000
MC123BHS	71	10	159.1000
MC123BHS	71	11	88.6000
MC123BHS	71	12	111.9000
MC123BHS	72	1	196.6000
MC123BHS	72	2	174.4000
MC123BHS	72	3	198.1000
MC123BHS	72	4	165.1000
MC123BHS	72	5	188.9000
MC123BHS	72	6	352.4000
MC123BHS	72	7	287.9000
MC123BHS	72	8	213.3000
MC123BHS	72	9	175.3000
MC123BHS	72	10	135.1000
MC123BHS	72	11	157.9000
MC123BHS	72	12	394.3000
MC123BHS	73	1	287.9000
MC123BHS	73	2	213.3000
MC123BHS	73	3	175.3000
MC123BHS	73	4	135.1000
MC123BHS	73	5	157.9000
MC123BHS	73	6	394.3000
MC123BHS	73	7	420.4000
MC123BHS	73	8	409.4000
MC123BHS	73	9	300.9000
MC123BHS	73	10	239.3000
MC123BHS	73	11	193.3000
MC123BHS	73	12	240.3000

This time series is the number of Category I, II, III Marine Corps black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III MARINE CORPS VOLUNTEERS WHO ARE NOT HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
MC123NHS	70	1	1706.4000
MC123NHS	70	2	1836.7000
MC123NHS	70	3	1606.6000
MC123NHS	70	4	1436.2000
MC123NHS	70	5	1222.1000
MC123NHS	70	6	1641.9000
MC123NHS	70	7	1802.9000
MC123NHS	70	8	1852.6000
MC123NHS	70	9	1911.8000
MC123NHS	70	10	1541.2000
MC123NHS	70	11	1485.2000
MC123NHS	70	12	1296.6000
MC123NHS	71	1	1756.9000
MC123NHS	71	2	1594.5000
MC123NHS	71	3	1469.8000
MC123NHS	71	4	1394.6000
MC123NHS	71	5	1271.3000
MC123NHS	71	6	1448.5000
MC123NHS	71	7	1564.0000
MC123NHS	71	8	1637.2000
MC123NHS	71	9	1438.6000
MC123NHS	71	10	1301.7000
MC123NHS	71	11	1345.2000
MC123NHS	71	12	1339.1000
MC123NHS	72	1	1782.1000
MC123NHS	72	2	1916.1000
MC123NHS	72	3	2731.2000
MC123NHS	72	4	2045.5000
MC123NHS	72	5	1794.7000
MC123NHS	72	6	2132.1000
MC123NHS	72	7	2146.0000
MC123NHS	72	8	2110.0000
MC123NHS	72	9	2054.0000
MC123NHS	72	10	1598.0000
MC123NHS	72	11	1607.0000
MC123NHS	72	12	1553.0000
MC123NHS	73	1	1909.0000
MC123NHS	73	2	1894.0000
MC123NHS	73	3	1891.0000
MC123NHS	73	4	1838.0000
MC123NHS	73	5	2019.0000
MC123NHS	73	6	2611.0000
MC123NHS	73	7	2182.0000
MC123NHS	73	8	2285.0000
MC123NHS	73	9	1793.0000
MC123NHS	73	10	1790.0000
MC123NHS	73	11	1865.0000
MC123NHS	73	12	1861.0000
MC123NHS	74	1	1861.0000
MC123NHS	74	2	1861.0000
MC123NHS	74	3	1861.0000
MC123NHS	74	4	1861.0000
MC123NHS	74	5	1861.0000
MC123NHS	74	6	1861.0000

This time series is the number of Category I, II, III Marine Corps volunteers who are not diploma high school graduates as estimated by the GRC maximum method that includes 100 percent men without LSNs as volunteers. The data were derived from the GRC data bases by subtracting Category I, II, III marine Corps volunteers who are diploma high school graduates from Category I, II, III Marine Corps volunteers.

