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Contraceptive Social Marketing in Pakistan: Assessing the Impact of the 1991 Condom Price Increases on Sales and Consumption

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PSI Research Divsion
Working Paper No. 14

1998

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Acknowledgments

The authors are grateful to Dominique Meekers, Dana Hovig, Philip Harvey, Barbara Janowitz, Lawrence Kincaid, Frances Plunkett, Frank Samaraweera and William Warshauer for their comments on earlier drafts of this report. The authors also wish to thank Lever Brothers Pakistan Ltd. and Aftab Associates for their assistance with the City Size Analysis, Naiyar Saifi for assistance with the analysis of retail audit data, Ashraf Kayani for assistance with the analysis of the Pakistan Contraceptive Prevalence data of 1984/85 and 1994/95 and Julia Miele for editorial assistance.

Abstract

This report describes the results of a practical method for assessing the impact of price increases on the sale and consumption of contraceptives in social marketing projects. In 1991, there was a shift in the target audience of the Contraceptive Social Marketing Project in Pakistan, from all potential condom users to low income condom users. In the same year, efforts to increase the sustainability of the project condom resulted in the price of the project condom brand being raised twice, until it was double the original price. Because of the multiple levels at which a price increase can potentially affect sales of condoms, studies were conducted at different levels of the distribution chain: national, regional, retailer and user. These studies complemented each other and are important in ascertaining the impact of the price increases. This report analyzes the results of these studies. An important substantive conclusion of the report is that attempts to increase financial sustainability by raising the price of condoms led to a substantial drop in use among low-income couples.

Contraceptive social marketing (CSM) programs have become an established way of delivering family planning goods and services in many countries. Some CSM programs subsidize prices, particularly when targeting low-income population segments in developing countries (Lewis, 1986). Other programs aim for financial sustainability by selling contraceptives at higher, unsubsidized prices. In Pakistan, there was an attempt to increase financial sustainability of the CSM project by raising the price of condoms twice in 1991. This report examines the effect of these price increases on the demand for condoms.

There is evidence from several developing countries about the impact of price changes on the demand for contraception. In El Salvador a 100% increase in contraceptive prices was followed by a 50% drop in sales (Sheon et al., 1987). In Mexico, Brazil and the Dominican Republic, Haws et al. (1992) found that demand for sterilization declined in clinics where prices were increased. In Ecuador, Leon and Cuesta (1993) found that larger increases in clinic prices led to larger declines in demand. In Bangladesh, Ciszewski and Harvey (1994) found that sales of condoms at the national level fell after the price was increased, then rose after a price reduction. Lewis (1986) reported that price reductions led to increased demand. There is also evidence that price increases disproportionately affect poor people: Jensen et al. (1994) showed that, in Indonesia, higher contraceptive prices would lead to significantly greater reduction in demand among poorer versus wealthier people.

This report describes the effect of condom price increases in Pakistan, particularly on the demand for condoms among low-income couples. A price change may affect demand by 1) reducing sales of the importer/producer to regional distributors, 2) reducing sales of distributors to retailers and reducing sales from retailers to consumers. This paper uses four data sets to measure the affect of the price increases at these different levels.

Background: Condom distribution systems prior to the advent of social marketing

Pakistan ranks low on most social and economic indicators. A study of the 37 most

populous countries by Mauldin and Ross (1994) found that Pakistan registered low on nearly every indicator used in the study. Contraceptive prevalence has been quite low, for example, the proportion of currently married women reporting use of any method was 7.6% in 1984, 11.8% in 1990 and 17.8% in 1994[1] (MPW, 1995).

There has never been a condom manufacturing industry in Pakistan. Prior to the advent of CSM, two mechanisms of importing and distributing condoms existed: commercial and government (GOP) distribution. In the commercial sector, entrepreneurs informally imported a variety of relatively expensive brands and sold them through pharmacies in the larger urban centers. A 1986 survey of retailers showed that the retail price of most commercial condom brands was equivalent to about nine or ten US cents per condom (Domestic Research Bureau, 1986).[2] The commercial distribution of condoms continues to the present time.

