

**Use of Commercial  
and Government Sources  
of Family Planning and  
Maternal and Child Health  
Care**

by

Karen G. Foreit

Working Paper Series

No. 4

September 1999



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## *Abstract*

As countries try to allocate limited public sector funds for family planning effectively and efficiently, there is increasing interest in understanding and measuring clients' ability to pay for services. If public funds are not sufficient to serve the entire population, they should be targeted to users who are less able to pay. Ideally, women with some ability to pay for health care services should use the private sector, at least for less costly contraceptive methods.

This paper presents a methodology for describing the extent to which government subsidies are efficiently applied, that is, to users who could not otherwise afford their contraceptive methods. It examines national family planning markets that include both government and commercial providers and in which government resources are not sufficient to provide universal family planning coverage. Using Demographic and Health Surveys (DHS) data from 11 countries, the analysis shows that the commercial sector market share is higher for less expensive contraceptive methods and that women who make use of private sector maternal and child health care services are more likely to use commercial outlets for contraception. Distortions in this general pattern emerge in countries that over-subsidize certain contraceptive methods, particularly oral contraceptives, to the detriment of the commercial sector. Findings from this analysis can provide insights for further exploration of potential problems such as untargeted government subsidies for less expensive methods or lack of access for clinical methods.





# Use of Commercial and Government Sources of Family Planning and Maternal and Child Health Care

## *Introduction*

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Universal access to a range of contraceptive methods is a basic tenet of family planning programs. “All countries should take steps to meet the family planning needs of their populations ... and should ... seek to provide universal access to a full range of safe and reliable family planning methods...” (ICPD, 7.16). Different family planning users will be best served by different contraceptive methods, depending on their stage of family formation, health characteristics, and personal preferences.

Different family planning methods incur different costs, which may be amortized over time. However, the immediate (“up-front”) cost of providing a contraceptive is driven primarily by the costs of (1) the commodity and related supplies (e.g., needle, syringe, alcohol, and cotton for injectables); (2) the personnel who deliver the service; and (3) the infrastructure whereby the method is delivered. Even with aggressive cost control, the cost of inserting an IUD or performing a tubal ligation is inherently more expensive than providing a few condoms or a cycle of pills, mainly because these methods require more highly trained personnel and, in the case of surgical methods, more expensive clinical infrastructure.

Some potential users may lack the income to purchase their preferred method, even if prices were held to actual costs. Governments often provide subsidies in order that price does not deter use (economists would call this an “equity consideration”). If governments are unwilling or unable to pay for universal family planning coverage, then users must bear some of the costs of their methods, either by paying user fees in public outlets or by purchasing from the private sector. There is general consensus that to meet the goals of access and equity, most developing countries need a family planning market that includes both government and private sector—including commercial private sector—participation (see Haaga and Tsui, 1995). To increase the efficiency of public resources, government subsidies should be targeted to users unable to pay for the methods they need. In practice, this would mean focusing not only on the poorest of the poor, but also on somewhat higher income users who need higher cost methods.<sup>1</sup> In other words, the public family planning “safety net” would not include the same people for all methods—as the up-front cost of delivering the method increases, public subsidies will be needed for more users.

This paper presents a quantitative methodology to describe the extent to which government subsidies are efficiently applied—that is, to users who could not otherwise afford their methods. It examines national family planning markets that include both government and commercial providers and in which government resources are not sufficient to provide universal family planning coverage.

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<sup>1</sup>There is general agreement that government programs should make a variety of contraceptive methods available to serve different fertility intentions (i.e., women who wish to postpone or space childbearing versus those who wish to stop childbearing altogether) and accommodate special needs (e.g., counter-indications to specific methods). However, this should not be taken to imply that governments should provide all methods or make all methods freely available to all users. For example, the contraceptive implant is extraordinarily expensive, even at the discount offered to developing countries, and provides only five years of protection. Many candidates for the implant could be equally well served by the IUD; therefore, some countries have decided not to subsidize implants or to provide the method only to those women who have demonstrated health needs (such as women treated for a septic abortion, who cannot receive an IUD).

The market for family planning goods and services, like the larger health sector, is often divided into public and private sector components, with the private sector divided into two mutually exclusive categories—for-profit and nonprofit (see Foreit, 1992). In practice, the nonprofit sector is usually dominated by nongovernmental organizations (NGOs), which receive largely public funding to administer their private outlets. With a few notable exceptions (such as Colombia), NGOs tend to serve a relatively small proportion of contraceptive users. This paper will compare the government (usually the Ministry of Health) and commercial (usually retail outlets and private physicians) sources of family planning methods.

To be financially viable, commercial providers must set their prices high enough to recover their costs and earn a profit. Overall, commercial prices for different contraceptive methods tend to vary with delivery costs, although the price charged by a given commercial provider is not wholly determined by its costs (see Foreit and Sine, 1995). In addition, commercial providers are often constrained in their ability to take advantage of cost-reduction strategies, sometimes because of their institutional characteristics and sometimes because of government regulations. For example, small stand-alone private medical practices may not be able to access discounts for bulk purchases; and in some countries governments require that nominally clinical methods, such as injectable contraceptives, be restricted to physicians. Lack of credit mechanisms means that commercial sector clients are forced to pay the entire delivery price at the time they acquire their method and resupply.

