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**FACTORS AFFECTING SALES LEVELS OF  
SUBSIDIZED COMMERCIAL CONTRACEPTIVE  
SALES PROGRAMS**

Prepared for the  
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## FACTORS AFFECTING SALES LEVELS OF SUBSIDIZED COMMERCIAL CONTRACEPTIVE SALES PROGRAMS

Significant differences over countries and over time in monthly sales rates per thousand women of reproductive age are established for condoms and pills sold in subsidized commercial contraceptive sales programs. Condom program sales rates appear to be particularly sensitive to price and advertising, and should be undertaken in places where relative prices can be set low and where marketing can proceed relatively unfettered. Pill sales, by contrast, are sensitive to other family planning program activities, to economic development and to prescription requirements.

This report analyzes sales of eleven subsidized programs supporting the marketing of contraceptives, principally condoms and oral contraceptives. The programs examined are in many respects "non-comparable," since they were run in different time periods, were managed in different ways, offered different arrays of products and brands and had distribution through different sorts of outlets. The programs are thus generally idiosyncratic even without considering the major cultural factors that differentiate the countries in which they were run.

Nonetheless, the eleven programs share certain common characteristics. All used private sector marketing skills, which in most market-oriented economies have made a wide variety of products available to broad segments of society. All eleven programs used modern sales promotion and/or advertising. All developed brand names, packaging and promotional material tailored to local market conditions. All used a similar approach to marketing research involving interviews with potential consumers and potential distributors (Farley, 1980). While the programs cannot be considered exact "replication" of the same activity for direct comparison, analysis of common elements is possible in the framework of "replication analysis" (Farley, Lehmann and Ryan, 1982) in which similar but not identical studies were viewed as "imperfect" replications in a natural or "accidental" experimental design. Replication analysis has been used, for example, to compare patterns of behavior of consumers of very different products (including contraceptives) in several countries (Farley, Lehmann and Ryan, 1983).

The procedure involves two steps:

-First, significant differences are established in sales rates over countries and over time, using analysis of variance.

-Second, regressions are used to relate these inter-country differences to country characteristics.

## THE PROGRAMS STUDIED

Subsidized marketing programs for contraceptives, and for other products such as protein food supplements, have been tried in one form or another in several countries. The eleven programs discussed here (Table 1) were chosen because systematic record collection allows reasonable assessment of sales volumes for several years. Sales data were assembled by The Futures Group from primary sources. Country data were assembled from secondary sources referenced later in this report.

In order to establish a basis for cross-country comparison, monthly sales rates per thousand women of reproductive age are used in the analysis. Monthly rates are used because in some cases sales data were available for only a fraction of the year, either because the program started or ended in the middle of a year or because some data were not retrievable. In addition, the size of the potential market, defined as the number of women of reproductive age, varied widely (from half a million in Jamaica to more than 160 million in India). To deal with this, monthly sales were expressed as a rate per thousand women of reproductive age in each country; a quantity directly comparable over countries.

The eleven countries cannot be considered a random sample in any sense and were generally favorable sites for such programs. All had established population policies and family planning programs at the time the program started. Five (Jamaica, Mexico, Colombia, El Salvador and Tunisia) were identified in Farley and Samuel (1978) as particularly promising candidates for such programs on the basis of patterns in births and deaths, socio-economic conditions, incomes, literacy and the legal/marketing environment. In general, there was positive support of local and international sponsors in all countries.

TABLE 1

| Country     | Number of Years of Sales Data Available |            | First Year for which Sales Data are Available |
|-------------|---|------------|---|
|             | Condoms                                 | Oral Pills |   |
| Jamaica     | 8                                       | 8          | 1975  |
| Mexico      | 3                                       | 3          | 1979  |
| Colombia    | 6                                       | 6          | 1975  |
| El Salvador | 5                                       | 4          | 1978  |
| Egypt       | 4                                       | 0          | 1979  |
| Ghana       | 2                                       | 2          | 1980  |
| Bangladesh  | 8                                       | 8          | 1975  |
| Nepal       | 5                                       | 5          | 1978  |
| Sri Lanka   | 9                                       | 8          | 1973  |
| India       | 13                                      | 0          | 1962  |
| Tunisia     | *                                       |            | *   |
|             | —                                       | —          |   |
|             | 63                                      | 44         |   |

\*Program terminated before sales began and is included for use as basis for prediction later in this paper.