The GOP started the Contraceptive Inundation Scheme in 1974 as part of the USAID-supported national population program. USAID purchased condoms in the US and shipped them to the GOP contraceptive warehouse in Karachi The warehouse distributed the condoms, packed in boxes of 100, to approximately 1,500 public sector outlets – mostly Family Welfare Centers and hospitals and clinics in cities and towns. The 1986 survey of retailers found that the government brand was also available in a few retail pharmacies in the larger cities. The retail price of government condoms was equivalent to about 0.4 US cents per condom - much lower than the commercial brands. About 25 government condoms could be purchased for the price of one commercial condom. Public sector condom distribution continues, although it is no longer referred to as an Inundation Scheme, and no longer supported by USAID.[3]

Contraceptive Social Marketing: the introduction of *Sathi* condoms

The CSM project, which was sponsored by the GOP and USAID, started research and development activities in 1986. Nationwide sales of condoms began in 1987. The aim of the project was to increase contraceptive use by expanding the availability of contraceptives, at affordable

prices, in the private sector. The private sector was quite strong, and included a pervasive distribution network for fast-moving consumer goods throughout urban Pakistan. There was also a fledgling market research industry: multinational corporations developed most market research methods and tools, including sampling frames to assist marketing of their own products. The project's objectives were limited to the urban areas because marketing was essentially an urban enterprise. For example, marketing firms and distributors of consumer products sold directly to regional distributors and retailers in urban centers but not in villages.

The CSM project used three contractors: the Woodward Company, the local affiliate of a multinational marketing firm; Population Services International (PSI), an international NGO that specializes in social marketing; and the National Development Finance Corporation (NDFC), a semi-autonomous state organization. Woodward received American condoms from USAID, packaged and sold them under the brand name *Sathi* ("companion") to regional distributors, who in turn sold them to wholesalers and retailers in their region. PSI provided technical assistance, including the services of a social marketing professional to orient the other stakeholders to the requirements of social marketing and to assist with planning, research, monitoring and evaluation. NDFC monitored Woodward's field activities and financial reports.

Baseline studies by the project showed that typical users of condoms were middle-class couples residing in large cities. Commercial brands of condoms were sold in about 7,000 shops, most of which were pharmacies. The government brand was available in about 1,500 public sector outlets.

The *Sathi* marketing campaign was launched in January 1987. The retail of a 4-pack of *Sathi* condoms was 1.00 rupee (about 1.5 US cents per condom). This price was higher than the price of a government condom but much lower than the price of a commercial brand and deemed affordable for most Pakistanis.[4]

Given the poor reach of mass media and the restrictions on advertising of contraceptives, the project concentrated on retail shops for *Sathi* promotion. The strategy was to inform large

numbers of retailers, including the staff of pharmacies, general stores and tobacco shops about *Sathi*, and to convince the retailers to purchase and display *Sathi*. Woodward's salesmen organized a Display Week Contest in hundreds of urban neighborhoods, selling *Sathi* condoms to retailers while giving them free signs, banners and counter-top materials. These promotional contests, along with some newspaper advertising, led to a large increase in the number of shops that stocked and displayed condoms. By 1990 the number of retail shops that stocked condoms had increased from about 7,000 to almost 20,000; most of the 20,000 shops stocked and displayed *Sathi*. The greatest increase was among general stores - stores that sell a range of fast-moving consumer goods such as packaged groceries, eggs, snacks and toiletries such as shampoo and toothpaste.

Until the advent of *Sathi*, condom retailing was essentially a phenomenon of large cities, which have more per capita spending power than small cities. Table 1 illustrates the difference in spending power between the largest and smallest of five strata of cities categorized by Lever Brothers, the local affiliate of Unilever. While 43% of families in the largest cities had monthly incomes of more than $175 (Rs 3,500) in 1991, only 16% of families in the smallest cities enjoyed such a high income. Thus, it can be assumed that average discretionary spending power per family is much lower in small cities than in the large cities.[5] Because its price was low compared to commercial brands, retailers in small cities were interested in *Sathi*. Consequently, the availability of condoms increased most rapidly in small cities.

[Table 1. City size and family income, 1991]

A 1988 survey commissioned by the SMC project showed that 80% of *Sathi* users living in small cities first started using condoms when they started using *Sathi*, whereas only 27% who lived in large cities first started using condoms when they started using *Sathi*. The much higher rate of first use of condoms among *Sathi* users in small cities is consistent with the knowledge that smaller cities were essentially a new market for condoms, whereas the relatively expensive

commercial brands had been available in larger cities for several years.

Woodward's sales of *Sathi* increased steadily from 30 million condoms in 1987 to 34 million in 1988, 44 million in 1989, then a sharp increase to 74 million in 1990, and a similar number in 1991. At the time, some observers suggested that the large increases in sales of *Sathi* could have resulted from substitution of the government brand, which had experienced severe shortages from mid-1989 to mid-1991. There was also anecdotal evidence that some *Sathi* condoms were shipped out of Pakistan. For example, it was reported that *Sathi* condoms were available in Yemen. There was also conjecture that retailers in border towns were selling to retailers in neighboring countries such as India, Iran and Afghanistan. These issues are discussed later in this paper.