Government policies often require that public outlets provide all goods and services free of charge. When public facilities do charge user fees, their prices usually do not parallel delivery costs, in part because cost recovery through user fees typically accounts for only a small portion of operating revenues. Also, since more expensive methods provide longer periods of contraceptive protection and fewer method failures (see Trussell et al., 1995), some public programs charge less for clinical than for supply methods as a means of encouraging their use. Thus, while contraceptive method prices tend to vary in the commercial sector from low-priced supply methods to high-priced surgical methods, they are more likely to be uniformly low in government outlets.

Where public funding is not sufficient to provide universal coverage, family planning programs encourage users who are able to pay the market price for their needed method to purchase it from the commercial sector. Price, however, is only one of many factors influencing the choice of an outlet. Access to alternatives is equally important (e.g., if implants are available only in government facilities, wealthy women who want to use the method will be forced to use public outlets). Previous experience with providers is another potential determinant of choice along with convenience, costs associated with travel and waiting time, and perceived or expected quality of services.

Even though family planning differs from other health-seeking behaviors, contraceptives are generally provided by the same outlets that provide other health services: public health facilities, pharmacies, private practice physicians, midwives, and so forth. Therefore, once a woman has decided to contracept, her choice of source for goods and services should parallel other health behaviors. Women who purchase private health care are already accustomed to using private outlets and probably have enough disposable income to purchase at least the less expensive contraceptive methods.

This paper presents a descriptive technique for examining the current efficiency of public sector programs—that is, the extent to which public subsidies are captured by users who cannot afford to pay for their method. It does not attempt to model or explain why women choose their contraceptive methods or their providers. It makes two simple assumptions: (1) that relative use of

government outlets should increase as the cost of the method increases; and (2) that women who purchase maternal and child health (MCH) care from commercial sources demonstrate some ability to

pay and experience with the private health sector and should, therefore, be the first candidates to pay for private sector family planning. If users of less expensive methods and women who purchase private health care do, in fact, pay for their contraception, we say that the family planning market is “rationally segmented” by clients’ ability to pay. If large proportions of these women obtain contraception from public sources, we say that the family planning market is “distorted.” There is no fixed criterion for classifying a market as rational or distorted, and findings of distortion do not, in and of themselves, prescribe corrective actions but rather suggest avenues for further analysis to guide policy change.<sup>2</sup>

**If the family planning market is rationally segmented by users’ ability to pay, we expect that**

- overall use of the commercial sector will decrease and use of the government sector will increase as the cost of the contraceptive method increases;
- women who purchase private MCH services will use the commercial sector for family planning more than women who use public MCH services or do not use MCH services at all; and
- women who purchase private MCH services will use commercial sources for inexpensive contraceptive methods.

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<sup>2</sup>Atkin et al. (1987:5) make the same point about the overall health sector: “There is no ‘correct’ size for [the] nongovernment sector; its role in relation to that of the government sector is bound to vary among countries.”

## ***Methodology***

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The results presented in this paper are based on secondary analyses of original data sets compiled by the Demographic and Health Survey (DHS) Project, a USAID-funded program designed to collect data on fertility, family planning, and MCH.<sup>3</sup> For the sake of cross-national comparability, the analyses are restricted to women in union who were habitual residents of the household in which they were interviewed and who responded that either they or their partner used a modern contraceptive method to delay or avoid pregnancy.

**Source of family planning** was taken from the question, “Where did you obtain your contraceptive method?” Government sources are those supported by general tax revenues and include facilities maintained by ministries of health. Commercial sources include private physicians and midwives, private hospitals and clinics, pharmacies, and retail outlets. Commercial sources refer to the outlet and not the brand and, therefore, may include social marketing products. Any source that could not be classified as government or commercial is considered “other,” which includes social security systems (financed by payroll taxes), NGOs (generally financed in large part by donor funds), and friends and relatives.

**Source of MCH care** was derived from questions relating to place of delivery and source of treatment for sick children, which were asked of women who had had at least one live birth in the five years preceding the interview. A three-point ordinal scale was constructed. Women whose last birth occurred at home and women who were delivered at a government health facility but whose sick children did not receive any treatment were classified in the lowest category of the scale (No MCH). Women whose last delivery was attended in a private hospital or clinic and/or whose sick children were seen by a private physician or midwife were classified in the highest category (Private MCH). All other women were classified into the middle category. Women who had not had a birth in the last five years were not classified for source of MCH care.

**Cost of providing a contraceptive method** (as opposed to the price paid by the user) was not calculated directly. Temporary methods were ranked on a continuum from least expensive to most expensive based on USAID commodity prices. Surgical contraception (female sterilization) was judged to be the most expensive, owing to the need for surgical facilities. Table 1 presents 1998 USAID commodity prices for public sector programs.

