

ANNEXES

ANNEX 2.1: EVOLUTION OF INHERITANCE LAW REGARDING WOMEN IN PAKISTAN

For most of colonial rule, the customary law denying women's right to inherit overrode the Islamic (Shariat) law stipulating this right. Shortly before partition, the *Muslim Personal Law (Shariat) Application Act* in 1937 enacted women's right to most forms of inheritance all over India, though its power was limited: it excluded women's right to inherit land, and it also failed to apply the new law to those who had obtained inheritance interests under customary law prior to 1937. According to Mehdi (2002), the law was therefore widely criticized by those who supported women's rights to property. The establishment of Pakistan brought new legislation, *The Punjab Muslim Personal Law (Shariat) Application Act (IX of 1948)*, which did include agricultural land in women's inheritance rights.

ANNEX 2.2: DETAILS ON MARITAL PRACTICES AND MARRIAGE LAW IN PAKISTAN

Effects of Child Marriage

1. The problems associated with child marriage are well-known to human development experts and human rights advocates in Pakistan. Early marriages choke off the human development potential of children in myriad ways. This is particularly true for girls, whose early marriage typically means the cessation of school attendance and markedly increased health risks: girls who become pregnant by age 10-14 are five times more likely to die than women twice their age. Because *pardah* practices and mobility restrictions on females are severe in parts of Pakistan, moreover, early marriages are likely to confine females to the marriage household for the great majority of their lives, compounding their deprivation of education and work opportunities with diminished opportunities for community activities, interactions with their peers, and the development of meaningful social relationships.²¹⁶ It is believed that the incidence of child marriage remains quite high in contemporary Pakistan; Unicef has estimated that 37 percent of rural children and 32 percent of urban children are in such marriages (1986-2003).²¹⁷ These estimates may be misleading, however, as they likely define child marriage as that involving girls under 18 years of age, in accordance with the international standard of the UN Convention on the Rights of the Child. Although Pakistan did ratify the Convention on the Rights of the Child as early as 1990, there is no such law, as yet, that enforces marriage age minimum of 18 for girls. Currently, marriage of girls age 16 and over is not classified as child marriage—and thus is still legal—in Pakistan.

Marriage Laws Enacted before and since Pakistan's Independence

2. The government of Pakistan has taken pains to incorporate protections for women and girls into marriage law by emphasizing the importance of the marriage contract (*nikahnama*) and abiding by its requirements. In addition to *The Muslim Family Law Ordinance* (MFLO) of 1961, there has been *The Dissolution of Muslim Marriages Act* (DMMA) of 1939; the *Government Servants (Marriages with Foreign Nationals) Rules* (1962); the *West Pakistan Family Courts Act* (1964) and *West Pakistan Family Courts Rules* (1965); the *Dowry and Bridal Gifts (Restriction) Act* (1976) and the *Dowry and Bridal Gifts (Restriction) Rules* (1976). Details of some of these laws are discussed below.

3. *The Child Marriages Restraints Act* (CMRA) of 1929 aimed to ban the practice of early-age marriage by changing the definition of “child” to any female under 16 years of age and any male 18 years of age, and then outlawing the marriage of children and prescribing punishments for any male above age 18 who contracts a marriage to a child.

4. Although it predates the creation of Pakistan by eight years, *The Dissolution of Muslim Marriages Act* (DMMA) of 1939 is fundamental to Pakistan's marriage law. The DMMA has been called “one of the most important pieces of legislation promulgated in the area of Islamic family law in the subcontinent” (Ali 2000: 147). When first established, its dual purpose was to clearly lay out the provisions of Muslim law pertaining to the dissolution of marriages by women who were married under Muslim law, and to specify the effect that a married Muslim woman's renunciation of Islam has on her marriage tie. A particularly important provision of the DMMA (in section 5) was the protection of the wife's right to dower in spite of dissolution of the marriage. Section 2 (vii) of the DMMA also granted to a Muslim girl the option of puberty available to repudiate her marriage—if it occurred while she was a minor—to include a marriage contracted for her by her father or grandfather

²¹⁶ <http://www.unfpa.org/swp/2003/english/ch2/index.htm>

²¹⁷ http://www.unicef.org/infobycountry/pakistan_statistics.html

5. *The Muslim Family Law Ordinance* (MFLO) of 1961 was a response to recommendations by a Commission set up in 1955 after a large portion of Pakistani society (mostly in the female sector) began agitating for improvements in the status of women. The express charter of the Commission was find/create legal means of restricting polygamy and granting women more rights of divorce than they'd had under DMMA. Not until 1961 did the Commission's recommendations take the form of the MFLO, which contained important provisions to increase women's advantage. For the first time, regulation and formalization of the process of divorce was incorporated into nationwide law. The MFLO also restricted polygamy by requiring a husband desirous of a subsequent marriage to either obtain permission from the existing wife/wives or submit an application to the Arbitration Council. In the event of the husband contracting such a marriage, the MFLO made him immediately liable to payment of the dower of the existing wife/wives. The MFLO also amended the CMRA by increasing the legal age of marriage from 14 to 16 years for females, and from 18 to 21 years for males.

6. *The Dowry and Bridal Gifts (Restriction) Act*, 1976, requires that the value of the bridal dowry and presents given to her by her natal family not exceed 5,000 rupees, though this value excludes money given to the bride at the wedding. The law also requires that all property the bride receives as dowry or bridal gifts is hers without restriction, limits or conditions; the groom also is denied rights over this property. Furthermore, if the woman dissolves the marriage to which she brought dowry, she has the right to ask for her dowry to be returned up to three years subsequent to the divorce. The Report of the commission of Inquiry for Women (1997) has issued recommended modifications to the law, with the intent to more effectively decrease the frequency and size of dowry. These modifications include expanding the definition of practicing dowry so that there are penalties for displaying dowry or ostentatiously displaying bridal family wealth in any manner, as well as including a punishment of three years' imprisonment for mental or physical cruelty inflicted on a wife (plus liability for a fine); and ten years' imprisonment in cases where such cruelty causes a woman to commit suicide. The recommendations also include amendments that empower police to report and investigate cases of suspicious or unnatural deaths of women.

Customary Practice and Civil Society Responses Related to Dowry, Bride Selling, and Marital Consent in Pakistan

7. A practice related to that of dowry concerns the 'selling' or 'trading' of brides:

The ability of individuals to bypass the law without any fear of repercussions has also perpetuated customary practices of selling girls into 'marriage' in exchange for money, settling disputes with the exchange of girls known as *vani* or *swara* and the use of girl as compensation for crimes. While the formal laws in Pakistan do not condone these practises, the courts do little to address them, allowing informal justice systems to implement a law of their own. High levels of economic hardship and social inequality often lead families to sell their young daughters into marriage as a means of earning money. Bride prices range from Rs. 80,000 to Rs. 200,000 (1,400-3,500 USD) and younger girls receive higher prices. These sales are not legal and are not done with the consent of the girl. In some cases the decision is made by one member of the family without consulting any other members.²¹⁸

8. It is not clear how common such phenomena are, since representative data are not available. Nor is it clear how to draw the line between bride 'selling' and the more common practices of making financial transfers between families at the time of marriage. At any rate, regardless of whether a bride is sold, traded, or given freely, the most salient fact from the women's point of view is the extent to which her marriage is voluntary.