#### TIME FRAME FOR ANALYSIS

The time frame for analysis is affected by the history of the programs (Table 2). For example, attempts to generalize from experience of programs longer than nine years will have available data on only one product in one country—condoms in India. In order to have available a minimum number of observations in terms of program age, only data up to six years of program history are used in the analysis. Discussion of patterns in the later years of the older programs appears later in this

report. Similarly, the single year of existence of the Tunisian program is not considered in the analysis, although an attempt is made to predict what the program might have achieved.

The resulting data include 38 annual observations for pills and 49 for condoms. The overall mean monthly sales rate per thousand women of reproductive age (unweighted for country size) for pills is 11.9 cycles and for condoms is 62.7 pieces. Ranges of sales for these years are shown in Table 3. In general, sales increased over the life of the programs.

TABLE 2  
PROGRAM LENGTHS

| <u>Program Age (Years)</u> | <u>Number of Condom Programs in Sample Lasting This Long</u> | <u>Number of Pill Programs in Sample Lasting This Long</u> |
|----------------------------|--|--|
| 1                          | 10   | 8  |
| 2                          | 10   | 8  |
| 3                          | 9  | 7  |
| 4                          | 8  | 6  |
| 5                          | 7  | 5  |
| 6                          | 5  | 4  |
| 7                          | 4  | 3  |
| 8                          | 4  | 3  |
| 9                          | 2  |  |
| 10                         | 1  |  |
| 11                         | 1  |  |
| 12                         | 1  |  |
| 13                         | 1  |  |

#### DIFFERENCES IN PERFORMANCE OVER COUNTRIES AND OVER TIME

The first step in the analysis is to examine patterns of program performance over time and over countries to establish whether the differences in sales rates shown in Table 3 are significant. This involves simultaneously looking at patterns in different countries and different years, using the analysis of variance to assess differences over countries and over time simultaneously (Table 4). The entries in Table 4 are the differences in average rates of sales per thousand women of reproductive age over countries and over years. For example for the second year of the Jamaica program, the ANOVA (analysis of variance) would predict:

|   |              |
|---|--------------|
| Average monthly condom sales per 1000 women of reproductive age for all countries | 68.9         |
| Increment for Jamaica (per month, per 1000 women)                                 | 48.2         |
| Less increment for year 2 (per month, per 1000 women)                             | <u>-14.7</u> |
| Prediction for the second year in Jamaica (per month per 1000 women)              | 102.4        |

The actual sales rate in Jamaica for that year was 88.8.

TABLE 3  
RANGE OF MONTHLY SALES PER THOUSAND WOMEN OF REPRODUCTIVE AGE  
IN DATA USED IN ANALYSIS

|             | CONDOMS      |               | ORAL PILLS   |             |
|-------------|--------------|---------------|--------------|-------------|
|             | No. of Years | Sales Range   | No. of Years | Sales Range |
| Jamaica     | 6            | 82.1 to 151.7 | 6            | 8.8 to 76.5 |
| Mexico      | 3            | 10.9 to 45.0  | 3            | 2.1 to 4.1  |
| Colombia    | 6            | 12.4 to 70.4  | 6            | 5.7 to 36.2 |
| El Salvador | 5            | 12.0 to 71.7  | 4            | .6 to 8.8   |
| Egypt       | 4            | 10.0 to 15.9  | 0            | —           |
| Ghana       | 2            | 61.0 to 166.6 | 2            | 3.3 to 8.8  |
| Bangladesh  | 6            | 11.0 to 159.7 | 6            | 1.9 to 4.6  |
| Nepal       | 5            | 7.3 to 33.6   | 5            | .3 to 7.2   |
| Sri Lanka   | 6            | 95.4 to 153.3 | 6            | .1 to 6.3   |
| India       | 6            | 8.0 to 59.5   | 0            | —           |

Table 4 indicates significant differences over countries with Jamaica, Sri Lanka and Ghana performing better on condoms and Jamaica on pills. There is also a pattern of steady increase in sales over time up to the sixth year. In all likelihood, this reflects growth over time in exogenous variables such as population and income. These significant differences over countries and over time account for about four-fifths of the variability in sales of both products (coefficients of determination of about .8), a relatively good fit for inter-country comparisons (Farley and Sexton, 1982).

