



COMMERCIAL MARKET STRATEGIES
NEW DIRECTIONS IN REPRODUCTIVE HEALTH

TECHNICAL PAPER SERIES No.4

HOW MUCH IS ENOUGH?

Estimating Requirements for Subsidized Contraceptives: Results from a Ten-Country Analysis

Jeffrey Sine, PhD
FEBRUARY 2002



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Commercial Market Strategies (CMS) is a USAID-funded project that aims to increase access to and demand for quality reproductive health and family planning in developing countries.

The CMS project is implemented by a consortium of leading-edge organizations in the areas of reproductive health and family planning, social marketing, and research: Deloitte Touche Tohmatsu (prime contractor), Abt Associates, Population Services International, and Meridian Group International, Inc.

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The Commercial Market Strategies (CMS) project Technical Paper Series is intended to promote a greater understanding of the current and potential role of the private sector in improving reproductive health in developing countries. The papers are disseminated to a broad reproductive health audience, including donor agency representatives, commercial and private sector partners, policy makers, technical advisors, and researchers. All papers in the series have been reviewed by CMS research staff and selected external reviewers.

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Acronyms

AIDS	acquired immunodeficiency syndrome
CMS	Commercial Market Strategies project (USAID-funded; 1998–2003)
DHS	Demographic and Health Surveys (USAID-funded)
GDP	gross domestic product
HIV	human immunodeficiency virus
NGO	non-government organization
OC	oral contraceptives
PHR _{plus}	Partnerships for Health Reform project (USAID-funded; 2001–2005)
PVO	private voluntary organization
SLI	standard-of-living index
SM	social marketing
STI	sexually transmitted infection
USAID	United States Agency for International Development

Executive Summary

As the number of women of reproductive age grows and as the proportion of those women using modern contraceptive methods increases, total global demand for contraceptive commodities is expected to grow by more than 40 percent by the year 2015. Much of this increase will occur in developing countries — many of which are heavily dependent on multilateral and bilateral donor organizations for commodities distributed through their public sector health systems and through social marketing initiatives. Donor contributions, however, have fallen short of the commitments made at the International Conference on Population and Development in 1994, leading some to question whether a crisis is looming in the world's ability to meet future demand for contraceptives.

This paper provides an alternative view to the Ross *et al* recent estimate of the need for donated contraceptives. Calls for donors to significantly increase funding for procurement and distribution of contraceptives rest on a key assumption — that the current shares of demand met by public and private sector providers will persist into the future. This implicitly assumes that the private sector — and more importantly, the commercial sector — will not successfully engage in strategies to increase its market share. Furthermore, it implies acceptance of the relatively untargeted strategies that characterize most public sector programs. Ensuring that subsidized contraceptives reach those most in need and maximizing the use of limited government budget and donor resources requires that we question these untargeted approaches. This paper recommends that (1) public sector and social marketing programs be encouraged to better direct the distribution of subsidized supplies to those most in need, and that (2) the private sector be encouraged to better serve consumers who can afford to pay for their contraceptives. In this way, the burden of meeting future demand will not rest so heavily on governments and donor organizations.

The analysis presented here focuses on ten donor-dependent countries and projects future demand for oral contraceptives (OC) and condoms to 2015. It examines public and private sector markets by the consumers they serve, recognizing that not all consumers have an equal need for subsidized family planning services. Based on standard of living and need for subsidized contraceptives, this study classifies each consumer as *poor needy*, *near-poor needy*, and *not needy*. Currently, in the ten countries included in the study, 45 percent of OCs and 56 percent of condoms supplied by the public sector and social marketing initiatives are distributed to not-needy consumers — those who, by their financial ability or observed willingness to purchase contraceptives from commercial sources, do not need subsidized contraceptives.

The cost will be high to continue providing current levels of subsidized OCs and condoms in these countries over the next 15 years. In the ten study countries combined, there were an estimated 17.5 million OC users in 2000. By 2015, it is projected that the total number of OC users will grow by 58 percent to 27.7 million. Assuming that public and private sector market shares *do not* change, public sector programs will have to prepare to serve 14.1 million OC users by 2015 — an increase from 8.7 million in 2000; social marketing programs will need to serve four million users — an increase from 2.8 million in 2000. Among these 18.1 million users of subsidized OCs, only six million will be poor needy and only 4.2 million will be near-poor needy. This means that the public and social marketing sectors will be serving nearly eight million people who are not needy. The cost for OC commodities distributed by public sector and social marketing programs would grow from US \$49.4 million in 2000 to \$78.4 million by 2015. However, if subsidized products were targeted to the poor and the near poor, the cost in 2015 would be \$44.4 million — \$34 million less than projected under the assumption that the current market structure remains unchanged.

The picture is similar for condom use: In the ten study countries, there were three million condom users in 2000 and this number is expected to increase by 147 percent to 7.4 million users by 2015. If the current market structure persists, by 2015 the public sector and associated social marketing initiatives will have to meet the needs of nearly six million users, of which only 3.3 million will be poor and near-poor needy. Another 2.6 million not-needy consumers will also obtain subsidized condom supplies. In 2000, governments and donors spent about \$7.2 million for condoms. While the projected cost would reach \$18.3 million by 2015 if market shares remain the same, improved targeting to the poor and the near-poor needy could reduce government and donor costs by \$7.9 million.

Difficult choices about how to best use limited resources compel us to think of alternatives to public and donor financing to meet growing demand for contraceptives. Moreover, the value of maintaining current levels of support for subsidized contraceptives has not been sufficiently examined. What becomes apparent is that governments, with the help of donor assistance, are over-supplying the market with subsidized contraceptives — and this has implications both in terms of cost and in terms of adequately meeting future needs. Targeting subsidized products to the poor and near poor, while at the same time encouraging the private sector to serve the demand of those who are not needy, would free government resources for other purposes that promote contraceptive security. This would also strengthen the viability and sustainability of national family planning programs, which are too often dependent on external donor contributions.

While not the primary focus of this paper, it is important to determine whether the prevailing market structure results from (1) a crowding out of the commercial sector by oversupplied public and social marketing sector programs, or (2) from a lack of commercial sector interest. Understanding and determining the factors that influence the current market structure will shed light on what types of strategies are needed to increase private and commercial sector involvement in the effort to meet future contraceptive needs. If this situation is a result of a crowding-out phenomenon, then limiting access to subsidized products or providing vouchers for commercial products may promote increased commercial sector market share. On the other hand, other incentives and commercial sector development strategies may be required if lower than optimal commercial sector activity is driven by low expected profits and a lack of interest in this market.

In summary, the results of this study indicate that few national family planning programs explicitly target the distribution of their subsidized contraceptives to those most in need — resulting in an unsustainable and inefficient use of resources. Helping countries to develop and successfully implement sound targeting strategies should be a priority for spending donor resources, and predictions of need for donor financing for contraceptives should be reassessed.

Introduction

Overview & Definition of the Commercial Sector

As the number of women of reproductive age grows and as the proportion of those women using modern contraceptive methods increases, total global demand for contraceptive commodities is expected to grow by more than 40 percent by the year 2015.¹ Much of this increase will occur in developing countries, many of which are heavily dependent on multilateral and bilateral donor organizations for commodities distributed through their public health systems and through social marketing initiatives. At the International Conference on Population and Development in 1994, donor organizations committed to step up their financial support to help meet projected growth in demand. However, it has been reported that trends in donor contributions have not been keeping pace with these commitments, and in fact have been decreasing as a proportion of total demand in donor relevant countries.² Observation of these trends have led some to question whether a crisis is looming in the world's ability to meet future demand for contraceptives. The difference between the quantity of commodities that can be purchased with expected donor resources allocated for contraceptive procurement, and the quantity necessary to sustain public sector and social marketing programs as they exist today is defined as the "gap" that puts global contraceptive security at risk.

The conclusion that a crisis does indeed loom on the horizon and renewed calls for donors to significantly increase funding for procurement and distribution of contraceptives rests on a key assumption — that the current shares of demand met by public and private sector providers will persist into the future. This implicitly assumes that the private sector — and more importantly, the commercial sector³ — will not successfully engage in strategies to increase its market share. Furthermore, it implies acceptance of the relatively untargeted strategies that characterize most public sector programs. There are two primary reasons to question this assumption and to take issue with this acceptance of the status quo in public sector programs, and therefore to reconsider how large the contraceptive security gap really is.