<b>Method</b>	<b>Price (US\$)</b>
Condom (unit)	0.05
Oral Contraceptives (cycle)	
Combined	0.21
Progestin only	0.21
Injectable (3-month dose)	0.93
IUD (TCu-380A)	1.47

Source: USAID/G/PHN/POP

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<sup>3</sup>“Standard Recode Files” of the individual woman’s questionnaire were obtained from Macro International, Inc., the contractor responsible for the DHS (now Measure *DHS+*). Further information on the data sets is available at the Macro website: [www.macrint.com/dhs](http://www.macrint.com/dhs).

Table 2 presents the surveys selected for analysis. These countries were chosen because the survey samples included a sufficient number of users of modern methods from both the public and private sectors for meaningful analysis;<sup>4</sup> even so, not all methods could be analyzed in all countries, especially injectables, which had fewer than 50 sampled users in Bolivia, the Dominican Republic, the Philippines, and Turkey.

<b>Table 2</b>						
<b>Country Surveys Selected for Analysis and Sample Sizes of Method Users</b>						
<b>Country</b>	<b>Survey Date</b>	<b>Number of Sampled Users by Method*</b>				
		<b>Condom</b>	<b>Pill</b>	<b>Injectable</b>	<b>IUD</b>	<b>F.Ster.</b>
Bangladesh	1993	269	1,560	404	196	766
Bangladesh	1996	329	1,759	526	150	691
Bolivia	1994	77	150	42	430	246
Brazil	1996	548	1,988	135	105	3,447
Colombia	1995	351	790	153	675	1,567
Dominican Republic	1996	105	707	30	165	2,410
Indonesia	1994	226	4,484	3,985	2,686	799
Nepal	1996	154	110	358	21	963
Philippines	1993	91	762	5	273	1,064
Peru	1991-92	335	498	168	1,167	688
Peru	1996	894	1,147	1,447	2,189	1,717
Turkey	1993	491	308	4	1,178	181
Zimbabwe	1994	149	1,449	149	38	106

\* weighted sample sizes

<sup>4</sup>The Central Asian countries—Kazakhstan, Kyrgyzstan, and Uzbekistan—have large numbers of modern method users. However, at the time of the surveys, very few of these women obtained their methods from the private sector.

## Results

The analyses included only women in union (currently married or in consensual union) who responded that they or their partners were using a modern method to prevent or delay pregnancy. All analyses are method-specific for condoms, oral contraceptives, injectables, IUDs, and female sterilization. Users of spermicides and vasectomy were not included because there were too few cases for analysis.

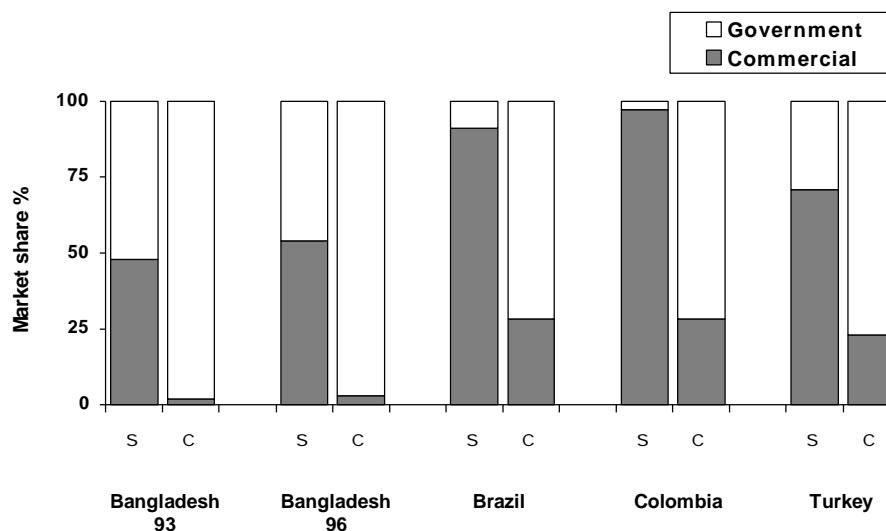
**Hypothesis 1: Overall use of the commercial sector will decrease and the use of the government sector will increase as the cost of the contraceptive method increases.**

This hypothesis is examined in two steps. First, contraceptives are aggregated into two categories: supply methods (condoms, orals, injectables) or clinical methods (IUDs, female sterilization). Supply methods are less expensive to provide on a per-visit basis than clinical methods. The second step compares the five individual methods along the price continuum described in Table 1. These analyses consider all countries and all current contraceptive method users.

Figures 1a, 1b, and 1c compare the use of commercial and government sources for supply and clinical contraceptive methods. Users of “other” sources of supply are not included. Hypothesis 1 is strongly confirmed in four countries: Bangladesh, Brazil, Colombia, and Turkey, as shown in Figure 1a. In each of these countries, the proportion of supply method users served by the commercial sector is much higher than the proportion of clinical method users. However, overall levels of commercial sector participation are highest in Brazil and Colombia and lowest in Bangladesh, which is consistent with the higher socioeconomic status of the former countries.