²¹⁸ Report of the Commission of Inquiry for Women, Pakistan, 1997.

9. One civil society organization that has devoted considerable resources to education about dowry is Pakistan's Society for the Advancement of Community, Health, Education and Training (SACHET). In November 2001, SACHET launched the Fight against Dowry (FAD), a five-year initiative to educate the public—and Pakistan's youth in particular—about the harm often inflicted on brides due to the practice of dowry. For more information, please see http://www.sachet.org.pk/home/agehi_resource_center/fad/profile_of_project.asp.

ANNEX 2.3: RECOMMENDED CHANGES TO MARRIAGE LAW AND POLICY RELATED TO WOMEN’S RIGHTS IN PAKISTAN

1. The specific protections of women’s rights to be incorporated into the *nikahnama* are detailed in the Legislative Watch Programme’s Aurat Publication that recommends changes in the *nikahnama* form. These include the following:

- requirement of registration within 30 days of the solemnization (or performance) of the *Nikah* (marriage ceremony)
- requirement of the wife’s permission if the husband is to take an additional wife/wives
- requirement that the bridegroom disclose his marital status, since the bride is required to disclose hers
- requirement that the husband disclose any conditions on delegating to his wife, married under Muslim law, the right of divorce based on grounds provided in the Dissolution of Muslim Marriages Act (DMMA) of 1939²¹⁹
- Protection of the marriage tie in the event that the married Muslim woman renounces Islam
- The right to protection of a woman’s dower (the part or interest of a deceased man’s real estate allotted by law to his widow for her lifetime)
- The requirement that the *nikahnama* specify the amount of dower or, if the amount is not specified, it is presumed payable on demand

2. Recommendations also emphasize the importance of recording the following *nikah* details: the date on which the marriage was contracted; the date on which the contract was registered and the amount of registration fee paid; the amount of the dower; the portion of the dower to be paid promptly and the portion to be deferred; whether property has been given in lieu of any part or whole of the dower (along with its specifications and a value agreed upon by both parties); whether the husband has delegated the right of divorce to his wife and, if so, under what conditions; any restrictions on husband’s right of divorce; the husband’s marital status; name and address of the person solemnizing the marriage, along with the name of that person’s father; signature of the bridegroom *or* his *vakil* (advocate); signature of the bride *and* her *vakil*; signatures of witnesses to the marriage; signatures of witnesses to the appointment of the bride and bridegroom’s *vakil*.

²¹⁹ These grounds include the following: the husband’s whereabouts have been unknown for four or more years; the husband has been imprisoned for at least three years; the husband has failed to provide for her maintenance for at least two years; the husband has contravened MFLO provisions in taking a new wife.

the husband has neglected to perform his marital obligations for at least three years; the husband’s impotency—present at the time of marriage—persists; the husband has been suffering from insanity, leprosy, or a dangerous venereal disease for at least two years; the husband was impotent at the time of marriage; the bride was given in marriage before age 15 and repudiated the marriage prior to reaching age 18—provided lack of consummation of the marriage; the husband treats her cruelly by conduct that is not limited to physical ill-treatment; the husband associates with women of evil repute or leads an infamous life and/or tries to force his wife to lead an immoral life the husband disposes of or prevents his wife from exercising legal rights over her property; the husband obstructs his wife in observing her religious practice or profession; the husband does not treat her equitably to his other wives, if he has more than one, in accordance with the Qur’an’s injunctions.

ANNEX 3.1: TABLES WITH FULL RESULTS (A3.1-A3.7)

Table A3.1: Determinants of Current Enrollment, Children Aged 5-19

		Rural (N=19910)	
		(1)	(2)
Child's Characteristics:			
	Girl (1 if Yes, 0 if Boy)	-0.327** (38.30)	-0.405** (16.90)
	Age (Years)	0.239** (28.80)	0.242** (29.24)
	(Age) ²	-0.011** (29.66)	-0.011** (30.02)
	Age>=13 (1 if Yes, 0 if No)	-0.084** (4.96)	-0.008 (0.44)
	(Age>=13)×Girl		-0.174** (9.43)
Parents' Characteristics:			
	Mother Ever Attended School (1 if Yes, 0 if No)	0.182** (12.26)	0.087** (4.26)
	Mother Ever Attended ×Girl		0.175** (6.01)
	Father Ever Attended School (1 if Yes, 0 if No)	0.251** (29.26)	0.242** (21.41)
	Father Ever Attended ×Girl		0.019 (1.12)
Household Characteristics:			
	Share of children aged 0-4	0.001 (0.06)	0.013 (0.64)
	Share of 0-4 children×Girl		-0.039 (1.25)
	Main Source of Drinking Water (1 if Located Outside House, 0 if Located Inside House)	-0.025** (2.62)	-0.026** (2.70)
	Household Expenditure Quintile (First (Poorest) Quintile is reference category)		
	Second	0.086** (7.96)	0.088** (6.38)
	Second ×Girl		-0.002 (0.07)
	Third	0.136** (11.19)	0.126** (8.04)
	Third ×Girl		0.024 (1.02)
	Fourth	0.187** (13.07)	0.178** (9.66)
	Fourth ×Girl		0.021 (0.75)

Table A3.1: Determinants of Current Enrollment, Children Aged 5-19 (Continued)

	Fifth	0.289** (14.21)	0.265** (9.80)
	Fifth × Girl		0.054 (1.38)
School Proximity:			
	Primary School Within Village (1 if Yes, 0 if No)	0.151** (15.15)	0.101** (8.17)
	Primary School × Girl		0.142** (7.14)
	Post Primary School for Girls Within Village (1 if Yes, 0 if No)	0.061** (5.13)	0.014 (0.86)
	Girls' Post Primary School × Girl		0.098** (4.35)
	Post Primary School for Boys Within Village (1 if Yes, 0 if No)	-0.024* (2.34)	-0.011 (0.87)
	Boys' Post Primary School × Girl		-0.034+ (1.69)

Notes: Logit Model Marginal Effects. z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Additional variables not shown in table include community level variables: Total population of community; average community per capita expenditure, distance to: daily market, postoffice, bank, union council; Whether 50 percent of more of the households in village have electricity.

Data Source: *Pakistan Integrated Household Survey, 2001-02, Rural Children.*

The primary school dummy includes public primary school for girls, public primary coeducation school, private school for girls and private coeducation school. A separate dummy for primary school for boys is not included in regression since almost 90 percent of villages that have a primary school for girls or a coeducation private primary school also have a primary school for boys. Thus including a dummy for availability of primary school for girls also captures the availability of primary school for boys. Post-primary school includes middle and high school.

