United States Army
Recruiting Command

USAREC SR86-1

COMPARISON OF MEDIA INFLATION

AND ACTIVE

ARMY RECRUITING ADVERTISING

EXPENDITURES

AD-A169 468

BY

GERALD A. KLOPP

MARCH 1986

DTIC FILE COPY

RESEARCH AND STUDIES DIVISION

PROGRAM ANALYSIS AND EVALUATION DIRECTORATE

FORT SHERIDAN, ILLINOIS 60037

86 7 3 073

COMPARISON OF MEDIA INFLATION

AND
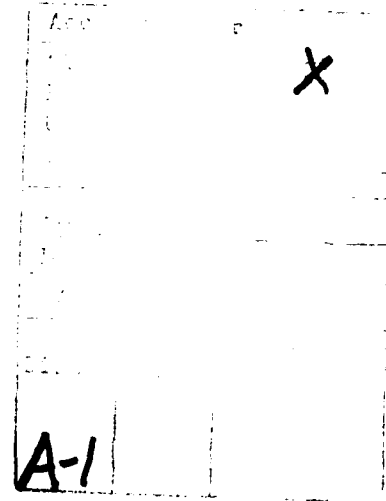
ACTIVE ARMY RECRUITING ADVERTISING EXPENDITURES

By

Gerald A. Klopp

Study Report (SR) 86-1

March 1986

Approved for public release; distribution unlimited

US Army Recruiting Command
Research and Studies Division
Program Analysis and Evaluation Directorate
Fort Sheridan, Illinois 60037

DISCLAIMER

The views, opinions, and findings in this report are those of the author and
should not be construed as an official Department of the Army position, policy,
or decision, unless so designated by other authorized documents.

ABSTRACT

Media inflation rates are developed for various media categories. These infla-
tion rates are used to develop equations to predict the future inflation rates.
Using the current media mixes of the U.S. Army Recruiting Command (USAREC)
advertising budget as weights for the media types, a composite inflation rate
is developed to estimate the inflation rate for future advertising. The actual
USAREC advertising inflation rate is compared to the estimated composite infla-
tion rates to illustrate how the buying power of the USAREC advertising budget
compares with the advertising media inflation.

ii

TABLE OF CONTENTS

TABLES AND FIGURES

Comparison of Media Inflation and Active Army Recruiting Advertising Expenditures

The Active Army (AA) advertising budget is a mixture of national media advertising, local media advertising, and other nonmedia expenditures. Each of the media types have several categories of advertising, with each type having a different historical rate of inflation. Since media inflation and media mix affects the Army's media buying power, this paper evaluates the historical advertising industry media inflation and AA recruiting advertising media mix to determine a composite historical inflation rate and to project future inflation rates for Army advertising. This allows Army planners to determine the effect of inflation on future buying power of Army advertising.

Since 1975, national media advertising costs have had a higher average inflation rate than the Consumer Price Index (CPI). For example, the cost of evening network TV has risen at an average rate of 13.0 percent per year (the highest media inflation rate), while the cost of network radio has had an average inflation rate of 8.2 percent (the lowest rate). The CPI, a nonadvertising indicator of consumer buying power, has had an average yearly increase of 7.4 percent.

Although local media advertising inflation rates are lower than those for national media, they, too, have had an average annual increase exceeding the average CPI inflation rate. The local newspaper advertising inflation rate has risen at an average 9.4 percent, while spot radio has had an average of 7.3 percent inflation rate per year.

Although the rates of media inflation are projected to decline, they will remain above the CPI inflation rate. The CPI appears to be a good variable for predicting media inflation rates, but each media type has a different relationship with the CPI.

In 1985, almost 30 percent of the $75.4 million AA advertising budget went for nonmedia (other) expenses. Evening network TV, at almost 25 percent of the AA advertising budget, was the largest media expense category. Using the actual media mix percentages as weights for the inflation rates of the various media and nonmedia categories, a composite inflation rate has been developed to show the past changes in AA advertising buying power and to predict future buying power based on the assumption that the future media mix will be similar to the 1985 media mix.

This composite inflation rate indicates that future AA advertising budgets will have to grow at 168 percent of the CPI inflation rate to keep the same advertising buying power achieved in 1985. When viewed over the period of 1982 to 1986, despite several increases which exceeded the CPI increase, AA advertising buying power has declined 12.5 percent since 1982.

The effects of declining AA advertising buying power can be lessened by switching from higher inflation rate media to lower inflation rate media (e.g., from evening network TV to spot radio). Indeed, since 1983, such a trend of shifting from higher inflation media to lower inflation media has been noted in the AA advertising media mix. What remains to be evaluated is the effectiveness of each media type in communicating the Army's advertising message.