TABLE 4  
DIFFERENCES IN SALES BY COUNTRY AND BY YEAR ESTIMATED  
SIMULTANEOUSLY BY ANALYSIS OF VARIANCE

| <u>Country</u> | <u>Differences in Monthly Sales Rates Per 1000 Women of Reproductive Age Over Countries</u> |              | <u>Year</u> | <u>Differences in Monthly Sales Rates Per 1000 Women of Reproductive Age Over Years of Program Duration</u> |              |
|----------------|---|--------------|-------------|---|--------------|
|                | <u>Condoms</u>  | <u>Pills</u> |             | <u>Comdom</u>   | <u>Pills</u> |
| Jamaica        | 48.2*   | 26.4*        | 1           | -32.0*  | -11.8*       |
| Mexico         | -23.8   | -3.2         | 2           | -14.7*  | -5.8         |
| Colombia       | -21.1*  | 7.5          | 3           | -8.5  | -1.5         |
| El Salvador    | -10.5   | -7.0         | 4           | 3.7   | 1.1          |
| Egypt          | -43.2*  | Na           | 5           | 11.4  | 2.9          |
| Ghana          | 68.4*   | 2.6          | 6           | 39.9*   | 15.1*        |
| Bangladesh     | 14.9  | -9.1*        |             |   |              |
| Nepal          | -36.3   | -5.0         |             |   |              |
| Sri Lanka      | 43.6*   | -12.2*       |             |   |              |
| India          | -38.1*  | Na           |             |   |              |
| Tunisia        | Na  | Na           |             |   |              |

\*Significant difference from the mean at  $\alpha = .05$

| Overall ANOVA Results  | Condoms | Pills |
|--|---------|-------|
| Grand Mean (six year average rate over all countries)  | 68.9    | 12.24 |
| Coefficient of determination (fraction of variability in sales rates explained by the ANOVA) | .829    | .792  |

#### SALIENT DIFFERENCES IN PROGRAMS AND IN PROGRAM ENVIRONMENTS

These significant differences between country sales rates may in turn be systematically related to identifiable characteristics of the countries -- that is, to correlates like incomes which differ systematically from country to country and which should be related to sales. A list of potential covariates is shown in Table 5.

Table 5 also contains simple correlations between pill and condom sales and the covariates. The correlations are relatively large, indicating significant relationships. Condoms sales seem to be more related to marketing activities, (prices and advertising) and pill sales to the social and economic setting (incomes, well developed communication systems, education, family planning activities and absence of prescription requirements). Sales rates are generally lower in the larger countries.

However, it is dangerous to make conclusions on the basis of simple correlations because the explanatory variables may themselves be intercorrelated. "Replication analysis" often faces problems (Assmus, Farley and Lehmann, 1983) caused by explanatory variables which are not independent, and Appendix A establishes that this is a significant problem in this case. The best available solution is to use only a representative subset of variables of the type shown in Table 5 in assessing the impact of the covariates as a group. This is done in the next section.

TABLE 5  
THE COVARIATES

| <u>Socio-Demographics</u>                                | <u>Definition and Source</u>  | <u>Simple Correlations<br/>Of Covariates With<br/>Monthly Sales Per<br/>Thousand Women Of<br/>Reproductive Age</u> |           |
|--|---|--|-----------|
|  |   | For Condoms  | For Pills |
| Population, 1975   | (Globescan)   | -.275  | -.340     |
| GNP Per Capita   | (Globescan)   | .225   | .579      |
| Percent of Population<br>Urban, 1975                     | (Globescan)   | .059   | .382      |
| Percent of Population<br>Traditionally Natalist,<br>1975 | Fraction of Population<br>Catholic or Moslem<br>(Globescan)   | -.253  | -.212     |
| Social Setting Index                                     | Index of extent of social<br>and economic development<br>(Mauldin and Berelson)                           |  |           |
| Female School<br>Enrollment                              | Primary school enrollment<br>as a fraction of all females<br>(Globescan)                                  | .158   | .414      |
| Newspapers per 100k<br>Population                        | (Taylor and Hudson)   | .190   | .688      |
| Radios per 100k<br>Population                            | (Taylor and Hudson)   | .171   | .699      |
| Women of Reproductive<br>Age                             | (Globescan)   | -.393  | -.493     |
| <u>CONTROLLABLES</u>                                     |   |  |           |
| Real Price   | Cost at retail of a couple<br>year protection/GNP per<br>capita   | -.407  | -.365     |
| Advertising per 100k<br>Women of Reproductive<br>Age     | Total advertising expendi-<br>tures over the recorded life<br>of the program/women of<br>reproductive age | .406   | .178      |

