EDUCATION, EMPLOYMENT AND WOMEN'SAY IN HOUSEHOLD
DECISION MAKING IN PAKISTAN

By

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ABSTRACT

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Abstract

This research uses data from the Pakistan Social and Living Standard Measurement Survey 2007-2008 to conduct an empirical analysis of the relationship between education, employment and women's household empowerment in Pakistan. Household empowerment is measured through married women's say in the decisions pertaining to family planning and decisions concerning expenditure on food, clothing, medical and recreation. The paper uses the linear probability model with fixed effects. In order to address the reverse causality between employment and empowerment, district cotton production was used as an instrument for employment. The study finds that education and employment have a significant effect on women's say in certain household decisions but not in all of them. Moreover, in most of the decisions, employment in non-agriculture increases women's say as opposed to employment in agriculture. Furthermore, the study finds that employment empowers women mainly in expenditure related decisions and not in the decision pertaining to family planning.

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Acronyms

HDM	Household Decision Making
HH FE	Household Fixed Effects
IV	Instrumental Variable
LATE	Local Average Treatment Effect
LPM	Linear Probability Model
OLS	Ordinary Least Squares
PSLM	Pakistan Standard of Living Measurement Survey
PSU	Primary Sampling Unit
UNDP	United Nations Development Program

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1. Introduction

Increased say in household decisions enables women to have an influence on the psychological and physical wellbeing of not only themselves but also their children. This is because women who have a say in decisions pertaining to family planning and household expenditures have better outcomes in terms of health and educational attainment. (Mason, 2003; Acharya et al., 2010; Hou, X. and Ma, N., 2011) Therefore, it is important to identify the key factors that enable women these decisions. Although there are various determinants of women's say in household decision making[1], this study focuses on the individual factors: educational attainment and employment status. It is pertinent to note that in Pakistan, women lag far behind in both these areas − the female literacy rate (46%) and the female labour force participation rate (21.7%) are extremely low (Economic Survey of Pakistan, 2011-2012).

Non-unitary household bargaining models predict that reservation utility should affect her decision making. The reservation utility is utility if marriage dissolved (Manser and Brown, 1980; Mc Elroy and Horney, 1981) or non co-operation (Lundberg, Pollak and Wales, 1994). Therefore a woman's earning power would affect the reservation utility. This is in contrast to the classic unitary model, in which changes in a woman's individual education and employment should not affect

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[1] Individual factors include women's age, her education attainment and her employment status. Household factors include household size, head's education and head's employment status, the set up of the household (joint or nuclear), number of children, household wealth/income, etc. Community factors normally include factors that show the perceptions of the community towards women's empowerment.

her role in decision making. This paper will test the non-unitary model in the context of Pakistan.

As there is limited empirical evidence that tests relationship in the context of Pakistan, this study is an attempt to shed some light on the issue by addressing the following questions:

Q.1 Does educational attainment increase women's say in household decision making?

Q.2 Does employment status increase women's say in household decision making?

a) Do both employment in agriculture as well as employment in non-agriculture increase women's say in household decision making?

b) Do both paid and unpaid employment increase women's say in household decision making

The objectives of this study are mainly two-fold: to empirically test whether education and employment affect women's say in household decision making in the context of Pakistan and to address endogeneity issues that exist in testing these relationships. The typical endogeneity problems in testing this relationship are a) omitted variables bias – because communities that have e.g. more socially progressive are more likely to have both higher empowerment & higher women's education; and b) reverse causality – because more empowered women are more likely to work or study

Therefore, the identification strategies for this paper are a) fixed effects approach is used to account for unobservable community/household characteristics that affect the variables of interest and HDM, and b) instrumental variable approach to address the reverse causality between employment status and say in HDM. By controlling for all observed and unobserved differences between households (as well as between communities, districts and regions), and comparing only women in the same household to each other, the issue of omitted variable bias is addressed. Moreover, by using an IV which is informative and valid, the reverse causality between employment and HDM is addressed.

Given the availability of data, the decision taken into consideration is women's say in the use of birth control and their say in household expenditures (food, clothing, medical and recreation). Upon addressing endogeneity issues, and checking for robustness of the results, the major findings of the study are that education increases women's say in family planning as well as expenditure related decisions. However, employment has a more robust effect on decisions pertaining expenditure but not family planning. These findings, consistent with other empirical work in economics of the family, reject the unitary household model and are consistent with the predictions of the class of intra-household bargaining models.

The structure of the paper is that Section 2 presents a review of the existing literature on women's say in household decision making, highlighting theories of intra-household bargaining and discusses the findings of the existing literature. Section 3 presents the theoretical framework, highlighting the channels through which education and employment effect women's say in household decisions. Section

4 gives a description of the data, explains in detail the endogeneity concerns and the method of using the linear probability model with fixed effects and instrument variable approach to address these identification issues. Section 5 presents the regressions and discusses in detail the findings of the study. Lastly, Section 6 concludes the study, highlights the limitation and provides recommendations for future research.

2. Literature Review

This section provides a brief description of the intra-household bargaining theories and a synthesis of the ways of measuring empowerment. This section also presents a critique of the methodologies used in the existing literature and provides a reflection on the literature pertaining to women's household empowerment in Pakistan.

2.1 Intra-household Bargaining Theories

The literature on intra-household bargaining theories is classified into two broad strands: unitary model and non-unitary model. The unitary model states that members in a household pool their income because they either have common preferences of because the head of the house dictates his preferences onto the others. For instance, Becker (1981) argues that members of the household are altruistic in nature. However, both theoretical and empirical evidence suggest that this is not the case. For instance, Lundberg, Pollak and Wales (1996) test the unitary model and found that individuals in a household each have their preferences and they do not pool their income as suggested by the unitary model. As opposed to the unitary model that states household decisions are based on total income, the non-unitary model argues that it is the source of income that affects the outcomes. This shows that for instance if a woman's income increases, the overall welfare of the house will be different than if a man's income increases.