THIS PAGE INTENTIONALLY LEFT BLANK

vi

COMPARISON OF MEDIA INFLATION
AND
ACTIVE ARMY RECRUITING ADVERTISING EXPENDITURES

1. BACKGROUND.

   As seen in figure 1, the funds for the Active Army advertising have increased from fiscal year 1976 (FY 76) through FY 83 and appear to have slowed down in growth thereafter. Advertising is one of many resources available to the Army to affect recruiting. Other variables also affect recruiting: number of recruiters, Army enlistment incentives, inflation, unemployment, mission size, and others. Ongoing research is trying to determine the relationship between these variables and how they affect recruiting.
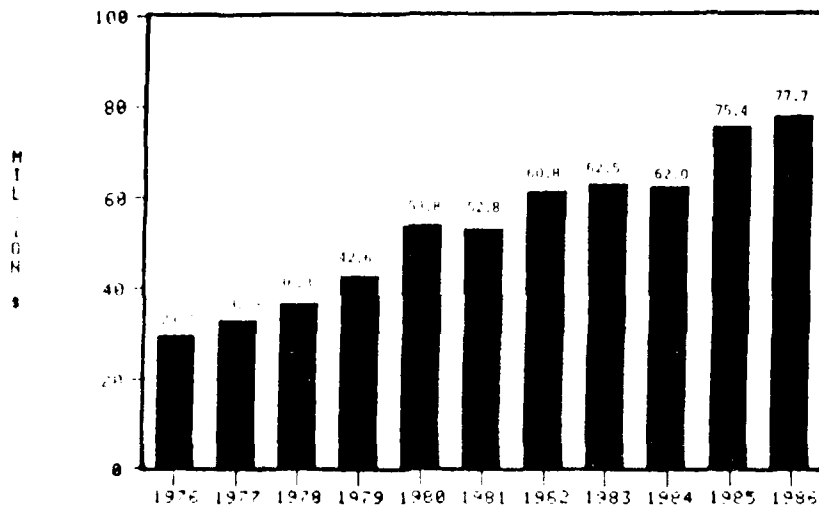
Figure 1. Active Army Advertising Budget

2. INFLATION RATES.

   We all know how inflation affects us from one year to another. Each year the salary of an individual must increase at the same rate as inflation for the individual to maintain the same buying power. If, on the other hand, the individual's income rises at a faster rate than the rate of inflation, the individual's real buying power increases. Also, for each year, the change in inflation is based upon the percentage of increase from the previous year. Thus, selecting some base period and assuming a constant rate of inflation of 10 percent, for example, as time increases the amount needed to maintain the buying power of $1.00 would be $1.10, $1.21, $1.33, $1,46, etc. for each successive year, with the base year having a buying power of $1.00.

   Observe that the above series "grows" at a rate such that the amount of the next year is the amount of the previous year times the inflation rate. This is referred to as compounding.

The compound-interest-rate equation, using a constant inflation rate of i percent per year, for the nth year is:

$$y = x(1.0+i)^n, \text{ where} \tag{1}$$

x is the base-year amount and y is the actual amount of the nth period. If the inflation rate varies, then the amount, y, at the end of the nth period is:

$$y = x(1+i_1)(1+i_2)(1+i_3)...(1+i_n), \tag{2}$$

where i_j is the inflation rate for periods $j = 1,2,...,n$.

Equation (2) could be used on the data in figure 1 to determine how the USAREC advertising budget has grown over the years. The changes in USAREC buying power can be determined by comparing the USAREC budget with changes in the inflation rates for the advertising industry.

To determine how cost trends in the advertising industry have affected the buying power of USAREC, data extracted from "The Return of Media Inflation," by Fred Brandt and Deborah Ellis (Ted Bates Media and Information Analysis Division) Marketing and Media Decisions, Fall 1985 Special Edition, will be used. The data tracks, among other items, cost-per-thousand trends from 1976 to 1985 by various media types. The data are in the form of percentage increases relative to the base year 1976. The values in table 1, columns (1), (3), (5), (7), and (9) for 1975 to 1983 are index values which were taken from the Fall 1984 Special Edition of Marketing and Media Decisions. The values in table 1 for 1984 and 1985 were converted from aggregate percent increase with the base year 1976 (Fall 1985) to index values with a base year 1975 (Fall 1984). This conversion from the values in the 1985 article to the values in the 1984 article was needed because the base year and form of values changed between the two articles.

Using the index numbers in columns (1), (3), (5), (7), and (9) in table 1, the inflation rate, i_j, for period j is found as follows:

$$i_j = \frac{(y_j - y_{j-1}) \times 100\%}{y_{j-1}} \qquad \text{for } j = 2, 3, 4,...,n, \tag{3}$$

where y_j is the index value for period j and y_{j-1} is the index value for period $j-1$.