The Price Increase

In 1991, the sponsors reorganized the CSM project, discontinued the contract with NDFC and contracted all research and monitoring activities to PSI. The new *Sathi* marketing plan called for a shift in the target group, from an undifferentiated mass market to low-income couples in urban areas. The sponsors of the project also called for an increase in the retail price of *Sathi* with the intention of increasing cost-recovery. The price of a *Sathi* 4-pack was raised to Rs 1.50 in April 1991 and raised again – to Rs 2.00 – in November. Also in November, the GOP raised the price of the government brand to Rs 0.5 per condom – the same price as *Sathi*. No substantial changes in the price of commercial brands, about 9 Rs, were observed in 1991. Table 2 summarizes the prices of the three brands before and after the 1991 price increases.

[Table 2. Condom prices before and after the 1991 increases.]

An Assessment of the Impact of the Price Increases

During 1991 and 1992, the project measured the impact of the price increases by analyzing data gathered from sources at different levels of the condom distribution chain. Four

separate studies were conducted to measure the impact of the price increases: a quantitative study of sales trends at the national level, a qualitative survey of regional distributors and retailers, a quantitative study of a panel of retail shops and a quantitative study of a panel of condom users. It was important to conduct these four studies in order to assess the true effect of the price increase, because changes in national sales figures may not accurately reflect changes in condom use. Changes in national sales may occur due to changes in use among couples, or due to changes in cross-border sales because in some regions, such as South Asia, the shipping of consumer products across national boundaries is commonplace. Without an understanding of changes in condom sales at levels lower than the national level, the true effect of a price increase may be misinterpreted. Moreover, unless panel studies are undertaken among low-income condom users or unless panel data from retail audits can be disaggregated by income, it may not be possible to ascertain the effect of a price increase on changes in use among the poor. As a result, studies were conducted to measure changes in sales at the national, regional and retail levels and a study was conducted to measure changes in condom use among a panel of low-income condom users.

National Sales

National sales of *Sathi* were measured at the Woodward warehouse; national sales of the government brand were measured at the GOP warehouse. National sales of the commercial brands were not made available by the various importers, and are retrospective projections based on the results of the retail audit. In 1991, sales of all condoms reached a peak of 170 million per year, as shown in Table 3. However, in 1992 total sales reached only 48 million -- a decline of more than 70% and considerably lower than any previous year. At the time of the 1992 sales collapse, warehouses had adequate stocks and there were no problems with distribution. Therefore, we infer that the substantial decline in sales was driven by a decline in demand and not a shortage in supply.

[Table 3. Sales of condoms, national level]

Sales trends differed by brand. *Sathi* sales rose to peaks of 74 million in 1990 and 73 million in 1991, then dropped sharply to 34 million in 1992 - a drop of more than 50%. Sales of the government brand plunged from 87 million in 1991 to only five million in 1992 - a drop of more than 90%. Sales of the commercial brand were small and steady throughout the nine-year period and remained within a range of 9-12 million per year. In 1990, sales of the government brand declined sharply while sales of *Sathi* increased sharply in this year. During the period 1989-91, the government brand was experiencing frequent shortages at the warehouse and *Sathi* may have partially substituted for the government brand during 1990.

However, these variations in sales at the national level do not necessarily reflect variations in use. National sales may differ from consumption because of cross-border sales, wastage and buffer stocks. Therefore, total condom consumption was estimated from the reports of three national contraceptive prevalence surveys.[6] In Figure 1, consumption estimates are compared with national condom sales for the three points in time: 1984, 1990 and 1994. Consumption increased from approximately 33 million in 1984 to 60 million in 1990, to 92 million in 1994. In 1984, national sales were almost three times as high as consumption. In 1990, just prior to the price increases, sales were twice as high as consumption. Finally, in 1994 sales and consumption were almost equal. The situation in 1994 was understandable because the disruption in imports of *Sathi* in 1994, after the completion of USAID's aid program in Pakistan, resulted in buffer stocks in the distribution pipeline supporting consumption.

[Figure 1 about here: bar graph of consumption and sales]

To understand a) whether the sharp declines in national sales really represented a collapse of consumer demand for condoms, b) whether there were significant cross-border sales and c) the effects of the price increases on low-income condom users, we analyze studies conducted among distributors, retailers and low-income users.

Regional Sales

At the regional level, the Woodward Company had distribution agreements with distribution firms in approximately 110 cities. The Woodward Company shipped *Sathi* to regional distributors who sold to retailers in the surrounding area. However, quantification of sales was not possible at the regional level because distribution firms did not disclose sales volumes. As a result, a qualitative study was used to assess changes occurring at the regional level. The purpose of the qualitative study was to identify patterns of sales before and after the price increases. PSI and USAID officers interviewed regional distributors in 49 cities. Cities were selected purposely to obtain a sample of large cities and a sample of small cities in each province.