|                                 |   |      |       |
|---------------------------------|---|------|-------|
| Pills in Program                | Dummy variable for those countries with pills as well as condoms in the program at the time           | .358 |       |
| Other Contraceptives in Program | Dummy variable for those programs offering other contraceptives at the time                           | .063 | -.013 |
| <u>POLICY ENVIRONMENT</u>       |   |      |       |
| Family planning effort          | Index of effort devoted to national family planning program (Mauldin and Berelson)                    | .156 | .682  |
| Pills Off Prescription          | Dummy variable for those countries which had removed prescription requirements from orals at the time | .373 |       |

## JOINT EFFECT OF COUNTRY CHARACTERISTICS AND TIME ON CONTRACEPTIVE SALES

The analysis of variance (ANOVAS, Table 3) indicated that inter-country and inter-temporal factors together accounted for most of the variations in sales rates. This section uses the covariates (Table 5) to try to explain the inter-country-differences. As mentioned earlier, only a subset of the covariates can be used. The particular subset of explanatory variables chosen for use in a multiple regression was based on several considerations largely related to the material in Appendix A. Income is chosen as a positive socio-demographic influence and should be considered representative of the other socio-demographic measures (education, social development, etc.) which relate to it (Appendix A, Table A). Natalist religions may be a key socioeconomic deterrent. Advertising, price and the product mix are controllable, and their effects are important to evaluation of the marketing mix. Time is included, as both country and time were significant in Table 3, with years 1 and 6 contributing the significant differences. The extent of family planning program effort and whether pill prescription restrictions have been removed are also examined.

Regressions relating sales patterns to the subset of independent variables (which are representative of the covariates and shown in Table 6) help assess the effects of country characteristics and time on sales rates.

The results reflect, in essence, replacement of countries in the NOVAS (Table 3) with certain characteristics of the countries. They also represent a refinement over the simple correlations in Table 5 in that all the explanatory variables are examined simultaneously.

Certain substantive points are apparent from these data, though for reasons noted above involving sampling and measurements these should be viewed as guiding rather than as conclusive:

1. Choice of country and choice of program configuration are the two most important factors in explaining differences in sales rates. For pills, choice of country in terms of economic development and family planning activities is important. For condoms, program configuration (i.e., advertising effort) appears particularly decisive. Substantively, the regression results closely parallel those for the simple correlations in Table 5.
2. Pill sales seem to be related to social and economic development more than condoms and seem more objectionable to natalist religion. Pill sales also appear to be significantly related to relief of prescription requirements.
3. Condom sales are less sensitive to incomes as reflecting general economic development but are apparently more sensitive to marketing efforts -- e.g. to price and advertising.
4. Not surprisingly, the regressions are less successful than the ANOVAS in Table 3 (see the respective coefficients of determination in Table 6) at explaining variations in sales rates, meaning some additional factors are at work. The pill regression fits almost as well, indicating that the factors used in the covariates explain the bulk of inter-country differences in pill sales. The condom regression fit significantly less well, probably meaning that some additional factors must be considered in assessing condom programs.

#### ASSESSMENT OF ACTUAL PERFORMANCE AGAINST PREDICTED PERFORMANCE

The regression analysis can be used to predict sales patterns based on the factors considered in Table 6. Positive differences between actual sales and these

TABLE 6

## Regressions Relating Sales to Selected Country Characteristics

| <u>EXPLANATORY VARIABLE</u>                          | <u>THE EFFECT SHOULD BE</u> | <u>BETA COEFFICIENT<sup>1</sup></u> |        |
|--|-----------------------------|-------------------------------------|--------|
|  |                             | Condoms                             | Pills  |
| <u>SOCIO-DEMOGRAPHICS</u>                            |                             |                                     |        |
| GNP Per Capita                                       | Positive                    | -.315                               | 1.215* |
| Percent of Population of Natalist Religion           | Negative                    | -.013                               | -.256  |
| <u>CONTROLLABLES</u>                                 |                             |                                     |        |
| Advertising per 1000 Women of Reproductive Age       | Positive                    | .560*                               | -.862  |
| Real Price   | Negative                    | -.373*                              | .589   |
| <u>POLICY ENVIRONMENT</u>                            |                             |                                     |        |
| Population Program Effort                            | Positive                    | -.238                               | .418*  |
| Pill Off Prescription                                | Positive                    | Na                                  | .908*  |
| <u>TIME</u>  |                             |                                     |        |
| First Year   | Negative                    | -.282*                              | -.161  |
| Sixth Year   | Positive                    | .532*                               | .336*  |
| COEFFICIENT OF DETERMINATION (R-SQUARED)             |                             | .483*                               | .718*  |
| COEFFICIENTS OF DETERMINATION OF COUNTRY-TIME ANOVAS |                             |                                     |        |
| (From Table 3)                                       |                             | .829*                               | .729*  |
| Significant at $\alpha = .05$ .                      |                             |                                     |        |