Figure 1a

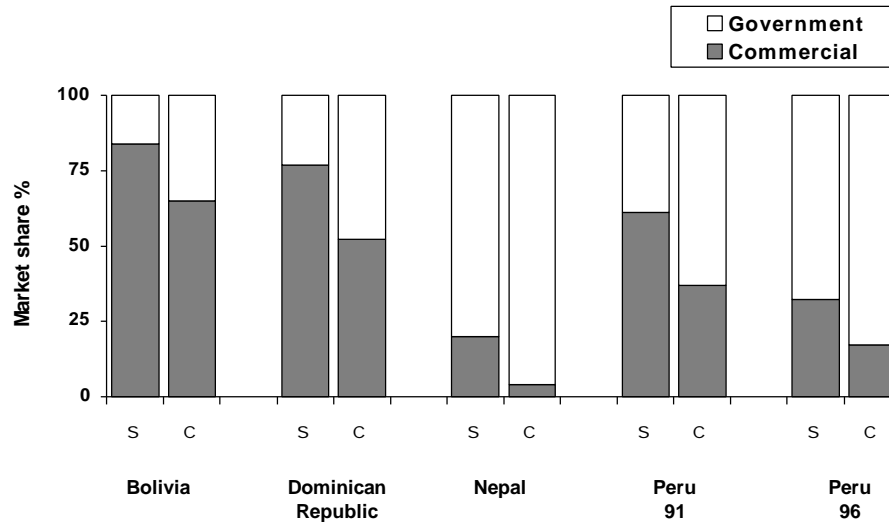
### Commercial/Government Sector Mix for Supply (S) and Clinical (C) Methods



Although less strongly, Hypothesis 1 is also confirmed in four additional countries: Bolivia, Dominican Republic, Nepal, and Peru. As can be seen in Figure 1b, commercial sources serve larger proportions of supply method users than clinical method users, but the differences between supply and clinical methods are not as pronounced as in the first group of countries.

**Figure 1b**

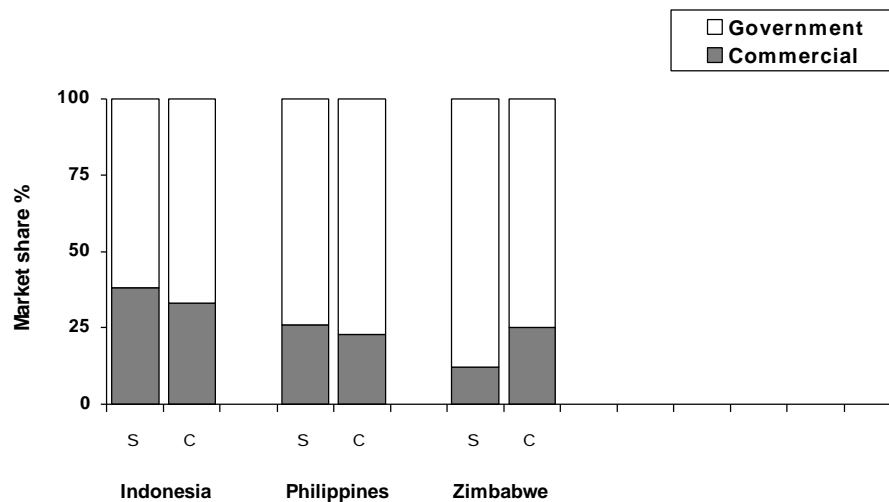
**Commercial/Government Sector Mix for Supply (S) and Clinical (C) Methods**



Finally, Hypothesis 1 is not confirmed in three countries. Indonesia and the Philippines show virtually no difference in government/commercial sector coverage between supply and clinical methods, and in Zimbabwe the commercial sector actually serves a larger proportion of clinical method users than of supply method users. Figure 1c presents these findings.

**Figure 1c**

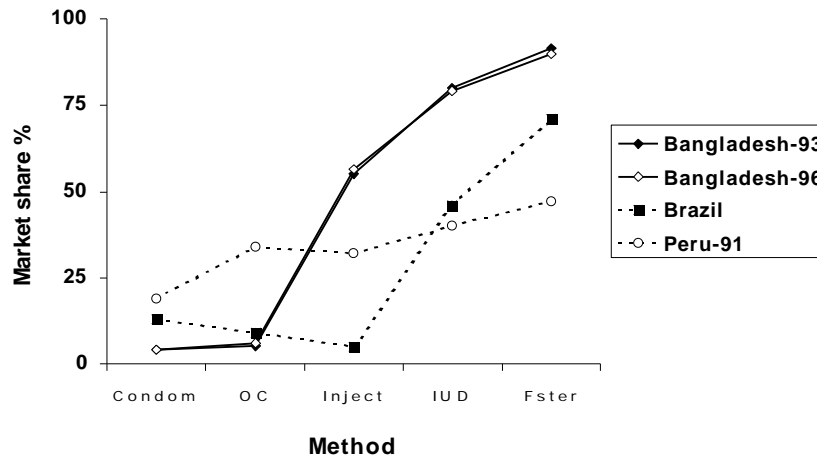
**Commercial/Government Sector Mix for Supply (S) and Clinical (C) Methods**



The analyses are next repeated for individual contraceptive methods, which are presented in order of increasing cost. Figures 2a and 2b present the government share of the contraceptive market. Hypothesis 1 predicts that the curve should increase from left to right, as method costs increase. Figure 2a confirms the hypothesis for three countries: Bangladesh, Brazil, and Peru (1991 survey). Results from Bolivia and Turkey (not shown) are also consistent with the hypothesis, but there were too few users of injectables for analysis.