In table 1, the index values in columns (1), (3), (5), and (7) for four categories of national advertising will be compared to the Consumer Price Index (CPI) in column (9). Later, a prediction equation will be developed to forecast the inflation rates of the four categories based on an estimate of the future CPI. A similar relationship will be developed in section 4 to forecast inflation rates for several other local advertising media categories.

2

Table 1. National Media Cost Per Thousand Trends

Year	(1)* Evening Net. TV	(2) Inflation Even Net TV (Percent)	(3)* Magazines	(4) Inflation Magazines (Percent)	(5)* Net Radio	(6) Inflation Radio (Percent)	(7)* Daytime Net TV	(8) Inflation Day Net TV (Percent)	(9)* CPI	(10) Inflation CPI (Percent)
1975	100	–	100	–	100	–	100	–	100	–
1976	108	8.0	102	2.0	110	10.0	125	25.0	105	5.0
1977	136	25.9	111	8.8	119	8.2	161	28.8	112	6.7
1978	149	9.6	122	9.9	129	8.4	174	8.1	122	8.9
1979	167	12.1	131	7.4	135	4.7	182	4.6	135	10.7
1980	190	13.8	147	12.2	145	7.4	203	11.5	153	13.3
1981	203	6.8	163	10.9	155	6.9	218	7.4	169	10.5
1982	251	23.7	181	11.0	166	7.1	239	9.2	179	5.9
1983	269	7.2	192	6.1	182	9.6	250	5.0	185	3.4
1984	309	14.9	205	6.8	200	9.9	270	8.0	192	5.9
1985**	335	8.4	223	8.9	220	10.0	304	12.6	200	4.2
Average (%)		13.0		8.4		8.2		12.0		7.4
Standard Deviation %		6.4		2.8		1.7		7.9		3.1
Coefficient*** of Variation		2.0		3.0		5.0		1.5		2.4

* Index values in columns (1), (3), (5), (7), and (9) indicate the change of cost relative to the base year 1975. For example, for 1976, evening network TV was 108 percent of the cost for 1975.

** Estimated values

*** Coefficient of variation is the ratio of the average divided by the standard deviation.

3

3. ESTIMATING NATIONAL MEDIA INFLATION TRENDS.

Table 1 shows the inflation rates for national media: evening network TV, magazines, network radio, and daytime network TV. As indicated in column 2 in table 1, the average inflation rate for evening network TV is the highest (13.0 percent), followed by a somewhat lower average rate for daytime network TV (12.0 percent), with the lowest rates for magazines, radio, and CPI (8.4, 8.2, and 7.4 percent, respectively). Also, from table 1, radio has had the most stable (constant) inflation rate, as evidenced by the highest coefficient of variation and daytime network TV has had the most unstable inflation rate, as evidenced by the lowest coefficient of variation.

The relationship between the inflation rates in table 1 (columns (2), (4), (6), and (8)) and the CPI inflation rate (column (10)) is not very strong. The highest correlation found was between network radio and CPI inflation rates (R^2 .56). Relationships between CPI inflation and the other national media inflation rates are much lower. When the actual index values for the national media in table 1 are compared to the CPI, stronger relationships were found. However, as illustrated in figure 2, the relationship appears to have changed in 1981.
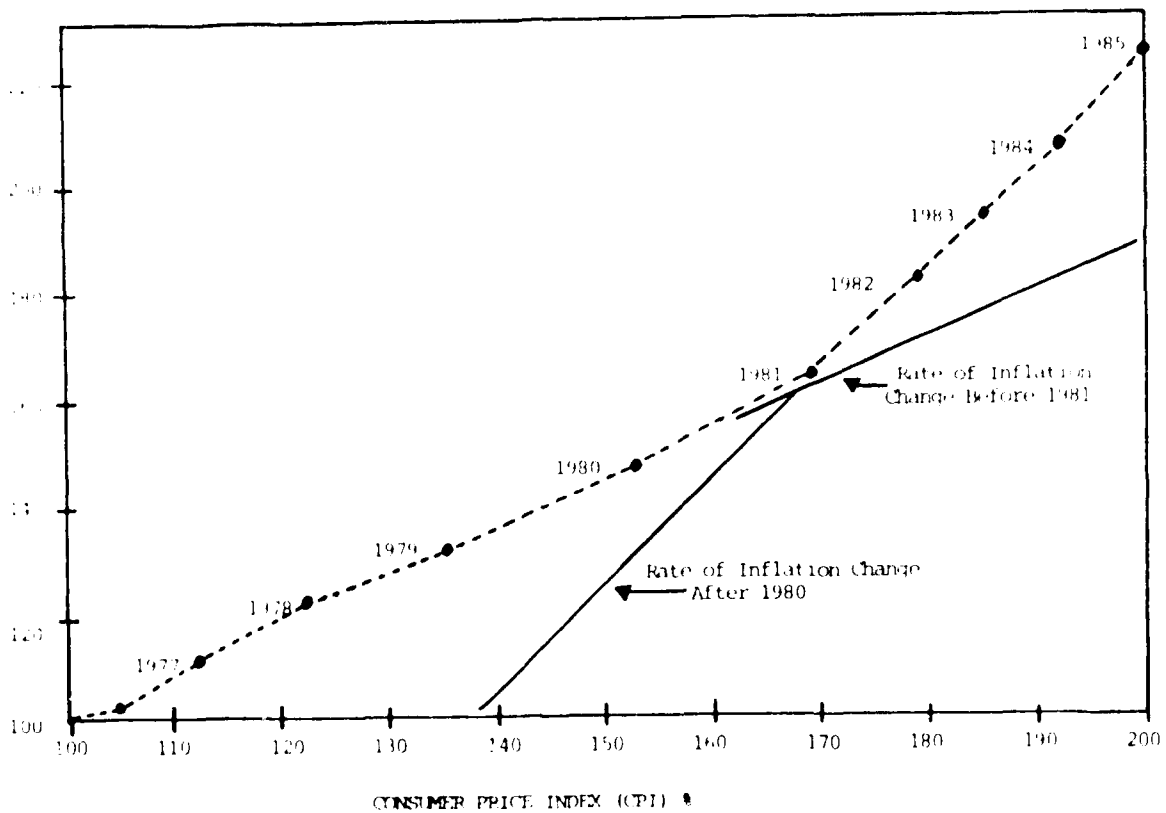