First, large inter-country disparities exist in the proportion of contraceptive demand met by the private sector. Moreover, trends show that private sector shares tend to increase over time.⁴ Increasing private sector market shares may be related to maturation of national family planning programs, as well as to decreasing poverty and a consequent increase in people's ability to pay for private services.

1 Ross, Stover and Willard 1999.

2 Ross and Bulatao 2000. Donor relevant is defined as those countries that are currently reliant on donor organizations to meet most or all of their contraceptive commodities supply needs for their public sector family planning program, and that are expected to remain reliant on donors for those supplies for the foreseeable future.

3 The private sector consists of those outlets and providers that distribute commercial and social marketing brands of contraceptives. For this analysis, the commercial sector is defined by those clients who reported that they obtained a commercial brand from a for-profit provider or outlet. The social marketing sector is defined by those who reported that they obtained a social marketing product from any source other than a public sector outlet. Depending on the country, non-governmental providers (known as NGOs in some countries, and as private voluntary organizations, or PVOs, in other countries) and commercial outlets may provide either or both types of brands.

4 Bulatao 2002.

Second, many analyses of public sector family planning programs' client populations show that a considerable proportion of public subsidies, in the way of free or very low-priced commodities, are distributed to non-poor consumers. In the market for oral contraceptives and condoms, it is not unusual to find high proportions of non-poor users obtaining their supplies from public sector programs.⁵ These findings suggest that larger numbers of contraceptors can indeed afford to patronize private sector outlets and pay commercial prices for their supplies — and that perhaps the need for growth in donor supplies may not be as great as proposed. The greater need, then, may be for stronger efforts by both donors and governments to better target public sector programs and to distribute social marketing products to those who are least able to pay commercial prices for contraceptives.

Not all consumers have an equal need for subsidized family planning services. Consumer may be defined as "in need" of subsidized services based on their socio-economic status, their willingness (or unwillingness) to pay for services, the place they live, availability of commercial alternatives, or on the basis of their risk of an unwanted or risky pregnancy. However, the most commonly stated intent of subsidizing services and products is to provide the poor with access they may not otherwise have in the private market.

It is important to distinguish between market shares and numbers of consumers served by different market sectors: While better targeting of public and social marketing sector holds the potential to reduce its share of the market served, the number of consumers served may still grow. The commercial sector may appropriately serve many of these new users, but public programs will almost certainly have to serve larger numbers of consumers as well — contraceptive use among the poor and the near poor grows even faster than among the non-poor. In fact, securing contraceptive supplies for the growing number of poor and near poor who will need subsidies may well depend on improved targeting mechanisms that result in lower market shares for the public sector — even as their programs increase in size.

This paper provides an alternative perspective to the Ross *et al* recent estimate of the need for donated oral contraceptives and condoms in ten donor-relevant countries, based on the assumption that public sector and social marketing programs can be encouraged to better target distribution of public sector and other donated supplies to those most in need. By extension, this paper also demonstrates the extent to which the commercial sector's potential to meet contraceptive needs may be better tapped if distribution of subsidized products were better targeted to the poor and the near poor. This analysis examines only oral contraceptive and condom needs for family planning. In order to compare results with those from the Ross *et al*, analysis of the donor gap for family planning commodities, the number of condoms required to meet the needs for STI and HIV prevention were not included in this analysis.

5 See market segmentation studies conducted by the POLICY project in Egypt (1995, 1997, and 1998), India (1998), Indonesia (1998), Morocco (1999), Philippines (1998), and Turkey (1997).

Methodology & Classification of Data

Ten countries were included in this analysis: Bangladesh, Bolivia, Egypt, Indonesia, Kenya, Mozambique, Niger, Philippines, Senegal, and Vietnam. These countries were selected (1) to include representation from the regions where most donated contraceptive supplies are delivered and (2) based on the availability of recent DHS data. The combined population of these study countries was 638 million in 2000, and this is expected to grow to 848 million by 2015.

Using DHS data and World Bank reports, we developed three “need” categories: *poor needy*, *near-poor needy*, and *not needy*. The poor and the near-poor needy include those individuals who require subsidized products either from the public sector or social marketing. The not-needy group includes those individuals who can afford to pay for fully-commercial products. The sizes of these three groups are calculated as follows.

We used an asset-based standard of living index (SLI) developed by the World Bank explicitly for use with DHS data sets to compute a standard of living score for each woman in each DHS data set.⁶ Within countries, we assigned each woman to one of five equal-sized SLI quintiles, based on her SLI score. Next, we estimated an average per capita income for each quintile based on information from the World Bank on total GNP in each country and the distribution of income across quintiles (see Appendix 2).⁷

Next, poverty status was assigned to each case in each country data set based on the national poverty rate (see Appendix 3) and the person’s assigned SLI quintile.⁸ Three categories of poverty and three levels of need for subsidized contraceptive products were defined: poor, near poor, and not poor. The poor are defined as those who live at or below the nationally defined poverty line. In countries where the poverty rate is 20 percent or greater, all persons in the first SLI quintile (the 20 percent of the population with the lowest standard of living) are defined as poor.⁹ In quintiles that straddled the poverty line, part of the group was defined as poor, and the remainder were defined as near poor. In quintiles entirely above the poverty line, the average per capita income was computed. If one percent of this average per capita income was less than the cost for an annual supply of the lowest priced commercially available OC or condom brand (whichever the person was using), then the method was defined to be unaffordable and all persons in this quintile were defined as near poor with respect to their ability to afford commercially-priced contraceptives.¹⁰ If one percent of the average per capita income in the quintile was greater

6 See Appendix 1 for a list of the DHS data sets used (all were from surveys conducted in either 1997 or 1998) and for citations of the ten World Bank reports on GDP and income distribution. Note that the World Bank quintile breakdown is based on the same SLI information as the DHS breakdown.

7 World Bank 2000.

8 World Bank web site, March 2001: www.worldbank.org/research/povmonitor/WDIpovline.htm.

9 For example, suppose that the 2000 national poverty rate in Bangladesh is estimated to be 32 percent. Everyone in quintile one (20 percent of the population) — the lowest SES quintile — is defined as the core poor. Twelve percent of quintile two are defined as core poor. That is, the difference between the national poverty rate (32%) and the percentage of the population in quintile two (20%). See Appendix 4 for a detailed example of this methodology.

10 The cost for an annual supply of commercially-sold OCs and condoms was estimated separately for each country based on DHS information reporting prices paid by women. For countries where DHS did not include this information, commercial prices reported by USAID project offices (CMS or PHRplus) were used. The price for one cycle of the lowest-priced commercially available OCs was multiplied by 13 to obtain the annual cost for OCs. The lowest price for one commercially available condom was multiplied by 120. See Appendix 5 for commercial prices for OCs and condoms.

than the annual cost of the lowest priced commercially available product, then everyone in this quintile was defined as not poor.

The concept of need for subsidized product considers both a woman’s designated poverty status (poor, near poor, or not poor) and the source for her contraceptive method. The poor who obtained their product from a public sector source, or who used a socially marketed product were defined as *poor needy*. That is, people in this group were considered to have a high priority need for subsidized product. The poor who obtained their method from a commercial source and who used a fully commercial brand were defined as *not needy*, by virtue of their revealed preference.¹¹ In the mixed quintiles (where poverty exists but where some people are above the poverty line), the proportion of persons who used a public sector source for their supplies, up to the proportion in this quintile living at or below the poverty line, were also defined as poor needy. If the proportion in these quintiles who are poor exceeded the proportion who used a public sector source, then the proportion using a socially marketed product, up to the remaining proportion (above the proportion using the public sector) living below the poverty line, were also defined as poor needy. If the total proportion using a public or a socially marketed product exceeded the proportion of people in the quintile who are poor, then these residual public or social marketing sector users were defined as *near-poor needy*. (See Appendix 4 for an example of how these rules were applied.) The near-poor needy are a marginal group. Many would claim that a public sector’s mandate includes not just those living below the nationally defined poverty line, but also those who are near poor.

In quintiles entirely above the poverty line, all near-poor people who obtain their supplies from a public sector source, as well as those using a socially marketed product, were defined as near-poor needy. Users in these near-poor quintiles who obtained their supplies from a commercial source were defined as not needy, using the same assumption applied to the poor who used a commercial source. All users in not poor quintiles (where one percent of annual per capita income exceeds the annual cost of the lowest priced commercially available supplies) were defined as not needy of subsidized products, regardless of where they obtained their supplies. Table 1 summarizes this poverty and need classification system.