Table A 3.2: Determinants of Current Enrollment, Children Aged 6-18, Controlling for Household Fixed Effects

		(N=11569)
Child's Characteristics:		
	Girl (1 if Yes, 0 if Boy)	-2.497** (15.61)
	Age	1.356** (25.64)
	(Age) ²	-0.064** (26.33)
	Age>=13	0.019 (0.16)
	(Age>=13)×Girl	-1.091** (9.17)
Parents' Characteristics:		
	Mother Ever Attended School (1 if Yes, 0 if No)	0.124 (0.43)
	Mother Ever Attended ×Girl	0.582** (2.90)
	Father Ever Attended School (1 if Yes, 0 if No)	0.112 (0.52)
	Father Ever Attended ×Girl	0.187 (1.63)
Household Characteristics:		
	Share of 0-4 children×Girl	-0.642** (2.95)
	Household Expenditure Quintile (First (Poorest) Quintile is reference category)	
	Second ×Girl	0.134 (0.94)
	Third ×Girl	0.282+ (1.72)
	Fourth ×Girl	0.213 (1.12)
	Fifth ×Girl	0.021 (0.07)
School Proximity:		
	Primary School ×Girl	0.853** (6.31)
	Girls' Post Primary School ×Girl	0.596** (4.07)
	Boys' Post Primary School (Girl	-0.108 (0.82)

Notes: Conditional (Household Fixed Effects) Logit Model Coefficients. z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Data Source: Pakistan Integrated Household Survey, 2001-02, Rural Children.

Table A 3.3: Determinants of Current Enrollment, Rural Boys Aged 6-18

	All	6-10	10-18
	10490	4744	5746
Child's Characteristics:			
Age (Years)	0.288** (26.00)		
(Age)2	-0.013** (26.14)		
Age>=13 (1 if Yes, 0 if No)	-0.052+ (1.94)		-0.285** (16.99)
Parents' Characteristics:			
Mother Ever Attended School (1 if Yes, 0 if No)	0.095** (4.49)	0.128** (3.77)	0.064* (2.46)
Father Ever Attended School (1 if Yes, 0 if No)	0.255** (21.68)	0.245** (15.01)	0.239** (15.53)
Household Characteristics:			
Share of children aged 0-4	0.041 (1.61)	0.009 (0.30)	0.054+ (1.86)
Share of 0-4 children((Age>=13)	-0.054 (1.25)		
Main Source of Drinking Water (1 if Located Outside House, 0 if Located Inside House)	-0.041** (3.19)	-0.025 (1.40)	-0.038* (2.25)
Household Expenditure Quintile (First (Poorest) Quintile is reference category)			
Second	0.103** (7.14)	0.083** (4.24)	0.105** (5.27)
Third	0.147** (8.89)	0.136** (5.82)	0.137** (6.27)
Fourth	0.210** (10.68)	0.220** (7.64)	0.180** (7.11)
Fifth	0.307** (10.74)	0.262** (5.52)	0.293** (8.56)
Community Characteristics:			
Primary School Within Village (1 if Yes, 0 if No)	0.109** (8.39)	0.099** (5.52)	0.109** (6.26)
Post Primary School for Boys Within Village (1 if Yes, 0 if No)	0.003 (0.17)	-0.008 (0.44)	-0.003 (0.16)
Boys' Post Primary School ((Age>=13)	-0.025 (1.06)		

Notes: Logit Model Marginal Effects. z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Additional variables not shown in table include community level variables: Total population of community; average community per capita expenditure, distance to: daily market, postoffice, bank, union council; Whether 50 percent of more of the households in village have electricity.

Data Source: Pakistan Integrated Household Survey, 2001-02, Rural children.

Table A3.4: Determinants of Current Enrollment, Rural Girls Aged 6-18

	All	6-10	10-18
	9420	4504	4916
Child's Characteristics:			
Age (Years)	0.155** (14.70)		
(Age) ²	-0.008** (15.67)		
Age≥13 (1 if Yes, 0 if No)	-0.105** (4.28)		-0.192** (15.32)
Parents' Characteristics:			
Mother Ever Attended School (1 if Yes, 0 if No)	0.200** (12.10)	0.244** (8.29)	0.153** (8.74)
Father Ever Attended School (1 if Yes, 0 if No)	0.201** (19.93)	0.233** (14.13)	0.167** (13.99)
Household Characteristics:			
Share of children aged 0-4	-0.038+ (1.81)	-0.066* (2.27)	0.010 (0.43)
Share of 0-4 children×(Age≥13)	0.038 (0.90)		
Main Source of Drinking Water (1 if Located Outside House, 0 if Located Inside House)	-0.008 (0.65)	-0.031+ (1.66)	0.016 (1.13)
Household Expenditure Quintile (First (Poorest) Quintile is reference category)			
Second	0.059** (4.45)	0.059** (2.83)	0.067** (3.97)
Third	0.105** (7.21)	0.116** (4.91)	0.094** (5.34)
Fourth	0.134** (7.90)	0.113** (3.93)	0.133** (6.88)
Fifth	0.222** (9.43)	0.284** (6.25)	0.170** (6.91)
Community Characteristics:			
Primary School Within Village (1 if Yes, 0 if No)	0.184** (14.57)	0.222** (11.16)	0.142** (8.97)
Post Primary School for Girls Within Village (1 if Yes, 0 if No)	0.042** (2.88)	0.069** (3.23)	0.054** (3.97)
Girls' Post Primary School ×(Age≥13)	0.053* (2.29)		

Notes: Logit Model Marginal Effects. z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Additional variables not shown in table include community level variables: Total population of community; average community per capita expenditure, distance to: daily market, postoffice, bank, union council; Whether 50 percent of more of the households in village have electricity.

Data Source: Pakistan Integrated Household Survey, 2001-02, Rural children.

Table A3.5: Choice between public and private primary schools: Nested Multinomial Logit estimates

	Coefficient	Std. Err.	Z statistic
School Choice: Public or Private:			
Girl× Private School	-0.58	0.091	-6.32
Household's Consumption (excluding expenditure on education)	0.47	0.022	20.85
School in community (1 if Yes, 0 if No)	0.85	0.077	11.04
School in community × Girl	0.63	0.112	5.61
Enrollment Decision: Enroll or Not Enroll:			
Girl	-1.04	0.079	-13.08

LR test of homoskedasticity (iv = 1): $\chi^2(2) = 6.85$ Prob > $\chi^2 = 0.0326$

LR $\chi^2(7) = 4477.247$

Log likelihood = -7179.7798 (Prob > $\chi^2 = 0.0000$)

Notes: Coefficients from Nested Multinomial Logit model. Model estimated for rural children aged 6-10.