Manser and Brown (1980) and McElroy and Horney (1981) discuss the co-operative bargaining model in which the threat point is that of divorce; however, Lundberg, Pollak and Wales (1994) argue that divorce is too severe a threat for daily issues and the threat they analyze, in their non co-operative bargaining model, is that of non cooperation[2]. In the case of the co-operative bargaining mode, households reach a Pareto efficient outcome (Chiappori, 1988); however, in the case of the non cooperative bargaining model, household may not necessarily reach a Pareto efficient outcome.

As opposed to the basic unitary model, the non-unitary model shows that distribution factors such as education and employment influence the reservation utility, that is, the utility attained in the case of the threat point (divorce or non cooperation). These distribution factors act as bargaining weights that make the threat point credible. This is because women who are more educated have a higher reservation wage and employment status enables them to have better options outside the marriage. Therefore, the distribution factors, education and employment, enable women to have say in how household resource are allocated. Current literature empirically tests this notion for various countries; however, there is limited empirical literature that tests the non-unitary model in the case of Pakistan.

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[2] Non-cooperation means that the husband and wife do not work together to produce anything, and as they each do their own activities separately, they are collectively worse off because of this non cooperation (Lundberg, Pollak and Wales, 1994)

2.2 Measuring Women's Say in Household Decision Making.

It is important to note that that different people define measure women's say in HDM differently. For instance, Keller and Mbwewe (1991) define it as a woman's ability to make her decisions *independently* but others such as Malhotra and Mathar (1997) define it as a means of a woman making her decisions not just independently but also *interdependently.* A woman making a decision independently means that she makes the decision all by herself, whereas a woman making a decision interdependently means that she makes the decision in consultation with someone else.

One of the major issues that arises with the studying women's HDM is the response bias. Since the respondents are asked about how they view their empowerment to be, it is possible that respondents may understate or overstate their empowerment depending on what they feel is the objective of the study. If the study seeks to intervene in places where women have low levels of empowerment, women may underestimate their empowerment levels. However, if the study aims to study the issue of empowerment in a particular area, women may overstate their levels to save face. Also one of the major issues that matters is a person's own perception of their surroundings. Two women may have similar empowerment levels but report them to be different because of how they perceive themselves to be. Also, women may compare their empowerment levels to the others in the household and thus feel less or more empowered. For instance, a woman who exercises a slight degree of empowerment but lives in a household or a community where other women have

extremely low levels of empowerment may report herself to be more empowered than she actually is.

With respect to how HDM will be measured some, for instance Varghese (2011) create an index while others such as Acharya et al. (2010) and Mahmood (2002) focus on binary variables decisions. The variables they normally include are binary variables that are assigned the value of 1 if a woman has any say the decision making and 0 otherwise. The decision that Acharya et al. (2010) and Mabsout, R. (2010) incorporate in their study are the decisions pertaining to major and daily household purchases, a woman's own health care, and factors that show freedom of movement such as the say the woman has in meeting her friends and/or family.

Though the index approach does give an overall measure of empowerment, it does not identify the causal mechanisms that are at play. For instance, does education empower a woman through enabling her to have a higher say on contraceptive use or does it empower a women through enabling her to have a higher say in the purchase of household items? Therefore, if the aim of the research is to test for instance competing channels, using an index as dependent variable may not be the most appropriate approach to use.

On the other hand, the issue with using constructing numerous regressions to cater to the binary variable decisions as Acharya et al. (2010) have done in their study is that the authors may find a significant relationship due to a random variation. That is, out of all the regressions they run, atleast in one of them would education or

employment or any other factor the authors are trying to study would turn out to be significant.

For a summary of the literature reviewed, see Appendix-8.

2.3 Determinants of Women's Household Empowerment

2.3.1 Education

With respect to measuring education and discussing the channels through which education affects empowerment, authors have various views. In terms of measuring education, some authors incorporate education as a linear variable and include years of education (Mabsout and Stavern, 2010) as their independent variable. Some (Malhotra and Mathar, 1997) also include a quadratic term, that is, education squared. Whereas other use dummy variables for each level of education, primary, secondary, etc. (Acharya et al., 2010; Shahnaz and Kizilbash 2002).

The advantage of measuring education in years is to determine the effect of each additional year of education regardless of which level of education is being considered. Moreover, by incorporating a quadratic term, one may be able to determine whether the effect of education on empowerment increases at an increasing or decreasing rate. However, in the case of creating dummies for educational levels, one can identify which level of education plays a role in empowering women. It is important to note that different levels of education completed may have different signaling value and may expose women to very different scenarios. For instance, in order to gain Matric level or intermediate level education a woman may have to leave

her village. For the purpose of this study, education is measured in years and years squared. (See Section 4.1)

Also with respect to education, different people have different because of how they define education. Some use informal education such as Murphy-Graham (2008) who studies how the Tutorial Learning System in Honduras, Central America, which is informal education intervention, played a role in empowering women. In the case of informal education women may be educated about their rights, etc and therefore, that aspect of education may empower them.

Most literature focuses on formal educational and the means through which education can empower a woman are that the woman will have the ability to read and write and therefore make independent decisions since she does not need to rely on someone on news regarding the outside, reading prescriptions, etc. Also education also increases the reservation wage for women and that too may act as an empowering factor. Furthermore the educational attainment of a woman signals her level of status and intellect and therefore according to the marriage matching models (Becker, 1973), educated women marry educated men. Since the more educated a man is, the more empowered his wife will be, through this channel a woman with a higher level of educational attainment will be more empowered than a woman with less or no education. Acharya et al. (2010) and Shahnaz and Kizilbash (2002) find that more educated women have a higher say in decision making.