Table 1: Poverty and Need Classifications Scheme

Poverty Category	Need for Subsidized Products		
	Poor needy	Near-poor needy	Not needy
<i>Poor</i> — live at or below the national poverty line.	Obtain supplies from public sector source or use socially marketed products.		Obtain supplies from commercial source.
<i>Near poor</i> — live above poverty line, but commercial products not affordable.		Obtain supplies from public sector source or use socially marketed products.	Obtain supplies from commercial source.
<i>Not poor</i> — live above poverty line, and commercial products are affordable.			Obtain supplies from any source.

¹¹ In any market, some proportion — however small — of poor users is likely to purchase commercial contraceptive brands. While some poor may move between public and private sources for their supplies, it is assumed that the proportion using the commercial sector at any point in time remains relatively unchanged, and that the DHS reflects a snapshot of this situation.

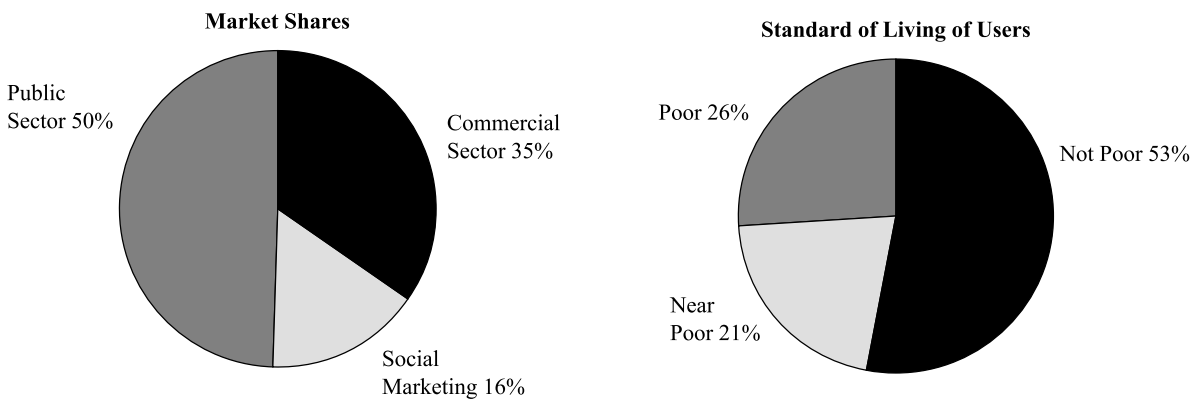
Findings

Current Patterns of OC and Condom Use

Baseline (1997–98) OC prevalence for the ten countries included in this study ranged from two to 21 percent; condom prevalence ranged from near zero to six percent. Prevalence tends to increase as standard of living increases. Notable exceptions are Indonesia, the Philippines, and Vietnam, where OC prevalence is higher among the lowest quintiles.

Public sector outlets currently serve almost twice as many OC users as there are poor OC users in the market (Figure 1). Public sector programs serve half of all OC users across the ten countries — but only 26 percent of OC users are poor. Another 21 percent of OC users are near poor, while social marketing programs serve 16 percent of users. Fifty-three percent of OC users are not poor, but only 35 percent of OC users purchase commercial OC brands.

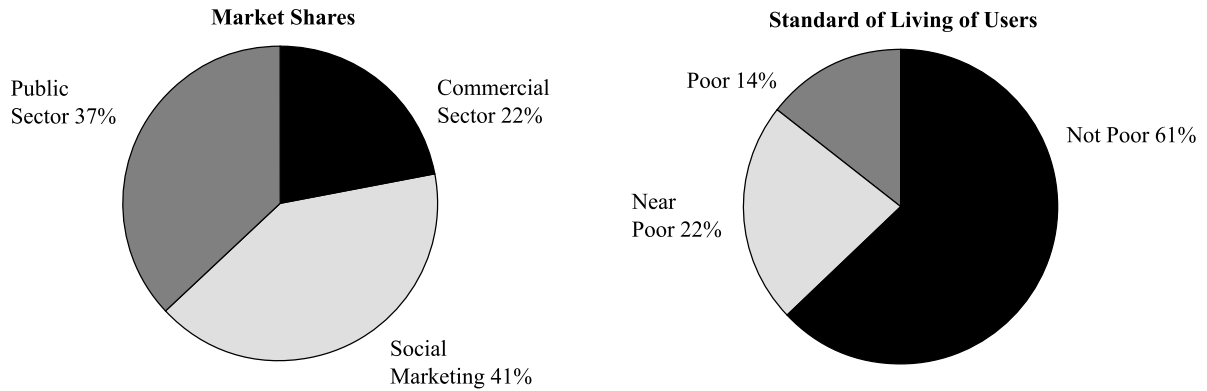
Figure 1: Market Shares for Oral Contraceptives, Compared to Socio-Economic Status of Users ^a



^a Aggregated for the ten countries included in this study.

Similarly, public sector programs are serving more than twice as many condom users as there are poor condom users in the market (Figure 2). Thirty-seven percent of condom users obtain their supplies from a public sector outlet, while only 14 percent are poor. Social marketing programs serve 41 percent of condom users, whereas 22 percent of condom users are near poor. Only twenty-two percent of condom users purchase commercial condom brands, whereas 61 percent are not poor.

Figure 2: Market Shares for Condoms, Compared to Socio-Economic Status of Users ^b

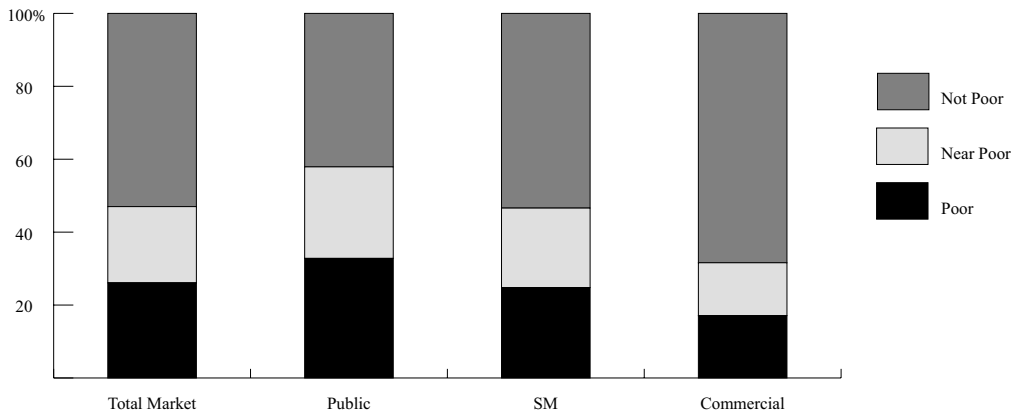


^b Aggregated for the ten countries included in this study.

Distribution: Inadequate Market Segmentation

The market for OC and condoms in the ten-country group is poorly segmented. Compared to the commercial sector, a greater proportion of the public sector's OC client base is the poor and the near poor (32% versus 47%, respectively; Figure 3).¹² However, clients who are not poor obtain 42 percent of OCs distributed through the public sector. This rises to 53 percent in the social marketing sector.¹³

Figure 3: OC Client SLI Status Distribution in Each Sector

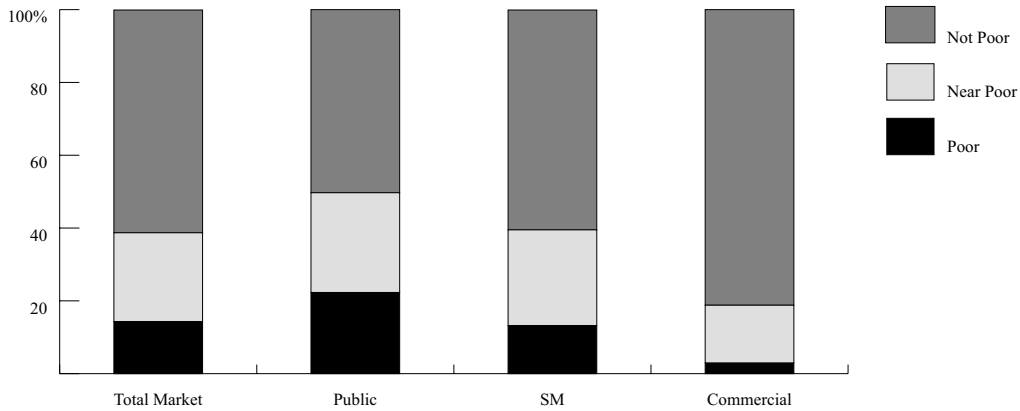


Though the condom market is better segmented than the OC market, clients who are not poor also capture a high proportion of subsidized condoms (Figure 4). Nearly half of the public sector's client base is the poor and the near poor, compared to 19 percent in the commercial sector. However, clients who are not poor obtain 50 percent of condoms distributed through the public sector and 60 percent of socially marketed condoms.