Figure 2a

**Government Share of Contraceptive Market:  
Increasing Coverage with Increasing Cost**

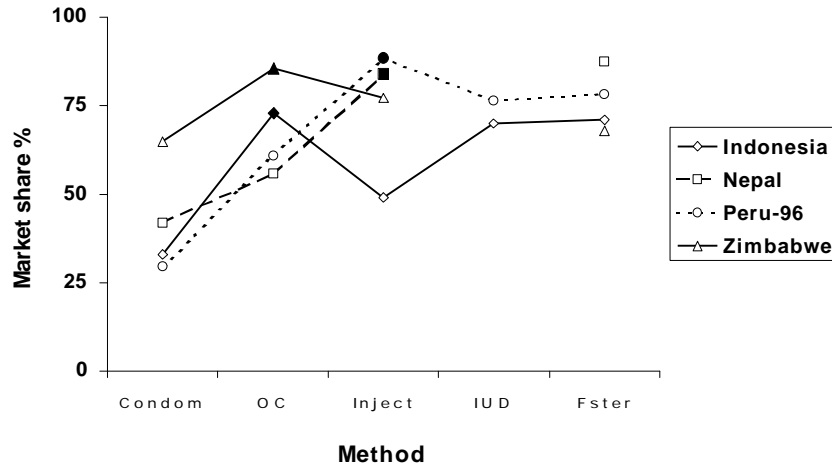


In four countries, the government family planning programs appear to have deliberately emphasized one hormonal method over the other, as indicated by disproportionately high government coverage of that method. Indonesia and Zimbabwe show strong government emphasis on oral contraceptives relative to injectables. In Zimbabwe, reported use of pills was nearly 10 times higher than the use of injectables. In Indonesia, although total pill use was only slightly higher than use of injectables, the government price for pills was only one-fifth of the pharmacy price; whereas reported prices paid for injectables were nearly the same in government and pharmacy outlets (analysis not shown). Nepal and Peru (1996) show a strong emphasis on injectables relative to pills. The Peruvian government program began to heavily promote injectable contraceptives in the early 1990s; and injectable use, which had been one-third of pill use in 1992, was 26 percent higher than pill use in 1996. Figure 2b demonstrates these findings. Note that the emphasized methods are indicated by the filled-in points in Figure 2b.



Figure 2b

**Government Share of Contraceptive Market:  
Selective Emphasis on One Method**



**Hypothesis 2: Women who purchase private MCH services will use the commercial sector for family planning more than women who use public MCH services or who do not use MCH services at all.**

The second set of analyses compares the use of government and commercial sector outlets by women's use of private or public MCH services. Because the DHS questions on use of MCH services apply only to women with recent births, these analyses are restricted to women who reported a live birth in the five years preceding the interview. For ease of interpretation, women with limited or no use of MCH services are contrasted with those who purchased maternity and/or curative treatment in the private commercial sector, as described above.<sup>5</sup>

Results are presented by contraceptive method in Figures 3a through 3e, which show the government share of the market by country. Commercial sector market share, not presented, is generally the complement of the government share. Two countries, Bangladesh and Nepal, are not included because few women reported purchasing MCH services from the private sector.

Hypothesis 2 is supported in virtually all countries and for all methods surveyed.<sup>6</sup> Government share of the condom market is presented in Figure 3a. Brazil, the Philippines, and Peru show clear differentiation by MCH use, whereas Indonesia and Turkey show smaller differences. Also, in general, condoms are a private sector method. With the exception of the Philippines, fewer than one-half of even the poorest condom users rely on the government for supply.

<sup>5</sup>In general, women who reported using public MCH services fell between those with no MCH use and those who purchased MCH in the commercial sector.

<sup>6</sup>There were too few condom users in Bolivia, Colombia, Dominican Republic, and Zimbabwe for meaningful analysis of the condom market in these countries. Similarly, only Indonesia and Peru present enough injectable users for analysis; Brazil and Zimbabwe have too few IUD users; and Zimbabwe has too few users of female sterilization.

