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DOES AN EXPANSION IN PRIVATE SECTOR CONTRACEPTIVE SUPPLY INCREASE INEQUALITY IN MODERN CONTRACEPTIVE USE?

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DOES AN EXPANSION IN PRIVATE SECTOR CONTRACEPTIVE SUPPLY INCREASE INEQUALITY IN MODERN CONTRACEPTIVE USE?

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CONTENTS

Acronyms.....	v
Acknowledgments	vii
Abstract	ix
1. Introduction	1
2. Background.....	3
2.1 Access.....	3
2.2 Quality.....	4
3. Data and Methods.....	5
3.1 Data Sources.....	5
3.2 Selection of Countries.....	5
3.3 Variables.....	5
3.4 Measure of Inequality.....	6
3.5 Study Limitations.....	6
4. Results.....	7
4.1 Morocco.....	7
4.2 Indonesia.....	9
4.3 Kenya	12
4.4 Ghana	16
4.5 Bangladesh.....	19
5. Discussion	21
References	23
Annex. DHS Surveys Used in Study.....	29

ACRONYMS

AIDS	Acquired Immunodeficiency Syndrome
BKKBN	National Family Planning Coordinating Board (Indonesia)
CBD	Community-based Distribution
CI	Concentration Index
CYP	Couple Years of Protection
DHS	Demographic and Health Survey
FRAK	Family Planning Association of Kenya
GSMF	Ghana Social Marketing Foundation
HIV	Human Immunodeficiency Virus
IUD	Intrauterine Device
MCPR	Modern Contraceptive Prevalence Rate
MOH	Ministry of Health
MSI	Marie Stopes International
NGO	Nongovernmental Organization
OC	Oral Contraceptive
PPAG	Planned Parenthood Association of Ghana
SMC	Social Marketing Company
USAID	United States Agency for International Development

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ABSTRACT

OBJECTIVE

To determine whether an expansion in private sector contraceptive supply is associated with increased socioeconomic inequality in the modern contraceptive prevalence rate.

METHODS

Multiple rounds of Demographic and Health Surveys data were analyzed for five countries that experienced an increase in the private sector supply of contraceptives: Morocco, Indonesia, Bangladesh, Kenya, and Ghana. Information on household assets and amenities was used to construct wealth quintiles. A concentration index, which calculates the degree of inequality in contraceptive use by wealth, was calculated for each survey round.

FINDINGS

Socioeconomic inequality in the MCPR (MCPR inequality) declined in Morocco and Indonesia, where substantial expansion in private sector contraceptive supply occurred. In both countries, poor women continued to rely heavily on public sector supplied contraceptives even as they increased use of contraceptives obtained from the private sector. A marginally significant decline in MCPR inequality occurred in Bangladesh, where the increase in private sector supply was modest.

The lack of significant overall change in MCPR inequality in Kenya disguised trends moving in opposite directions in urban and rural areas. In urban areas of Kenya, MCPR inequality declined as low-income urban women increased use of contraceptives obtained primarily from the public sector. In rural Kenya, MCPR inequality increased. This increase was associated with a decline in the supply of contraceptives by the public sector and by nongovernmental organizations to the poorest, rural, women.

CONCLUSIONS

The study found no support for the hypothesis that an increase in private sector contraceptive supply leads to higher socioeconomic inequality in the MCPR. The study findings suggest that continued public sector supply of contraceptives to the poorest women protects against increased MCPR inequality.

I. INTRODUCTION

The family planning literature shows substantial wealth/socioeconomic differentials in the modern contraceptive prevalence rate (MCPV) across countries and time periods. Yet, there has been little study of socioeconomic inequality in modern contraceptive use (MCPV inequality) or of factors that may influence changes in MCPV inequality. One recent study highlighted the importance of MCPV inequality as a predictor of inequality in the fertility rate and found that contraceptive use inequality was associated with inequalities in family planning program coverage (Gillespie et al., 2007).

In their efforts to deliver family planning products and services to the poor, national governments have prioritized increases in family planning program coverage. To improve access, the public sector has often relied heavily on commodities donated by international donors. However, because donor resources have not kept pace with the demand for contraception, and governments have not mobilized sufficient resources to meet the shortfall between supply and demand, the gap between contraceptive requirements and donated supplies has widened (Ethelston et al., 2004). Concerns about the sustainability of public sector family planning programs have led to greater consideration of the role of the private sector in contraceptive supply (Hanson, Kumanarayake, and Thomas, 2001).

Public health officials in a number of developing countries remain concerned about the effects of private sector expansion on access to contraceptive services among the poor. Officials fear that increasing the role of the private sector in family planning provision may reduce access to contraception among those with low income (Rosen and Conly, 1999) because they expect that donors and the public sector will not remain adequately involved in ensuring that the poor continue to have access to contraception once the private sector increases its role in contraceptive supply. Since no systematic investigation has been conducted to determine what effects, if any, expanding private sector contraceptive supply has on inequality in modern contraceptive use, it is difficult to determine the extent to which these concerns are warranted.

Relatively few countries have experienced a visible growth in the private sector's share of the contraceptive market (Ross, Stover, and Adelaja, 2005), making it difficult until recently to examine the effects of the expansion of private sector contraceptive supply on inequality in contraceptive use. Recent data from a handful of countries show that about one-third or more of reproductive age women obtain contraceptives from private sector sources. This study uses data from five countries that have experienced an increase in private sector supply of contraceptives to test the hypothesis that an expansion in private sector contraceptive supply is associated with higher inequality in the MCPV.

2. BACKGROUND

Private sector family planning interventions are likely to increase inequality in contraceptive use if a) they contribute to increasing the uptake of contraceptives only among higher socioeconomic groups and b) the public sector does not contribute to increasing contraceptive use among lower socioeconomic groups. Below, we review the literature to see how private sector strategies for making contraceptives accessible, for pricing contraceptives, for promoting awareness of contraceptive brands, and for providing high-quality products and services influence access to and use of contraceptives among different socioeconomic groups.

2.1 ACCESS

Access has four important dimensions: geographic; economic; cognitive; and psychosocial (Bertrand et al., 1995). Studies have confirmed the importance of proximity of family planning services to contraceptive use (Tsui and Ochoa, 1992). The probability of contraception being used increases as the distance to a health facility shortens (Cochrane and Guilkey, 1995; Levin et al., 1999). Private sector interventions usually increase the number of outlets providing family planning services, particularly in urban areas. This tends to reduce the distance that individuals have to travel to receive services, a factor that may be particularly important for re-supply methods. A Nigerian study, which measured the distance to a source of family planning services, found that privately controlled pharmacies and health clinics were nearer than government controlled hospitals and health centers (Feyisetan and Ainsworth, 1994). An expanded private sector supply of contraceptives contributes to greater *geographic availability* and physical proximity of family planning products and services in urban areas. One study found that by expanding the availability of condoms through kiosks – an outlet type that is widespread in urban Zambia – a social marketing intervention reduced inequality in access to condoms (Agha and Kusanthan, 2003). An increase in contraceptive availability in urban areas, however, may not reduce overall inequality in contraceptive use unless contraceptive availability increases in rural areas as well. Hence, the availability of contraceptives through the public sector is likely to remain important in determining overall inequality in modern contraceptive use.

The price charged for a family planning product may influence *economic access* to that product. A review of studies that compared free and fee-for-service family planning programs showed that there was very little difference in demand for contraception in settings where contraceptives were offered free or for moderate prices through similar, known outlets (Lewis, 1986). Similar results were observed in the context of reproductive health service provision: utilization of services was not affected by small increases in fees, especially when it was accompanied by quality improvements (Hardee and Smith, 2000; Alderman and Lavy, 1996; Akin, Guilkey and Denton, 1995; Shaw and Griffin, 1995; Hotchkiss et al., 1998). The effect of price on contraceptive use appears to be substantial when price increases are large: large increases in price are likely to deter contraceptive use among the poor (Jensen et al., 1994; Ciszewski and Harvey, 1995).

The effect that private sector contraceptive supply has on economic access is likely to depend on how high the prices charged for products are in relation to income (Harvey, 1994). Private sector family

planning interventions may charge a wide range of prices for contraceptives sold through commercial outlets. Commercial distributors of contraceptives tend to price contraceptives to reach upper-income groups while social marketing programs tend to price contraceptives to reach lower- and middle-income groups. Hence, social marketing programs may sell contraceptives at subsidized prices or at commercially viable prices that may be about half what is charged by commercial distributors (Agha, Do, and Armand, 2006). The effects of wider availability and lower prices of contraceptives may be to reduce MCPR inequality.

Cognitive access refers to the extent to which potential clients are aware of the location of service delivery points. *Psychosocial access* refers to the degree to which potential clients are unconstrained by attitudinal barriers such as stigma surrounding the use of family planning (Bertrand et al., 1995). Commercial distributors of re-supply methods do not usually invest in building contraceptive markets in developing countries. Instead they rely on the existing demand for products and place family planning products in outlets frequented by consumers able to pay market price. By contrast, social marketing interventions use mass media to make potential consumers aware of product and service availability, and help increase cognitive and psychosocial access to products and services. Studies have shown increased cognitive access to family planning services after branded marketing campaigns (e.g., Agha, Gage, and Balal, 2006). Marketing campaigns present family planning use as a positive lifestyle choice in an explicit effort to reduce the stigma associated with family planning (Harvey, 1999). Contraceptive marketing techniques may be more effective in urban areas, where access to mass media is generally higher. Hence, private sector interventions may exacerbate differentials in contraceptive access between urban and rural areas. One study found inequality in exposure to family planning messages and inequality in knowledge of source of methods to be associated with inequality in modern contraceptive use (Gillespie et al., 2007).