[Table 4 about here. Changes in *Sathi* sales patterns reported by regional distributors in large and small cities, 1991]

As shown in Table 4, in large cities, *Sathi* sales by distributors to retailers did not decline substantially after the price increases. However, in small cities, there was a substantial decline in sales to retailers after the price was raised to Rs 2.00. Given the lower purchasing power in small cities, this suggests a decline in condom use among low-income couples. Distributors in large cities reported that direct sales to cross-border truckers continued after the price was raised to Rs 1.50, but that sales had ceased after the price was raised to Rs 2.00. Distributors in small cities reported that no direct sales were made to cross-border truckers either before or after the price was raised. This study showed that the source of cross-border sales were distributors in large cities. The findings of the study also suggest that the decline in sales at the national level were due in part to a decline in cross-border sales.

Retail Sales

Qualitative and quantitative studies were conducted at the retail level. The purpose of the qualitative retail study was the same as for the qualitative study at the regional distributor level, i.e., to identify and compare patterns of distribution and sales before and after the price of *Sathi* was raised. The study was implemented concurrently with the qualitative study at the regional distributor level. This study showed that sales patterns differed by city size: retailers in large cities reported sales of a variety of condom brands and prices, but retailers in small cities reported that they stocked only *Sathi* because it was the only brand that was both affordable and easily obtained from distributors in small cities.

[Table 5. Changes in sales patterns reported by retailers in large and small cities, 1991]

Table 5 confirms that there was an interaction between city size and changes in consumer demand for *Sathi* after the price was increased: retailers in large cities reported little or no decline in sales after the price increases, while retailers in small cities reported sharp declines in sales. Retailers in small cities stated that the increase from Rs 1.00 to 1.50 resulted in a small or no decline in sales, but that sales had declined much more -- some said 50% -- after the price of *Sathi* reached Rs 2.00 per pack. This finding indicates that the decline in sales by distributors to retailers in small cities (see Table 4) was driven by lower consumer demand. Finally, neither retailers in large cities nor retailers in small cities reported cross-border sales of condoms before or after the price increases. The last finding refutes earlier-mentioned conjecture on the part of some observers that retailers were selling condoms across the border to India, Iran and Afghanistan. In fact, as reflected by the qualitative study of regional distributors, regional distributors rather than retailers were responsible for cross-border sales.

To assess the magnitude of the changes in retail sales, we analyzed data gathered by a monthly retail audit of a panel of 1,200 retail stores.[7] We ranked the retailers by city size, then

compared sales volumes of the top tercile (large cities) with the bottom tercile (small cities). The method is called City Size Analysis because it is based on purchasing power differences between residents of cities of different sizes (shown in Table 1). Results of the study are in Table 6, which shows that sales in large cities decreased by only 5%, while sales in small cities decreased by 46%.

[Table 6 about here. Changes in retail sales volumes of *Sathi* in large and small cities]

These findings provide further support that sales of *Sathi* declined among consumers with low purchasing power. The retail audit also showed that the numbers of shops that stocked *Sathi* in large and small cities did not decline in 1991-92, indicating that the decrease in sales was due to a drop in demand, not in supply.

Condom Use

To illustrate the effects of different magnitudes of price increases on *Sathi* purchases among low income *Sathi* users a pre and post survey was used. In Area A (consisting of cities selected from all of Pakistan except Area B), the price of Sathi was changed from Rs 1.00 to Rs 1.50. In Area B (consisting of two medium-sized cities), the price was raised from Rs 1.00 to Rs 2.00. In each location a random sample of *Sathi* purchasers were identified before the price increases. Interviewers waited at randomly selected *Sathi* shops and intercepted *Sathi* purchasers to obtain their names, addresses and income. Four months after the price increases, *Sathi* purchasers identified during the first round were re-interviewed to ascertain whether they were still using *Sathi*. Results of the study are shown in Table 7.

[Table 7 about here: changes in use of *Sathi* among low-income users]

In Area A, 21% of *Sathi* users in round 1 were no longer using *Sathi* in round 2. In

Area B, 56% of *Sathi* users had stopped using *Sathi*. The monthly audit of retail shops showed that, during this period, the number of shops with *Sathi* in stock did not decline in Area A or Area B. This indicates that purchases declined due to a decline in demand, not supply.

This study confirmed that there were declines in condom use among low-income couples, a finding that was suggested by the qualitative studies of regional distributors and retailers. Moreover, the study showed that condom use among low-income couples was very responsive to price increases: the greater the price increases, the larger the drop in use among low-income couples.