Figure 3a

Government Share of Condom Market  
by MCH Use

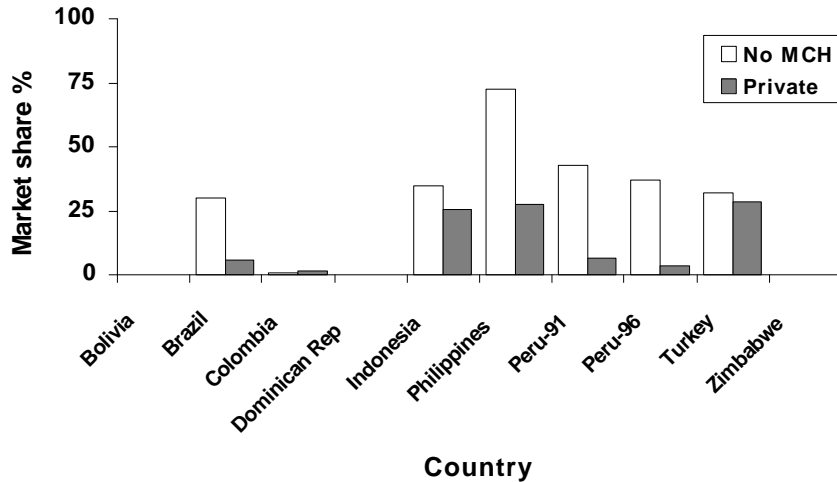


Figure 3b presents government share of the oral contraceptives market. Strong differences are found in Indonesia, the Philippines, Peru, and Zimbabwe by MCH use. Brazil, Colombia, the Dominican Republic, and Turkey show smaller differences, mainly because the government market share is so low even among the poorest pill users. Bolivia presents the only exception to Hypothesis 2: pill users who purchase private MCH care are more likely to use government outlets for their method than pill users who do not obtain MCH care.

Few countries show high enough use of injectables for analysis. In both Indonesia and Peru, women who purchase private MCH are less likely to obtain their injectable contraceptives from government sources, as shown in Figure 3c. Note the substantial increase in use of government sources for injectables in Peru from 1991 to 1996. This reflects the deteriorating economic conditions in general in that country, coupled with strong government program efforts to promote the method.

Finally, clinical methods show some of the greatest differentials between MCH use groups, probably owing to the higher prices associated with those methods. The smallest differences are seen in Bolivia and the Philippines for IUDs, and in Colombia for female sterilization. The government is not a major source of IUDs in Bolivia, nor is it a major source for female sterilizations in Colombia. These results are presented in Figures 3d and 3e.