2.2 QUALITY

Although access and quality are interrelated (Bertrand et al., 1995), it is often convenient to consider them discretely. Client perceptions that private sector services are of higher quality are associated with private providers being friendlier and clients experiencing shorter waiting times when visiting private providers (Levin et al., 1999; Do, Agha, and Silvestre, 2006). Several studies of primary health care in developing countries have shown that patients who have the means to pay for services prefer private practitioners to public practitioners (Mulou, Thomason, and Edwards, 1992; Brown and Lumley, 1993; Ellis, McInnes, and Stephenson, 1994; Ahmed et al., 1996; Tangcharoensathien et al., 1999; Tengilimoglu, Kisa, and Dziegielewski, 1999). Greater responsiveness of providers and higher quality of services are usually expected at private facilities. Many patients feel that these are attributes worth paying more for (Pongsupap and Van Lerberghe, 2006). Client willingness to pay more for high-quality services suggests that private sector services are more likely to be used by people with higher incomes. However, in many developing countries, subsidized public sector family planning services are also used by women with higher incomes (Winfrey et al., 2000; Karim et al., n.d.; Sharma and Dayaratna, 2004). Whether quality effects MCPR inequality will depend upon the socioeconomic profile of the clients that the private sector is able to attract and whether they are new or continuing users. For example, MCPR inequality should not be affected if new users of private sector supplied contraception are upper-income women who previously used public sector supplied contraception.

3. DATA AND METHODS

3.1 DATA SOURCES

Data for this study come from nationally representative Demographic and Health Surveys (DHS) conducted among women of reproductive age (15-49 years). DHS surveys are a unique source of data for this study: multiple rounds of these surveys have been implemented in a number of developing countries and the use of standardized questionnaires in DHS surveys makes it possible to examine changes over time in variables of interest. Since DHS surveys are usually conducted only among women, this analysis is limited to currently married or cohabiting women (i.e., women in union).

3.2 SELECTION OF COUNTRIES

Countries were initially selected based on two criteria: a MCFR of 20 percent or higher and a commercial sector share of contraceptive supply of 30 percent or higher in the most recent DHS survey. This information was obtained from the State of The Private Health Sector Wall Chart, which compiles data from the latest rounds of DHS and International Reproductive Health surveys (Zellner, O'Hanlon, and Chandani, 2005). The initial list included 15 countries¹ out of about 50 countries for which data were provided in the wall chart. In order to examine trends in modern contraceptive use over time, further analysis was restricted to countries in which at least three rounds of DHS data had been collected and which had experienced a steady increase in commercial sector provision of modern methods across survey rounds. These countries were Bangladesh, Ghana, Indonesia, Kenya, Morocco, and Uganda. Findings from Uganda are not included in this report because low modern contraceptive prevalence in the first of three survey rounds (only 2.5 percent of Ugandan women in union were using a modern method in 1988) made it difficult to interpret changes over time. A list of survey years and sample sizes of DHS data sets from the remaining five countries is provided in the Annex.

3.3 VARIABLES

The primary outcome variable of interest for this study is the level of current modern method use. Information on current method use is obtained from two questions in the DHS. Women who are in union and not currently pregnant are first asked "Are you currently doing something or using any method to delay or avoid getting pregnant?" Those who respond in the affirmative are asked "Which method are you using?". Methods currently used were categorized into modern and traditional methods.² In this paper, inequality in modern contraceptive use is measured by a concentration index, which is described in the section titled "Measure of inequality".

The private sector share of contraceptive supply is another important variable for this study. Information on source of supply is obtained by asking women who are currently using a modern method of contraception "Where did you obtain [method] the last time?" The DHS questionnaire groups responses to this question in the following main categories: private hospitals/clinics, private doctors, pharmacies, shops/stores, government hospitals/clinics, government health centers, nongovernmental organizations

¹ These countries are the Bangladesh, Bolivia, Brazil, Dominican Republic, Ecuador, Ghana, Guatemala, Honduras, Indonesia, Kenya, Nicaragua, Paraguay, Philippines, Morocco, and Uganda.

² Although lactational amenorrhea is categorized as a modern method in some DHS surveys, it was not considered a modern method of contraception in this study.

(NGOs), and friends/relatives. These sources of supply were combined to form three main categories: private (private hospitals/clinics, private doctors, pharmacies, shops/stores), public, and NGO/other. Although NGOs are usually considered part of the private sector, they are not included in this study's definition of the private sector because of the study interest in contraceptives sold through commercial retail outlets.

A limitation of the variable measuring source of supply is that it does not distinguish between subsidized methods sold by social marketing programs, unsubsidized methods sold by commercial entities, or unsubsidized methods sold by social marketing programs. In each of these three instances, contraceptives are sold through commercial retail outlets. The study overcomes this limitation by providing qualitative information on the type of private sector family planning program in each country.

Economic status is the primary explanatory variable of interest in this study. Economic status has been measured in different ways: as income; as consumption, or in terms of proxies for wealth. Household asset data collected in DHS surveys is used as a proxy for wealth in this study. Principal components analysis was used to develop wealth quintiles from household assets and amenities data (Filmer and Pritchett, 1999). Wealth quintiles are a good proxy for economic status (Bollen, Glanville, and Stecklov, 2001; Filmer and Pritchett, 2001; Wagstaff and Watanabe, 2003) and have been used widely (Rutstein and Johnson, 2004). Since the sensitivity of the wealth index is dependent upon the selection of asset indicators (Houweling, Kunst, and Mackenbach, 2003), for consistency, the study uses data on household assets that were common across DHS rounds in each country.

3.4 MEASURE OF INEQUALITY

The Concentration Index (CI) is used to measure MCPR inequality in this study. This index is preferred over other commonly used indices, such as the Gini coefficient or the inequality ratio (the ratio between the lowest- and the highest-income groups) because it has the ability to capture the experience of whole population (Wagstaff, van Doorslaer, and Paci, 1989). The value of the CI theoretically ranges between -1 and +1. It has a value of 0 when there is no inequality. A positive value of the concentration index indicates inequality in favor of the wealthy, and a negative value suggests the opposite. The study employs the convenience regression method to obtain the CI (see Kakwani, Wagstaff, and van Doorslaer, 1997 and Newey and West, 1994 for details about the method). This is a relatively simple statistical procedure that enables the calculation of the CI and confidence intervals around the CI. The latter help determine whether changes in inequality are statistically significant.

3.5 STUDY LIMITATIONS

A possible limitation of this study is that the demand for modern contraceptive use is assumed to be equal across wealth quintiles. However, if the demand for contraceptive use is not equal across wealth quintiles, MCPR inequality may be a reflection of differing needs across wealth levels rather than differences in access to services. The study did examine inequality in the total demand for modern methods – a combination of unmet need for modern methods and the current use of modern methods (not shown). The concentration indices of total demand showed that the inequality in total demand was substantially lower than the inequality in modern contraceptive use (not shown). Hence, inequality in the demand for modern methods is unlikely to influence the conclusions reached by this study.

4. RESULTS

4.1 MOROCCO

THE FAMILY PLANNING PROGRAM

The National Family Planning Program was initiated in 1966 with the intrauterine device (IUD) being the first method introduced. Due to its rapid introduction in an insufficiently prepared health care system, however, the IUD's long-term acceptance was affected. By contrast, the oral contraceptive (OC) was introduced in 1968 and was accepted enthusiastically. As part of the Systematic Motivational Home Visits Program, health agents made outreach visits to individual households. These visits were the basis of demand creation efforts, especially in underserved rural areas. At the same time, the Ministry of Health (MOH) expanded the number of public health centers throughout the country, particularly in rural areas, and ensured that family planning was provided in all public health care facilities. The MOH also made concerted efforts to increase the quality of care available at public health centers. These efforts were only partially successful in convincing women that MOH services were of high quality (Hajji et al., 2003). The program continued to expand steadily under a favorable political and governmental environment and strong support from USAID.

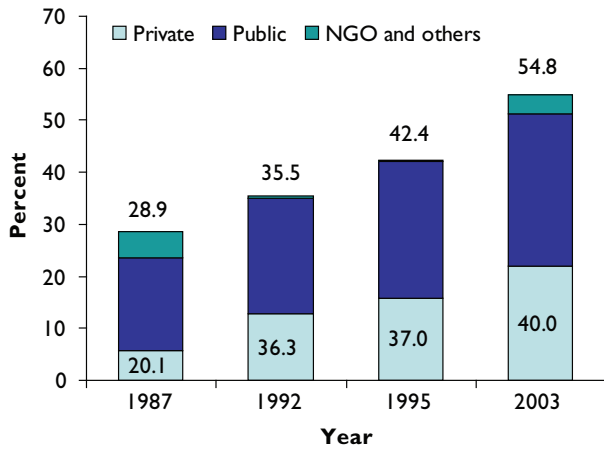
Until the end of 1994, all contraceptives needed by the MOH were purchased by USAID. In efforts to increase program sustainability, contraceptive purchases were subsequently transferred to the MOH. Faced with increased demands for contraception and declining support for family planning, the MOH began relying on the private sector to play a greater role in providing family planning services. Estimates of contraceptive needs suggested that even if the public sector provision of family planning increased by 20 percent, it would still require a threefold increase in the private sector supply to meet the increasing demand for family planning (Bouhafa and Waters, 1998).