CATEGORY I, II, III, IV MARINE CORPS VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
MC1234HS	70	1	2058.0000
MC1234HS	70	2	1809.0000
MC1234HS	70	3	1163.0000
MC1234HS	70	4	896.0000
MC1234HS	70	5	905.0000
MC1234HS	70	6	2323.0000
MC1234HS	70	7	2285.0000
MC1234HS	70	8	2857.0000
MC1234HS	70	9	2629.0000
MC1234HS	70	10	1550.0000
MC1234HS	70	11	1317.0000
MC1234HS	70	12	1163.0000
MC1234HS	71	1	1714.0000
MC1234HS	71	2	1336.0000
MC1234HS	71	3	1071.0000
MC1234HS	71	4	1021.0000
MC1234HS	71	5	861.0000
MC1234HS	71	6	2180.0000
MC1234HS	71	7	2424.0000
MC1234HS	71	8	2572.0000
MC1234HS	71	9	2397.0000
MC1234HS	71	10	1716.0000
MC1234HS	71	11	1248.0000
MC1234HS	71	12	1161.0000
MC1234HS	72	1	1771.0000
MC1234HS	72	2	1448.0000
MC1234HS	72	3	1546.0000
MC1234HS	72	4	1109.0000
MC1234HS	72	5	1090.0000
MC1234HS	72	6	3193.0000
MC1234HS	72	7	2438.0000
MC1234HS	72	8	2536.0000
MC1234HS	72	9	2347.0000
MC1234HS	72	10	1784.0000
MC1234HS	72	11	1428.0000
MC1234HS	72	12	1104.0000
MC1234HS	73	1	1858.0000
MC1234HS	73	2	1311.0000
MC1234HS	73	3	939.0000
MC1234HS	73	4	741.0000
MC1234HS	73	5	874.0000
MC1234HS	73	6	2725.0000
MC1234HS	73	7	2271.0000
MC1234HS	73	8	2282.0000
MC1234HS	73	9	2105.0000
MC1234HS	73	10	1542.0000
MC1234HS	73	11	1096.0000
MC1234HS	73	12	1013.0000

This time series is the number of Category I, II, III, IV Marine Corps volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

CATEGORY I, II, III, IV MARINE CORPS BLACK VOLUNTEERS
WHO ARE HIGH SCHOOL GRADUATES

NAME	YEAR	MON	VALUE
MC1234BHS	70	1	259.8000
MC1234BHS	70	2	242.5000
MC1234BHS	70	3	143.1000
MC1234BHS	70	4	111.0000
MC1234BHS	70	5	127.4000
MC1234BHS	70	6	196.5000
MC1234BHS	70	7	221.9000
MC1234BHS	70	8	230.3000
MC1234BHS	70	9	159.8000
MC1234BHS	70	10	239.6000
MC1234BHS	70	11	213.5000
MC1234BHS	70	12	209.7000
MC1234BHS	71	1	277.3000
MC1234BHS	71	2	231.4000
MC1234BHS	71	3	158.8000
MC1234BHS	71	4	215.1000
MC1234BHS	71	5	176.4000
MC1234BHS	71	6	334.1000
MC1234BHS	71	7	427.8000
MC1234BHS	71	8	467.3000
MC1234BHS	71	9	371.6000
MC1234BHS	71	10	339.7000
MC1234BHS	71	11	245.9000
MC1234BHS	71	12	237.2000
MC1234BHS	72	1	321.6000
MC1234BHS	72	2	284.0000
MC1234BHS	72	3	392.2000
MC1234BHS	72	4	304.0000
MC1234BHS	72	5	350.2000
MC1234BHS	72	6	679.6000
MC1234BHS	72	7	459.9000
MC1234BHS	72	8	332.8000
MC1234BHS	72	9	229.0000
MC1234BHS	72	10	177.7000
MC1234BHS	72	11	199.8000
MC1234BHS	72	12	490.5000
MC1234BHS	73	1	459.9000
MC1234BHS	73	2	332.8000
MC1234BHS	73	3	229.0000
MC1234BHS	73	4	177.7000
MC1234BHS	73	5	199.8000
MC1234BHS	73	6	490.5000
MC1234BHS	73	7	486.9000
MC1234BHS	73	8	469.2000
MC1234BHS	73	9	358.8000
MC1234BHS	73	10	301.0000
MC1234BHS	73	11	234.5000
MC1234BHS	73	12	283.5000

This time series is the number of Category I, II, III, IV Marine Corps black volunteers who are diploma high school graduates as estimated by the GRC maximum method that includes 100 percent of the men without LSNs as volunteers.