Figure 2. Bivariate Plot of Magazines Versus CPI Index Values

4

From figure 2, it can be seen that the first six values (period 1975 to 1980) have a lower slope than the next five values (period 1981 to 1985). Overall, the eleven values have a correlation (R²) of .97. However, using all eleven values to determine a relationship between the magazine index and CPI would result in lower forecasts for magazines because of the lower slope resulting from the first six data points. Similar changes in relationships between national media index values and CPI values were noted. Accordingly, the regression equations have been developed based on the last five index values of Table 1 only.

To develop the general inflation rates for the USAREC advertising budget, the index values of table 1 will be regressed against the CPI in table 1. Table 2 shows the relationship of the national indices to the CPI.

Table 2. National Advertising Media Inflation Relationship to CPI

(1) Category	(2) Constant(a)*	(3) Slope(b)*	(4) R^2
(1) Evening Network TV	-522.2	4.300	.99
(2) Magazines	-162.2	1.919	.99
(3) Radio	-215.5	2.163	.97
(4) Daytime Network TV	-254.4	2.710	.97

* Coefficients obtained by regressing columns (1), (3), (5), and (7) in table 1 as the dependent variable against column (9) as the independent variable.

The regression equation is:

$$y_j = a + b\ CPI_j, \qquad j = 1981, \ldots, 1985$$

where a is the value of the constant in column (2) above, and
b is the CPI adjustment rate in column (3) above.

The national media inflation rates for the period 1981-1985 and forecasted index values can be developed by using the regression results in table 2 and computing the inflation rates using equation (3), where y_j are the predicted index values. The estimated yearly inflation rates for the four national media are given in table 3.

5

Table 3. National Media Inflation Estimates

A. Network TV:

		Evening Network TV			Daytime Network TV		
Year	CPI	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)
1981	169	204.5	–	6.8	203.6	–	7.4
1982	179	247.5	21.0	23.7	230.7	13.3	9.2
1983	185	273.3	10.4	7.2	247.0	7.1	5.0
1984	192	303.4	11.0	14.9	265.9	7.7	8.0
1985	200	337.8	11.3	8.4	287.6	8.2	12.6
1986	208*	372.2	10.2		309.3	7.5	
1987	218*	415.2	11.6		336.4	8.8	
1988	228*	458.2	10.4		363.5	8.1	
1989	239*	505.5	10.3		393.3	8.2	
1990	250*	552.8	9.4		423.1	7.6	

* Assumed CPI growth (inflation) of 4.0, 4.6, 4.7, 4.4, and 4.5 percent for 1986-1990, respectively (P28, Blue Chip Economic Indicators, October 10, 1985).
Note: This is below the 7.4% average in column (10) of table 1.