Commercial distributors had become active in contraceptive delivery by the 1980s, with 18 percent of women obtaining OCs through commercial outlets in 1987. The commercial sector share of OCs increased dramatically, to 39 percent, by 1992 (Agha, Do, and Armand, 2006). Social marketing of OCs was initiated in 1992 and achieved success relatively easily because of the high level of acceptability of OCs in Morocco (Hajji, 2003). Social marketing OCs were priced to be affordable to lower- and middle-income women: OCs were introduced at a commercially viable price that was about half the price of other commercially available brands. Lower-priced but commercially viable OCs started rapidly gaining market share in a growing commercial market and attracted lower- and middle-income women to the commercial sector. By 2002, about one-third of OCs sold through the commercial sector were selling at the lower price (Agha, Do, and Armand, 2006).

FINDINGS

Figure 1 shows the MCPR between 1987 and 2003. In that period, modern contraceptive use increased from 29 percent to 55 percent, and the private sector share of the total contraceptive market doubled, from 20 percent to 40 percent. The number of women who obtained modern methods (primarily OCs)

Figure 1. Current modern contraceptive use among women in union, Morocco, 1987-2003



from the private sector more than tripled (not shown). The public sector also expanded its supply of modern methods during this period, although the increase was less dramatic.

Figure 2 shows MCPR by wealth quintiles. At a CI of 0.26, MCPR inequality was at a moderate level in 1987. Most contraceptive users, including those in the upper-income quintiles obtained contraceptives from the public sector. In spite of a substantial increase in the private sector provision of contraceptives during this period, MCPR inequality declined over time and became negligible by 2003. The decline in MCPR inequality was driven by the adoption of contraceptive use by women in the lowest quintiles. Poor women who initiated

contraceptive use between 1987 and 2003 primarily obtained contraceptives from the public sector.

The decline in MCPR inequality occurred primarily in rural areas. Figure 3 shows modern contraceptive use by wealth quintile in rural Morocco. An expanding public sector contraceptive supply enabled rural Moroccan women to increase modern contraceptive use. Increases in modern method use were substantial among poor rural women. The CI declined from 0.25 in 1987 to 0.03 in 2003. In urban areas, there was a more moderate decline in MCPR inequality: the CI declined from 0.08 in 1987 to 0.01 in 2003 in urban Morocco (not shown).

Figure 2. Current modern contraceptive use among women in union by wealth quintile, Morocco, 1987-2003

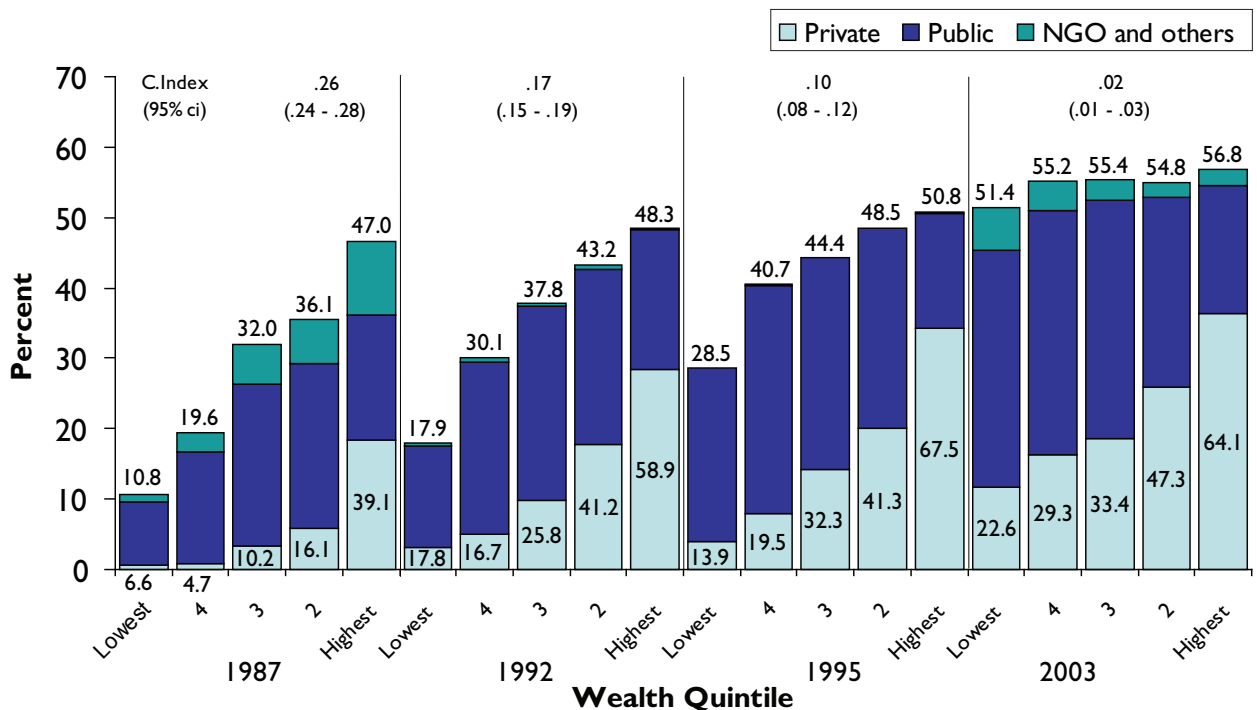
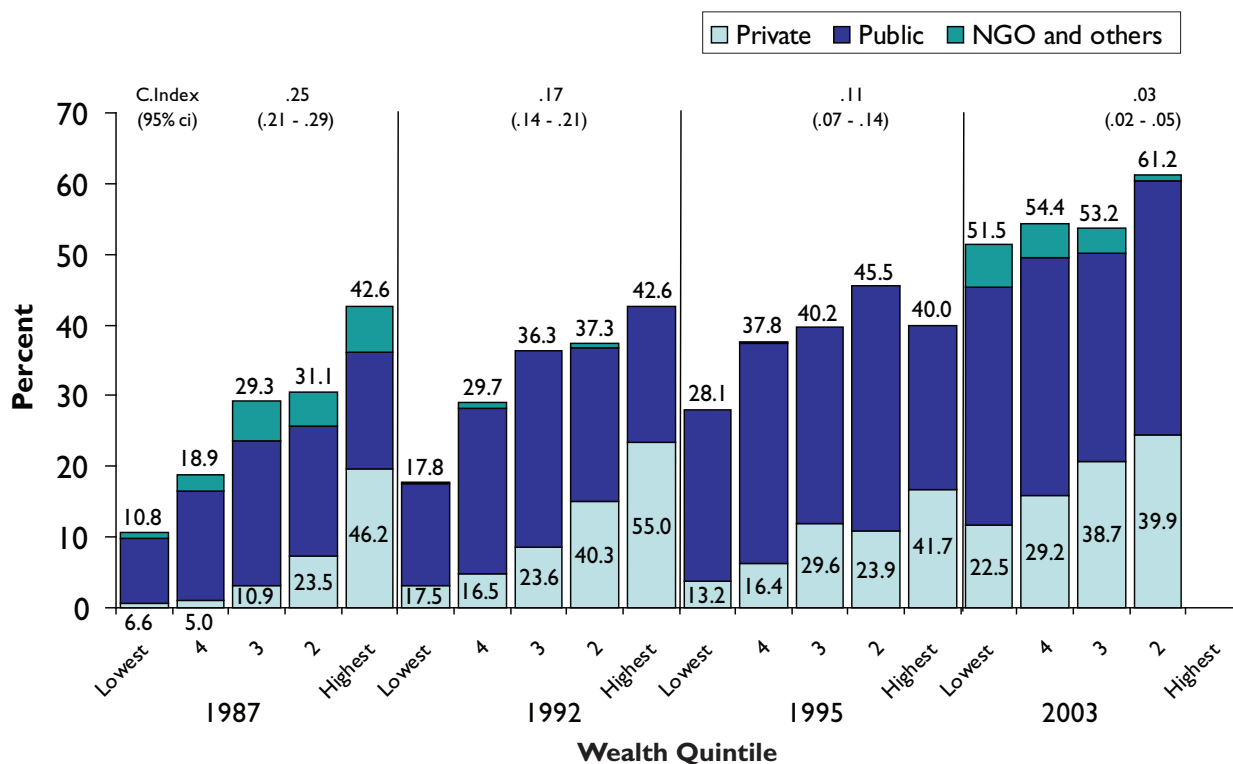


Figure 3. Current modern contraceptive use among rural women in union by wealth quintile, Morocco, 1987-2003



In spite of a substantial increase in the provision of modern contraceptives by the private sector between 1987 and 2003, there was no increase in MPCR inequality in Morocco. MPCR inequality declined dramatically during the study period, primarily because poor rural women initiated use of contraceptives that were supplied by an expanding public sector. This expansion was part of the MOH's strategy of providing services to underserved rural areas. By 2003, there was virtually no inequality in modern contraceptive use in Morocco.

4.2 INDONESIA

THE FAMILY PLANNING PROGRAM

Indonesia's family planning program was initiated in the 1950s. The program initially focused on the dissemination of information through clinics. Family planning efforts strengthened with the formation of the National Family Planning Coordinating Board (BKKBN) in 1970. Under BKKBN's guidance, the family planning program went through several important phases. Between 1969 and 1974, service provision was focused on the densely populated urban areas of Java and Bali and relied on MOH clinics for service delivery. Between 1974 and 1979, a community-based approach was adopted to expand services to rural areas. Contraceptive distribution centers were established at the village level and village-based fieldworkers led promotional efforts using peer pressure and financial incentives. The expansion of services to the less-populated outer islands occurred between 1979 and 1983 (Chandani, O'Hanlon, and Zellner, 2006).