Discussion

Conflicting objectives. The 1991 drive to improve financial self-sufficiency of the social marketing project by increasing the price of *Sathi* led to a decline in condom use among the target group. In other words, reducing subsidies for family planning affects the poor more than others. This undermines the social goal of projects targetting the poor. To reach low-income segments of the population, high levels of subsidization are required.

In a country such as Pakistan, where many families are unable to pay more than a few rupees a month for contraception, it is probably unrealistic for a family planning program to achieve financial sustainability by recovering a substantial portion of the contraceptive products from users. On the other hand, it may be possible for the program to reach financial sustainability through cross-subsidization, i.e., by designing appropriately priced products for different segments of the population. Such a program would segment the population by income, designing and marketing profit-making products for high-income segments and use the profits to subsidize products for low-income segments.

First use of condoms. It was not surprising to find that in 1988 only 27% of current *Sathi* users in large cities were first-time users of condoms. *Sathi* competed in the market as a high-quality, easily available condom with a much lower price than other popular brands. Therefore, some users of the

more expensive brands would understandably switch to *Sathi*. It is important to note that a very large proportion of current *Sathi* users in small cities - 80% - were first-time users of condoms, indicating that *Sathi* filled an unmet need for an affordable contraceptive in low income areas. This finding suggests that *Sathi* served as an introduction to modern contraception for a substantial numbers of low income couples.

The magnitude of the 1991 Sathi price increase. The high dropout rate among low-income users of *Sathi* was probably related to the large size of the price increase: 100% in one year. This is very high by commercial marketing standards, where even 15-20% is considered large enough to depress demand among low-income customers. A more gradual approach, such as a 10-15% increase per year, would probably have led to a lower dropout rate.

The percentage of family income needed to purchase condoms among various income segments in Pakistan is not yet known, in part because of the difficulty in obtaining accurate measures of income from surveys. Greater effort needs to be made to gather dependable income data for different segments of the population.

The impact of the price increase on prevalence of modern contraception. As no national contraceptive prevalence survey was conducted in 1992, it is not possible to examine whether overall prevalence of modern methods declined due to discontinuation of low-income users. There are at least three possible options: (1) users who discontinued using condoms used no other family planning method, (2) users who discontinued using condoms switched to another modern method and (3) users who discontinued using condoms switched to a traditional method. Evidence suggests that users who discontinued condom use did not shift to another modern method: the 1990/91 DHS and the 1994/95 Contraceptive Prevalence Survey indicated that there were no increases in the use of oral or injectable contraceptives in urban Pakistan. Increases did occur in the use of the IUD and female sterilization. However, condom users in Pakistan are generally quite young and their profile

is quite different from users of the IUD or the injectable (PWD, 1986), and we would not expect that a large proportion of condom dropouts would shift to the IUD or sterilization. The profile of condom users is, in fact, more similar to that of users of withdrawal (PWD, 1986). It is noteworthy that there was a substantial increase in the use of withdrawal between 1991 and 1994 (NIPS, 1992; MPW, 1995). It is probable that low-income users of condoms switched to withdrawal. Some might also have stopped using contraception altogether.

Consumption estimates and system loss. The narrowing of the gap between sales and consumption over time indicates that the price increases led to substantial reductions in cross-border sales of the government brand and *Sathi.* As shown earlier in this paper, cross-border sales originated among some regional distributors, not retailers. This is because large-scale exports are more easily accomplished at the regional level and are more profitable because prices are lower than at the retail level. Planners should note that some level of cross-border sales may be inevitable when prices are low: such traffic is common and unremarkable in South Asia, where many household products are informally sold across borders.

Demand elasticities. The elasticity of demand for condoms among cross-border truckers differs from the elasticity of demand for condoms among users. This is probably because the motivation for acquiring condoms among these two groups are very different: cross-border truckers are driven by the profit margin whereas condom users are driven by the discretionary income available to them.

The studies. Studies at different levels of distribution were needed to obtain a full picture of sales and consumption patterns, including the impact of price increases on sales to low-income users and cross-border truckers. The studies illustrate the importance of relying on more than national sales figures when trying to ascertain the effect of a price increase. If CSM managers in Pakistan had relied only on national sales figures, they might have mistaken the large increases in sales of *Sathi* in

1990 and 1991 for increased demand in Pakistan, while the sudden collapse of sales in 1992 might have been mistaken for a collapse of consumer demand in Pakistan. The role of cross-border sales in changes in national sales would not have been possible to ascertain. Moreover, it would not have been possible to ascertain the effect of the price increase on condom use among low-income couples.