B. Radio and Magazines:

		Network Radio			Magazines		
Year	CPI	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)
1981	169	150.0	–	6.9	162.1	–	10.9
1982	179	171.7	14.5	7.1	181.3	11.8	11.0
1983	185	184.7	7.6	9.6	192.8	6.3	6.1
1984	192	199.8	8.2	9.9	206.2	7.0	6.8
1985	200	217.1	8.7	10.0	221.6	7.5	8.8
1986	208*	234.4	8.0		237.0	7.0	
1987	218*	256.0	9.2		256.1	8.1	
1988	228*	277.7	8.5		275.3	7.5	
1989	239*	301.5	8.6		296.4	7.7	
1990	250*	325.3	7.9		317.6	7.2	

* Assumed CPI growth (inflation) of 4.0, 4.6, 4.7, 4.4, and 4.5 percent for 1986-1990, respectively (P28, Blue Chip Economic Indicators, October 10, 1985).
Note: This is below the 7.4% average in column (10) of table 1.

6

4. LOCAL ADVERTISING MEDIA INFLATION TRENDS.

Table 4 shows the actual indices and inflation rates for local advertising: spot radio, spot TV, and newspapers. Of the three local media, the newspaper media has the highest and most stable inflation rate (9.39 percent), followed by spot TV and radio (8.56 and 7.30 percent, respectively), with spot TV being the most unstable (lowest coefficient of variation).

Table 4. Local Advertising Cost-Per-Thousand Trends

Year	Spot Radio	Inflation Spot Radio (Percent)	Spot TV	Inflation Spot TV (Percent)	Local Newspapers	Inflation News (Percent)
1975	100	–	100	–	100	–
1976	112	12.0	125	25.0	110	10.0
1977	122	8.9	131	4.8	119	8.2
1978	129	5.7	131	0.0	129	8.4
1979	135	4.7	143	9.2	139	7.8
1980	145	7.4	154	7.7	153	10.1
1981	155	6.9	162	5.2	173	13.1
1982	164	5.8	176	8.6	191	10.4
1983	176	7.3	190	8.0	210	10.0
1984	188	6.8	211	11.1	229	9.1
1985*	202	7.5	224	6.2	245	7.0
Average (Percent)		7.3		8.6		9.4
Standard Deviation (Percent)		1.9		6.2		1.6
Coefficient of Variation (Average/Standard Deviation)		3.8		1.4		5.8

---

* Estimated value.

To develop a forecast model for local media, the index values in table 4 are regressed against the CPI in table 1. The regression results are in table 5.

Table 5. Local Advertising Media Inflation Relationship to CPI

(1) Category	(2) Constant (a)*	(3) Slope (b)*	(4) R^2
Spot Radio	-111.3	1.558	.98
Spot TV	-196.0	2.101	.98
Local News	-236.2	2.410	.99

*Coefficients are obtained by regressing columns (1), (3), and (5) in table 4 as the dependent variable against column (9) in table 1 as the independent variable.

The regression equation is:

$$y_j = a + bCPI_j, \quad j = 1981, \cdots, 1985$$

where a is the value of the constant in column (2) above and
b is the value of the slope in column (3) above.

The local media inflation rates for the period 1981-1985 and forecasted index values can be developed by using the regression results in table 5 and computing the inflation rates using equation (3), where y_j are the predicted index values. The estimated yearly inflation rates for the three local media are given in table 6.

5. USAREC MEDIA INFLATION.

To begin the comparison of the media inflation rates to the USAREC advertising budget, the data from figure 1 are repeated in table 7 (column 2) and are converted to percentages of the base year (1976) to make the data in table 7 comparable to that given in tables 1 and 4. Inflation rates for the data are given in column 4 of table 7.

From table 7, since 1977, the average inflation (growth) in the USAREC advertising budget has been about 10.6 percent. Compared to the average inflation rates for evening network TV and daytime network TV in table 1 (13.0 and 12.0 percent, respectively), the USAREC advertising budget growth has not kept up with inflation. However, when compared with the average CPI inflation rate (7.4 percent) and other media inflation rates in tables 1 and 4, the USAREC advertising budget growth has, on the average, exceeded the average inflation rates for several media categories.

Because the total USAREC advertising budget is a composite of the various media categories, the next section will develop a specific USAREC advertising index based on the proposed percentages of advertising in national media, local media, and other media categories.