<sup>1</sup>Beta coefficients measure the relative partial importance of each variable in explaining each sales rate.

sales predictions from the regression indicate better performance than would be expected and vice versa for negative differences. (In other words, the residuals from the regressions can be used to identify countries with consistent patterns of over and underprediction during program history).

It appears (Table 7) that Sri Lanka, Bangladesh and Colombia most consistently performed better than predictions based on the covariates and time trend. There is no immediate indication in the available information as to why, although one possible explanation lies in idiosyncratic characteristics of how these programs were managed.

TABLE 7

PATTERNS IN ACTUAL SALES PERFORMANCE VERSUS  
PERFORMANCE PREDICTED BY REGRESSIONS USING COUNTRY  
CHARACTERISTICS AND TIME TO PREDICT SALES

|             | CONDOMS                      |                             | PILLS                        |                             |
|-------------|------------------------------|-----------------------------|------------------------------|-----------------------------|
|             | Performance                  |                             | Performance                  |                             |
|             | <u>Better Than Predicted</u> | <u>Worse Than Predicted</u> | <u>Better Than Predicted</u> | <u>Worse Than Predicted</u> |
| Jamaica     | 3 years                      | 3 years                     | 3 years                      | 3 years                     |
| Mexico      |                              | 3 years                     | 1 year                       | 2 year                      |
| Colombia    | 5 years                      | 1 year                      | 4 years                      | 2 years                     |
| El Salvador | 3 years                      | 2 years                     | 2 years                      | 2 years                     |
| Egypt       |                              | 4 years                     |                              |                             |
| Ghana       | 1 year                       | 1 year                      | 2 years                      |                             |
| Bangladesh  | 4 years                      | 2 years                     | 5 years                      | 1 year                      |
| Nepal       |                              | 5 years                     | 2 years                      | 3 years                     |
| Sri Lanka   | 6 years                      |                             | 4 years                      | 2 years                     |
| India       |                              | 6 years                     |                              |                             |

## PREDICTION FOR TUNISIA

The regressions provide a way to make a tentative assessment of what the performance might have been in the Tunisian program, had it not been terminated before sales began. Substituting values for the variables in Table 5 for Tunisia, it appears that the program could have reached estimated per capita sales in the third year of 46.0 per month per thousand fertile age women, somewhat less than the average for the programs studied, but better than those of three or four programs actually run.

## THE LONGER PROGRAMS

Sales patterns of longer programs which were omitted from the earlier analysis are shown in Table 8.

No consistent pattern emerges from the experience of these later years, although some observations may be useful. First, Jamaican sales are about level, even though advertising support was apparently reduced. Second, the better than average performance by the Sri Lankan and Bangladeshi programs pointed out in Table 7 appears to carry out into this longer period in which growth continues. Since the Sri Lankan and Jamaican programs were continued as part of a broader family planning effort and the Bangladeshi program continued as a freestanding activity, there are indications that the programs, once established have a significant degree of continuity.

**TABLE 8**  
**SALES BY YEAR OF LONGER PROGRAMS**

| <u>Year of Program</u> | 7      | 8       | 9      | 10      | 11      | 12     | 13      |
|------------------------|--------|---------|--------|---------|---------|--------|---------|
| <b>Jamaica</b>         |        |         |        |         |         |        |         |
| Pill                   | 287    | 480*    |        |         |         |        |         |
| Condoms                | 934    | 1080*   |        |         |         |        |         |
| <b>Sri Lanka</b>       |        |         |        |         |         |        |         |
| Pills                  | 248    | 277     | 444    |         |         |        |         |
| Condoms                | 7426   | 7439    | 7576   |         |         |        |         |
| <b>Bangladesh</b>      |        |         |        |         |         |        |         |
| Pill                   | 837    | 900*    |        |         |         |        |         |
| Condoms                | 50,370 | 53,184* |        |         |         |        |         |
| <b>India</b>           |        |         |        |         |         |        |         |
| Condoms                | 63,960 | 79,320  | 97,048 | 109,670 | 107,480 | 77,865 | 129,500 |

(Condoms in thousands and pills in thousands of cycles)  
\*Estimated at annual rate from data for part of year

## SUMMARY

This report has attempted to assess factors which vary systematically with sales performance of subsidized contraceptive marketing programs in eleven countries. Significant differences in performance over countries and over time were identified, and some part of these could be related to controllable and uncontrollable characteristics of programs and countries.