The qualitative study at the retail and regional distribution levels gave useful insights into patterns of sales that would otherwise have remained undetected. The qualitative study of retailers suggested that the demand for *Sathi* among users declined in small cities but not in large cities and that no retailers were responsible for cross-border sales. The qualitative study of regional distributors showed that the demand for *Sathi* among retailers declined in small cities but not in large cities and that regional distributors were responsible for cross-border sales. Findings of the qualitative study of retailers and distributors provided consistent evidence of the effect of the price increase on low-income users. Qualitative studies of this type are akin to monitoring or tracking studies practiced routinely by salesmen and salespersons of commercial marketing firms.

The user study showed the sensitivity of demand for *Sathi* among low-income users: a 50% increase in the price of *Sathi* led to a 21% decline in its use; a 100% increase in the price of *Sathi* led to a 56% decline in use.

The retail audit of a panel of 1200 stores allowed the City Size Analysis to be conducted. By showing that retail condom sales dropped in small cities (where low-income consumers reside), City Size Analysis complemented findings of the earlier studies. Commercial firms depend upon retail audit results to provide evidence of demand for all brands of a given category, e.g., condoms. The method is useful because it provides a time series with twelve data points per year. By showing that there were no significant changes in the availability of condoms in retail outlets during 1992, the retail audit data was also helpful in confirming that declines in sales of *Sathi* at the retail level in small cities and declines in the use of *Sathi* by low-income users were due to lower demand and not due to shortages in supply.

Conclusion and Policy Implications

A major conclusion of this study is that the attempt to increase financial sustainability by raising the price of condoms led to a substantial drop in use among low-income couples. The available evidence suggests that the prevalence of modern contraception would probably have been higher after 1991 if the price increase had been smaller or if another affordable brand of condoms had been available.

Measuring the impact of price increases on condom sales and consumption required a combination of studies at different levels of the distribution chain: national, regional, retail and use. We conclude from these studies that condom demand in Pakistan is sensitive to price increases. These studies show that cross-border sales of condoms had probably occurred prior to the introduction of *Sathi* and that shortages of the government brand condom during 1989-91 led to demand for *Sathi* by cross-border truckers. Increases in prices of *Sathi* and the government brand to Rs 0.50 per condom in November 1991 led to a large decline in demand from cross-border truckers and substantial declines in purchases of condoms by low-income users. By 1994, condom sales and consumption were of a similar magnitude.

Social marketers might increase the prevalence of condom use among poor couples by making a special effort. Given that virtually all condom brands became too expensive for the urban poor, there may be a marketing opportunity for another condom brand aimed at low-income couples, especially in small cities and in low-income areas of larger cities. The same brand may also entice rural couples to buy and use condoms, if a low enough price is maintained (rural Pakistanis have very low discretionary income compared to urban Pakistanis). Although distribution systems in rural areas are considerably less sophisticated than in urban areas, Pakistan's small cities and towns are often contiguous with villages, and distribution could be expanded from small cities to nearby rural areas. A pricing study among rural couples would probably show that the retail price of condoms for rural people should be considerably lower than the price of *Sathi* because rural people are poorer.

An important factor to keep in mind when determining contraceptive prices for poor

people is the effect of price inflation on disposable income. In Pakistan, a weakening currency is driving up the prices of basic imported items used by the poor, such as cooking oil, kerosene and fertilizer. As a consequence, the poor have less discretionary income to spend on non-necessities such as contraceptives. Donors need to be aware of the trade-offs between the use of health products and the goal of cost-recovery. If the poor are a key target group for contraceptive services, then it is particularly important to keep the prices of contraceptives low.

Notes

[1] The Population Council/Pakistan (Kayani 1997) converted the 1984/85 Pakistan Contraceptive Prevalence Survey data from prevalence among non-pregnant married women of fertile age to all married women of fertile age in order to provide data that could be compared with the two later national surveys.

[2] Many commercial brands have been available in Pakistan but they are treated here as one brand because they have similar prices and because their total share of the market is small.

[3]. See Rosen and Conly, 1996, and Population Welfare Division, 1986 for comments on the Contraceptive Inundation Scheme. It was not possible to obtain import, distribution or sales records for commercial brands because they are imported informally and distributed through several small agencies; when contacted, the owners stated that they had no records. Imports of the government brand are available, as are quantities distributed from the national warehouse, but sales of the government brand by outlets such as hospitals and Family Welfare Centers were not available. Most of the retail sales data used for the commercial and government brands in this report were derived from CSM project studies such as the monthly audit of a panel of retail shops. Sales data for the commercial brands at the national level prior to the advent of the CSM project are retrospective projections of later data.