Table 6. Local Media Inflation Estimates

Year	CPI	Spot Radio			Spot TV			Local News		
		Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)	Index Predicted	Estimated Inflation (Percent)	Actual Inflation (Percent)
1981	169	152.0	-	6.9	159.1	-	5.2	171.1	-	13.1
1982	179	167.6	10.3	5.8	180.1	13.2	8.6	195.2	14.1	10.4
1983	185	176.9	5.5	7.3	192.7	7.0	8.0	209.7	7.4	10.0
1984	192	187.8	6.2	6.8	207.4	7.6	11.1	226.5	8.0	9.1
1985	200	200.3	6.7	7.5	224.2	8.1	6.2	245.8	8.5	7.0
1986	208*	212.8	6.2		241.0	7.5		265.1	7.9	
1987	218*	228.3	7.3		262.0	8.7		289.2	9.1	
1988	228*	243.9	6.8		283.0	8.0		313.3	8.3	
1989	239*	261.1	7.1		306.1	8.2		339.8	8.5	
1990	250*	278.2	6.6		329.3	7.6		366.3	7.8	

* Assumed CPI growth (inflation) of 4.0, 4.6, 4.7, 4.4, and 4.5 percent for 1986-1990, respectively (P28, Blue Chip Economic Indicators, October 10, 1985).

Table 7. Actual USAREC Advertising Budget*

(1)	(2)	(3)	(4)
Year	Amount ($ Millions)	Amount as a Percent of 1976	Inflation Rate (Percent)
1976	29.3	100.0	–
1977	32.8	111.9	11.9
1978	36.3	123.9	10.7
1979	42.6	145.4	17.4
1980	53.8	183.6	26.3
1981	52.8	180.2	-1.9
1982	60.8	207.5	15.2
1983	62.5	213.3	2.8
1984	62.0	211.6	-0.8
1985	75.4	257.3	21.6
1986	77.7	265.2	3.1

* SOURCE: USARCASP-PM, as of 24 Jan 86.

6. ADVERTISING BUDGET: A COMPOSITE OF MEDIA TYPES.

To develop a composite of the inflation rates for the USAREC advertising budget, it is necessary to consider the percentages of the USAREC budget spent on the various media categories. Table 8 shows the categories of expenditures by broadcast media, print media, and other advertising costs. The actual percentages of the USAREC advertising budget are given in table 9. The historical advertising data are not readily available prior to 1982 by media type. It will be assumed that the mix for 1986 and after will be similar to the mix in 1985.

Table 8. Media Categories

Broadcast Media	Print Media	Other
Evening Network TV	Newspapers	Nonmedia Expenses
Network Radio	Magazines	
Spot TV		
Spot Radio		

Table 9. Media Mix Percentages

Year	Evening Net TV	Network Radio	Spot TV	Spot Radio	Newspapers	Magazines	Other
1982	20.9	10.0	5.7	3.6	21.6	6.4	31.8
1983	31.5	7.5	2.7	2.0	17.4	8.4	30.6
1984	29.5	7.5	5.1	2.3	17.6	9.1	28.9
1985	24.8	6.7	3.2	3.5	21.4	11.7	28.9

SOURCE: USARCASP-PM, 21 Jan 86 (values are rounded).

10

Because the USAREC advertising budget fell from 1974 to 1976 (figure 1),
the base year will be changed to 1976 to compare the growth of the budget to
the individual media categories. Using equation (2), the media inflation rates
in tables 1 and 4, and the index values for USAREC advertising in table 7,
figure 3, shows a comparison of the USAREC advertising budget to several media
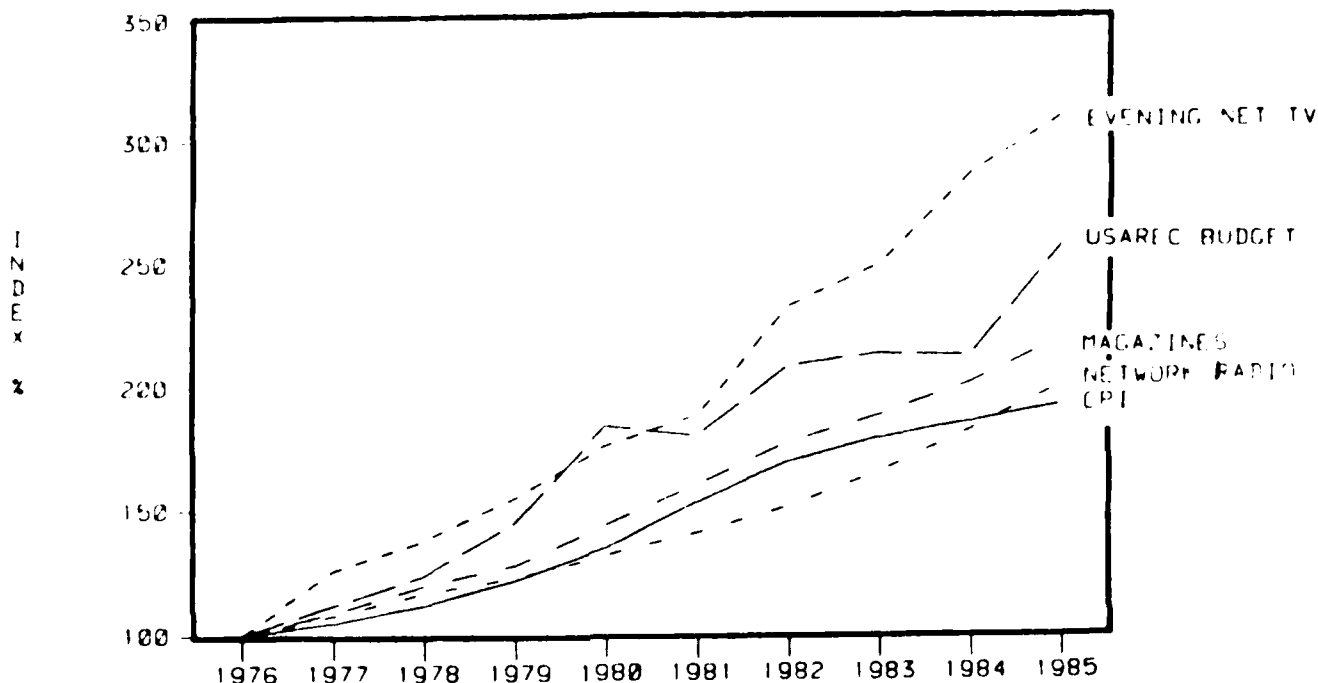inflation rates.