Appendix E

INTERPRETATION OF THE REGRESSION ANALYSIS REPORTS

This appendix provides an explanation of the computer program report used to display regression results in Chaps. 3-7. The report is a summary of the regression results for a subset of the analysis and describes the elements of each regression. An example of the report is shown in Table E-1.

The regression models derived by the nonlinear program are shown in Table E-1 and the number of regressions performed is indicated by the number of symbolic terms under the heading "DEPENDENT VARIABLES." In the example, results for eight regressions are displayed: the dependent variables* are N1HS, N2HS, N3HS and N4HS. The example report summarizes the effectiveness of several Service programs on Navy volunteer enlistments by separate mental category groups.

Symbols for the program variables in the analysis are listed in the first column at the left of the report under the heading "INDEP. VARIABLES AND MONTHLY SHIFTS." A shift of -n means that the variable represents a program lagged by n months in effect. In the example, there are ten independent variables: NQOT-DM, MILCIVPAY, DUNEMPL1(-2,-1,0), OPTSTONAV (-2,-1,0), BNS-HS and BNS-INC. Some or all of the independent variables were available for selection into each regression. The four-part unit entry for each independent variable indicates whether or not a variable was allowed to enter a regression and if so, the status of that variable at the end of the stepwise regression procedure.

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*Time series variables are listed and described in App D.

Table E-1

EXAMPLE OF REGRESSION SUMMARY REPORT

-KEY TO UNIT ENTRY-
COEFFICIENT
STANDARD ERROR
F TO LEAVE OR ENTER
ELASTICITY

	DEPENDENT VARIABLES							
	N1HS	N2HS	N3HS	N4HS	N1HS	N2HS	N3HS	N4HS
R SQUARED	.5087	.3603	.6739	.5697	.6200	.7580	.7845	.8687
CONSTANT	104.010	1072.397	449.474	-2648.453	107.374	2529.555	1983.750	-4366.552
ELAST. CONST.	.52023	.62906	.23716	.71039	.54086	1.49986	1.06517	1.17670
INDEP. VARIABLES AND MONTHLY SHIFTS								
NQOT-DM	.0137	.0241	.0641	-.1538	.0101	.0642	.1015	-.2193
-0	.0128	.0114	.0140	.0279	.0030	.0102	.0154	.0249
	23.8181	4.4687	20.8410	30.3299	11.3604	39.5680	43.6643	77.7196
	.4797	.0994	.2422	.2896	.3575	.2673	.3870	.4148
MILCIVPAY	0.0000	1358.7820	749.3128	0.0000	0.0000	0.0000	448.2879	324.8746
-6	0.0000	151.6335	185.6938	0.0000	0.0000	0.0000	237.2410	381.3736
	3.9760	5.6453	16.2829	5.9112	2.4077	.5171	3.5705	.7257
	0.0000	.2716	.5206	0.0000	0.0000	0.0000	.3142	-.1130
BNS-INC	0.0000	0.0000	0.0000	0.0000	-36.4244	0.0000	0.0000	-361.3866
-0	0.0000	0.0000	0.0000	0.0000	29.8695	0.0000	0.0000	189.9376
	0.0000	0.0000	0.0000	0.0000	1.0375	.8433	2.6504	3.6201
	0.0000	0.0000	0.0000	0.0000	-.0341	0.0000	0.0000	.0216
BNS-HS	0.0000	0.0000	0.0000	0.0000	-33.6327	-52.2126	-143.0180	-71.2273
-0	0.0000	0.0000	0.0000	0.0000	29.6130	96.2455	162.5388	261.1217
	0.0000	0.0000	0.0000	0.0000	1.2899	.2943	.7742	.0744
	0.0000	0.0000	0.0000	0.0000	-.0894	-.0163	-.0410	.0101
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	-11.8255	-103.4249	-109.1067	154.7305
-2	0.0000	0.0000	0.0000	0.0000	10.1537	31.5505	47.3950	83.3880
	0.0000	0.0000	0.0000	0.0000	1.3564	10.7458	5.2995	3.4431
	0.0000	0.0000	0.0000	0.0000	-.7291	-.7509	-.7254	-.5103
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.5503	.0187	.1223	.4713
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
DUNEMPL1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0100	.0060	.1945	.0184
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-2	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.3152	2.6129	2.0504	.0151
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
-1	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	.0787	1.7746	2.4374	.0062
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
OPTSTONAV	0.0000	0.0000	0.0000	0.0000	12.5815	0.0000	0.0000	0.0000
-0	0.0000	0.0000	0.0000	0.0000	7.7462	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	2.6380	.9911	1.6565	.0065
	0.0000	0.0000	0.0000	0.0000	.9541	0.0000	0.0000	0.0000