Condom programs appear to be sensitive to marketing factors (price and advertising), but are less sensitive to family planning program activity or to economic development. Location of condom programs should thus focus on settings where marketing activities can be carried on relatively freely.

Pill programs are apparently sensitive to family planning activities and to various elements of economic development such as income and education. Pill programs are helped by events related to relaxation or prescription requirements. Pill programs should thus be located in settings where family planning activities are well developed, where political resistance is minimal, where economic development is relatively high and where relatively free marketing of pills will be permitted.

Some programs appear to have performed systematically better than would have been expected, and some further probing for the reasons (such as innovative management) may be useful. All programs grow with time in early history, but there are indications that this growth may fall off as programs age.

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## APPENDIX A

### ANALYSIS OF INTERRELATIONSHIPS AMONG THE COVARIATES

The covariates in Table 5 are highly inter-correlated, and using them all will cause estimation problems in a multiple regression. The extent of the problems is shown in factor analysis of the candidate covariates based on the condom data (Table A) which contains all factor loadings greater than .6 in absolute value. A high degree of intercorrelation exists, indicating extreme non-orthogonality of the experimental design (Assumus, Farley and Lehmann, 1983). For example, all variables related to the state of economic development load heavily on one factor, so it will probably be impossible to sort out their individual effects.

Similarly, although less harmful, population and the number of women of reproductive age are one variable (Factor 2). Factor 3 indicates that advertising has been heaviest in those countries in which the population contains the largest fraction of traditionally natalist groups. It will thus be difficult to separate the effects of these variables. Further, the commonalities indicate that the majority of "information" contained in most of the individual variable is largely explained by the factor analysis, further indicating that only part of the covariates in Table 5 can be used in the regression analysis.

TABLE A  
 FACTOR ANALYSIS PATTERNS IN COUNTRY CHARACTERISTICS  
 (LOADING GREATER THAN .6 SHOWN)

| Variable                               | Factor Loadings (1) |          |          | Commonalities (2) |
|--|---------------------|----------|----------|-------------------|
|  | Factor 1            | Factor 2 | Factor 3 |                   |
| <u>Socio-Demographics</u>              |                     |          |          |                   |
| Population                             |                     | -.921    |          | .925              |
| GNP Per Capita                         | .95                 |          |          | .911              |
| % of Population Urban                  | .874                |          |          | .958              |
| % of Population of Natalist Religion   |                     |          | .622     |                   |
| Social Setting Index                   | .949                |          |          | .906              |
| % Females in school                    | .874                |          |          | .786              |
| Newspapers per 100k Population         | .887                |          |          | .805              |
| Radios per look Population             | .936                |          |          | .943              |
| Thousands of Women of Reproductive Age |                     | -.923    |          | .926              |
| <u>Controllables</u>                   |                     |          |          |                   |
| Real Price                             |                     |          |          | .596              |
| Advertising per 100k Fertile Women     |                     |          | -.703    | .919              |
| Pills Included                         |                     |          |          | .404              |
| Other Contraceptives Included          |                     |          |          | .594              |
| <u>Policy Environment</u>              |                     |          |          |                   |
| Family Planning Program Effort         |                     |          | .742     | .738              |
| Pills Off Prescription                 |                     | -.678    |          | .142              |
| EIGENVALUE                             | 6.84                | 3.09     | 2.04     |                   |
| COMMUNAL VARIANCE EXPLAINED            | 45.6%               | 20.6%    | 13.7%    |                   |

1. Measures the extent to which variables move together as a group. Values near greater than .6 in absolute value indicate that the variables move together, and the signs indicate whether they move in the same or opposite directions. A value of 1.0 is the largest value a loading can take on.
2. Measures the extent to which all the information in a variable is explained. A value of 1.0 is the largest value that a communality can take on.