Table A3.6: Primary school location decision, Rural Pakistan, PIHS 2001-02

	Public School				Private School	
	Boys' School Logit	Boys' School Fixed Effects Logit	Girls' School Logit	Girls' School Fixed Effects Logit	Coeducation School Logit	Coeducation School Fixed Effects Logit
	(1)	(2)	(3)	(4)	(5)	(6)
Bus stop within 1 Km of community	0.832 (2.84)**	0.693 (1.89)	0.590 (2.47)*	0.832 (2.62)**	0.922 (2.56)*	1.160 (2.85)**
Daily Market within 1 Km of Community	1.720 (1.62)	1.733 (1.57)	0.007 (0.01)	0.127 (0.21)	0.738 (1.74)	0.842 (1.68)
Bank within 1 Km of Community	-0.388 (0.68)	-0.199 (0.31)	0.104 (0.22)	-0.047 (0.09)	0.766 (2.00)*	0.561 (1.27)
Postoffice within 1 Km of Community	0.268 (0.75)	0.076 (0.17)	0.855 (3.29)**	0.424 (1.28)	1.411 (5.01)**	0.738 (2.15)*
Union Council within 1 Km of Community	0.061 (0.16)	-0.330 (0.74)	0.602 (2.24)*	0.790 (2.46)*	0.177 (0.60)	0.301 (0.84)
Village average per capita expenditure	1.203 (0.18)	6.825 (0.80)	12.793 (2.40)*	8.424 (1.14)	14.276 (2.25)*	9.389 (1.00)
High schools for girls available within 5km	0.477 (1.45)	0.524 (1.28)	0.618 (2.62)**	0.597 (1.93)	1.272 (4.78)**	0.973 (2.97)**
Proportion of workers working in the non-agricultural sector in community	0.004 (0.01)	0.396 (0.53)	1.070 (2.27)*	1.075 (1.79)	1.654 (2.81)**	1.441 (1.87)
Proportion of households in community with at least one adult (age>=15) with secondary education	1.536 (2.00)*	2.639 (2.80)**	2.116 (3.72)**	2.463 (3.23)**	-0.208 (0.29)	0.182 (0.19)
Community population	0.000 (0.31)	-0.000 (1.65)	0.000 (3.99)**	-0.000 (0.29)	0.000 (4.33)**	0.000 (0.15)
Constant	0.420 (0.64)		-3.672 (6.28)**		-6.475 (7.92)**	
Number of Communities	575	337	575	465	542	386

Notes: Logit and Conditional Logit Model Coefficients . z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Village average per capita expenditure divided by 10000. Regression estimated at the level of communities. Fixed effects estimates pertain to district level fixed effects.

Table A3.7 Private primary school location decision including availability of high school close to community, Rural Pakistan, PIHS 2001-02

	(1) Logit (N=532)	(2) Logit with Fixed Effects (N=386)
Bus stop within 1 Km of community	1.037 (2.83)**	1.232 (2.97)**
Daily Market within 1 Km of Community	0.855 (1.99)*	0.861 (1.72)
Bank within 1 Km of Community	0.717 (1.84)	0.558 (1.25)
Postoffice within 1 Km of Community	1.299 (4.54)**	0.713 (2.06)*
Union Council within 1 Km of Community	0.078 (0.26)	0.202 (0.55)
Village average per capita expenditure	15.532 (2.42)*	9.587 (1.02)
High schools for girls available within 5km	1.256 (4.67)**	0.922 (2.79)**
Number of public girls' school available in community	0.252 (2.87)**	0.226 (1.99)*
Proportion of workers working in the non-agricultural sector in community	1.696 (2.82)**	1.442 (1.83)
Proportion of households in community with at least one adult (age>=15) with secondary education	-0.475 (0.65)	0.134 (0.14)
Community population	0.000 (4.43)**	0.000 (0.11)
Constant	-6.896 (8.05)**	

Notes: Logit and Conditional Logit Model Coefficients . z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Village average per capita expenditure divided by 10000. Regression estimated at the level of communities. Fixed effects estimates pertain to district level fixed effects.

ANNEX 4.1: TABLES WITH FULL RESULTS (A4.1-A4.7)

One of the key factors affecting health examined in this Chapter is access to health facilities and outreach services. In the regression analysis in this Chapter access to these services is measured at the community/village level. It is entirely possible that over time expansion of health facilities and outreach workers has occurred in some communities and not in others in a way that is closely associated with the level of development of that community or village for one. For instance, the government may have made special efforts to recruit outreach workers in communities that are not well connected to main town centers or where health outcomes are poor.²²⁰ At first glance then it would appear that health outcomes are worse in areas served by LHWs or where facilities are close to the village. To ensure that to the largest extent possible we are indeed estimating the causal impact of the availability of health facilities and services we include village characteristics such distance to nearest market and distance of village from the tehsil headquarters.

²²⁰ This issue is common to assessing the impact of availability of facilities at the village level referred to as non-random program placement. A large literature has analyzed the potential solutions to taking into account non-random expansion or placement of programs. An overview is available in Thomas and Strauss (1995).

Table A 4.1: Determinants of Probability of Falling Ill, Consulting a medical practitioner and Medical expenditures, Rural Children aged 0-17, PRHS 2001

	(1)	(2)	(3)
	Probit Marginal Effects	Marginal Effects from Probit with Selection	Ordinary Least Squares
	Probability of Falling Ill	Probability of Consulting Medical practitioner if Ill	Log(Medical Expenditure) if ill
Girl	-0.032 (4.78)**	-0.311 (5.07)**	-0.242 (1.92)+
Child's parent is household head	0.028 (3.45)**	0.026 (3.70)**	-0.070 (0.44)
Age (years)	-0.014 (5.70)**	-0.013 (5.59)**	0.034 (0.76)
(Age) ²	0.001 (4.58)**	0.001 (4.81)**	-0.001 (0.22)
Mother Ever Attend School (1 if yes)	0.012 (0.90)	0.0003 (0.03)	0.371 (1.54)
Father Ever Attend School (1 if yes)	-0.020 (2.84)**	-0.010 (1.55)	0.171 (1.30)
Log Per Capita Expenditure of household	0.026 (3.84)**	0.0021 (0.71)	0.628 (4.88)**
Distance to Health Facility	0.007 (4.41)**	-0.0016 (2.56)**	-0.030 (0.98)
Distance to Pharmacy	0.007 (3.46)**	-0.0008 (1.04)	-0.046 (1.26)
Distance to Daily market	-0.001 (0.40)	0.0049 (3.68)**	0.011 (0.36)
Community Level: Improper disposal of waste water (Waste Water thrown into ground)	-0.010 (1.19)	-0.0069 (0.92)	-0.081 (0.54)
Community Level: Improper disposal of garbage (Garbage thrown into river or ground)	0.024 (3.20)**	0.022 (3.16)**	-0.263 (2.04)*
Constant			3.153 (3.42)**
Observations	7482	7525	550

Absolute value of z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Notes: Probit model marginal effects in Column 1. Marginal effects from Probit model with selection in Column 2. Regression coefficients from Ordinary Least Squares regression. Absolute value of z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Table A4.2: Determinants of Immunization, Rural Children aged 12-23 months, PIHS 2001

	(1)	(2)	(3)	(4)
	DPT3 (N=1347)	Polio3 (N=1347)	BCG (N=1347)	Measles (N=1347)
Girl	-0.029 (1.02)	0.002 (0.12)	-0.045 (1.54)	-0.065 (2.04)*
Age in Months	0.030 (0.50)	0.082 (2.30)*	0.002 (0.03)	0.012 (0.19)
(Age) ²	-0.001 (0.41)	-0.002 (2.10)*	0.000 (0.10)	0.000 (0.01)
Mother ever attended school (1 if yes)	0.165 (3.23)**	0.047 (1.61)	0.141 (2.57)*	0.130 (2.53)*
Father ever attended school (1 if yes)	0.122 (3.46)**	0.015 (0.70)	0.096 (2.80)**	0.090 (2.38)*
Mother has Media Exposure (Heard Hygiene related information through Media) (1 if Yes)	-0.016 (0.39)	0.037 (1.42)	-0.004 (0.09)	0.016 (0.37)
Log (Per Capita Household Expenditure)	--	--	0.089 (1.80)+	0.125 (2.38)*
Lady Health Worker in Community	0.089 (1.82)+	0.038 (1.39)	0.142 (2.86)**	0.108 (2.21)*
Government Primary Health Facility (BHU, MCH Center, Family Welfare Center) Within 5 Kms	0.082 (1.73)+	0.006 (0.23)	0.093 (1.80)+	0.137 (2.73)**
Private Health Facility Within 5 Kms of Community	-0.037 (0.77)	-0.025 (0.94)	-0.030 (0.59)	0.005 (0.09)
Immunization Camp held within 5 kms of community	0.068 (1.57)	0.004 (0.16)	0.015 (0.34)	-0.008 (0.20)

Notes: Probit model marginal effects. Regression weighted using household weights. Robust z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Additional variables not shown in table include community level variables: Community level variables include dummies for electricity, drainage, distance to: tehsil capital, nearest bus stop, market, nearest motorable approach road, public primary school for girls, middle school for girls.