Certain studies argue that the results of education being empowering are not robust. For instance Acharya et al. (2010) find that in their bivariate analysis, women

with primary education are less likely to make a decision regarding the purchase of household items, but in their multivariate analysis, women with primary education do have a say in the purchase of household items. This suggests that perhaps when different specification strategies are used, one may reach different results. In the current literature, various kinds of estimation specifications have been used such as Ordered Probit, Ordered Logit, Logit, Probit, Linear Probability Model, Conditional Logit, Ordinary Least Squares, etc, and therefore, authors may reach different conclusions depending on which method they used and whether they checked robustness or not. However, it is important to note that this is only of reason why studies may reach different conclusions. In fact one of the most important aspects is the settings in which the study took place as different settings (for example, different countries, different regions within a country, etc.) may show different results. As the issue regarding women household decisions making empowerment is sensitive to socio-economic conditions and cultural norms that prevail within a country/region, the results of one study may not generalized across the board.

Moreover, different results regarding the significance of education may also arise when the different indicators of empowerment are used. For instance, Malhotra and Mathar (1997) in their study about women's household empowerment in Sri Lanka find that education only has a significant effect on women's say in financial decision making but does not affect women's say regarding social networking and a say in matters that involve organizing household matters. This also shows why an index may not be the appropriate method to use if one's aim was to determine what

aspects of empowerment are really affected by factors such as education and employment.

2.3.2 Employment status

With respect to women's employment status, different authors define employment differently. Some regard both paid workers and unpaid workers as employed (Acharya et al., 2010) whereas some consider those working or looking for a job as employed too (Ejaz, 2011). Also there are cases when people also incorporate the nature of occupation (West, 2006) and then deduce results. For the purpose of this study, a woman is considered to be employed if she is a paid worker. (See Section 4.1)

In terms of the mechanism of how employment empowers women, there are various views. For instance, some argue that employment is empowering only if employment allows a woman to exercise control over how her wage is spent. They argue that employment may not be empowering if women do not have control over their income (Malhotra and Mathar, 1997). Also, Acharya et al. (2010) find that paid employment is more empowering than unpaid employment. Others argue that employment also enables a woman to interact with the outside world and she may directly or indirectly learn ways to exercise autonomy. Some such as Kabeer (1997) also argue that it is the mere possibility of controlling her money is also considered empowering. This relates to the earlier theories presented by Mc Elroy and Horney (1980) and Manser and Brown (1981) which state that employment acts as a resource that empowers women in the intra-household bargaining process.

2.3.3 Other determinants

Numerous other variables have been studied or used as controls while identifying the determinants of women's empowerment. Some of these factors include women's age, number of children, husband's educational attainment, husband's occupation, family set up (joint or nuclear), household wealth, region, etc. (Acharya et al (2010; West, 2006; Hou and Ma, 2011; Mabsout and Stavern, 2010; Shahnaz and Kizilbash, 2002; Mahmood, 2002; Moehling, 2004).

2.4 Pakistan Specific Studies

Shahnaz and Kizilbash (2002) use data on women from the age of 15-49 from Punjab, Pakistan, and the data they use is from the Pakistan Integrated Household Survey (PIHS). The aim of their study is to identify the factors that determine whether women have a say about their employment status. Through their study, they find that though primary education has a negative effect on women's say in paid employment, higher levels of education are positively correlated to a woman having sole say in the decision about paid employment. As they are studying both married and unmarried females, they argue that the reason for the negative sign for primary education is that these girls with primary education are also younger, and therefore, exercise less empowerment.

Mahmood (2002) studies how a woman's say in household decision making affects her reproductive behavior in terms of the desire for more children and the use of contraceptives. These decisions include decision regarding children's health, purchase of food and clothing, use of contraceptive, questions regarding women's

mobility, etc. The authors find that the older a woman is and the longer she's been married for, the higher her chances will be of having a say in the household decisions. However, the study finds that education and paid employment empowers only urban women with respect to decisions regarding household purchases. However in the case of rural women, education plays an insignificant and paid employment in fact has a negative effect on women's say in household decisions. They argue that because of social norms, women in these areas are mostly engaged in unpaid work and the women that are paid workers underreport their income.

Hou and Ma (2011) study the effect of the Benazir Income Support Program on women's uptake of reproductive health care services. The OLS model results show that older women, more educated and women who are employed have more decision making power. The authors find that women that there is a positive and significant relationship between women's empowerment and employment status.

From this overview of the Pakistan specific studies, it can be deduced that even for the same country, different authors have different views regarding whether employment status and education plays a significant role in empowering women at the household level.

2.5 Treatment of Endogeneity

Various authors focus on a list of correlates of empowerment and do not take it account that most those correlates are endogenous (Acharya et al, 2010). For instance, education, employment, number of children, family set up, etc are endogenous variables and that authors incorporate in their study as variables of

interest but do not address endogeneity. This can lead to biased estimates. The reason why variables such as educational attainment and employment status may be endogenous is because unobserved variables affect empowerment as well as educational attainment and/or employment status. For instance unobserved individual characteristics such as innate intelligence, interpersonal skills etc may affect a person empowerment as well as education and employment. Also unobservable community and household characteristics such as how liberal the community and the household are may affect both empowerment and these variables of interest. Communities and households that are more liberal would not only empower the women more but also would have a more conducive environment and that would encourage women to pursue education and employment. Moreover, endogeneity may also arise due to reverse causality. For instance, though employment increases a woman's empowerment, women who are more empowered would also be more likely to be employed. This is because more empowered women may assert their demands such as the demand to be employed.