[4]. Marketing components of the CSM system, including the pack, the gravity-fed dispenser for retail shops, shop signs, and the advertising theme "Until you want another child, rely on *Sathi*," were modeled on earlier efforts in the neighboring countries of South Asia. Descriptions are available for Sri Lanka (Davies and Louis, 1977), India (Ministry of Health and Family Welfare, 1984) and Bangladesh (Schellstede and Ciszewski, 1984).

[5] The concept of city size has also been used in national demographic and health surveys in Pakistan: for example, Population Welfare Division (1986), National Institute of Population Studies (1992) and Ministry of Population Welfare (1995).

[6]. Prevalence data were obtained from results of three national household surveys of married women, 1984/85, 1990/91 and 1994/95 (Population Welfare Division, 1986, National Institute of Population Studies 1992, and Ministry of Population Welfare, 1995). Wishik's (1969) method was used to calculate couple-years of protection; it assumes that each respondent who reported current condom use consumed 100 condoms per year -- hence one couple-year of protection (CYP). Under-reporting of condom use by married women in South Asia has been observed in several surveys that have collected data from husbands and wives. A comparison of women's and husband's reports in the 1990/91 DHS indicated that Pakistani women probably underreported condom use by about 25%. To estimate condom consumption, therefore, first we adjusted women's reports of condom use in all three national surveys, and used these adjusted prevalence figures along with the estimated number of married women of reproductive age in Pakistan to arrive at consumption estimates for 1984, 1990 and 1994.

[7] From 1990 to 1993 the Project subcontracted with Aftab Associates, a local market research agency, to provide monthly information about retailer stocking patterns and sales patterns for condoms. For purposes of the City Size Analysis described here, Aftab Associates provided the raw data to the authors.

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Table 1. Percent of households with monthly income above and below Rs 3,500 in the largest and smallest cities, Pakistan 1991		
Monthly Income	City Size	
	Largest (pop. > 5,000,000)	Smallest (pop. 5,000-25,000)
Above Rs 3,500	43%	16%
Up to Rs 3,500	57%	84%
Total	100%	100%

Source: Domestic Research Bureau, Lever Brothers (Pakistan) Ltd, 1992. Only the largest and the smallest of Lever Brothers' five categories were used for this analysis. Concentrations of less than 5,000 population are defined as villages in Pakistan.

Table 2. Retail price (US cents) of one condom before and after the 1991 price increases			
Brand	**Price before 1991 increases**	**Price after 1991 increases**	**Price Ratio (after/before)**
Government	0.4	2	5
Sathi	1	2	2
Commercial	9	9	1

Table 3. Millions of condoms sold, national level, Pakistan, 1984-94				
Year	**Sathi**	**Government**	**Commercial**	**All**
1984	0	83	9	92
1985	0	82	10	92
1986	0	91	12	103
1987	30	110	11	151
1988	33	126	11	170
1989	44	102	11	157
1990	74	34	10	118
1991	73	87	10	170
1992	34	4	10	48
1993	39	15	12	66
1994	48	20	15	83
Total	**375**	**754**	**121**	**1,250**

Sources: Sathi: CSM project records. Government: GOP records. Commercial: estimates.

Table 4. Changes in sales patterns of Sathi condoms reported by regional distributors in large and small cities after the 1991 price increases, Pakistan.

	Large Cities	Small Cities
Sales to retailers	Little or no decline in sales of *Sathi* after the price was raised to Rs 1.50 or to Rs 2.00.	Little or no decline in sales of *Sathi* after the price was raised to Rs 1.50. A substantial decline in sales after the price was raised to Rs 2.00.
Sales to cross-border truckers	Sales continued after the price was raised to Rs 1.50, but ceased after the price was raised to Rs 2.00.	No sales before or after the price was raised.

Source: Qualitative study of regional distributors

Table 5. Changes in sales patterns of Sathi condoms reported by retailers in large and small cities after the 1991 price increases, Pakistan.

	Large Cities	Small Cities
Sales to Sathi purchasers	Little or no decline in sales of *Sathi* after the price was raised to Rs 1.50 or to Rs 2.00.	Little or no decline in sales of *Sathi* after the price was raised to Rs 1.50. A substantial decline in sales after the price was raised to Rs 2.00.
Sales to cross-border truckers	No sales before or after the price was raised.	No sales before or after the price was raised.

Source: Qualitative study of retailers.