DPT 3 and Polio 3 measure whether final dose of each immunization received by child or not. Log per capita expenditure only included for BCG and Measles. DPT and Polio are usually supplied free of cost.

Table A4.3: Determinants of use of maternal health services, Rural Women aged 15-49 , PIHS 2001-02

	(1)	(2)	(3)	(4)	(5)	(6)
	Contraceptive use	Prenatal care	Tetanus Toxoid Immunizations	Postnatal consultations	Birth in a medical institution	Birth assisted by TBA
Age (Years)	0.055 (7.68)**	0.027 (2.79)**	0.022 (2.27)*	0.010 (2.39)*	0.007 (0.99)	0.016 (1.77)+
Agesq	-0.001 (7.25)**	-0.000 (2.78)**	-0.000 (2.29)*	-0.000 (2.20)*	-0.000 (1.07)	-0.000 (2.05)*
Woman Ever Attended School (1 if Yes)	0.084 (4.07)**	0.224 (8.49)**	0.207 (7.10)**	0.058 (4.33)**	0.101 (4.89)**	-0.082 (3.50)**
Husband Ever Attended School (1 if Yes)	0.033 (2.72)**	0.031 (1.71)+	0.052 (2.71)**	0.009 (0.89)	0.035 (2.96)**	-0.030 (1.99)*
Ratio of Number of Sons alive to Number of Daughters Alive	0.019 (4.43)**					
Media Exposure (Heard Hygiene related information through Media) (1 if Yes)	0.052 (2.87)**	0.060 (2.10)*	0.103 (3.08)**	0.005 (0.36)	0.051 (2.36)*	-0.014 (0.45)
Log (Per Capita Household Expenditure)	0.022 (1.54)	0.122 (5.23)**	0.117 (4.02)**	0.041 (3.91)**	0.113 (6.37)**	0.030 (1.31)
Lady Health Worker in Community	0.030 (2.16)*	0.011 (0.47)	0.064 (2.41)*	-0.003 (0.28)	0.009 (0.56)	0.021 (0.64)
Government Primary Health Facility (BHU, MCH Center, Family Welfare Center Within 5 Kms)	0.008 (0.61)	0.052 (2.15)*	0.077 (3.04)**	-0.004 (0.37)	-0.011 (0.63)	0.040 (1.11)
Private Health Facility Within 5 Kms of Community	0.007 (0.54)	0.025 (0.98)	0.009 (0.33)	0.014 (1.18)	-0.002 (0.10)	-0.044 (1.23)

Notes: Probit model marginal effects. Regression weighted using household weights. Robust z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. Additional variables not shown in table include exposure to hygiene information through family members and community level variables: Community level variables include dummies for electricity, drainage, distance to: tehsil capital, nearest bus stop, market, nearest motorable approach road, public primary school for girls, middle school for girls.

Table A4.4: Determinants of use of maternal health services, with interaction terms, Rural Women aged 15-49, PIHS 2001-02

	(1)	(2)	(3)	(4)	(5)	(6)
	Contraceptive use	Prenatal care	Tetanus Toxoid Immunizations	Postnatal consultations	Birth in a medical institution	Birth assisted by TBA
Media Exposure* Woman Attended School	-0.053 (1.54)	-0.031 (0.59)	-0.083 (1.11)	0.007 (0.24)	0.067 (1.32)	0.012 (0.18)
Media Exposure* LHW in community	0.039 (1.13)	-0.001 (0.01)	0.016 (0.23)	-0.033 (1.66)+	0.045 (0.98)	-0.040 (0.69)
LHW*Woman Attended School	0.001 (0.03)	-0.048 (1.11)	0.010 (0.20)	-0.016 (0.87)	0.001 (0.03)	-0.075 (1.56)
LHW*Log(Per Capita Expenditure)	0.012 (0.42)	0.085 (1.73)+	0.164 (2.51)*	0.011 (0.52)	0.019 (0.63)	-0.036 (0.82)
Government Facility within 5 kms *Woman Attended School	-0.010 (0.33)	0.019 (0.39)	0.011 (0.20)	0.008 (0.37)	0.016 (0.38)	-0.058 (1.10)
Government Facility * LHW	-0.014 (0.55)	0.029 (0.58)	0.019 (0.35)	0.044 (1.78)+	0.063 (1.60)	0.005 (0.07)
Government Facility*Log(Per Capita Expenditure)	-0.052 (1.95)+	0.026 (0.55)	0.007 (0.12)	-0.005 (0.24)	-0.001 (0.02)	-0.067 (1.35)
Private Facility within 5 kms* Woman Attended School	0.015 (0.45)	0.016 (0.31)	0.000 (0.00)	0.019 (0.79)	-0.042 (1.22)	-0.014 (0.26)
Private Facility * LHW	-0.046 (1.92)+	-0.050 (1.08)	-0.020 (0.37)	-0.048 (3.19)**	-0.039 (1.19)	-0.032 (0.45)
Private Facility*Log(Per Capita Expenditure)	0.006 (0.21)	0.030 (0.62)	-0.032 (0.49)	-0.008 (0.36)	-0.078 (2.20)*	-0.035 (0.68)

Notes: Probit model marginal effects. Regression weighted using household weights. Robust z statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%. These interaction terms were estimated as part of a full regression that included additional variables not shown in table include woman's age, square of woman's age, whether woman attended school, whether spouse attended school, source of hygiene health information (media or family), log of per capita household expenditure, dummy variables for: availability of Lady Health Worker (LHW) within community, availability of nearest primary health care facility within 5 kilometers of community, availability of nearest private health facility within 5 kilometers of community. Also included are the following community level variables: Community level variables include dummies for electricity, drainage, distance to: tehsil capital, nearest bus stop, market, nearest motorable approach road, public primary school for girls, middle school for girls. Full results of the regressions can be obtained on request.