The program relied heavily on donor support. With fertility levels at 3.3 and the MCPR close to 50 percent by the late 1980s, donors became concerned that family planning funding would have to be increased substantially to meet increasing demand for contraceptives. In response to declining donor funds, efforts were initiated to increase the role of private sector. A cost-recovery effort was launched by the government in 1989, with users of public sector services expected to pay for services according to their socioeconomic status.

In the private sector, contraceptives were introduced at reduced but commercially sustainable prices through the Blue Circle social marketing campaign. In partnership with a social marketing project, four manufacturers reduced the price of contraceptives by about half. In return for the price reduction, manufacturers received marketing support for contraceptive products sold under the Blue Circle logo. The products sold through Blue Circle were already popular in Indonesia: Copper-T IUDs, Microgynon pills, and Depo-Provera injectables. A Return-to-Project-Fund was established to sustain Blue Circle activities once donor support ended (Chandani, O’Hanlon, and Zellner, 2006).

Private sector service delivery points were increased through the establishment of private provider networks. Physicians, midwives, and pharmacists became increasingly involved in family planning service delivery. Increased availability of contraceptives at more affordable prices encouraged lower- and middle-income couples to use the private sector. The quality of private sector family planning service delivery was improved through regular provider trainings. In addition, advertising and promotion were used to increase client perceptions of the quality of services offered through the private sector (Chandani, O’Hanlon, and Zellner, 2006).

The financial crisis of 1997 had a significant impact on the public sector’s capacity to provide contraceptives. Until 1997, two-thirds of women in rural Indonesia obtained modern methods from the public sector. With the onset of the financial crisis, the public sector’s ability to provide donated contraceptives was severely reduced. Moreover, prices of certain contraceptives increased fourfold in the public sector and became closer to prices charged for contraceptives sold in the private sector (Badan Pusat Statistik-Statistics [Indonesia] (BPS) and ORC Macro, 2003).

FINDINGS

Figure 4 shows the MCPR among currently married Indonesian women over time. By 1987, the MCPR had reached 44 percent. Between 1987 and 1997, the MCPR increased steadily by about 1 percentage point per year to reach 55 percent and the private sector share of modern methods increased from 12 percent to 41 percent. Following the economic crisis of 1997, the increase in MCPR slowed down to less than half a percentage point per year. The private sector share increased dramatically, from 41 percent to 65 percent, during this period.

Figure 4. Current modern contraceptive use among married women, Indonesia, 1987-2002

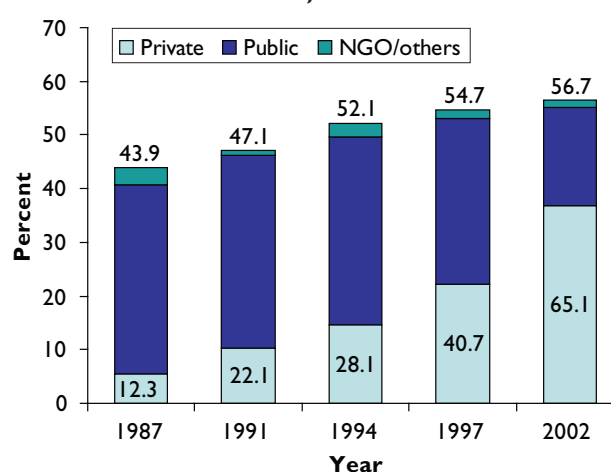


Figure 5. Current modern contraceptive use among married women by wealth quintile, Indonesia, 1987-2002

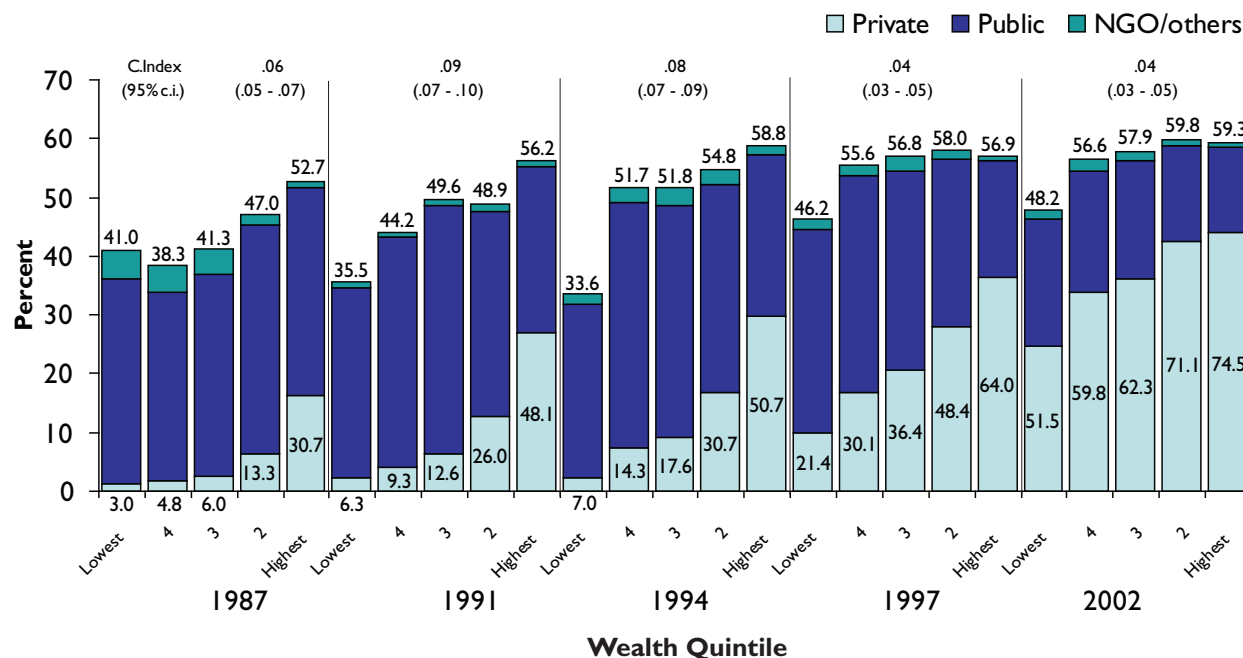
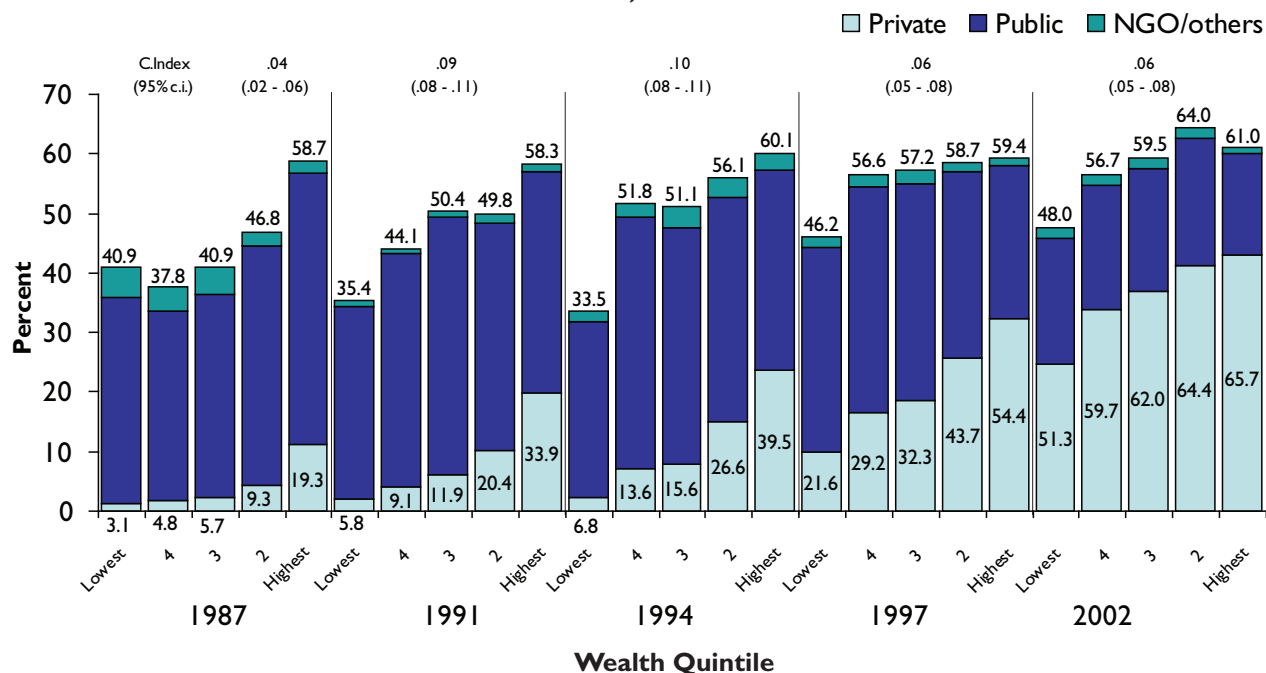


Figure 5 shows modern method use by wealth quintiles in Indonesia. By 1987, MCPR inequality was low in Indonesia (CI of 0.06): women obtained modern contraceptives almost exclusively from the public sector. There was no significant change in MCPR inequality between 1987 and 1994. However, there was a significant decline in MCPR inequality between 1994 and 1997, as modern contraceptive use among women in the lowest quintile increased from 34 percent to 46 percent. The poorest Indonesian women were able to increase contraceptive use between 1994 and 1997 by obtaining contraceptives from both the public and the private sectors. This indicates that the public sector remained an important provider of contraceptives to poor Indonesian women until 1997, even as the private sector started reaching poor women with contraceptive services. It is noteworthy that there was no change in MCPR inequality between 1997 and 2002, a period during which there was a substantial increase in the private sector share of the contraceptive market.