Figure 3. Comparison of USAREC Budget and Media Inflation Rates

Several observations can be made from figure 3. First, the USAREC adver-
tising budget has generally run above the CPI. However, from 1980 to 1984, the
USAREC budget was falling with respect to the CPI. Secondly, except for net-
work radio, the media shown in figure 3 have been rising at a rate higher than
the CPI. Finally, evening network TV has been rising at a much higher rate
than the CPI. If all of the USAREC budget were for network radio, for example,
then the USAREC budget would have grown at a faster rate and the buying power,
therefore, of USAREC advertising dollars would have increased. However, if all
of the USAREC advertising were in evening network TV, the buying power of
USAREC advertising dollars would have declined, since the USAREC budget line is
below the evening network TV line in figure 3.

The entire USAREC advertising budget is not spent in a single category.
Therefore, to see what rate of USAREC advertising inflation would be necessary
to keep up with media inflation, a composite inflation rate will be developed
using the percentages of actual USAREC media spending as weights for the media
inflation categories. By comparing the USAREC advertising budget to these com-
posite rates, an indication of the buying power of the USAREC advertising
budget can be made.

11

In order to develop both historical and projected composite inflation rates, the prediction equations for inflation rates by media type and CPI are used. It should be understood that because few data points are available for estimating the inflation equations, predictions too far into the future become less accurate. However, inflation rates for 1986 and 1987 should be reasonably accurate. Starting with 1982, the inflation rates for the six media types in table 8 and the CPI, which is the assumed inflation rate for the "other" category in table 8, are shown in table 10. The inflation rates for 1982 to 1985 are actual values and the rates after 1985 are forecasted values using table 2 and table 5 regression equations.

Table 10. Forecasted Media and CPI Inflation Rates

			Media Inflation Rates (Percent)				
Year*	Evening Net TV	Network Radio	Spot TV	Spot Radio	Newspapers	Magazines	Other** (CPI)
1982	23.7	7.1	8.6	5.8	10.4	11.0	5.9
1983	7.2	9.6	8.0	7.3	10.0	6.1	3.4
1984	14.9	9.8	11.1	6.8	9.1	6.8	5.9
1985	8.4	10.0	6.2	7.5	7.0	8.8	4.2
1986	10.2	8.0	7.5	6.2	7.9	7.0	4.0
1987	11.6	9.2	8.7	7.3	9.1	8.1	4.6
1988	10.4	8.5	8.0	6.8	8.3	7.5	4.7
1989	10.3	8.6	8.2	7.1	8.5	7.7	4.4
1990	9.4	7.9	7.6	6.6	7.8	7.2	4.5

* Inflation rates for 1982 to 1985 are actual values. Inflation rates from 1986 and after are forecasted values using tables 2 and 5.

** CPI rates from 1982 to 1985 are actual. Rates for 1986 and after are assumed. See footnote in table 3.

The composite advertising budget inflation rates using the USAREC media mix in table 9 and the media inflation rates in table 10 are shown in table 11. Table 11 also shows the ratio of the composite inflation rate to the CPI inflation rate.

Table 11. Composite Inflation Rates Using USAREC Media Mix

Year	Composite Rate	Actual USAREC* Budget Inflation	Composite/CPI (Percent)
1982	11.2	15.2	189.6
1983	6.6	2.8	194.7
1984	9.8	-0.8	165.6
1985	6.9	21.6	165.0
1986	7.2	3.1	178.8
1987	8.2		178.7
1988	7.6		162.3
1989	7.6		172.7
1990	7.1		158.0

* Same as column (4) in table 7.