Table A4.5: Determinants of Village Level Placement of LHWs, PIHS 2001

	Column (1)	Column (2) With Village Topography Dummies
Log(Village Population)	-0.072 (0.73)	-0.071 (0.72)
Share of children aged 5 or younger	-0.628 (0.97)	-0.621 (0.95)
Share of Females 15-49	0.438 (0.54)	0.487 (0.58)
Public Primary School for Girls in Village	0.178** (2.81)	0.176** (2.72)
Public Middle School for Girls in Village	0.241** (3.25)	0.229** (3.15)
Average Per Capita Expenditure of Village/100	0.054 (0.95)	0.060 (1.04)
(Average Per Capita Expenditure of Village/100) ²	-0.003 (1.26)	-0.004 (1.34)
Basic Health Unit in Community	0.166* (2.40)	0.177* (2.44)
Nearest bus stop 0-3 Kms from Community	0.085 (1.05)	0.085 (1.01)
Nearest tehsil capital 0-3 Kms from Community	0.113 (1.28)	0.106 (1.22)
Nearest rail station 0-3 Kms from Community	-0.014 (0.13)	-0.008 (0.08)
Community has motorable approach road	0.101 (1.20)	0.072 (0.94)
50 % of households in community have electricity	0.124+ (1.73)	0.128+ (1.77)

Notes: PIHS 2001-02 Data, Community Level Data. Weighted Probit **Marginal Effects**. Absolute value of t statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%.

Table A4.6: Percentage of women receiving maternal health services, 2001-02

	Prenatal Consultations	Tetanus Toxoid Immunizations	Postnatal consultations	Births delivered at home	Birth assisted by Trained Birth Attendant
Punjab	40	48	10	79	25
<i>% change from 1990-91</i>	60	60	<i>n.a.</i>	-10	25
Urban	64	68	15	59	12
Rural	31	41	8	86	30
Sindh	38	39	10	70	9
<i>% change from 1990-91</i>	-25	-5	<i>n.a.</i>	0	14
Urban	68	63	19	43	11
Rural	22	26	6	85	7
NWFP	22	32	4	83	13
<i>% change from 1990-91</i>	16	78	<i>n.a.</i>	-11	44
Urban	45	53	8	69	18
Rural	19	29	4	86	12
Balochistan	21	14	7	94	24
<i>% change from 1990-91</i>	-43	27	<i>n.a.</i>	-2	-47
Urban	45	34	16	78	16
Rural	16	10	5	97	25
All Provinces	35	41	9	78	18
<i>% change from 1990-91</i>	17	40	<i>n.a.</i>	-8	6
All provinces Urban	63	64	16	55	12
<i>% change from 1990-91</i>	5	21	<i>n.a.</i>	-18	-33
All provinces Rural	26	34		86	21
<i>% change from 1990-91</i>	53	70	<i>n.a.</i>	-9	31

Source: PIHS 2001-02 household survey data. These percentages are based on cross-tabulations from the PIHS data. Data refer to use of maternal health services by pregnant women in the 3 years preceding the PIHS survey. Note that the categories "births at home" and "births assisted by TBAs" are not mutually exclusive. The percentage changes in use of maternal health services are calculated by comparing 2001-02 percentages with percentages for 1990-91 from the Pakistan Demographic and Health Survey Report (NIPS and Macro International, 1992). Percentage of women getting postnatal care not available for 1990-91.

Table A4.7: Percentage of births assisted by type of attendant, 1998-2001

Province		Doctor	Trained Birth Attendants	Trained Dais	Lady Health Visitor	Lady Health Worker	Nurse	Family member + neighbor
Punjab	Urban	36	12	40	2	0	7	4
	Rural	10	30	45	1	0	5	9
Sindh	Urban	51	11	19	0	0	10	8
	Rural	14	7	54	0	0	1	14
NWFP	Urban	27	18	21	3	0	2	28
	Rural	13	12	11	3	0	2	57
Balochistan	Urban	22	16	42	3	0	3	13
	Rural	3	25	38	1	0	0	33
Pakistan	Urban	40	12	31	1	0	7	8
	Rural	11	21	39	1	0	3	24

Source: PIHS 2001-02. The data are for births in the three years prior to the survey.

Note: Dais are traditional birth attendants.

ANNEX 4.2: NOT MUCH EVIDENCE OF PRENATAL SEX SELECTION IN PAKISTAN

1. The sex ratio at birth is one statistic that can reveal prenatal sex selection: it is the ratio of the number of male births to female births. Biologically, more males are born than females, and normal sex ratios at birth range between 105 and 107 boys per girls. This high male-to-female ratio at birth could be considered an evolutionary adaptation to the fact that females have higher survival probabilities than males. A sex ratio at birth that is much higher than this biologically expected ratio suggests that female fetuses are being aborted. Societies with a strong preference for sons and with access to prenatal sex detection technology show an alarming rise in sex ratios at birth. Unusually high sex ratios at birth have been reported in parts of India, China and South Korea.

2. The problem with the sex ratio at birth statistic is that it cannot be computed from a Census. It is ideally computed from birth registration data, yet reliable and complete data of this type is difficult to obtain in most developing countries. The data from Pakistan Integrated Household Survey (PIHS) can be used to estimate the sex ratio at birth. Calculated using the 1998 PIHS, the sex ratio at birth shows a national average of 105 (Table A4.8). This is within the normal range and indicates the absence of prenatal sex selection in Pakistan. The province-wide sex ratios at birth are well within the normal range, except in Balochistan, where the ratio is higher than that expected. Since there is little evidence of sex-selective abortions in Balochistan, this ratio may reflect the underreporting of female births. Ratios by mother's literacy status show marked variation in Balochistan and NWFP. While literate mothers report ratios in the expected range or lower, illiterate mothers report fewer female births.

Table A4.8: Sex Ratios at Birth (Estimated Using PIHS 1998 Birth History Data)

	Overall	Mother (Literate)	Mother (Illiterate)
Pakistan	105	103	106
Punjab	104	103	104
Sindh	107	106	108
NWFP	105	99	105
Balochistan	109	100	110

3. A telling comparison can be drawn between Punjab and Indian Punjab. Punjab displays a sex ratio at birth of 104; the considerable ratio of 124 in Indian Punjab (NFHS-II) results from widespread use of sex-selective abortions. Declining fertility together with strong son preference and rising incomes are largely responsible for the rise in prenatal sex selection in India, China and elsewhere. This combination of factors could well prevail in Pakistan in the future, as the present trend of fertility decline continues.

ANNEX 5.1: TABLES WITH FULL RESULTS (A5.1-A5.4)

Table A5.1: Probit Marginal Effects: Determinants of Labor Force Participation, Currently Married Women aged 15-49