With respect to the existing literature, certain authors have made attempts to address endogeneity - some of them have used district fixed effects (Francavilla and Giannelli, 2011; Rasul, 2001). Though, district fixed effects captures the socio-economic status of one's district which may affect one's empowerment; it does not take into account household characteristics which play vital role in determining empowerment. For instance, if one belongs to a household that has members who encourage the woman to gain employment, then that would also affect one's empowerment directly. In this case household fixed effects would be the relatively

more appropriate means of addressing endogeneity. Munshi and Luke (2005) and Moehling (2004) have used household fixed effects to study the determinants of women's say in household decision making. However, if the source of endogeneity is reverse causality, the appropriate method to address this issue would be to use an instrumental variable (IV). It is imperative to note that the IV be both explanatory and valid. In terms of the current literature, upon using the instrumental variable (IV) approach, Anderson and Eswaran (2005) use the incidence of someone in the household falling ill (other than the woman herself and her husband) as an IV for employment. Though this is explanatory and valid, it is a term short term shock and therefore does not capture the long term employment status of the woman. The reason why this would be a short term shock is because a child would only be ill for a while and once the child gets better the woman would go back to work. Gonzales-Brenes (2004) instruments for household assets by using historical rainfall data. If we expect rainfall to influence the assets of those in rural areas but not those in urban areas, then the local average treatment effects (LATE) may not be generalized. While studying the effect of incidence of domestic violence on women's autonomy, Malhotra and Eswaran, (2009) use woman's height as an IV for domestic violence. It is important to note that height was used as it reflects a woman's health and it was assumed that a taller woman is healthier and stronger and therefore less likely to experience domestic violence, and it was argued that there is no reason to believe that a woman's height would affect her empowerment. However, it is possible that taller women have had better nutrition and thus are healthier and therefore also more likely to exercise autonomy because of their physical well-being.

In order to address the issue of self selection, authors use distance (Luke and Munshi, 2005) to the facility area as an IV for participation in the cases where there is an intervention taking place. It is important to note that this instrument would be valid in the case where the placement of facilities was randomized across the areas. It if was offered in particular areas for particular reasons that those areas would have characteristics that are systematically different from other areas and therefore distance would no longer be a valid IV.

3. Theoretical Framework

The more educated a woman is the more likely she is to exercise empowerment in the decision making process. Education increases a woman's awareness about her surroundings and enables a woman to make informed decisions. The more educated woman is, the more likely she is to have a better job and that too acts as a means of empowerment. Women who are more educated may also be better at communicating their ideas; therefore, a more educated women is more likely to have a higher level of autonomy in the decision making process than a less educated or uneducated woman. In a country in which more than half the women are illiterate, an educated woman may be deemed superior to uneducated women and therefore a more educated woman may exercise significantly more empowerment in the household decisions than a less educated or illiterate woman.

Employment status may empower as it may enable her to have control over her earnings and therefore she may spend her in earnings in a way she deems appropriate. Also an employed woman may be more exposed to issues pertaining to women rights, women empowerment, etc (in the case of birth control). Moreover, with respect to employment status, some women may be employed in agriculture whereas others may be employed in non-agriculture. Non-agriculture employment is more likely to empower women than agriculture employment as the former normally includes more literate women.

Also, a woman's age will have a positive effect on the say of decision making she has in her household. This is because older women tend to have more experience regarding marriage issues specifically and life in general. Also, an older married woman would a have longer marriage duration. Moreover, if the woman is the spouse of the head of the household, she will exercise more decision making power than if she was not the spouse of the head. This is because being the spouse of the head gives a woman a higher status in the household.

Spouse's characteristics such as spouse's education can play a vital role in women's say in decision making. The more educated the husband is, the higher will be the level of autonomy exercised by the woman because a more educated husband will have more awareness regarding the importance of women's empowerment.

Other controls such as geographical factors also play a role in empowering women. For instance, women living in urban areas are more likely to have higher levels of empowerment than women in living in rural areas. This is because urban areas are more developed in terms of better living conditions, more education and job opportunities. Moreover, as Punjab is the most developed provinces, it is more likely that women living in Punjab will exercise higher levels of autonomy than women living in the other provinces.

District level characteristics such as percentage of women with atleast secondary education, average household wealth, average household income, percentage of women who use either prenatal or postnatal care will have a positive effect on women's decision making in her household reflect the social and economic

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development of the district, and the more developed the district is, the more empowerment the woman will exercise in her household. In the same manner, controls as such as distance to nearest large city, percentage of women who do not use birth control for religious reasons will have a negative on women's household decision making.

4. Methodology

This section presents the theoretical framework and states the hypotheses to be tested. It also provides a brief data description and explains the estimation strategies that will be used to address endogeneity.

4.1 Hypotheses

The theory that was tested was whether a woman's individual assets such as education and employment increase her decision making power in the household (Manser and Brown, 1981; Mc Elroy and Horney, 1980; Lundberg and Pollak, 1994). To test whether education attainment increases women's household decision making, years of education and years of education squared will be used. The benefit of using this approach is that it will enable one to determine the marginal effects of education on empowerment.

With reference to employment status, it was tested whether employment status increases women's household decision making by including woman's employment status as a variable that takes on the value of 1 for paid worker and 0 otherwise. This will enable the author to test if contribution to the household income enables women to have a higher say in the decision making process. Moreover, the research will also test whether differing marginal effects by analyzing whether both agriculture and non-agriculture employment are empowering or if only one of these kinds of employment is empowering.

4.2 Data Description

The research used secondary micro-level data from the Pakistan Social and Living Standard Measurement Survey (PSLM) 2007-2008, collected by the Federal Bureau of Statistics, Government of Pakistan. The PSLM (2007-2008) contains cross sectional information on over 15000 households in Pakistan. This study focuses on the empowerment of married women between the ages 15-49. The sample size includes about 15,923 women and around 12,953 households. Around 38.2% women live in urban areas of Pakistan, whereas 61.7% women live in rural areas. Approximately 39.5% women live in Punjab, 23.5% live in Sindh, 20.8% women live in KPK and 16.1% live in Balochistan.

Around 19% of married women have paid work in Pakistan. Interestingly there are more women who have paid work in rural areas than in urban areas. Furthermore, around 52% of these married female paid workers reside in Punjab, 30.6% of them in Sindh, 13.2% of them in KPK and 3.6% of them in Balochistan. The data shows that out of the working sample, almost 10% women are engaged in paid work and approximately 30% of the married women are literate. As assortative matching suggests, matching takes places on observable characteristics and the data shows that there is indeed a high correlation (0.434) between a woman's education and her spouse's educational attainment.