Evaluative information about a regression is given in the Table E-1 output. The most important information is displayed in the row entitled "R-SQUARED" and in the independent variable unit entries. Values in the "R-SQUARED" row are squares of the multiple correlation coefficient for the regressions. These values are measures of the proportion of total variation in the data which are explained by the regression equation. Therefore, a regression for which R-SQUARED is .67 is assumed to have more predictive power as a model than one for which R-SQUARED is .36.

A unit entry for an independent variable listed in the report consists of four decimal values which provide the following information:

Line 1: The coefficient for this variable in the final regression. This field is zero whenever the variable did not appear in the final equation or was never allowed to enter the regression. In the first regression of the example, the equation given in linear form* is

$$Y = .0137X_1 + 0.0X_2 + 104.01$$

where

Y = N1HS population group

X_1 = NQOT-DM program variable

X_2 = MILCIVPAY program variable

Note that the equation contains a constant value 104.01 -- the intercept value for the regression model. The constant term for each regression appears on the output directly below the R-SQUARED values.

Line 2: The standard error of estimates for this variable. This field is zero whenever the variable was not included in the final equation or was never allowed to enter the regression procedure.

Line 3: The F value for this variable at the end of the stepwise regression procedure. When the coefficient for this variable is nonzero,

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*The exact form of the regression model for a population group Y is

$$Y_i = \prod_{j=1}^{12} e^{\alpha_j \delta_{ij} \left(\sum_{k=1}^{N} \beta_k X_{ik} + \beta_o \right)}$$

where N is the number of independent variables in the model. See App C for further explanation of the terms in the model.

the F value denotes the significance of this variable in the regression. It is also used to test the hypothesis that the coefficient is zero for this variable. If the value in this field is "0.0000," the independent variable was not available for inclusion in the regression, i.e., the variable was not among the input variables to the regression procedure. When the coefficient of an independent variable in a regression is zero, the F value most often displays a small value. This shows that the variable would have been ineffectual or insignificant in the regression. When a variable does not appear in the final regression step, but a high F value is displayed, the variable was restricted because of the coefficient's positive or negative sign.

Line 4: The elasticity for this variable. The field is zero whenever the variable was not allowed in the regression or did not appear in the final step of the procedure. The elasticity measures the average percentage increase in the population variable due to a percentage increase in the independent variable. The elasticity for an independent variable in a regression model is computed as shown below.

$$\text{elasticity}_X = \beta(\bar{X}/\bar{Y})$$

where

X = independent variable

β = regression coefficient

$\bar{X}$ = mean value of the independent variable X

$\bar{Y}$ = mean value of the dependent or population variable Y

Other pertinent information on the report is given by the values in the row designated "ELAST.CONST." These values are computed such that when added to the sum of the elasticities of the independent variables in the regression, the result is unity. These elasticity constants may not be interpreted in the same manner as independent variable elasticities but are considered rather as "absorption" factors of the regressions.

Appendix F

ANALYSIS OF RECRUITER COSTS

The data on Table F-1 summarize the Services' responses to a GRC request for data on the average annual cost of fielding a production recruiter. The costs were divided into three major categories: initial investment costs, annual direct operating costs and annual overhead costs.

The first category is the initial investment required to add one more recruiter to the force. To some extent, it is also the cost of replacing one recruiter with another since recruiter training costs will be incurred both as the force is expanded and as normal personnel turnover occurs.

Initial investment costs range from a high of $18,500 for the Air Force to as low as $1,600 for the Navy. GRC believes the differences result from variations in cost accounting procedures and recruiter training methods of the Services. All Services, except the Air Force, show rather modest training costs. The cost of training an Air Force recruiter has recently increased from the $10,000 figure displayed in Table F-1 to approximately $11,000 in FY75. Unlike the other Services' training cost figures, the Air Force accumulates all costs associated with bringing an airman into the recruiter force. GRC has obtained a breakdown of those costs as shown in Table F-2.