7. SOME OBSERVATIONS AND CONCLUSIONS.

The composite rates of inflation in table 11 were constructed using the retail media inflation rates weighted by the percentages of the USAREC advertising budget for the corresponding media category. The actual USAREC advertising budget inflation is also shown in table 11 to compare actual budget inflation rates to industry inflation rates to permit one to determine how the buying power of the USAREC budget has changed.

When comparing the composite rates in table 11 to the actual USAREC rates for the period of 1982 to 1986, it is seen that the average rates are approximately equal (8.38 percent for the average USAREC rate and 8.33 percent for the average composite rate). However, using the compound inflation equation (2) to compare buying power in 1986 to 1982, the compound rates are 149.1 and 136.6 percent for the compound composite and USAREC advertising budget, respectively. Thus, even though the average yearly inflation rates are about equal, the buying power in 1986 is 12.5 percent below the 1982 buying power.

From the last column in table 11, it can be seen that past and present (e.g., 1982 to 1986) composite rates have run about 178.7 percent of the CPI rate of change. This would suggest that in order to keep up with inflation, assuming that the same (or a similar) media mix is used, the future USAREC advertising budgets should grow at a rate considerably above the CPI. Using the values in table 11 for 1987 to 1990, the average growth in the USAREC advertising budget should be 167.9 percent of the CPI inflation rate.

Another consideration which impacts on recruiting is that advertising is only one variable out of the many which affects recruiting. Other major variables such as number of recruiters, mission size, Army incentives, and unemployment will also affect recruiting. With the projected decline in unemployment and the projected increase in mission size, the effects of declining advertising buying power will be amplified.

8. RECOMMENDATIONS FOR FURTHER RESEARCH.

This analysis has focused only on the cost side of media inflation. Another aspect of the analysis is the effectiveness of the Army advertising. There is evidence to suggest that the audience is changing its listening, viewing, and reading habits. As the audience changes, the effectiveness of advertising would also change. Thus, there is a need to see how audience trend data can be used to indicate changes in USAREC advertising policy which can compensate (if possible) for declining buying power as well as to measure the effectiveness of Army advertising.

THIS PAGE INTENTIONALLY LEFT BLANK

14

REPORT DOCUMENTATION PAGE

1. REPORT NUMBER	2. GOVT ACCESSION NO.	3. RECIPIENT'S CATALOG NUMBER
	AD-A169468	

4. TITLE (and Subtitle)	5. TYPE OF REPORT & PERIOD COVERED
Comparison of Media Inflation and Active Army Recruiting Advertising Expenditures	Final
	6. PERFORMING ORG. REPORT NUMBER
	Study Report 86-1

7. AUTHOR(s)	8. CONTRACT OR GRANT NUMBER(s)
Dr. Gerald A. Klopp	N/A

9. PERFORMING ORGANIZATION NAME AND ADDRESS	10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS
US Army Recruiting Command ATTN: USARCPAE-RS Fort Sheridan, IL 60037	N/A

11. CONTROLLING OFFICE NAME AND ADDRESS	12. REPORT DATE
US Army Recruiting Command ATTN: USARCPAE-RS Fort Sheridan, IL 60037	March 1986
	13. NUMBER OF PAGES

14. MONITORING AGENCY NAME & ADDRESS(If different from Controlling Office)	15. SECURITY CLASS. (of this report)
N/A	Unclassified
	15a. DECLASSIFICATION DOWNGRADING SCHEDULE N/A

16. DISTRIBUTION STATEMENT (of this Report)

Approved for public release; distribution unlimited

17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, If different from Report)

N/A

18. SUPPLEMENTARY NOTE

N/A

19. KEY WORDS (Continue on reverse side If necessary and Identify by block number)

Recruiting, inflation, economics, advertising, compound interest, advertising media, media inflation, media mixes, inflation rates.

20. ABSTRACT (Continue on reverse side If necessary and Identify by block number)

Media inflation rates are developed for various media categories. These inflation rates are used to develop equations to predict the future inflation rates. Using the current media mixes of the U.S. Army Recruiting Command (USAREC) advertising budget as weights for the media types, a composite inflation rate is developed to estimate the inflation rate for future advertising. The actual USAREC advertising inflation rate is compared to the estimated composite inflation rates to illustrate how the buying power of the USAREC advertising budget compares with the advertising media inflation.

DD FORM 1473 JAN 73   EDITION OF 1 NOV 65 IS OBSOLETE

UNCLASSIFIED

END

DTIC

7-86