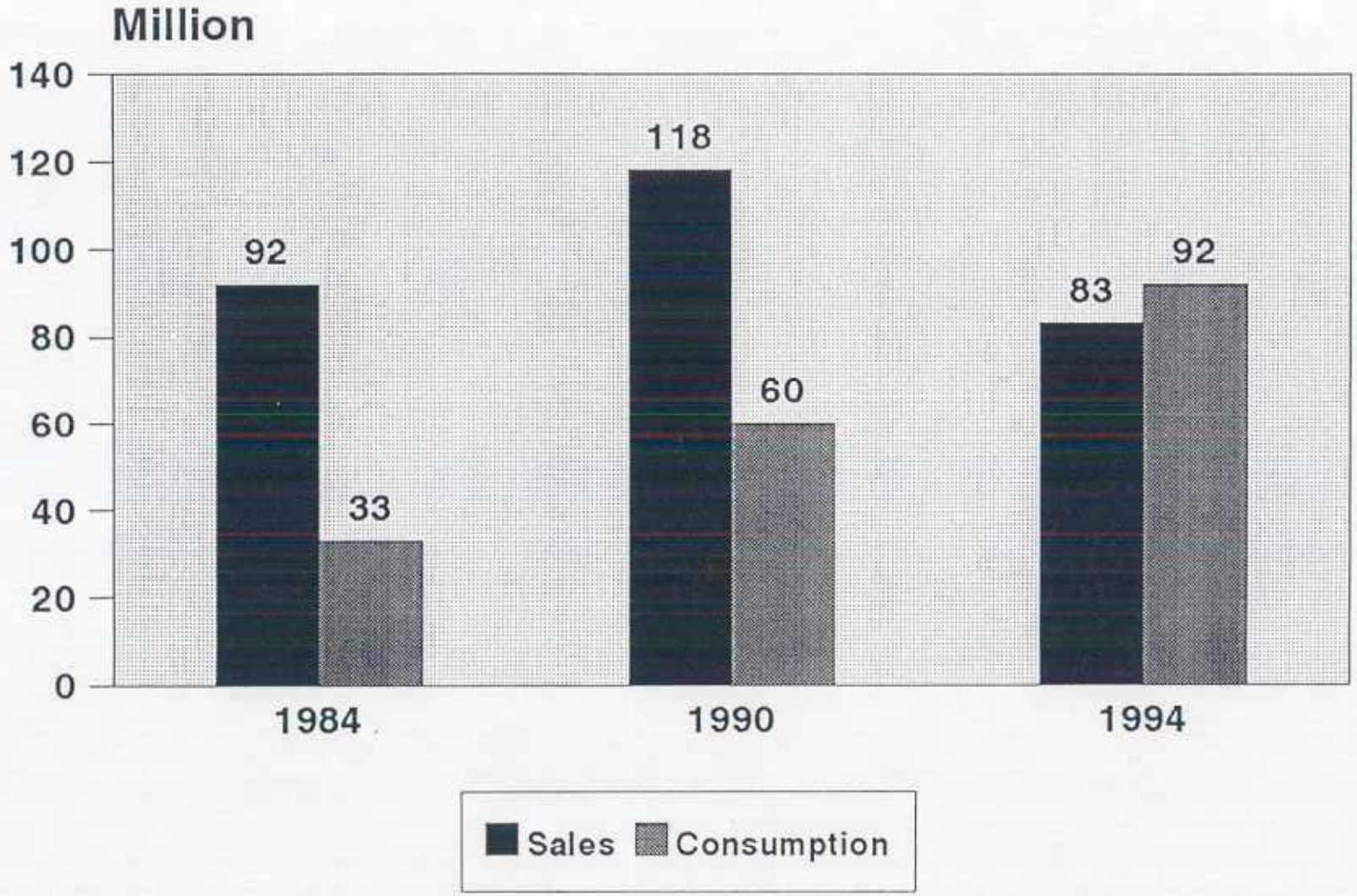
Table 6. Changes in sales volumes of Sathi condoms at the retail level in large and small cities after the 1991 price increase, Pakistan.	
Large cities	**Small cities**
Decrease of 5%	Decrease of 46%

Source: Aftab Associates, retail audit of 1200 shops.

Table 7. Changes in use of Sathi among low-income users after the 1991 price increases, Pakistan.	
Area A: **Price increased from Rs 1.00 to Rs 1.50 per pack**	**Area B:** **Price increased from Rs 1.00 to Rs 2.00 per pack**
Decrease of 21%	Decrease of 56%

Source: Pre and post price increase study.

Figure 1. Numbers of condoms sold and consumed in Pakistan in 1984, 1990 and 1994



Sources: Consumption estimates based on Pakistan Contraceptive Survey 1984/85, Pakistan Demo-Demographic and Health Survey 1990/91, Pakistan Contraceptive Prevalence Survey 1994/95, Pakistan Economic Survey, 1995-96, and Wishik couple-year of protection method, 1969.