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	All	Urban	Urban Paid Work	Urban Unpaid Work	Rural	Rural Paid Work	Rural Unpaid Work
Age	0.004 (1.07)	0.016 (2.93)**	0.013 (3.10)**	0.000 (0.28)	-0.003 (0.58)	0.000 (0.12)	-0.004 (0.89)
Age ²	-0.000 (0.71)	-0.000 (2.41)*	-0.000 (2.48)*	-0.000 (0.43)	0.000 (0.65)	-0.000 (0.08)	0.000 (0.79)
Education (years)	-0.031 (7.64)**	-0.015 (3.96)**	-0.011 (4.27)**	-0.001 (0.78)	-0.053 (6.25)**	-0.006 (1.96)+	-0.039 (4.68)**
Education ²	0.003 (10.96)**	0.002 (7.94)**	0.002 (8.45)**	-0.000 (0.11)	0.005 (6.67)**	0.001 (4.77)**	0.002 (2.34)*
Husband's education (years)	-0.015 (6.11)**	-0.010 (3.43)**	-0.005 (2.22)*	-0.002 (1.75)+	-0.022 (5.99)**	-0.003 (1.85)+	-0.013 (3.96)**
(Husband's education) ²	0.000 (0.90)	-0.000 (0.23)	-0.000 (0.45)	0.000 (0.37)	0.001 (2.31)*	0.000 (0.54)	0.000 (1.15)
Second per capita expenditure quintile	-0.037 (2.33)*	-0.051 (2.53)*	-0.034 (2.63)**	-0.003 (0.61)	-0.031 (1.42)	-0.007 (0.80)	-0.015 (0.81)
Third per capita expenditure quintile	-0.059 (3.56)**	-0.070 (3.54)**	-0.047 (3.63)**	-0.006 (1.12)	-0.053 (2.33)*	-0.017 (2.04)*	-0.023 (1.13)
Fourth per capita expenditure quintile	-0.067 (3.89)**	-0.055 (2.82)**	-0.035 (2.62)**	-0.008 (1.54)	-0.089 (3.64)**	-0.026 (2.75)**	-0.040 (1.93)+
Fifth per capita expenditure quintile	-0.124 (6.65)**	-0.120 (5.58)**	-0.072 (4.96)**	-0.012 (2.11)*	-0.121 (4.47)**	-0.032 (3.56)**	-0.069 (3.12)**
Has child aged 3 or younger	-0.032 (3.37)**	-0.047 (3.73)**	-0.027 (3.13)**	-0.007 (1.98)*	-0.022 (1.68)+	-0.011 (2.03)*	-0.005 (0.50)
Rural (1 if yes)	0.153 (10.77)**						
Punjab	0.003 (0.21)	0.008 (0.50)	-0.015 (1.49)	0.001 (0.25)	0.003 (0.13)	-0.002 (0.21)	-0.057 (2.82)**
NWFP	-0.110 (4.82)**	0.005 (0.20)	-0.037 (2.49)*	-0.010 (1.92)+	-0.153 (4.33)**	-0.065 (7.44)**	-0.099 (3.29)**
Balochistan	-0.134 (4.90)**	-0.020 (0.75)	-0.008 (0.46)	-0.008 (0.95)	-0.180 (4.32)**	-0.034 (2.26)*	-0.155 (4.65)**
Barani agriculture (1 if yes)					-0.068 (2.08)*	-0.037 (2.44)*	-0.010 (0.34)
Barani Punjab							
Barani NWFP							
Barani Balochistan							
Observations	12372	4690	4690	4690	7409	7409	7409

Notes: PIHS 2001 Robust z statistics in parentheses.
+ significant at 10%; * significant at 5%; ** significant at 1%

Table A5.2: Regression of Log Monthly Earnings

	Urban and rural		Urban		Rural	
	(1)	(2)	(3)	(4)	(5)	(6)
	Men	Women	Men	Women	Men	Women
Age (years)	0.078 (19.47)**	0.102 (5.50)**	0.087 (15.22)**	0.126 (4.49)**	0.066 (12.45)**	0.061 (2.47)*
Age ²	-0.001 (18.06)**	-0.001 (4.68)**	-0.001 (13.35)**	-0.001 (3.57)**	-0.001 (12.06)**	-0.001 (2.23)*
Education (years)	0.058 (55.32)**	0.144 (33.41)**	0.055 (39.89)**	0.139 (25.51)**	0.044 (27.36)**	0.136 (13.96)**
Constant	6.041 (73.50)**	3.886 (10.40)**	5.963 (51.49)**	3.360 (5.97)**	6.294 (57.47)**	4.784 (9.57)**
Observations	13748	1732	5490	851	8258	881
R-squared	0.20	0.40	0.26	0.44	0.10	0.18

Notes: Data from PIHS 2001. Sample of paid workers aged 25-65. Absolute value of t statistics in parentheses. + significant at 10%; * significant at 5%; ** significant at 1%

Table A5.3: Regression of female work on purdah and safety concerns, PRHS 2004

Probit Regression: Any paid work in last year			
Variable	(1)	(2)	(3)
Observes purdah (yes/no)	0.248	---	0.143
Purdah index (0-5)	-0.036	---	-0.021
Unsafe within settlement	---	-0.400**	-0.378**
Unsafe outside of settlement	---	0.250**	0.241**
Age	0.054	0.053	0.05
Age squared	-0.001	-0.001	-0.001
Ever attended school	0.009	0.038	0.034
hh landownership (acres)	-0.033***	-0.032***	-0.032***
S. Punjab	1.157***	1.191***	1.157***
Sindh	0.733***	0.713***	0.673***

Note: * p<0.05; ** p<0.01; *** p<0.001

Probit Regression: Any paid farm work in last year			
Variable	(1)	(2)	(3)
Observes purdah (yes/no)	0.417*	---	0.316
Purdah index (0-5)	-0.181***	---	-0.171**
Unsafe within settlement	---	-0.509***	-0.400**
Unsafe outside of settlement	---	0.174	0.253*
Age	-0.008	-0.005	-0.009
Age squared	0	0	0
Ever attended school	-0.440**	-0.479**	-0.445**
hh landownership (acres)	-0.046***	-0.044***	-0.043***
S. Punjab	1.565***	1.462***	1.574***
Sindh	0.905***	0.746***	0.848***

Note: * p<0.05; ** p<0.01; *** p<0.001

Probit Regression: Any paid non-farm work in last year			
Variable	(1)	(2)	(3)
observes purdah (yes/no)	-0.173	---	-0.213
purdah index (0-5)	0.073	---	0.088
unsafe within settlement	---	-0.144	-0.2
unsafe outside of settlement	---	0.047	0.022
age	0.096	0.099	0.094
age squared	-0.001	-0.001	-0.001
ever attended school	0.252*	0.302*	0.260*
hh landownership (acres)	-0.014*	-0.013	-0.013
S. Punjab	0.559***	0.586***	0.549***
Sindh	0.480***	0.491***	0.453**

Note: * p<0.05; ** p<0.01; *** p<0.001

Table A5.4: Regression of decision-making on women’s labor force participation, PRHS 2004

Variable	Child schooling	Have another child	Major Consump. Expend	Participate in community/ political activity
Age	-0.0037 (0.467)	-0.0017 (0.758)	-0.0169 (0.001)	-0.0197 (0.001)
Any primary schl.	-0.142 (0.162)	-0.1199 (0.200)	-0.0793 (0.305)	-0.0856 (0.385)
Any secondary schl.	-0.4664 (0.001)	-0.5516 (0.000)	-0.2399 (0.017)	-0.279 (0.011)
log (earnings + 1)	0.0021 (0.864)	0.0018 (0.856)	-0.0061 (0.492)	-0.0376 (0.001)
S. Punjab	-0.0443 (0.661)	-0.1247 (0.274)	0.2117 (0.033)	1.033 (0.000)
Sindh	-0.4574 (0.000)	-0.4496 (0.001)	-0.5362 (0.000)	0.566 (0.000)

Note: P-values in parentheses. Omitted categories: Education: No schooling; Region: N. Punjab.

Source: PRHS 2004. The survey asks married women to rank their say in various family decisions according to whether their preferences/opinions were always, mostly, sometimes, rarely, or never taken into consideration. Ordered probit regressions are used to examine the determinants of decision making authority in the case of: child schooling, whether to have another child, major consumption expenditures, and the wife’s participation in community or political activity. In addition to the woman’s age, education, region of residence (landownership can be included but does not change the basic results), the log of earnings from paid employment is included, both farm and non-farm.