Figure 3b

**Government Share of Oral Contraceptive Market  
by MCH Use**

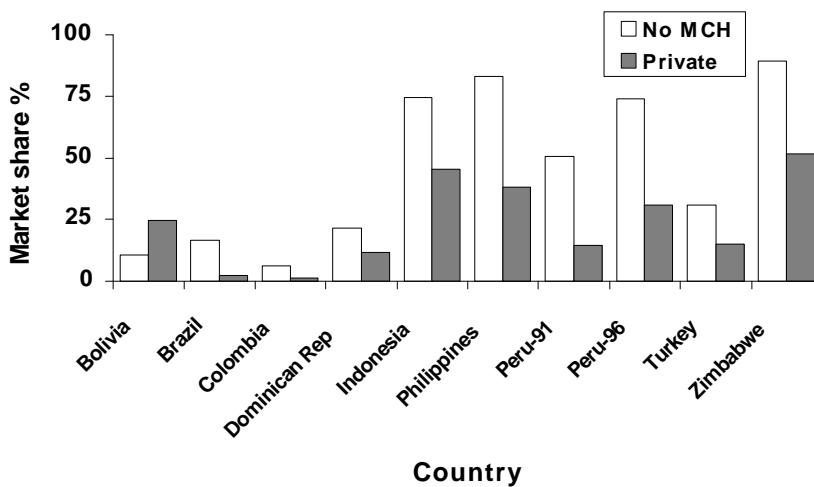


Figure 3c

**Government Share of Injectables Market  
by MCH Use**

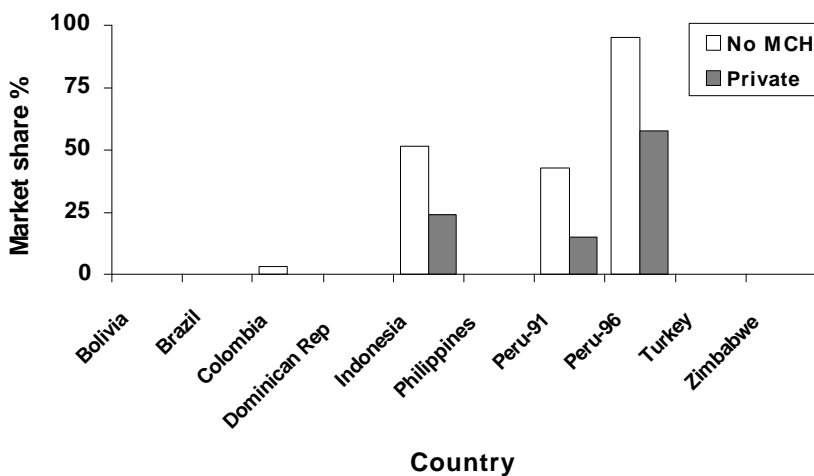


Figure 3d

### Government Share of IUD Market by MCH Use

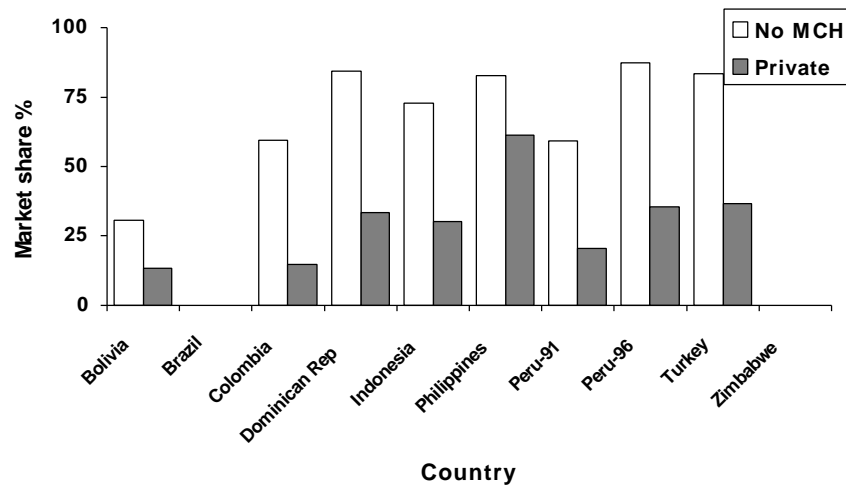
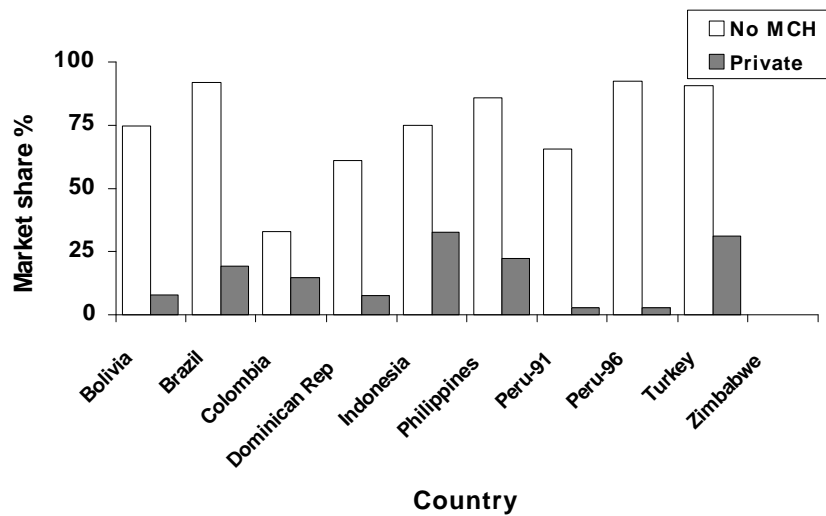


Figure 3e

### Government Share of Female Sterilization Market by MCH Use



**Hypothesis 3: Women who purchase private MCH services will use commercial sources for inexpensive contraceptive methods.**

The third set of analyses focuses on supply methods—condoms, pills, and injectables. These are the least costly methods to deliver because the per-visit commodity costs are low, and the methods do not require highly trained providers or specially equipped clinical facilities. Thus, they should be the easiest methods for the commercial sector to deliver and the most affordable methods for the largest number of women. The minimum condom purchase is generally between one and three pieces, and the minimum purchase of oral contraceptives is a one-month cycle. Governments may want to consider moving supply methods to the commercial sector before tackling clinical methods such as the IUD and surgical contraception.

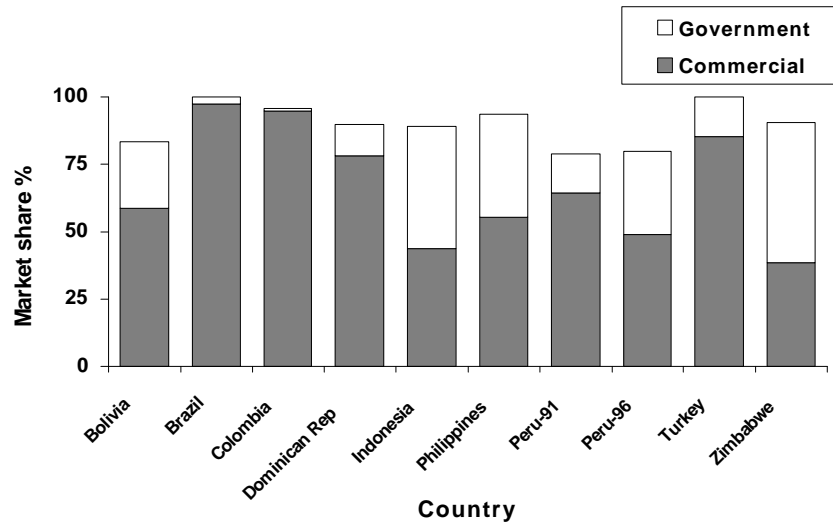
Women who purchase private MCH care should easily be able to purchase condoms or orals from the commercial sector. Figures 4a and 4b compare the use of government and commercial sources for these inexpensive methods among the group with demonstrated ability to pay (the columns do not sum to 100 percent because some users report NGOs or other outlets for their method). Only two countries, Brazil and Colombia, show full commercial market share for condom and oral contraceptive users who purchase private MCH (the private condom market in Brazil is slightly lower because of government and NGO AIDS prevention programs). Peru shows similar patterns for condom users.

The analysis also revealed a substantial government market share among wealthier pill users in Indonesia, the Philippines, and Zimbabwe. Why would women already accustomed to paying for their health care give up the convenience of the private sector to obtain contraceptive methods from the government, especially when the methods are not particularly expensive in commercial outlets? One possibility is that government subsidies are so large and widespread that clients are willing to forego their usual private sources, or that commercial outlets do not try to compete with free government commodities. This phenomenon has been referred to as “crowding out” the private sector. The case of Indonesia supports this explanation.