In this study, the dependent variables are mainly dichotomous variables that represent women's say in HDM. These variables are women's say in birth control, and women's say in expenditure regarding food items, clothing and footwear, medical

treatment and recreation. For the question regarding birth control, the options regarding who makes the decision are: husband alone, the woman herself, husband and wife jointly, mother of women or husband, nobody, menopause/infertile, other. This variable will not include women who are infertile or have menopause. This is because their inability to have a say in the use of contraceptives has nothing to do with their decision making autonomy. As for the questions pertaining to the household expenditures, all women between the ages 15-49 regardless of marital status were asked these questions. The answer options include: the woman herself, head/father of the household decides alone, head/father consults his/her spouse, head/father consults the woman concerned, head/father and spouse of the head consults the woman concerned, head/father and other male members decide, other combination of persons decide. For all five of these variables, a value of 1 will be assigned if the woman has any say at all and 0 otherwise. Moreover, in order to compare the disaggregated approach to the aggregated approach, an expenditure index was constructed using the Principal Component Analysis command in Stata.

The variable of interest, educational attainment, is measured in years of education and years of education squared so that the non linear relationship between education and HDM can be accounted for. (See Section 2.3.1 for a detailed explanation). Furthermore, women's employment status, which will be assigned the value of 1 if a woman is a paid worker and zero otherwise, to account for the effect that cash in hand has on women's HDM (See Section 2.3.2 for a detailed explanation). The controls include age (measured in years and years squared), spouse's education (measured in years) spouse's employment status (1 if paid worker,

zero otherwise), a dummy variable showing if the woman herself is the spouse of the head or not (1 if spouse of the head and zero otherwise), region (1 if urban and zero if rural) and province (dummy variables for each province: Punjab, Sindh, Khyber Pakhtun Khua (KPK) and Balochistan), average district female educational attainment (measured in years), and average district level of household wealth (a household index for each household will be generated and then an average index level for each district will be calculated). For a list and description of the measurement of the controls, see Appendix-9.

With regards to their HDM, women have very little say in most decision making matters. Although more than half the women (approximately 57.2%) have a joint say (that is, the woman herself in consultation with her husband) in the use of contraceptives, only 3.4% women have a sole say in the use of contraceptive, whereas a greater proportion of men, around 14.5%, have a sole say in the use of contraceptives. Moreover, 60.4% of the married women have any say at all in the family planning decision.

With respect to necessities such as food, 28.3% of women have a say sole and 30.9% have a joint say and regarding food expenditure, and 34.04% of women have any say at all. With reference to another necessity such as clothing, 30.2% of women have a sole say and 34.4% of women have a joint say in clothing and footwear expenditure, and 37.3% of women have any say at all. With regards to medical expenditures, 12.5% of women make the decision themselves, 17.7% of women have a joint say and 21.7% of women have any say at all. In terms what would be considered expenditure on luxuries, only 8.2% of women have a say themselves

regarding recreation and travel expenditure and 13.3% of women have a joint say and 17.8% of women have any say at all. Therefore, the statistics indicate that in most decisions, more than half of the women have very little or no say at all in the decision making process.

Figure-1: Women's Say in Household Decisions
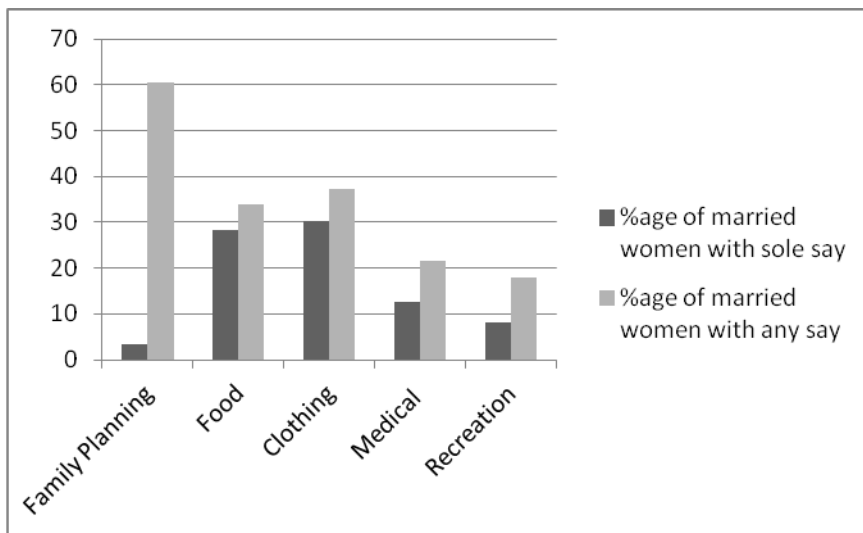
Source: Based on author's calculations

4.3 Estimation Strategy

In order to address the endogeneity issue with respect to education, the research mainly used the Linear Probability Model (LPM) primary sampling unit (PSU) and household fixed effects. To check robustness of results, the Conditional Logit Model was used. The reason for using PSU and household fixed effects was to address a particular aspect of endogeneity as all the unobservable characteristics that are common to women in a particular community and household, respectively. These unobservable characteristics such the culture and socio-economic conditions affect both the variables of interest (education and employment) as well as the outcome variables (measures of women's household decision making). For instance, women who live in a more liberal household may have higher levels of education and higher level of autonomy. Household fixed effects will also address the endogeneity that is a result of the assortative matching (Becker, 1973) that takes place in marriages.

Linear Probability Model: Fixed Effects

$$\Pr\left(Empowerment_{fw} = 1 \big| x\right)$$
$$= \beta_0 + \beta_1 Education + \beta_2 Employment\ Status$$
$$+ \Sigma\beta_n X_n + \delta wife_w + a_f + u_{fw}$$

*f indexes for the level of fixed effects (community/household, w indexes for a married woman (between the age 15-49) and differencing takes place across wives (between the age 15-49) within a community/household.