The increase in the private sector share of the contraceptive market that followed the economic crisis was particularly pronounced in rural areas. Figure 6 shows MCPR among rural married women, by wealth quintiles. Between 1997 and 2002, the increase in use of private sector services was much larger among women in the lower quintiles compared with women in the upper quintiles. The private sector share increased from 22 percent to 51 percent in the lowest quintile and from 54 percent to 66 percent in the highest quintile. This indicates that a substantial proportion of lower-income women who had previously obtained contraceptives from the public sector switched to the private sector after the economic crisis.

The private sector's responsiveness to changing consumer preferences was a critical element in enabling rural women in the lowest quintiles to switch to the private sector in Indonesia. Injectables had been rapidly gaining popularity in Indonesia since the 1980s: 21 percent of married women used injectables in 1997, compared with 15 percent in 1994 and 9 percent in 1987 (not shown). The private sector

Figure 6. Current modern contraceptive use among rural married women by wealth quintile, Indonesia, 1987-2002



remained consistently responsive to client needs during this period: by 1997, the private sector share of injectable supply had increased to 59 percent, up from 23 percent in 1987 (not shown). Moreover, the private sector compensated for the declining public sector supply following the economic crisis: the percentage of private providers supplying injectables actually increased after the economic crisis; the stockout rate of injectables was much lower in the private sector than in the public sector, with only one-fifth of private facilities compared with about half of government health centers experiencing stockouts of injectables (Frankenberg, Sikoki, and Suriastini, 2003). Injectable use continued to increase rapidly after 1997, with a growing private sector share.

What is remarkable in the Indonesian case is that women in the lowest quintile switched to the private sector in spite of steep price increases of contraceptives supplied through that sector. This may be explained by the sharp reduction in the contraceptive price differential between the public and private sectors – as prices for both climbed upwards (Molyneux, 2000). For example, injectables were 70 percent more expensive in the private sector than in the public sector before 1997 but only 20 percent more expensive after 1997. Given that contraceptive supply became irregular in the public sector, the total “cost” of obtaining contraceptives through the public sector may actually have been even higher than in the private sector after the economic crisis.

4.3 KENYA

THE FAMILY PLANNING PROGRAM

The Kenya National Family Planning Program was initiated in 1967. The government perceived family planning as a health issue rather than one of population growth (Toroitich-Ruto, 2001). An active family

planning policy was not enacted until the mid-1970s and early-1980s when, in the face of declining national income and rapid population growth, donors tied development aid to reducing high fertility (Chimbwete et al., 2005). Once an active family planning policy was enacted in the early-1980s, family planning clinics were built as part of an integrated rural family planning/MCH services program and a Community-Based Distribution (CBD) strategy was implemented (Toroitich-Ruto, 2001).

During the first two decades of the national family planning program, the vast majority (90 percent) of funds came from donors. After 1993, donor contributions for family planning declined steadily, increasing the need for the government to find alternative sources of funding through health financing and cost-sharing initiatives (Toroitich-Ruto, 2001). Despite this need, the public sector refused to introduce user fees because of concerns of increasing inequalities in contraceptive use (MOH, 2000). A major shift in donor and national priorities occurred during this period: financial and political support for the HIV/AIDS program increased at the expense of support for the family planning program (Aloo-Obunga, 2003; Pathfinder International, 2005). As a result of reduced funding for family planning, procurement and logistics problems started occurring in the public sector. A decline in the availability of contraceptives at public sector facilities occurred between 1999 and 2004 (MOH, 2000; National Coordinating Agency for Population and Development, 2005) and providers in the public sector experienced supply shortages and stockouts. One assessment of the Kenyan family planning program predicted a slowing down of increases in contraceptive use (MOH, 2000). Indeed, no increase in modern method use occurred between 1998 and 2003.

A factor that contributed to the deepening contraceptive crisis in Kenya was the cutback in United States Agency for International Development (USAID) funding for major NGOs, including the Family Planning Association of Kenya (FPAK) and Marie Stopes (MSI) after their refusal to comply with the reintroduction of the Mexico City Policy (Population Action International, 2006; Dreisbach, Kuyoh, and McIntyre, 2006). These NGOs led outreach efforts among poor women in rural communities who had limited access to other sources of contraceptive supply. FPAK and MSI had extensive CBD networks and static and mobile clinics that would normally have helped mitigate the negative effects of shortages experienced by public sector facilities (Pathfinder International, 2005). Instead of being able to meet the shortfall in public sector service provision, family planning service provision by these NGOs declined as client fees had to be increased, staffing was reduced, and operations were cut back. In the case of FPAK, the average annual couple years of protection (CYPs) declined from 100,000 CYPs per year to 60,000 CYPs per year as its CBD coverage declined and a number of its clinics were shut down (Aloo-Obunga, 2003).

In spite of having had one of the first successful condom social marketing experiments in the world during the 1970s (Black and Harvey, 1976), support for private sector family planning initiatives remained weak in Kenya. The availability and low cost of public sector family planning services was itself an impediment to private sector growth in Kenya, because of the leakage of contraceptives from public sector outlets to pharmacies (Walker, personal communication, 2006). In addition, the public sector made contraceptives available for free to private physicians who registered with the government. As a consequence of government policies, the social marketing contraceptive supply remained relatively small in Kenya. Most private sector contraceptive supply consisted of the sale of contraceptives by private physicians to their clients.

FINDINGS

Figure 7 shows the MCPR in Kenya between 1989 and 2003. Between 1989 and 1993, contraceptive use grew from 18 percent to 27 percent, or by more than 2 percentage points annually. As donor contributions for family planning declined after 1993, modern contraceptive use rose by less than 1 percentage point per annum before it reached a plateau in 1998.

Until 1993, a relatively small proportion of contraceptive users, about 11 percent, obtained methods from the private sector. Both private and NGO sector supply of contraceptives increased between 1993 and 1998 with each sector supplying about 20 percent of users with contraceptives by 1998. Between 1998 and 2003, some contraceptive users who had previously obtained methods from the public and NGO sectors switched to the private sector. By 2003, about one-third of users purchased their contraceptive from the private sector.

Figure 7. Current modern contraceptive use among women in union, Kenya, 1989-2003

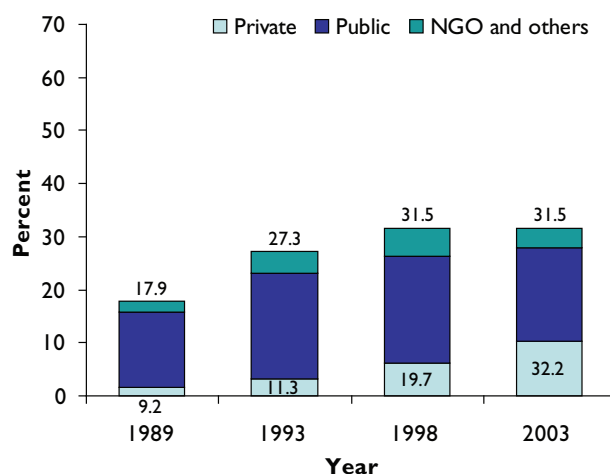


Figure 8 shows MCPR by wealth quintiles. In 1989, MCPR inequality was at a moderate level (CI of 0.24). Between 1989 and 2003, there was no significant change in MCPR inequality, although a slight tendency for inequality to increase was observed between 1998 and 2003.

Figure 8. Current modern contraceptive use among women in union by wealth quintile, Kenya, 1989-2003