¹² See Appendix 6 for country-specific distribution of clients by need category.

¹³ The proportion of OC commodities delivered through socially marketing channels was determined by analysis of brands DHS respondents reported to be using. See Appendix 7 for social marketing sector shares for OCs. Donated products that women reportedly obtained from a private sector source were considered to be leaked product. The total social marketing sector share was defined as the proportion of all OCs that were either known social marketing brands or leaked product. Information about the social marketing sector share for condoms was unavailable and a conservative assumption was made that 75 percent of condoms distributed through private sector channels was socially marketed product.

Figure 4: Condom Client SLI Status Distribution in Each Sector



Another way to look at these data is to examine where people in each standard of living group get their supplies. In a well-segmented market, most poor clients would obtain their contraceptives from the public sector where subsidies are normally highest. Most near poor would use socially marketed products that are also subsidized, but at a lower level. Most clients who are not poor would use commercial products. In the OC market, 55 percent of OC clients who are not poor use either a socially marketed product or obtain supplies from a public sector outlet, benefiting from subsidies generally inherent in these sectors (Figure 5). In the condom market the comparable proportion is 29 percent (Figure 6). When assessing the world's ability to meet future demand for contraceptives, it is important to determine whether this situation derives from a crowding out of the commercial sector by public and social marketing sector programs, or from a lack of commercial sector interest. This question will be addressed at the end of this paper.

Figure 5: Source of OC Supplies, by Socio-Economic Group

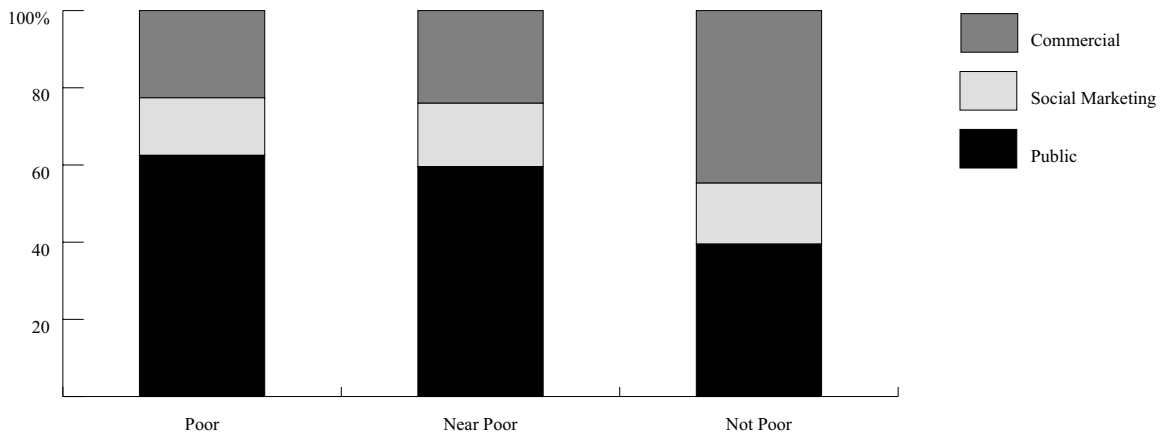
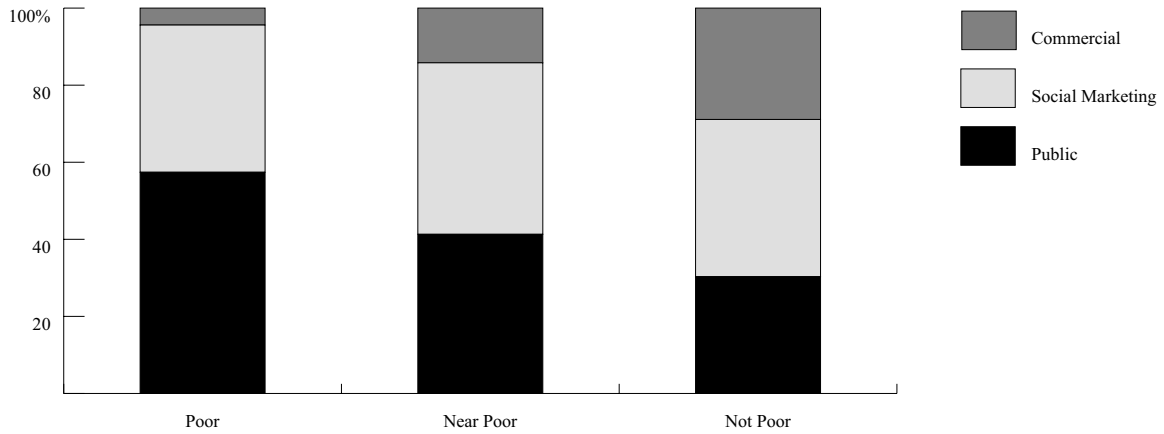


Figure 6: Source of Condom Supplies, by Socio-Economic Group



One other point is worth noting. Some poor and near-poor users do choose commercial products. Twenty-three percent of poor OC clients and four percent of poor condom clients purchase commercial products. Twenty-four percent and 14 percent of near-poor OC and condom clients, respectively, use commercial products. This fact is important when considering how much subsidized product is the appropriate amount in a market. Public sector programs and social marketing initiatives need not plan to serve all the poor and the near poor, even if they could design completely effective and efficient targeting mechanisms.

Questioning the Assumption of Unchanging Source Mix & Poverty Rates

As noted earlier, the Ross, *et al* projections for contraceptive demand allow for changes in the method mix in each country, but assume that the source mix for each method would not change over time. In this ten-country analysis, these assumptions for method mix changes were maintained. However, there are reasons to question the assumption of an unchanging source mix:

- Historically, the private sector has been observed to increase its share over time in the contraceptive supplies market.¹⁴
- Poverty is not a constant. Efforts to reduce poverty rates have succeeded in many countries around the world and it is reasonable to assume that poverty will continue to decline in most countries.

Information about recent changes in poverty rates was obtained and assumptions about average annual changes in the poverty rates were made for each study country (Appendix 3).¹⁵ Assumptions made for this analysis about future changes in poverty rates were conservative, so as to guard against underestimating the size of the poor and the near-poor populations. As incomes increase over time, so does the purchasing power of consumers. Therefore, over time, it is assumed that commercially priced contraceptives will become affordable to more people. Historical changes in GNP were considered and then conservatively applied to the most recent measures of GNP to obtain estimates for 2005, 2010, and 2015. Information about the distribution of GNP across income quintiles was applied to the estimated total GNP for each of four years included in this analysis. An estimated per capita income was derived by dividing the total GNP in each quintile by the number of people in the quintile (20 percent of the population).¹⁶

Ross *et al* country-specific projections for increases in demand for OCs and condoms by the year 2015 were used in this analysis (see Appendix 8). However, we assumed that use among poorer quintiles would grow faster than use among better off quintiles. That is, the gap between prevalence in the lowest and the highest quintiles is expected to narrow over time, as poorer groups catch up to better off groups with respect to contraceptive use. To estimate the future distribution of use across SLI quintiles, it was assumed that the size in the gap observed in the latest DHS data set would be reduced by half by 2015. In this way, projections about future need for subsidized contraceptives were based on the assumption that the proportion of all users who are poor will grow steadily.

Based on these estimates, the number of poor, near poor, and not poor were obtained. Population projections used by Ross *et al* for each country were also used in this analysis.

¹⁴ Bulatao 2002.