*Xn refers to the vector of control variables

In order to address the reverse causality between employment and empowerment, the Linear Probability Model with an instrumental variable approach was used. The IV used was average household cotton production in a district[3]. Reverse causality is a concern because employment affects empowerment but the level of empowerment also affects employment status. Empowerment can affect woman's employment status in two possible ways: it can either increase the chances of a woman being employed or reduce the chances of a woman being employed. If a woman lives in an area where women want to be employed, the empowered a woman is the more chances there are that she would be employed. For this IV to work, it has to be both informative and valid. This instrument variable is informative since in the rural areas of Pakistan women, a common field of employment for women is cotton-picking. It is important to note that cotton picking is a labour intensive activity which does not require a great deal of physical strength or any level of literacy. Also this instrument is valid since cotton growth in a particular area is a natural phenomenon and therefore the cotton produced in a district does not have a direct effect on the empowerment women exercise in their households.

However, one of the issues of validity of this instrument that may arise is that cotton producing areas are normally associated with poorer socio-economic conditions and more conservative cultural norms. In order to address this issue, a set of controls have been used. These include the average household size in each district, the average level of household wealth in each district, the female literacy rate in the

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[3] The districts in which cotton is grown are in Southern Punjab and include Okara, Multan, Rahim Yar Khan, Bahawalpur, Bahawal Nagar, Vehari, Sahiwal, Khanewal, Layya, Rajunpur, Lodhran, Muzzafargarh, and DG Khan

district and the distance to the nearest large city.[4] Moreover, in order to further address the cultural norms of the district, a proxy for culture was used. This proxy was generated by calculating the percentage of married women, in each district, who reported that they did not birth control for religious reasons and/or due to an opposition from their family members (husband, mother in law and/or relatives). Furthermore, in order to address the unobservable characteristics that may be associated with the divisions that these districts are located within, division fixed effects were also used.

<u>Linear Probability Model: Instrumental Variable Approach</u>

First Stage

$$Employment\ Status\char`^_i = \beta_0 + \beta_1 District\ Average\ Cotton\ Production + \Sigma\beta_n X_n + u$$

Second Stage

$$Empowerment_i = \beta_0 + \beta_1 Employment\ Status\char`^ + \Sigma\beta_n X_n + u$$

To check robustness of the IV estimates, two other sets of IVs were used. Firstly, the district female labour force participation rate will also be used as an IV for employment. This IV is informative because if a married woman lives in a district where the participation rate is high that implies that there are more employment opportunities available in that area, and so she is more likely to be employed. It is valid because unless a woman is employed, the participation rate will not have a direct effect on the empowerment that she exercises within her household.

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[4] The large cities include Lahore, Rawalpindi, Islamabad, Faisalabad, Multan, Karachi, Sukkar, Peshawar and Quetta

Another variation of this IV will be the district female labour force participation rate in agriculture and the district female labour force participation rate in nonagricultural. This set of IVs will be used to assess the type of employment that is empowering.

5. Analysis

This section includes OLS and linear probability estimates without and with PSU and household fixed effects. It also analyzes the IV approach that has been used to address the reverse causality between employment and household empowerment. This section empirically addresses the research questions pertaining to the effect of education, employment status and nature of employment on women's household empowerment. It also presents a comparison between the direct and indirect approach of measuring empowerment, and a comparison between the index and disaggregated means of measuring empowerment.

5.1 Estimations

Table-1: Expenditure Index

Expenditure Index	OLS	PSU FE	HH FE
Employment	0.1468	0.1582**	0.3922**
	(0.0907)	(0.0765)	(0.1937)
Education	0.0557***	0.0256*	0.0027
	(0.0165)	(0.0146)	(0.0261)
Education Squared	-0.0011	-0.0004	-0.0002
	(0.0012)	(0.0011)	(0.0020)
Age	0.0552***	0.0338*	-0.0181
	(0.0199)	(0.0178)	(0.0249)
Age Squared	-0.0003	-0.0000	0.0002
	(0.0003)	(0.0003)	(0.0004)
Spouse (of the head)	-0.4494***	-0.3585***	-0.0889
	(0.0701)	(0.0621)	(0.0660)
Spouse's Education	0.0099	-0.0039	-0.0222
	(0.0125)	(0.0105)	(0.0165)
Spouse's Education Squared	-0.0005	0.0001	0.0010
	(0.0008)	(0.0007)	(0.0010)
Spouse's Age	-0.0325***	-0.0298***	-0.0103
	(0.0054)	(0.0049)	(0.0064)

Spouse's Age Squared	0.0003***	0.0002***	0.0002*
	(0.0001)	(0.0001)	(0.0001)
Household Size	-0.0327***	-0.0190***	
	(0.0070)	(0.0062)	
Household Wealth	0.0060*	0.0063*	
	(0.0034)	(0.0033)	
Region	0.3606***		
	(0.0931)		
Sindh	-1.5747***		
	(0.1042)		
KPK	-1.8693***		
	(0.1165)		
Balochistan	-2.5609***		
	(0.1117)		
Constant	2.1790***	1.4652***	2.0398***
	(0.3086)	(0.2729)	(0.3801)

* p<0.10
** p<0.05
*** p<0.010
a) Standard Errors in parentheses
b) Clustered at PSU level

Table-2: Family Planning

Family Planning	OLS	PSU FE	HH FE
Employment	-0.0008	0.0274**	-0.0212
	(0.0157)	(0.0133)	(0.0352)
Education	0.0152***	0.0120***	-0.0004
	(0.0031)	(0.0025)	(0.0044)
Education Squared	-0.0006***	-0.0005***	-0.0000
	(0.0002)	(0.0002)	(0.0003)
Age	0.0283***	0.0264***	0.0139***
	(0.0041)	(0.0034)	(0.0048)
Age Squared	-0.0004***	-0.0004***	-0.0002***
	(0.0001)	(0.0001)	(0.0001)
Spouse (of the head)	0.0184	0.0178*	0.0126
	(0.0129)	(0.0103)	(0.0121)
Spouse's Education	0.0082***	0.0023	0.0015
	(0.0022)	(0.0017)	(0.0032)
Spouse's Education Squared	-0.0002	-0.0000	-0.0001
	(0.0001)	(0.0001)	(0.0002)
Spouse's Age	0.0022**	0.0022***	0.0019