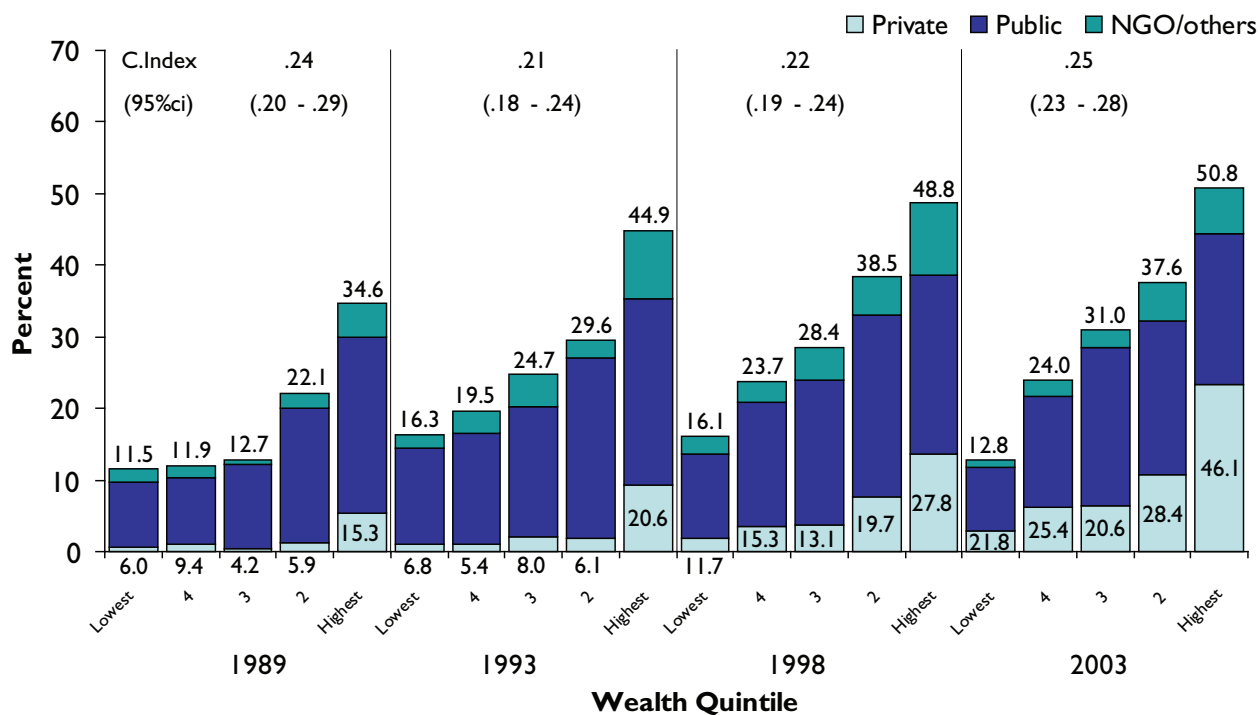
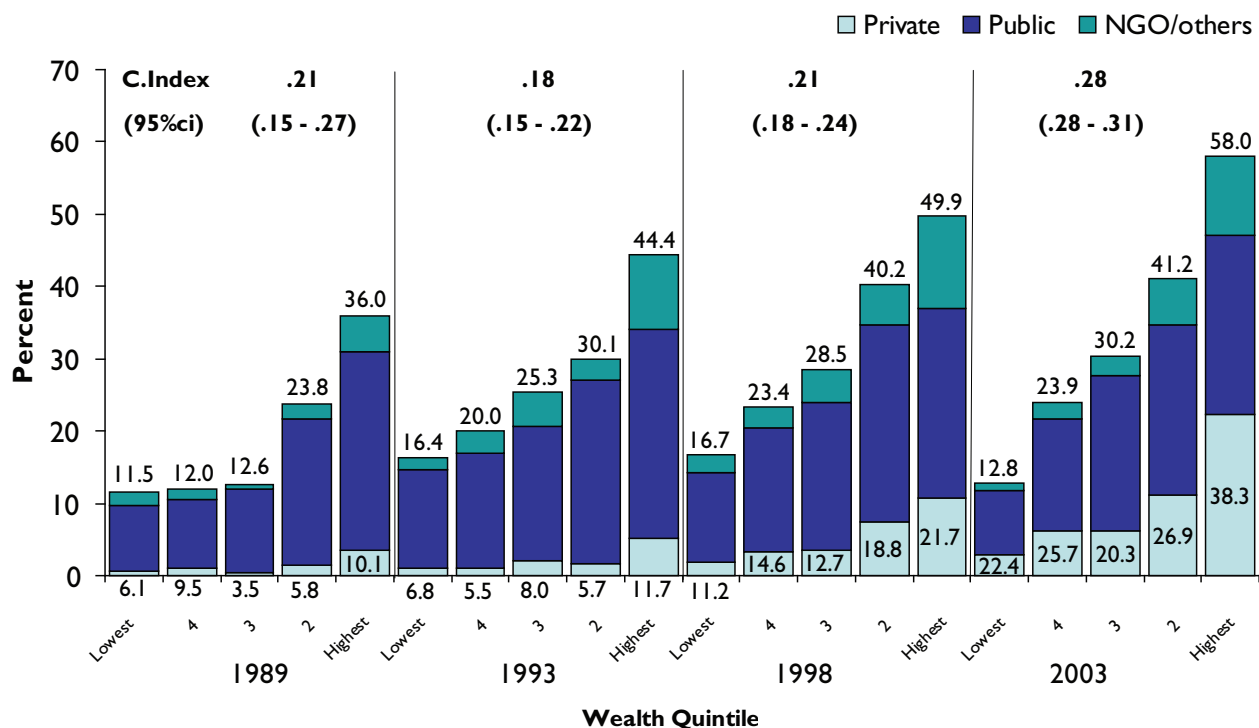


Figure 9. Current modern contraceptive use among rural women in union by wealth quintile, Kenya, 1989-2003



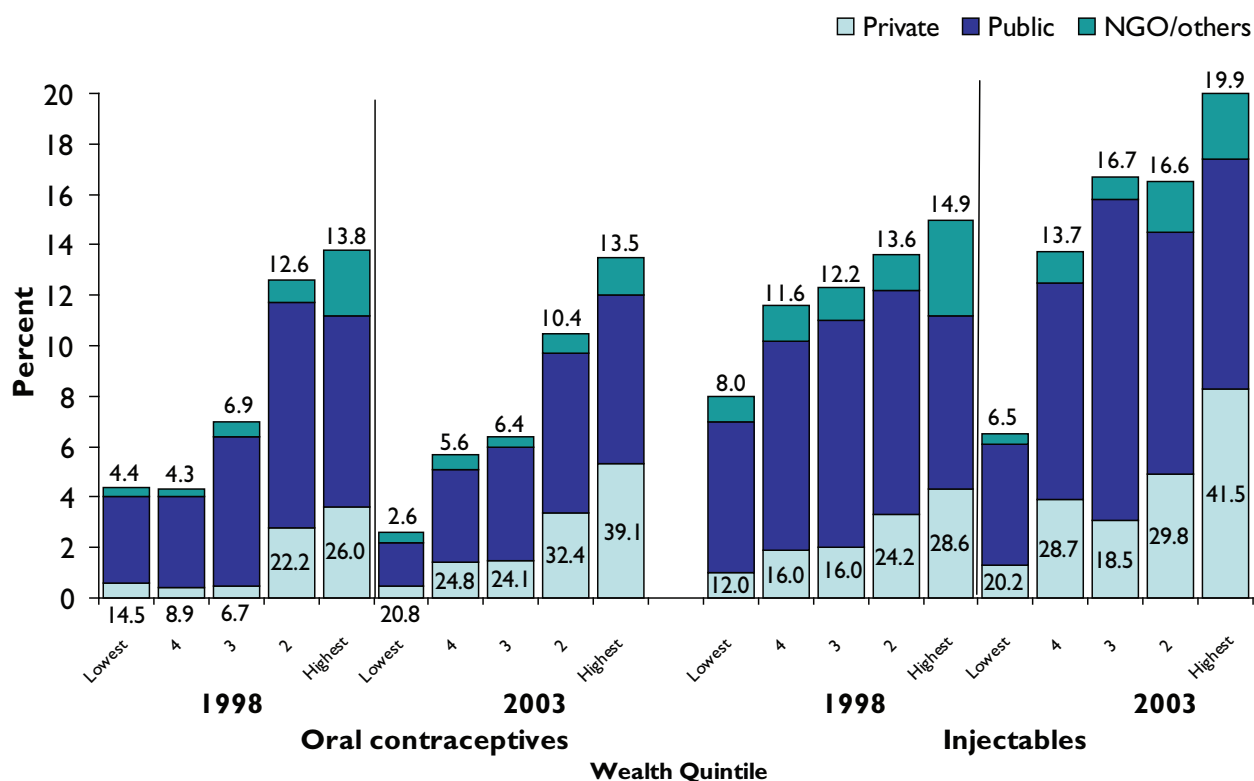
The lack of significant change in MCPR inequality disguises changes in MCPR inequality that occurred in both urban and rural Kenya. Figure 9 shows MCPR inequality by wealth quintiles in rural Kenya. There was a significant increase in MCPR inequality between 1998 and 2003, from a CI of 0.21 to a CI of 0.28. Inequality increased as contraceptive use among women in the lowest quintile declined from 17 percent to 13 percent between 1998 and 2003. Low-income rural women who had previously obtained contraceptives from the public or NGO sectors were unable to do so to the same extent because of contraceptive shortages at public sector clinics and declines in NGO outreach activities.

In urban areas, MCPR inequality declined from a CI of 0.30 to a CI of 0.15 between 1989 and 2003 (not shown). This decline occurred as low-income urban women increased use of contraceptives supplied primarily by the public sector (not shown).

Figure 10 shows changes in the use of OCs and injectables, the two most commonly used contraceptive methods in Kenya, by wealth quintile, between 1998 and 2003. Although there was little overall change in the use of OCs among rural women during this period, OC use among the poorest women declined. The case of injectables is more striking: although overall injectable use increased among rural women, its use among the poorest rural women declined.

Declining donor resources for family planning and the Kenyan government's inability to mobilize its own resources contributed to supply shortages at public sector clinics in rural areas. Coupled with a reduction in NGO outreach services, these changes contributed to a decline in contraceptive use among poor rural women and an increase in MCPR inequality in rural areas. The virtual absence of a commercial sector for family planning, and a limited social marketing sector, meant that shortfalls in public sector and NGO supply could not be met through the private sector.

Figure 10. Current use of oral contraceptives and injectables among rural women in union by wealth quintile, Kenya, 1998-2003



4.4 GHANA

THE FAMILY PLANNING PROGRAM

Although Ghana formulated a population policy as early as 1969, the national family planning program remained weak and lacked strategic direction until the mid-1990s. For example, the program lacked standardized family planning guidelines: a 1993 situation analysis showed that 90 percent of service providers did not give a contraceptive method to women who had fewer than three children. Moreover, many providers were unwilling to provide methods to married women until they had received spousal consent. Providers had exaggerated fears about the risks of hormonal methods. Consistent with poor provider attitudes toward methods, clients had negative perceptions of modern methods: rumors about side effects of methods and health concerns regarding use of contraceptives were widespread (Adamchak et al., 1995).