Note: The results in Table 1 indicate that, while a woman’s earnings in the labor market has no significant influence on her decision-making authority for internal household matters (regarding children, etc.), it does have a very significantly *positive* impact on her input into external decisions – i.e., whether to participate in the community (note: a negative coefficient implies that a women’s opinion is increasingly being taken into account for a given increase in earnings, etc.).

ANNEX 5.2: MEASUREMENT ISSUES: ADDRESSING THE STATISTICAL “INVISIBILITY” OF WOMEN’S WORK²²¹

1. Information on the extent of women’s labor force participation is lacking in Pakistan, as in most developing countries. This is a critical shortcoming of the way the labor market functions for women. Much of women’s work goes uncounted, limiting successful design of policies to aid women’s paid and unpaid work activities. Whether based on Censuses or on household surveys, estimates of female labor force participation are affected by a number of issues related to the survey procedure. In Pakistan, researchers and civil society organizations such as the Aurat Foundation also have undertaken efforts to highlight this issue. ²²² The Federal Bureau of Statistics (FBS) has attempted to address measurement issues by introducing an additional measure of labor force participation for women in the Labor Force Survey (LFS). As we discuss below, these definitional changes will only partially solve the measurement issue. More adaptations in the survey procedure are needed.

Reference period of survey matters

2. The reference period of the survey is defined as the time period over which participation in work activities is considered. The LFS-based labor force participation rate refers to work performed in the week preceding the survey. The PIHS, on the other hand, asks households about labor force participation in the month preceding the survey. The PRHS asks about participation in the year preceding the survey and covers the two main crop seasons in Pakistan – Kharif (crops harvested from April to June) and Rabi (crops harvested from October to December).

3. The reference period of the survey is important because it shapes the reporting of participation in work activity, especially if such activity takes place sporadically or during certain seasons. The duration of the reference year affects women most, since they tend to engage in seasonal work. One study has estimated that during peak-demand periods in the crop season, rural women participate three to six times more than during slack periods.²²³ Women’s weekly or monthly participation, about which the LFS and PIHS respectively ask, may not reflect participation over a year-long period. For example, of those who reported working in the month preceding the survey, PIHS also asked about the number of months worked in the previous year. A tabulation of this data shows the seasonal nature of women’s work. Only about 41 percent of rural women worked for the full 12 months in the year preceding the survey. The remaining women worked on average for less than five months. In contrast, almost 82 percent of rural men reported working the full 12 months.

4. A study from rural Punjab found that shortening the reference period from a year to a week considerably lowered the estimates of labor force participation by women from 76 percent to 60 percent.²²⁴ Another study using the 1991 PIHS, which covered the four provinces, found that increasing the reference period from a week to a year significantly affected participation rate estimates of rural males and rural and urban females, but not urban males.²²⁵ The increase in the length of the reference period resulted in the participation rate of urban females rising from 19 to 25 percent, but the rate of urban males remained essentially unchanged, as it rose from 65 percent to 66 percent. Increasing the reference period raised the rural male participation rate from 70 to 76 percent and the rural female participation rate from 46 to 57 percent.

²²¹ This section draws mainly on Mansuri, 1994.

²²² Mansuri (1994), Chaudhury and Khan (1987), Mumtaz and Khan, 2000

²²³ Chaudhury and Khan, 1987.

²²⁴ Zeba Sathar and Shahnaz Kazi, 1997, Women’s autonomy, livelihood and fertility: A study from Rural Punjab, PIDE.

²²⁵ Mansuri, 1994.

5. Comparing estimates of women's labor force participation from surveys that broadly refer to the year 2001, we find that estimates of rural female labor force participation rates increase threefold – from 16 percent to 50 percent – as the reference period increases from one week (LFS) to a year (PRHS). The differences across these surveys are of course not just limited to differences in the reference time period used. There also are differences in the questions asked and in the gender of the survey enumerators used to elicit information on work. We turn to these next.

Depth of questions asked matters

6. The study conducted using the 1991 PIHS notes that the conventional mode of questioning respondents about productive activity relies largely on what is the norm in developed (and largely urbanized) economies.²²⁶ In developing countries, activities related to agriculture predominate in rural areas, and large informal markets predominate in urban areas, where production often is home-based and mostly unregulated. The standard mode of eliciting information appropriate to developing country settings therefore is likely to yield much poorer estimates of labor force participation, particularly for females. This is so for a number of reasons. Unpaid employment of family members is extensive in both agricultural and home-based production activities. The culturally-determined division of labor in this context usually assigns to women work that can be effectively combined with household chores such as cooking, cleaning and child care. This confines a substantial part of women's productive efforts to the private domain of the household, making it less visible. Women's economically productive work often must be completed in spurts interspersed with other household chores, moreover, making women's unpaid family labor appear even more marginal and hard to detect.

7. To better capture women's work in these settings requires survey questions about participation in a detailed range of activities, as does the PIHS of 1991 and PRHS of 2001. Such detailed questions include queries about work on one's own or on sharecropped/rented land over the two crop seasons, and about work with livestock, home-based work, paid agricultural and non-agricultural work. The LFS estimates labor participation based on response to one question asking about work for pay or profit.²²⁷ As a step towards better measurement of labor force involvement, the LFS recently has started gathering data on housekeeping and related activities that include agricultural tasks (such as agricultural operations, processing of food, livestock operations, and so on) performed by rural women as part of their daily household chores, *in addition to* household maintenance tasks and child care activities.²²⁸ While including these tasks considerably increases the LFS female labor participation rate in rural areas (from 16 to 49 percent), this "improved" rate captures labor other than that which contributes to the family farm or enterprise. In contrast, the estimated female labor force participation rate used by the PRHS is based purely on economic activities – paid and unpaid. The LFS practice of including tasks related to household care in the list of labor activities thereby obscures estimates of the extent to which women participate in economically productive work.

Socio-cultural practices affect data gathering

8. In a strongly sex-segregated society like Pakistan's, surveys using female enumerators to elicit information from women generally are better able to gather data on a range of topics, including data on work performed by women. Female enumerators tend to have better access to women in the households selected for the survey. In a setting where female work – especially paid work – has negative connotations, a male respondent such as the household head is likely to under-report female participation in labor.²²⁹ For example, a study from rural Punjab found that female participation in paid agricultural

²²⁶ Mansuri, 1994.

²²⁷ See Federal Bureau of Statistics (FBS), 2003: Pakistan Labour Force Survey, 2001-02.

²²⁸ FBS (2003).

²²⁹ See Chaudhury and Khan, 1987 and references therein. Also see Sathar and Kazi, 1997 (page 17).

work was 38 percent if based on women's reports, but only 14 percent if based on husbands' reporting of their wife's participation in paid work.²³⁰ The 1991 PIHS, the 2001-02 PIHS and the 2001 PRHS use female enumerators to ask about women about their work activities. Even though the LFS interviews each eligible²³¹ member of the household directly about his or her work activities, from the available documentation it is not clear whether the LFS uses female enumerators to interview women and girls. This potentially could have a significant impact on its ability to accurately capture the extent of female work.

²³⁰ Sathar and Kazi, 1997.

²³¹ Aged 10 or older.