	(0.0010)	(0.0008)	(0.0013)
Spouse's Age Squared	-0.0000**	-0.0000**	-0.0000
	(0.0000)	(0.0000)	(0.0000)
Household Size	0.0015	-0.0002	
	(0.0019)	(0.0015)	
Household Wealth	0.0000	0.0015***	
	(0.0006)	(0.0005)	
Region	0.0570***		
	(0.0175)		
Sindh	0.1050***		
	(0.0207)		
KPK	0.1243***		
	(0.0223)		
Balochistan	-0.4715***		
	(0.0254)		
Constant	0.0543	0.1341**	0.3858***
	(0.0691)	(0.0557)	(0.0735)

* $p<0.10$
** $p<0.05$
*** $p<0.010$

a) Standard errors in parentheses
b) Clustered at PSU level

5.2 Discussion

The results show that education and employment increase women's say in household decision making. Although education has a significant effect in the case of the family planning decision and expenditure related decisions, employment has a significant effect on expenditure related decisions. The following sections depict in detail the findings from the fixed effects estimates and the instrumental variable approach estimates.

Education

The first column of the results in Table-1 and Table-2 exhibit the naïve OLS of sorts, as it does not address any endogeneity issues. The model presents the variables of interest, education and employment, along with a set of controls. As endogeneity issues exist in this baseline model, the coefficients of the variables of interest are biased. In this model, education consistently has a positive and significant effect on all of the household decisions. (See Appendix 1)

As socio-economic conditions and cultural factors would affect both the variables of interest and the outcome, the estimated coefficients from the OLS regressions are biased. (See Section 4.3 for detailed explanation) Community (primary sampling unit) fixed effects were used to address this endogeneity to a certain extent.

In the community fixed effects model, education has a significant and positive effect in the case of woman's say in the family planning decision. The results show that an extra year of education increases the chances of a woman having say regarding family planning by 1.2% points. With respect to the expenditure decisions, the results show that education has an effect on expenditure index as a whole and clothing expenditure in particular. An extra year of education leads to 0.15 standard deviation increase in the expenditure index.

These community fixed results indicate that the simple OLS estimates may have not modeled the effect of education on empowerment properly as in the OLS regressions education has a positive and significant effect on all of the decisions.

Moreover, the estimated coefficients of education in the PSU fixed effects have declined in magnitude as compared to the OLS results which indicates that the OLS estimates may have been biased upwards. This is consistent with Mabsout and Stavern (2010) findings in their study on Ethiopia in which they state that the effect of education on women's HDM is mediated upon controlling for community influences.

In the household fixed effects estimations, education has an insignificant effect in the case of all decisions. This shows that even at the PSU level, the estimates for woman's education may be biased due to the fact that household unobservable characteristics such as culture of the household may affect the variable of interest as well as woman's empowerment. In some of the estimates, the standard errors have increased whereas the magnitude appears to be the same. Whereas, in other cases, the standard errors have remained same but the magnitude has declined sharply. A possible reason for lack of significance at the household level may be that women within a household tend to have similar education levels and education mostly various across households and not within households. Another reason as to why significant results were not found may be due to the power issue as the sample size becomes very limited in the household fixed effects. The next step may be to use power calculations in order to determine what sample size would be needed to find a significant result.

In the OLS estimates, the results for education are biased upwards as unobservable socio-economic conditions both have a positive education and women's household empowerment. Therefore, an interesting aspect to note is that the magnitude of the coefficient of education declines as the level of fixed effects gets

smaller. This indicates that with the smaller level of fixed effects, a greater degree of endogeneity is being addressed.

Robustness Check

The conditional logit model was used to the check the robustness of the results. As evident from the literature review, different specification may yield different results. Therefore, the objective of this robustness check was to test whether the results from the Linear Probability Model with the community and household fixed effects still hold when a different specification is used. Appendix-2, Table 2.1 shows that the results are robust evident from the fact that education has a positive and significant effect on women's say in family planning in the case of grouping at the PSU level but the results for education are insignificant in the case of the household level grouping.

Moreover, as the PSU fixed effects in the LPM showed that education only has a significant effect in the case of woman's say in clothing expenditure, the conditional logit model shows the same results. Moreover, the results for the (insignificant) effect of education on expenditure decisions in the LPM with household fixed effects also hold in the case of the conditional logit model.

Employment

In the OLS model without fixed effects, paid work does not increase women's say in expenditures a whole. Upon disaggregating the index paid work has a positive and significant effect on women's say in food and clothing expenditure alone. With respect to the reproductive aspect of empowerment, the OLS estimates show that

employment has an insignificant effect on women's say in family planning. However, in the PSU fixed effects model, women who are employed have more of say in the case of all the expenditure related decisions except food and clothing expenditure. Moreover, employment has a significant effect on woman's say in family planning and the actual use of birth control. This indicates that the OLS specification does not properly model the effect of employment on women's household empowerment and the employment estimates in the OLS specification are biased.

In the case of the household fixed effects model, employment increases women's say in the expenditure index as a whole and in all of the expenditure related decisions except food expenditure. However, in the case of the household fixed effects model, employment has an insignificant effect on women's say in family planning. These findings are consistent with literature (Acharya et al., 2010; West, 2006; Malhotra and Mathar, 1997)

An important aspect to note is that as fixed effects becomes smaller (from PSU to household fixed effects), the magnitude of the coefficient of employment increases in most cases. For instance, in the case of medical expenditure, the effect of employment on women's say in medical expenditure rises from 2.6 percentage points to 5.15 percentage points from PSU fixed effects estimates to household fixed effects estimates. In the case of women's say in recreation, the effect of employment rises from 2.3 percentage points to 5.6 percentage points. Moreover, in the case of the overall expenditure index, the effect of employment status on women's say in expenditure rises from 0.08 standard deviation (PSU fixed effects estimates) to 0.23 standard deviation (household fixed effects estimates) in the expenditure index

In the case of family planning, employment appears to have a significant effect in the PSU fixed effects but not the household fixed effects estimates. One of the reasons for the differing results at the PSU and household level could be that the PSU fixed effects shows the effect of employment for both nuclear and joint families whereas the household fixed effects model shows the results for only joint families. As literature suggests, women in joint families have less say in the decision making process especially in the case of reproductive decisions.