Ghana's Population Policy was revised in 1994. Program activities placed emphasis on increasing the availability of longer-term methods such as injectables (Hong et al., 2005). Public sector providers were trained in the provision of injectables. Injectable use increased from 0.3 percent in 1988 to 5.4 percent in 2003, with the public sector providing the vast majority of the injectables (not shown). However, the supply of contraceptives to rural health centers was not consistent. An analysis of facility surveys showed a trend of declining contraceptive supplies at government health centers located in rural areas between 1996 and 2002 (Hong et al., 2005).

Condoms and OCs were provided through the private sector. The Ghana Social Marketing Foundation (GSMF) contributed to the expansion of the private sector contraceptive supply. GSMF trained pharmacists and chemical sellers in contraceptive method provision and provided subsidized OCs and condoms through these outlets. However, the social marketing project relied primarily on pharmaceutical distributors whose business was concentrated in metropolitan areas for contraceptive distribution. Because the distributors' business was concentrated in metropolitan areas and GSMF sales comprised no more than 3-4 percent of their business, the distributors did not have sufficient incentive to carry products to rural communities where commercial product markets were limited. Hence social marketing sales were mainly in the metropolitan areas between Accra and Kumasi (Adamchak et al., 1995). Between 1988 and 2003, OC use increased from 1.8 percent to 5.6 percent, and condom use increased from 0.3 percent to 3.1 percent. However, both distribution and pricing strategies kept private sector supplied contraceptives out of reach of lower-income women: more than 70 percent of social marketing condom and OC clients belonged to the wealthiest income quintile (Winfrey, 2003).

The Planned Parenthood Association of Ghana (PPAG) became an important player in family planning service delivery after 1994 when USAID made a significant investment in PPAG's CBD program. PPAG operated clinics and community-based family planning programs in Ghana via volunteer agents working in rural areas. In 2002, PPAG provided nearly 130,000 CYPs and was considered the most successful agency operating community-based family planning programs in Ghana. It was the second largest distributor of contraceptives in rural Ghana. But the number of its service delivery locations declined significantly when PPAG lost USAID funding after the re-introduction of the Mexico City Policy. This resulted in the dismantling of a large operation of contraceptive services; more than half of PPAG's 192 staff members were laid off and more than 1,000 volunteers were without the structure that motivated them and supplied them with contraceptives (Solo et al., 2005; Owusu-Ansah, 2007). By 2004, the number of clinical services provided and contraceptives distributed by PPAG declined to less than half their 2002 level (Owusu-Ansah, 2007).

FINDINGS

Figure 11 shows the MCPR in Ghana between 1988 and 2003. In 1988, contraceptive use was only 5 percent. About 24 percent of Ghanaian women obtained contraceptives from the private sector. Compared with other countries examined in this study, the NGO sector provided a relatively large share of modern methods – 39 percent. Modern contraceptive use reached 19 percent by 2003, with the private sector share increasing to 42 percent and the NGO sector share declining to 9 percent. The public sector provided nearly half of all modern methods by 2003.

Figure 12 shows MCPR by wealth quintiles in Ghana. In 1988, the level of MCPR inequality was at a moderate level (CI of 0.32). There was

Figure 11. Current modern contraceptive use among women in union, Ghana, 1988-2003

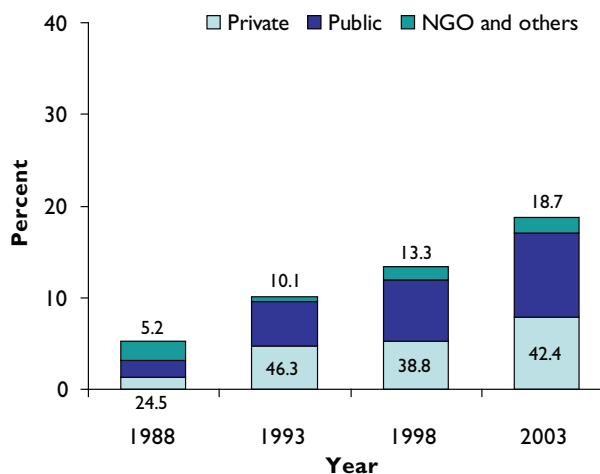
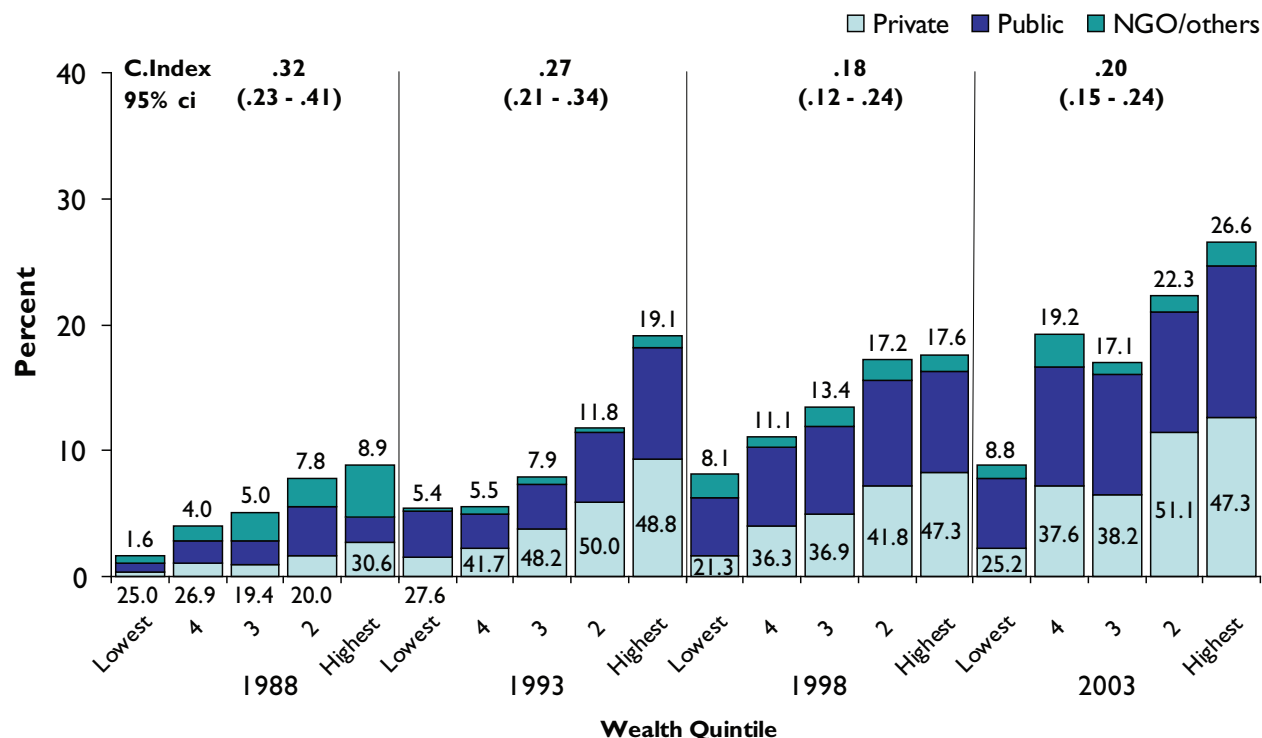


Figure 12. Current modern contraceptive use among women in union by wealth quintile, Ghana, 1988-2003



a marginally significant decline in MCPR inequality between 1988 and 1998 (from CI of 0.32 to CI of 0.18). This decline occurred as women in the lowest quintile increased their use of modern methods, which were supplied primarily by the public (56 percent) and NGO (23 percent) sectors. While the overall contribution of the NGO sector to contraceptive provision declined between 1988 and 1998 (from 39 percent to 11 percent), the poorest women became more reliant on the NGO sector for their contraceptive supply than in the past.

MCPR inequality showed no significant change between 1998 and 2003, although it did show a slight upwards tendency during this period. There was no increase in modern method use among the poorest women between 1998 and 2003. These women lived primarily in rural areas and relied heavily on the public and NGO sectors for their contraceptive supply. The dismantling of the PPAG infrastructure after the loss of USAID support in 2002, and the declining supply of contraceptives to government rural health centers between 1996 and 2002, may have contributed to lack of increase in modern method use among women in the lowest quintile.

After an initial decline, MCPR inequality showed a slight (non-significant) upward tendency in Ghana as contraceptive use among the poorest women stabilized at a low level (at about 9 percent). A decline in contraceptive supply to rural health centers combined, with a reduction in NGO service delivery locations, limited poor women's access to contraceptive methods.

4.5 BANGLADESH

THE FAMILY PLANNING PROGRAM

The Bangladesh family planning program is recognized for the doorstep delivery of family planning services, an approach developed in response to the needs of a predominantly rural population, characterized by low female mobility. The national program hired and trained married female family welfare assistants to provide contraceptives to and counsel rural women in their homes. At its peak in the mid-1990s, 28,000 female family welfare assistants worked in hamlets throughout the country (Phillips and Hossain, 2003). The door-to-door delivery of non-permanent methods contributed to a shift away from the earlier focus of the program on sterilization. In 1993/94, OC use had reached 17 percent and represented nearly half of the MCPR.

By 1997, a shift had occurred in the national family planning service delivery model. Because the culture of family planning had become ubiquitous in Bangladesh, policymakers felt that the doorstep delivery of services had become less important (Phillips and Hossain, 2003). Instead, an integrated health and population strategy was adopted. Community “satellite clinics” that provided basic health care and family planning were the focus of this strategy and family welfare assistants were redeployed to these satellite clinics. Instead of mass home visits, they started focusing on potential clients who found it difficult to make clinic visits (Phillips and Hossain, 2003).