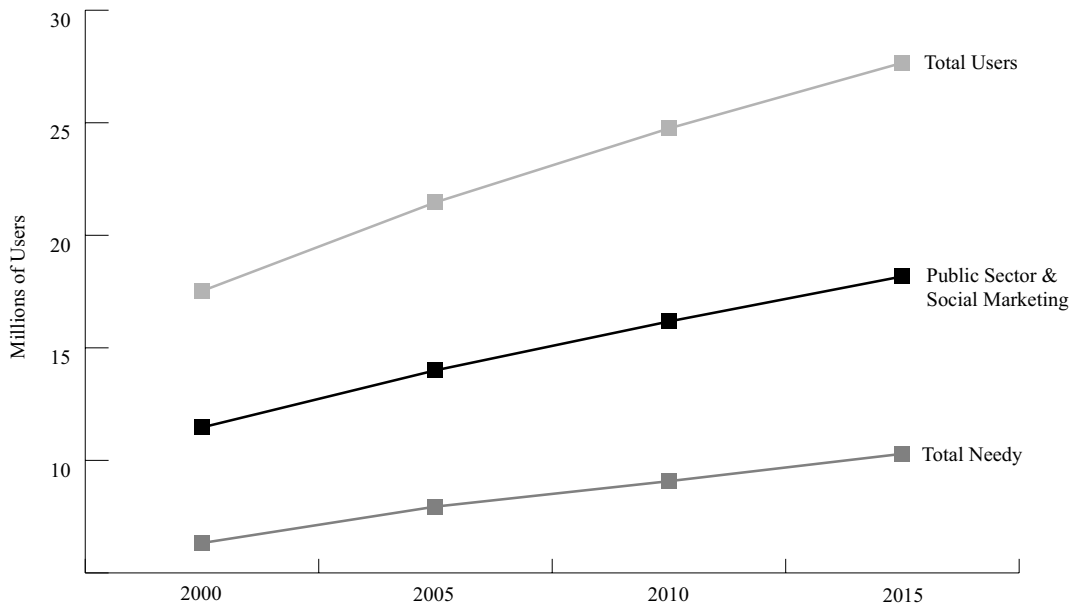
¹⁵ Demand can also increase as a result of behavior change campaigns. One important factor of people's willingness to pay is the value that they assign to a product. As family planning and AIDS-prevention campaigns increase the perception of need, products are likely to be more in demand — even at commercial prices. Thus, even if personal incomes do not increase dramatically, poor people may be more willing to pay for what they now perceive to be essential health products.

¹⁶ It is difficult to predict how the distribution of income will change over time in a country. Hence, the most recently reported distribution was used for each of the four years included in this analysis.

Projection Results

In the ten countries combined, there were an estimated 17.5 million OC users in 2000. By 2015, it is projected that the total number of OC users will grow by 58 percent to 27.7 million (Figure 7). This growth will be fed mostly by population increase, but also by increases in contraceptive prevalence and in the proportion of contracepting couples who are expected to choose OCs. The bottom line (total needy) includes both those below the poverty line (the poor needy) and those who are unable to afford even low-priced commercial brands (the near-poor needy).

Figure 7: Projected Demand for OCs, 2000–2015

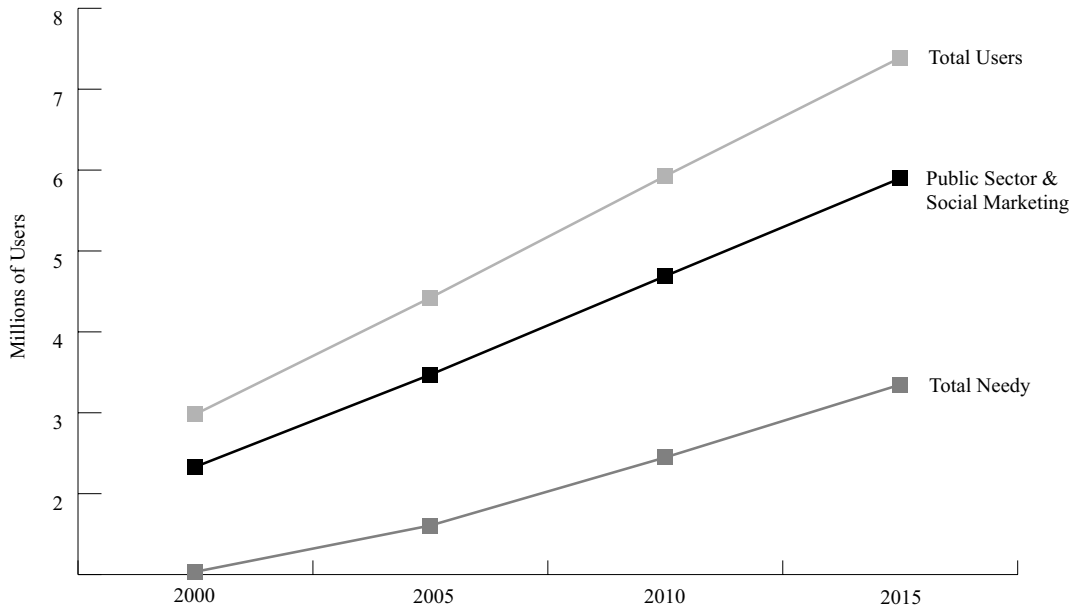


Currently, the public sector accounts for 50 percent of all OCs distributed in the ten-country group (8.7 million users). When socially marketed product — i.e. subsidized product, largely provided by donor agencies — obtained by users from the private sector are added, the proportion of the total market accounted for rises to 65 percent (11.5 million users). Almost one-third of the 65 percent of users receiving subsidized products could be classified as not needy. If the public and socially marketed sectors served only the poor and the near-poor needy, donors and governments would be serving only 36 percent of the market (6.3 million users).

Assuming that market shares do not change, public sector programs in these ten countries will have to prepare to serve 14.1 million OC users by 2015. Their social marketing programs will need to have the capacity to serve another four million users. Among these 18.1 million OC and condom users, only six million will be poor needy and another 4.2 million will be near-poor needy. In addition to these 10.2 million needy clients, the public and social marketing sectors will be serving another 7.9 million people whose incomes would classify them as not needy.

The outlook for condoms is similar: In the ten-country group, there were three million family planning condom users in 2000. By 2015, this is expected to increase by 147 percent to 7.4 million users (Figure 8). As in Figure 7 for OCs, the bottom line (total needy) includes both those below the poverty line (the poor needy) and those who are unable to afford even low-priced commercial brands (the near-poor needy).

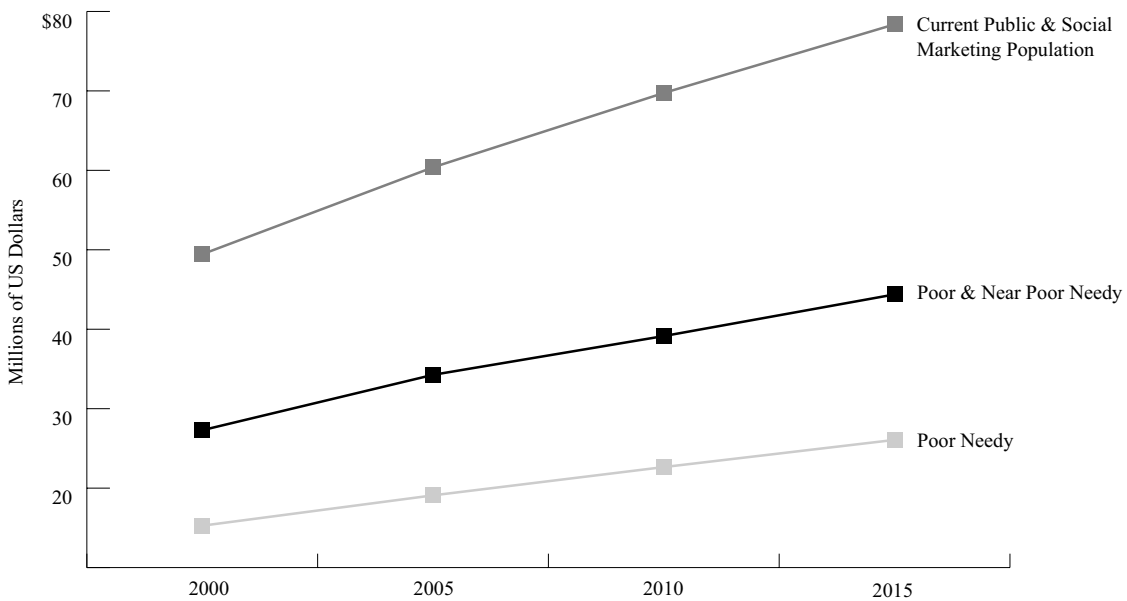
Figure 8: Projected Demand for Condoms, 2000–2015



Currently, the public sector accounts for 37 percent of all condoms distributed for family planning in the ten-country group (1.1 million users). When socially marketed products obtained through the private sector are added, the proportion of the total market accounted for rises to 78 percent (1.2 million additional users). If the public and socially marketed sectors served only the poor and the near-poor needy, then the public and social marketing sectors would have served *less than half* this number of users — 35 percent of the market in 2000 (one million users). If the current market structure persists, by 2015 the public sector will have to be prepared to serve 2.7 million condom users, and another 3.2 million will have to be accommodated in social marketing programs for a total of almost six million couples dependent on subsidized condom supplies. This compares with only 3.3 million poor and near-poor needy couples who are projected to be using condoms for contraception.