Training costs for Air Force recruiter support personnel are also formulated in a similar manner. For the data that appear on Table F-3, GRC has elected to show only the costs associated with the recruiter training school so that such costs are more comparable with the other Services.

Table F-1

SERVICE-SUPPLIED PRODUCTION RECRUITER ANNUAL COST DATA

	Army	Navy	Marine Corps	Air Force	DOD average
Initial investment costs	$5,527	$1,618	$1,649	$18,449	$6,811
Vehicle procurement[a]	1,826	0	0	0	0
Office equipment	850	150	231	1,114	586
Supplies	35	73	67	38	53
Recruiter training	1,854	1,395	1,351	10,041	3,660
Other personnel training	962	0	0	7,256	2,054
Annual direct operating costs	20,050	20,254	22,100	29,130	22,884
Office equipment replacement	85	119	108	220	133
Supplies	210	195	322	797	381
Recruiter replacement and training (refresher courses)	510	901	629	2,510	1,138
Other personnel replacement and training	160	0	0	1,814	494
Recruiter pay and allowances	11,300	10,595	9,779	10,462	10,534
Other personnel pay and allowances	7,785	8,444	11,262	13,327	10,204
Annual overhead costs	4,082	1,493	3,640	5,002	5,682
Vehicle operation and maintenance	819	1,016	1,260	1,677	1,020
Facility rental	1,650	0[b]	1,717	1,816	1,295
Communications	914	306	415	1,434	3,069
Administrative travel and per diem	699	171	248	75	298
Total costs	$29,659	$23,365	$27,389	$52,581	$35,377

[a]All Services are now leasing their sedans either commercially or through GSA.

[b]The Navy did not provide a cost for this element but it is possible that their rental expense is similar to the other Services.

Table F-3

GRC MODIFIED PRODUCTION RECRUITER COST ESTIMATES (FY75 DOLLARS)

	Army	Navy	Marine Corps	Air Force	DOD average
Initial investment costs	$3,900	$3,200	$3,150	$10,300	$5,140
Vehicle procurement[a]	0	0	0	0	
Office equipment and supplies	600	600	600	600	600
Recruiter training (cost of courses)[b]	2,100[c]	1,400	1,350	6,600[c]	2,860
Other personnel training[b]	1,200[c]	1,200[c]	1,200[c]	3,100[c]	1,680
Annual recurring costs	25,470	25,220	27,020	32,250	27,510
Office equipment replacement and supplies	500	500	500	500	500
Recruiter replacement and training[d]	800	1,200	900	1,400	1,100
Other personnel replacement and training (refresher)[e]	400	200	200	800	400
Recruiter pay and allowances (RMC)[f]	11,600	11,600	10,700	11,600	11,400
Other personnel pay and allowances	8,000	8,500	11,000	13,000	10,100
Vehicle operation and maintenance	820	1,000	1,300	1,700	1,200
Facility rental	1,750	1,750	1,750	1,750	1,750
Communications	900	300	420	1,400	760
Administrative travel and per diem	700	170	250	100	300
Total costs	$29,370	$28,420	$30,170	$42,550	$32,650

[a]Assumes all vehicles leased either commercially or from GSA. Should include depreciation expenses as an off-set to procurement costs.

[b]The Air Force-supplied cost included basic training plus an allow ance for OJT. This and certain other costs were removed to show cost of recruiter or support course only. The Army recruiter course cost revised based on latest Army (C) data for MOS OOE.

[c]Not included in Service recruiting budgets.

[d]Includes $300 per man at average PCS cost. Based on 20 percent annual turnover rate times a $1500 average PCS cost.

[e]Includes $200 per man as average PCS cost for other military personnel.

[f]Based on average RMC for an E-6.5 average enlisted grade for all Services except USMC with an E-6.0 average grade.