The Indonesian government family planning program subsidizes oral contraceptives much more heavily than injectables. The government price for orals is roughly one-fifth of commercial prices, whereas its price for injectables is nearly the same as the commercial sector price. If wealthier women were attracted to the government for oral contraceptives because of price, there should be less of an attraction for injectables. The data supports this assertion. Among women who pay for private MCH care, the government market share for oral contraceptives is roughly twice its market share for injectables (analysis not shown). Thus, it appears that government subsidies are distorting the market for oral contraceptives and could be better targeted to serving the poor.

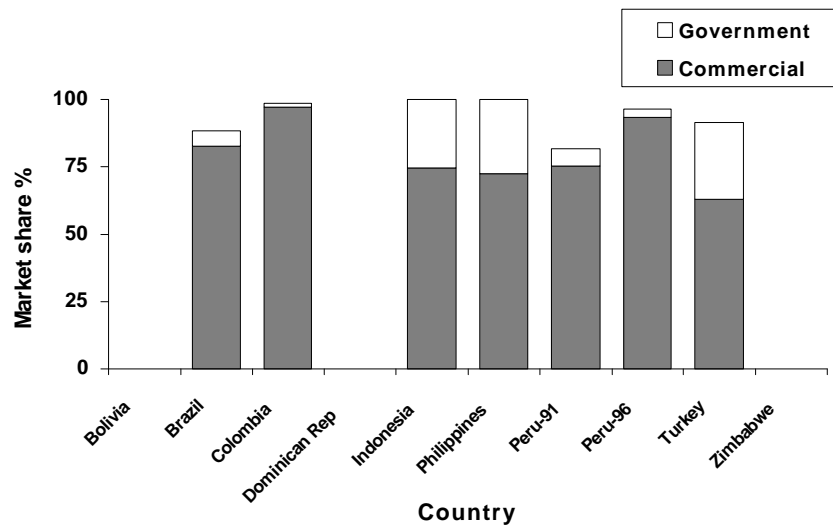
**Figure 4a**

**Source of Oral Contraceptives  
Among Women Who Pay for Private MCH Care**



**Figure 4b**

**Source of Condoms  
Among Women Who Pay for Private MCH Care**



## *Conclusion*

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These descriptive analyses demonstrate that at least the rudiments of “rational” market segmentation by clients’ ability to pay, are operating in the 11 countries analyzed, albeit with significant distortions in some cases. The commercial market share is higher for less costly contraceptive methods, and women who make greater use of private health care are more likely to use commercial outlets for contraception. The most evidence of government-caused distortion comes from Indonesia, where, prior to the current economic crisis, the government appeared to oversubsidize oral contraceptives to the detriment of the commercial sector.

Inferring ability to pay for contraception from use of private versus public sources of MCH care is easily understood by program decision makers and more straightforward than analyses of income and expenditures. A woman who delivers her children at a private hospital or seeks care for her sick children from a private doctor or clinic clearly has both the economic resources and information needed to access the commercial sector for at least lower priced contraceptive methods. These women should be the first priority for government efforts to encourage more users to obtain their contraceptives from the private sector. In countries with significant private health insurance coverage, these efforts could include encouraging private insurance to cover family planning. Findings from descriptive analyses such as those presented in this paper can provide insights for further exploration of potential problems such as untargeted government subsidies for less expensive methods or lack of access to clinical methods.

## ***References***

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- Atkin, J., N. Birdsall, and D. de Ferranti. 1987. *Financing Health Services in Developing Countries: An Agenda for Reform*. Washington D.C.: World Bank.
- Foreit, K.G. 1992. "Private Sector Approaches to Effective Family Planning." *World Bank Policy Research Working Papers WPS 940*. Washington, D.C.: World Bank
- Foreit, K. and J. Sine. 1995. *Private Providers in Egypt: Characteristics, Costs, and Niches in the Family Planning Market*. Washington D.C.: The Futures Group International, Options II Project.
- Galway, K. 1995. *The Financial Sustainability of Increased Use of Voluntary Sterilization in Indonesia: A Proposal to Estimate Costs, Revenues, and the Effectiveness of Resource Allocation; Project Future Resource Needs; and Assess the Potential of New Financing Mechanisms*. Washington D.C.: The Futures Group International, Options II Project.
- Haaga, J.G and A.O. Tsui (eds.). 1995. *Resource Allocation for Family Planning in Developing Countries: Report of a Meeting*. Washington D.C.: National Academy Press.
- Ross J.A. and W.P. Mauldin. 1966. "Family Planning Programs: Efforts and Results." *Studies in Family Planning* 27(3): 137-147.
- Trussel, J., J.A. Leveque, J.D. Koenig, R. London, S. Borden, J. Henneberry, K.D. LaGuardia, F. Stewart, T.G. Wilson, S. Wysocki, and M. Strauss. 1995. "The Economic Value of Contraception: A Comparison of 15 Methods." *Journal of the American Public Health Association* 85(4): 494-503.
- United Nations. 1994. *Report of the International Conference on Population and Development*. Cairo: United Nations.
- World Bank. 1993. *World Development Report*. New York: Oxford University Press.