Clearly, there is a dramatic difference between the number of users projected to be provided subsidized product if current market shares remain unchanged and the number of poor and near poor in need of subsidized OCs and condoms. This difference has large financing implications. In the ten study countries, the cost for OC commodities distributed in 2000 by public sector and social marketing programs was US \$49.4 million (Figure 9).¹⁷ If these sectors maintain their current market shares and client mix, by 2015 this cost will grow to \$78.4 million. But if subsidized products are targeted to the poor and the near poor who use the public sector or socially marketed products, then the cost in 2015 would be \$44.4 million — \$34 million less than projected under the assumption that the current market structure remains unchanged. And by targeting the poor only the cost to governments and donors would be reduced further to \$26.1 million in 2015.

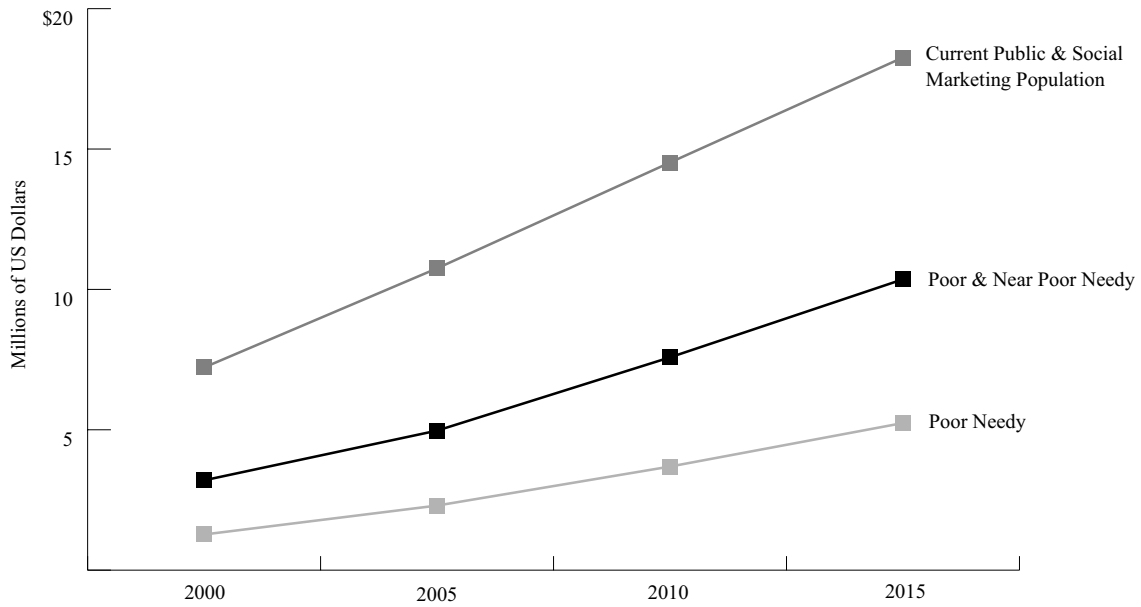
Figure 9: Contraceptive Commodity Costs for OCs, by Target Population, 2000–2015



¹⁷ Donor commodity cost projections were based on the same set of assumptions used in Ross's projections. Quantities of commodities required are assumed to be 15 cycles per OC user and 120 condoms per condom user. Unit costs were assumed to be US\$ 0.2875 per OC cycle and US\$ 0.0258 per condom.

Fewer couples use condoms for contraception compared to OCs, and the estimated cost per user for governments and donors is lower — \$3.30 for condoms, compared to \$4.31 for OCs. Accordingly, the total financing requirement is lower (Figure 10). Serving the relatively untargeted population that public and social marketing sectors currently serve, in 2000 governments and donors spent about \$7.2 million for condoms in the ten study countries. If the population served by these sectors remains unchanged, this cost will grow to \$18.3 million by 2015. Improved targeting to the poor and the near-poor needy would have reduced commodity costs in 2000 by more than half for condoms, and fully \$7.9 million less would be required in 2015 to meet needs for subsidized product (representing a 43 reduction in commodity costs).

Figure 10: Contraceptive Commodity Costs for Condoms, by Target Population, 2000–2015



Discussion

There is little doubt that several decades of donor support for contraceptive supplies around the world has been instrumental in bringing about extraordinary demographic changes. The fact that researchers are predicting a large increase in global demand for contraceptives over the next 15 years attests to the success of this support. There is debate, however, about the best means to meet expected growth. At the root of the concern about contraceptive security is the fact that donor contributions to this basic need are falling short of the expectations and commitments made seven years ago in Cairo at the International Conference on Population and Development. Moreover, international concern for contraceptive security is matched by concern for the security of a host of other basic social services in developing countries — donor and developing country government resources are not growing as quickly as *any* of these needs. It is not at all clear that donor and government funding for contraceptives will — or even should — rise to the levels being called for by some contraceptive security advocates. Difficult choices about how to best use limited resources compels us to think of alternatives to public financing to meet growing demand for contraceptives.

The value of maintaining current levels of support for subsidized contraceptives has not been sufficiently examined. Fundamental questions need to be asked:

- Who benefits from these subsidies?
- Can the subsidies be used more efficiently to benefit those most in need?
- What are the prospects that governments will be able to expand their public sector service delivery infrastructure to accommodate such large increases in the number of family planning clients?
- Is this the best use of scarce public resources?
- Couldn't the commercial sector meet a larger share of future contraceptive demand?
- Are there better uses for some of the donor and government subsidies for contraceptives that are not currently reaching poor and the near-poor couples who need them?

This analysis demonstrates that 45 percent of subsidized OCs and 56 percent of subsidized condoms in the ten-country study group are distributed to not-poor users — nearly the same proportion as their presence in the market. While no targeting program can be completely effective at limiting benefits to intended population groups, these results indicate that few national family planning programs explicitly target the distribution of their subsidized products. This analysis also found that the cost will be high to continue providing current levels of subsidized OCs and condoms in these countries over the next 15 years. But the high cost of commodities is not the only cost of maintaining current levels of subsidies; governments and donors in these ten countries will have to spend considerably more than that to increase their service delivery capacity in order to handle the increase from 13.8 million OC and condom users to 24.1 million users. Even if public resources are allocated to finance these commodity needs, will governments and their donor partners be able to mobilize the resources to pay for the expanded service delivery capacity?

Even if donors could mobilize the resources needed to keep public sector and social marketing programs fully supplied to maintain current market shares, the long-term value of this strategy is questionable. To be sustainable, national programs must eventually be weaned off donor supplies. Rightfully so — donors highlight sustainability as a development goal. But are countries well-

positioned to reach sustainability after years of donor support and where expectations have been built up that free or low-priced contraceptives will continue to be plentiful? Experience has shown that the process of donor phase-out from national family planning programs is painful: A sense of entitlement develops in populations when low-priced subsidized products are widely available, and a sense of responsibility develops on the part of larger than necessary government programs. The first response of many countries facing the transition to contraceptive independence is to maintain their current public sector program as it exists with generous donor support. Improved targeting while donors are still full partners — and long before phase-out of donor assistance is becomes imminent — may ease some of the burden of transition to national sustainability.

Apart from the potential long-range value targeting holds for improving prospects for sustainability, there is also potential shorter-range value. The analysis also demonstrated that considerable savings could be realized by targeting subsidized contraceptives to a smaller group of poor and near-poor users who are least likely to be able to obtain contraceptives from the commercial sector. Currently, targeting is not implemented systematically in most national family planning programs. Programs that do so are not likely to need the amount of subsidized contraceptives projected by analyses based on historical trends and current program configurations — even if one factors in some expectations for inefficiencies inherent in targeting strategies.

More importantly, the role of the commercial sector in fostering contraceptive security — and ultimately independence at the country level — has been underestimated. Bulatao's recent multi-country analysis of private sector positions in national family planning markets shows that the private sector share for OCs grows by about half a point a year, while the private sector share for condoms grows by almost two points a year.¹⁸ Thus, estimates of future donor and government resources needed to finance contraceptive supplies that rest on assumptions of no increase in private sector shares seem to be unreasonable. Instead, evidence suggests that the private sector does indeed actively engage in efforts to serve the market for contraceptives and to increase its market share. Bulatao also found that where public family planning programs are strong, the private sector is less active. But better targeted public and social marketing programs can reduce this crowding-out phenomenon. And ultimately, a stronger private sector will pave the way for a smoother transition to contraceptive independence when the time comes for donor phase-out. Donors have an important role to play in setting the stage for smoothing these transitions by:

- taking a critical look at how subsidized commodities are distributed in the programs they support;
- encouraging governments to develop and implement explicit targeting strategies; and
- limiting levels of support for contraceptive supplies to the amount necessary to meet the needs of targeted populations.