Table F-2

AIR FORCE RECRUITER TRAINING COST

Cost component	Cost
Initial procurement and pre-technical training	$2,428
Recruiter specialty training	6,558
Capital investment	768
On-the-job training	1,101
Leave and other costs	234
Total	$11,089

Both the Army and the Air Force have formal training schools for their enlisted recruiters, while the Navy and Marine Corps do not. The higher overhead associated with operating a formal training school partially accounts for the difference in training costs among the Services. The Army's training costs, as displayed in Table F-1 are somewhat lower than the Air Force because only the costs incurred while in recruiter school are shown.* Information from the Army comptroller's office reveals that a cost comparable to the Air Force figure, to include basic training costs, is approximately $4,500. It also should be pointed out that the costs associated with initially training Army and Air Force recruiters is not included in their respective recruiting budgets, while recruiter training costs for the Navy and Marine Corps are funded through their recruiting budgets. Based on the POM recruiting personnel data and training school cost data, the Army and Air Force are each spending between $15-$20 million annually on training of recruiting personnel which does not appear in their recruiting budgets.**

The second and third categories on Table F-1 represent the annual costs to sustain a recruiter once he is assigned to the field. After reviewing the data, GRC does not believe the break-down between direct operating costs and overhead costs is of any particular value, since it

*In addition, course lengths vary between the Services, with the Air Force running an 8-week course and the Army's lasting 5 weeks.

**This estimate excludes basic training costs and initial recruit procurement expenses.

not clear which cost elements (or portion thereof) should be identified with the activities of a recruiter and what elements are strictly administrative overhead that remain relatively fixed as the number of production recruiters varies. Lumping the two categories together provides the annual recurring costs of sustaining a production recruiter, which is believed to be a more useful figure.

Table F-3 of this appendix is a GRC-revised version of the original Service input displayed at Table F-1. The revisions were made to make the Services' estimates more comparable with one another. Explanatory footnotes have been provided for Table F-3 when significant adjustments were made to the original Service versions. The overall effect of these changes causes the Air Force costs to decline, Navy and Marine Corps costs to rise, and practically no change to the Army's total cost. Table F-4 summarizes the cost results by major categories.

Table F-4

ALTERNATIVE ANNUAL PRODUCTION RECRUITER COSTS

	Army	Navy	Marine Corps	Air Force	DOD average
Total costs					
Service estimate	$29,700	$25,100	$27,400	$52,600	$35,400
GRC revised estimate	29,400	28,400	30,200	42,600	32,700
Annual recurring costs					
Service estimate	24,100	23,500	25,700	34,100	26,900
GRC revised estimate	25,500	25,200	27,200	32,300	27,500
FY75 recruiting budgets/number of production recruiters[a]	26,400[b]	24,000	22,500	26,000	24,700

[a]Based on POM data; rental costs assumed by Army ($20.6 million) are allocated in proportion to the number of production recruiters authorized for each Service.

[b]Excludes recruiter assistant costs; figure would rise to $33,000 with those costs included.

A determination of what figures to use for analytical or comparison purposes will depend upon what the cost figures are used for. If the purpose is to develop a standard cost to use in adjusting the recruiting

budgets, the GRC-revised annual recurring cost estimates are probably the most appropriate. On the other hand, if the purpose is to determine cost to the overall DOD budget, the DOD average total cost estimate of $35,000 is the most relevant.

For determining the marginal annual cost of an additional recruiter, a good estimate could be obtained by taking the GRC annual recurring cost and adding the initial investment cost prorated over 2 years. For DOD-wide, this produces an average cost of $30,100.

It is interesting to note that differing cost effectiveness results can be obtained using GRC's econometric measurements of the marginal recruiter productivity of male diploma high school graduates and the various annual recruiter cost estimates listed at Table F-4. Table F-5 summarizes those cost effectiveness results.

Table F-5

MARGINAL COST PER MALE DIPLOMA HIGH SCHOOL GRADUATE
USING ALTERNATIVE PRODUCTION RECRUITER COSTS

	Army	Navy	Marine Corps	Air Force
Annual marginal productivity for male high school graduates	4 ± 3	9 ± 2	2.5 ± 1	22 ± 5
Marginal costs				
Total cost				
Service estimate	7,425	2,790	10,960	2,390
GRC revised estimate	7,350	3,155	12,080	1,936
Annual recurring cost				
Service estimate	6,025	2,610	10,280	1,550
GRC revised estimate	6,375	2,800	10,880	1,468
FY75 budget/number or recruiters	6,600	3,333	9,000	1,181

The results show that, whatever recruiter cost estimate is chosen, the relative ranking among the Services in cost effectiveness does not change.

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