The private sector started becoming an important provider of OCs by the early-1990s, with 20 percent of OC users obtaining methods from private sector outlets in 1993/94. Most OC and condoms obtained from private sector outlets were sold at low prices because of the substantial subsidy received through social marketing (Chawla et al., 2003). The Social Marketing Company (SMC) sold donated OCs and condoms at prices lower than the bulk product costs. By 2002, SMC had captured slightly more than two-thirds of the market for condoms and just under one-third of the market for OCs (Chawla et al., 2003). OC use increased to 26 percent in 2004 (not shown). Contraceptives sold by commercial distributors at commercially profitable prices were a very small part of the private sector contraceptive supply. Injectables and sterilization continued to be provided by the public sector. Sterilization use declined from 8 percent in 1993/94 to 5 percent in 2004 while injectable use increased from 5 percent to 10 percent during the same period (not shown).

FINDINGS

Figure 13 shows the MCPR among married women in Bangladesh. By 1993/94, the MCPR had reached 36 percent and the vast majority of women obtained contraceptives from the public sector. Between 1993/94 and 1996/97, the MCPR increased by 2 percentage points a year. After home visits were scaled down in 1997, however, the MCPR increased by only half a percentage point per year. The scaling down of home visits

Figure 13. Current modern contraceptive use among married women, Bangladesh, 1993-2004

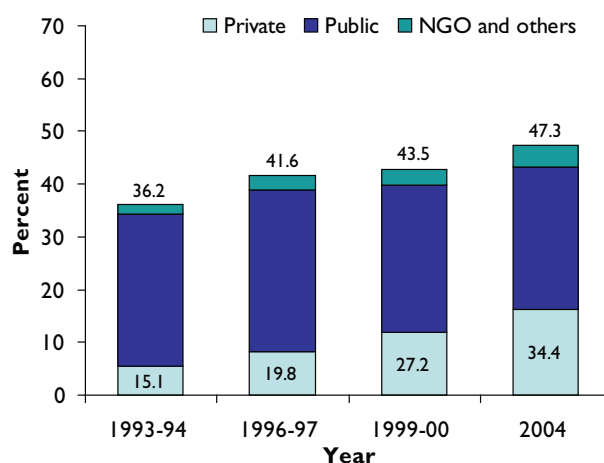
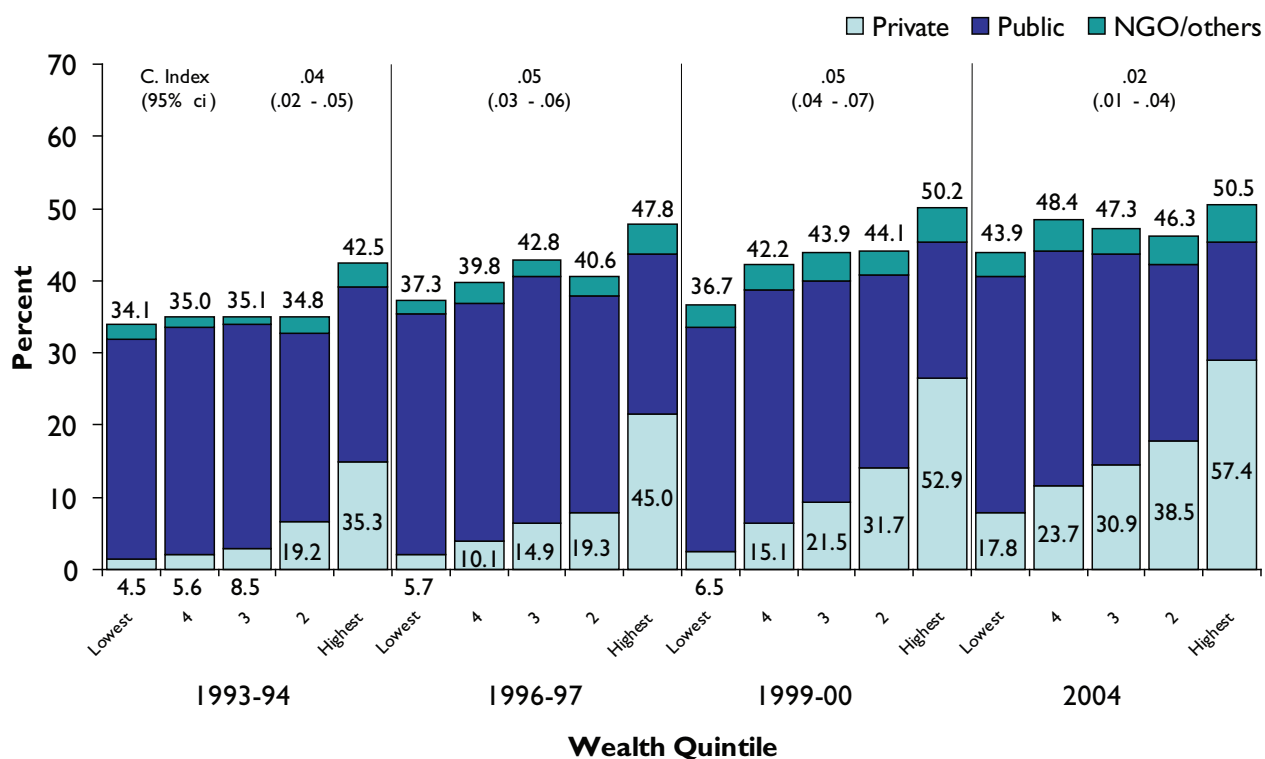


Figure 14. Current modern contraceptive use among married women by wealth quintile, Bangladesh, 1993-2004



was also associated with more women obtaining contraceptives from private sector sources: by 2004, one-third of women obtained modern methods from the private sector, compared to one-fifth in 1996/97.

Figure 14 shows the MCPR by wealth quintiles. By 1993/94, MCPR inequality was extremely low (CI of 0.04). The public sector program provided contraceptives to most women, including those in the highest income quintile. MCPR inequality remained at this level until 1999/00. Between 1999/00 and 2004, there was a (marginally) significant decline in MCPR inequality as contraceptive use among women in the two lowest quintiles increased. Women in the two lowest quintiles continued to rely heavily on the public sector for their contraceptive methods even as they increased use of private sector supplied methods during this period.

A strong public sector program had nearly eliminated MCPR inequality in Bangladesh by the start of the study period. MCPR inequality remained low as contraceptive users slowly switched to highly subsidized methods available through the private sector. The use of private sector contraceptive outlets started increasing somewhat more rapidly after the end of doorstep delivery of family planning methods, as low-priced contraceptives became available in a large number of conveniently located retail outlets. Between 1999/00 and 2004, an increase in modern method use among women in the lowest quintile resulted in a further decline in MCPR inequality.

5. DISCUSSION

The provision of free contraceptives to low-income women has been the mandate of many national governments. Concerns about inequality in contraceptive access and use have arisen as a greater role in contraceptive provision is envisioned for the private sector in times of reduced funding for public sector family planning programs. At the outset of this study, it was suggested that private sector interventions may contribute to increased MCPR inequality by increasing access to contraceptives among upper-income groups when the public sector is unable to increase contraceptive access among lower-income groups. Hence, MCPR inequality may increase if the pricing, marketing, and distribution strategies of private sector interventions differentially favor upper-income groups while the public sector remains unable to effectively target lower-income groups.

The evidence presented in this study shows that there was no increase in MCPR inequality in countries where the largest expansion of private sector contraceptive supply occurred – Morocco and Indonesia. In Morocco, the public sector expanded supply of contraceptives to poor women in rural areas and MCPR inequality actually declined substantially as contraceptive use increased among low-income rural women. In Indonesia, the already low level of MCPR inequality declined further between 1994 and 1997 – a period in which the private sector contraceptive supply expanded. This decline was associated with higher contraceptive use among women in the lowest quintile, who continued to rely heavily on the public sector even as they increased use of private sector sources of contraceptives. Moreover, there was no change in MCPR inequality in the period following the Indonesian economic crises of 1997, even though the increase in private sector supply was substantial. Because the public sector supply of contraceptives became irregular following the economic crisis, low-income Indonesian women switched to private sector contraceptive sources between 1997 and 2002. Although the private sector share of contraceptive supply was more modest in Bangladesh, a decline in MCPR inequality also occurred in Bangladesh as the private sector expanded contraceptive supply.

Countries in which the private sector's role was more limited – Kenya and Ghana – experienced a stagnation of MCPR inequality at moderate levels of inequality. In rural Kenya, MCPR inequality actually increased as contraceptive use declined among women in the lowest quintile, who were unable to obtain contraceptives from the public and NGO sectors.

The findings of this study have important implications for better targeting of public sector interventions. As the private sector expands, the public sector must increasingly target low-income women living in rural areas. As long as the public sector remains an important source of contraceptives to the poorest women, it should not be assumed that an expanded private sector supply will lead to greater inequality in contraceptive use.

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ANNEX. DHS SURVEYS USED IN STUDY

Year and sample sizes of Demographic and Health Surveys used in the study

Country and Year of Survey	Number of Women in Union
Morocco	
1987	5,447
1992	5,118
1995	2,470
2003	8,782
Indonesia	
1987	10,907
1991	21,187
1994	26,186
1997	26,833
2002-03	27,858
Kenya	
1989	4,778
1993	4,583
1998	4,847
2003	4,876
Ghana	
1988	3,156
1993	3,204
1998	3,229
2003	3,694
Bangladesh	
1993-94	8,989
1996-97	8,450
1999-2000	9,696
2004	10,553