Much could be done with the resources that would be saved by financing contraceptive subsidies for a better-targeted population. Some resources could be used to help countries develop targeting strategies, and to finance the costs of implementing those strategies. Resources could also be used to support the commercial sector to better serve those groups not included in the public sector's target population. Increased support may be provided directly to the private sector to finance added costs of advertising products and of increasing distribution networks (both factors found to

¹⁸ Bulatao 2002.

be associated with higher private sector shares). Resources could also be used in the short-term to ease the transition from subsidized products to commercial products as targeting strategies are implemented. For example, not-poor users formerly dependent on subsidized products could be provided with vouchers for commercial products. As these not poor users become familiar with commercial products and sources, and as their willingness to invest in these products increases, these subsidies could be reduced.

Of course, such a strategy could more easily be engaged if crowding out drives current market outcomes. On the other hand, if lower than optimal commercial sector activity is driven by low expected profits and a lack of commercial sector interest in this market, then merely limiting access to public subsidies to the poor and the near poor may not be sufficient to generate increased commercial sector market shares. Other strategies would need to be developed to alter the incentives — or at least the perceptions of incentives — for the commercial sector.

Concern is often raised about the impact of leaner, more targeted program subsidies on contraceptive prevalence trends. Here again, evidence should allay such concern. In Indonesia, Molyneaux found that contraceptive prevalence was not affected when prices for contraceptives increased after the economic crisis of 1997.¹⁹ He did find evidence of method and source switching, but few people appeared to have abandoned use of modern methods. A host of other studies have found that demand for contraceptives is not particularly sensitive to price.²⁰ The greatest sensitivity is found among the poor, but strategies that target the poor for distribution of subsidized products should ameliorate concern about this group. Helping countries to successfully implement sound targeting strategies should therefore be a priority for spending donor resources and predictions of need for donor financing for contraceptives should be reassessed.

¹⁹ Molyneaux 2000.

²⁰ See references for list of studies assessing the impacts of prices on demand for family planning.

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Appendix A

DHS Data Sets and references for SLI Indices

Table A1: DHS Data Sets

Country	DHS Data Set
Bangladesh	1997
Bolivia	1998
Egypt	1998
Indonesia	1997
Kenya	1998
Mozambique	1997
Niger	1998
Philippines	1998
Senegal	1997
Vietnam	1997

Sources for SLI Indices

Gwatkin, Davidson R., Shea Rutstein, Kiersten Johnson, Rohini P. Pande and Adam Wagstaff. May 2000. *Socio-Economic Differences in Health, Nutrition and Population* for each of the following countries: Bangladesh, Bolivia, Egypt, Indonesia, Kenya, Mozambique, Niger, Philippines, Senegal, Vietnam. The World Bank, Washington, DC.

Appendix B

GDP Growth Rate Assumptions and Income Distribution Data

Table B1: GDP Growth Rate Assumptions

Country	Historical GDP Growth from 1990-99 ^a (%)	1999 GDP (US\$ billions) ^b
Bangladesh	4.8	47.1
Bolivia	4.2	8.1
Egypt	4.4	86.5
Indonesia	1.6% to 2005 5.0% after 2005 ^c	125.0
Kenya	2.2	10.7
Mozambique	6.3	3.8
Niger	2.5	2.0
Philippines	3.2	78.0
Senegal	3.2	4.7
Vietnam	8.1	28.7

a Source: *World Development Report 2000/2001:Attacking Poverty*. The World Bank, Washington, DC, Table 11

b Source: *2001 World Development Indicators*, The World Bank, Washington, DC, 2001. Table 1.1.

c The average rate of growth in Indonesia was 1.6 percent during the 1990s. It was assumed that this rate would persist through 2005, and thereafter, would rise to a higher level that prevailed prior to the 1997 economic crisis.

Table B2: Income Distribution

Country	Q1	Q2	Q3	Q4	Q5	Total %
Bangladesh	8.7	12.0	15.7	20.8	42.8	100.0
Bolivia	1.9	5.9	11.1	19.3	61.8	100.0
Egypt	9.8	13.2	16.6	21.4	39.0	100.0
Indonesia	9.0	12.5	16.1	21.3	41.1	100.0
Kenya	5.0	9.7	14.2	20.9	50.2	100.0
Mozambique	6.5	10.8	15.1	21.1	46.5	100.0
Niger	2.6	7.1	13.9	23.1	53.3	100.0
Philippines	5.4	8.8	13.2	20.3	52.3	100.0
Senegal	6.4	10.3	14.5	20.6	48.2	100.0
Vietnam	8.0	11.4	15.2	20.9	44.5	100.0

Source: 2001 World Development Indicators, The World Bank, Washington, DC, 2001. Table 2.8.

Appendix C

Table C1: Poverty Rates

Country	Poverty Rates (%)		Rate of Change (%)	
	Measure 1 (Year)	Measure 2 (Year)	Past Annual Average	Assumed Future Annual Change
Bangladesh	42.7 (1992)	35.6 (1996)	- 1.8	- 1.0
Bolivia	11.3 (1993)	NA	NA	- 0.5
Egypt	22.9 (1996)	NA	NA	- 0.5
Indonesia	11.3 (1996)	20.3 (1998)	+ 4.5	- 0.5
Kenya	42.0 (1992)	NA	NA	- 0.5
Mozambique	37.9 (1996)	NA	NA	- 1.0
Niger	63.0 (1993)	NA	NA	- 0.5
Philippines	40.6 (1994)	NA	NA	- 0.5
Senegal	26.3 (1995)	NA	NA	- 0.5
Vietnam	50.9 (1993)	37.0 (1997)	- 3.5	- 1.0

Note: It was assumed that poverty would be reduced to no lower than 10 percent in any country. Countries for which the trajectory of change would reduce poverty to less than 10 percent by 2015, the rate was held constant at 10 percent from the first year at which this rate would be reached using the last known poverty rate and the assumed future annual change.

Source: World Bank. March 2001. www.worldbank.org/research/povmonitor/WDIpovline.htm

Appendix D

Methodology for Assigning *Needy* Status

Table D1: OCs in Bangladesh (2000) as an Illustrative Case

Country	Bangladesh			
Poverty Rate	35.6 percent (1996) 31.6 percent (estimated 2000; all of quintile 1 and 11.6% out of the 20% in quintile 2)			
Quintile 1	Commercial OC products are assumed to be unaffordable to all public and social marketing sector users			
Quintile 2	Commercial OC products are assumed to be unaffordable to all public and social marketing sector users			
Quintiles 3	One percent of average per capita income in 2000 is less than the annual cost of OCs			
Quintiles 4 & 5	One percent of average per capita income in 2000 is greater than the annual cost of OCs			
Quintile Breakdown	Percent of Clients			
	Total	Poor needy	Near-poor needy	Not needy
Quintile 1				
Public Sector	16.4	16.4	-	-
Social Marketing	3.0	3.0	-	-
Commercial	0.6	-	-	0.6
Total	20.0	19.4	-	0.6
Quintile 2				
Public Sector	15.6	11.6	4.0	-
Social Marketing	3.3	-	3.3	-
Commercial	1.1	-	-	1.1
Total	20.0	11.6	7.3	1.1
Quintile 3				
Public Sector	15.6	-	15.6	-
Social Marketing	2.9	-	2.9	-
Commercial	1.5	-	-	1.5
Total	20.0	-	18.5	1.5
Quintile 4				
Public Sector	13.8	-	-	13.8
Social Marketing	3.6	-	-	3.6
Commercial	2.6	-	-	2.6
Total	20.0	-	-	20.0
Quintile 5				
Public Sector	7.8	-	-	7.8
Social Marketing	6.1	-	-	6.1
Commercial	6.1	-	-	6.1
Total	20.0	-	-	20.0

Appendix E

Table E1: Commercial Prices for OCs and Condoms

Lowest unit price for pure commercial product (in US\$)		
Country	OCs (per cycle)	Condoms (per piece)
Bangladesh	0.24	0.03
Bolivia	0.27	0.14
Egypt	0.26	0.14
Indonesia	0.27	0.05
Kenya	0.27	0.14
Mozambique	0.27	0.45
Niger	0.25	0.14
Philippines	0.33	0.14
Senegal	0.27	0.14
Vietnam	0.27	0.03

Note: Prices listed are those reported by DHS respondents for countries where the DHS dataset included this information, or for countries where DHS did not include this information, commercial prices reported by USAID project offices (CMS or PHRplus) in those countries. To derive the cost for an annual supply of commercial-sold OCs and condoms, these reported unit prices were multiplied by 13 for OCs and by 120 for condoms.

Appendix F

Contraceptive Prevalence, Source Mix & Need Category Distribution

Table F1: Contraceptive Prevalence, by SLI Quintile

Country	Year	Method	Q1	Q2	Q3	Q4	Q5	Total %
Bangladesh	1997	OCs	18.2	18.4	22.8	20.0	24.6	20.8
		Condoms	0.9	1.4	3.1	4.2	9.8	3.9
Bolivia	1998	OCs	1.8	2.2	1.9	2.5	2.6	2.2
		Condoms	0.4	1.1	1.3	2.9	3.1	1.8
Egypt	1998	OCs	8.3	9.3	11.5	10.3	13.5	10.6
		Condoms	0.2	0.8	0.5	0.7	2.4	0.9
Indonesia	1997	OCs	16.8	16.3	15.9	15.9	12.4	15.5
		Condoms	0.0	0.2	0.3	0.9	1.9	0.7
Kenya	1998	OCs	2.7	4.2	5.3	8.0	9.6	6.0
		Condoms	0.7	1.7	0.9	1.3	2.6	1.4
Mozambique	1997	OCs	0.9	0.6	2.0	4.2	7.9	3.1
		Condoms	0.4	0.4	0.4	2.0	3.3	1.3
Niger	1998	OCs	0.4	0.6	0.9	1.2	10.7	2.8
		Condoms	0.0	0.0	0.1	0.1	0.8	0.2
Philippines	1998	OCs	6.9	7.2	7.5	6.0	4.5	6.4
		Condoms	0.6	0.8	0.9	0.8	1.2	0.9
Senegal	1997	OCs	0.3	1.2	2.2	3.7	5.8	2.6
		Condoms	0.4	0.6	0.8	1.6	1.5	1.0
Vietnam	1997	OCs	7.3	4.0	3.2	3.6	3.6	4.3
		Condoms	1.9	3.6	4.5	7.1	12.5	5.9

Source: DHS.

Table F2: Source of Contraceptive Method

Country	OC Users (%)				Condom Users (%)			
	Public	Social Market	Com-mercial	Total	Public	Social Market	Com-mercial	Total
Bangladesh	67.9	19.3	12.7	100.0	36.4	41.6	22.0	100.0
Bolivia	22.0	18.3	59.7	100.0	12.8	58.4	28.8	100.0
Egypt	11.3	0.0	88.7	100.0	3.8	64.2	32.0	100.0
Indonesia	33.8	18.2	48.0	100.0	18.6	51.3	30.0	100.0
Kenya	62.3	10.6	27.1	100.0	27.5	52.1	20.4	100.0
Mozambique	73.1	3.7	23.3	100.0	38.6	41.9	19.5	100.0
Niger	78.2	10.4	11.4	100.0	34.4	41.0	24.6	100.0
Philippines	82.6	4.7	12.7	100.0	50.1	32.0	17.9	100.0
Senegal	74.3	6.9	18.8	100.0	23.3	52.6	24.1	100.0
Vietnam	60.5	13.1	26.4	100.0	55.1	29.9	15.1	100.0
Total	49.7	15.7	34.6	100.0	36.9	41.3	21.8	100.0

Table F3: Distribution of Clients, by Need Category

Country	OC Users (%)				Condom Users (%)			
	Poor	Near poor	Not needy	Total	Poor	Near poor	Not needy	Total
Bangladesh	28.4	28.9	42.7	100.0	12.6	19.3	68.1	100.0
Bolivia	8.4	28.3	63.3	100.0	3.2	63.4	33.4	100.0
Egypt	17.1	0.0	82.9	100.0	8.1	27.6	64.3	100.0
Indonesia	22.2	21.1	56.6	100.0	4.8	20.8	74.4	100.0
Kenya	23.8	19.7	56.5	100.0	33.0	67.0	0.0	100.0
Mozambique	14.5	37.8	47.7	100.0	16.3	83.7	0.0	100.0
Niger	20.3	6.9	72.8	100.0	15.6	84.4	0.0	100.0
Philippines	41.8	2.7	55.5	100.0	31.2	41.8	27.0	100.0
Senegal	6.8	8.3	84.8	100.0	12.2	87.8	0.0	100.0
Vietnam	47.1	20.7	32.2	100.0	17.3	20.1	62.6	100.0
Total	26.1	20.9	53.0	100.0	14.3	24.5	61.2	100.0

Appendix G

Social Marketing Sector Shares

Oral Contraceptives

“Average” was computed from DHS sources as the percent of all OCs that were socially marketed brands, plus brands normally distributed by the public sector but reported by DHS respondents as having been obtained from a private sector source (“leaked” product). Other assumptions used are:

- Higher proportion of lower quintile private sector users obtain SM products.
- Ratio is double, quintile 1 compared to quintile 5.
- Monotonic decrease across quintiles.

Table G1: Oral Contraceptives, Social Marketing Shares

Oral Contraceptives	Quintile (%)					Average (%)
	1	2	3	4	5	
Bangladesh	83.1	74.8	66.5	58.2	49.8	66.5
Bolivia	30.8	27.7	24.6	21.6	18.5	24.6
Egypt	0.0	0.0	0.0	0.0	0.0	0.0
Indonesia	34.2	30.8	27.3	23.9	20.5	27.3
Kenya	40.2	36.1	32.1	28.1	24.1	32.1
Mozambique	21.5	19.3	17.2	15.0	12.9	17.2
Niger	74.3	66.9	59.4	52.0	44.6	59.4
Philippines	37.1	33.4	29.7	26.0	22.3	29.7
Senegal	40.2	36.1	32.1	28.1	24.1	32.1
Vietnam	40.2	36.1	32.1	28.1	24.1	32.1

Condoms

In the absence of reliable information about the proportion of the condom market that is social marketing, it was assumed that 75 percent of DHS respondents who reported using condoms for family planning and who reported a private sector source were using a socially marketed product. Other assumptions listed above for OCs were the same.

Table G2: Condoms, Social Marketing Shares

Condoms	Quintile (5)					Average (%)
	1	2	3	4	5	
Bangladesh	93.8	84.4	75.0	65.6	56.3	75.0
Bolivia	93.8	84.4	75.0	65.6	56.3	75.0
Egypt	93.8	84.4	75.0	65.6	56.3	75.0
Indonesia	93.8	84.4	75.0	65.6	56.3	75.0
Kenya	93.8	84.4	75.0	65.6	56.3	75.0
Mozambique	93.8	84.4	75.0	65.6	56.3	75.0
Niger	93.8	84.4	75.0	65.6	56.3	75.0
Philippines	93.8	84.4	75.0	65.6	56.3	75.0
Senegal	93.8	84.4	75.0	65.6	56.3	75.0
Vietnam	93.8	84.4	75.0	65.6	56.3	75.0

Appendix H

Table H1: Projected Growth in OC and Condom Prevalence

Country	Projected OC Prevalence (%)				Projected Condom Prevalence (%)			
	2000	2005	2010	2015	2000	2005	2010	2015
Bangladesh	22.2	23.3	24.6	25.2	4.1	4.2	4.3	4.3
Bolivia	2.4	4.4	6.5	8.5	1.1	2.1	3.2	4.2
Egypt	11.1	13.6	15.7	17.1	1.9	3.3	4.8	6.0
Indonesia	19.5	21.1	21.6	21.6	1.2	2.1	2.9	3.6
Kenya	7.0	8.0	8.8	9.7	1.2	2.2	3.1	4.0
Mozambique	2.2	4.0	6.3	8.9	0.3	0.2	0.2	0.1
Niger	3.9	5.8	7.8	10.0	0.1	0.2	0.4	0.5
Philippines	6.3	6.8	7.3	7.6	1.2	2.3	3.4	4.5
Senegal	3.4	4.9	6.7	8.6	0.5	0.6	0.6	0.7
Vietnam	4.7	6.9	9.1	11.2	6.1	7.2	8.3	9.4

Source: Ross *et al*, *Profiles for Family Planning and Reproductive Health Programs*.



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