Robustness Check

The conditional model estimates show that the results are robust. Employment has a significant effect on the reproductive aspect of women's empowerment in the case of the case of PSU grouping but not the household grouping. In the case of the expenditure related decisions, the results are also robust. In both the linear probability model and the conditional logit model, the results show that even upon addressing household unobservable characteristics that may influence employment status and the woman's say in the expenditure decisions, employment status still increases the chances of women having a say in the decisions pertaining to expenditure. (See Appendix-2)

Paid Work versus Unpaid Work

The results show that with respect to the expenditure index, in the community fixed effects model, both paid work and unpaid work increases women's say with respect to expenditure index. Moreover, upon analyzing each expenditure decision individually, the results show that paid work increases women's say but unpaid does

not. However, in the case of reproductive choices, only paid work increases women's HDM. These findings are consistent with Acharya et al. (2010) who argue what paid work increases women's HDM but unpaid does not. Moreover, at the household fixed effects level, the results show that only paid work increases women's say in the expenditure, and neither paid nor unpaid work increases the likelihood of women having a say in family planning. These results are similar to those of Malhotra and Mathar (1996) who argue that employment increases women's HDM only regarding financial decisions. These results reinforce the idea that cash in hand has a more substantial effect in woman's bargaining power with respect to this decision as opposed to just being employed without cash. (See Appendix-3)

Agricultural and Non-agricultural

As cited in literature, certain forms of employment may be empowering whereas others may not. For instance, West (2006) finds that agriculture employment does not play a significant role in empowering women but non-agricultural employment does. To test these heterogeneous effects in the case of Pakistan, fixed effects regressions were run dividing employment into categories: agriculture and non-agriculture. The results show that in all of the expenditure related decision non-agricultural employment empowers women and agricultural employment does not. These results are robust to both PSU fixed effects and household fixed effect estimates. These results are consistent with results from West's (2006) study on the effect on employment on women's HDM in India. Moreover, in the case of the family planning decision, neither agriculture or non-agriculture employment have an effect on women's say in family planning. (See Appendix-4)

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Direct Approach versus Indirect Approach

The statistics show that approximately 60% of the married women say they have a say in the family planning decision; however, only little over 20% report actually using birth control.
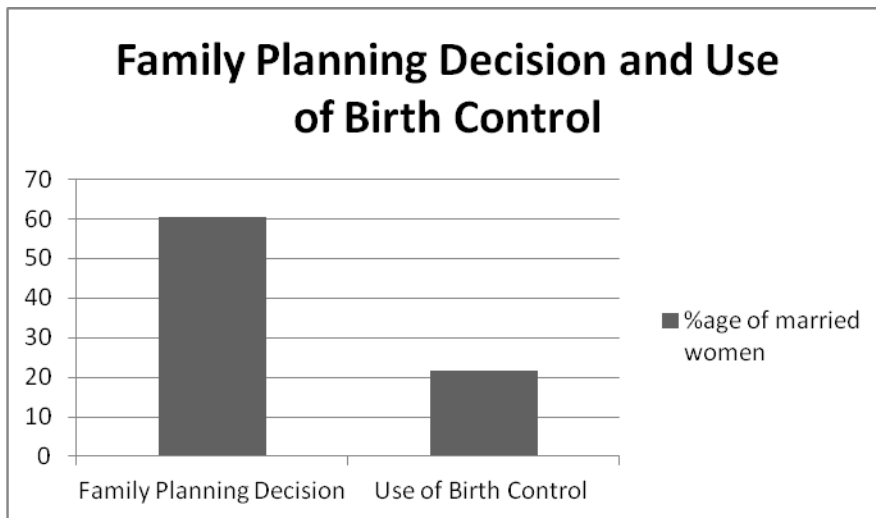
Source: Based on author's calculations

Figure-2 shows that almost 3 times as many women claim to have a say in the decision pertaining to family planning as opposed to actually using birth control methods. Moreover, even upon accounting for women who oppose the use of birth control or are not using birth control because they are pregnant or want more kids, a certain portion of the gap still remains. The data indicates that the reason for this difference is due to the fact that approximately 65% of the women did not respond to the questions pertaining to the use of birth control methods. This could be because women maybe unwilling to share the details about the method of birth control they

use as this may be deemed as a very personal matter. Upon excluding the women who did not respond, the regression results were contrary to expectations and this is because excluding the women who did not respond leads to a selection bias. A future step in research could be to use the Heckman selection model to address this selection bias.

Other issues in studying the direct versus indirect approach may be that there may be a response bias on the side of women sharing information about the usage of birth control (that is, there are more women who use birth control but less who are actually willing to say they do) so the percentage of married women using birth control may be understated. Another possibility is that there is a response bias in the answers pertaining to women's say in the family planning decision and perhaps more women claim to have a say than the ones who actually do have a say. As empowerment may be a relative concept as explained by Mason (2003), women view their empowerment relative to the people around them. Therefore, it is possible that in this situation women may over state their empowerment.

Index Approach versus Disaggregated Approach

As anticipated, a comparison between the index and the disaggregated approach shows that if the results from the expenditure index state that education and/or employment status significantly increase the chances of women having a say in the expenditure related decisions, it does not mean that education and/or employment increase women's say in each and every expenditure decision. This aspect is evident from the results presented in this study. Therefore, the disaggregated

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approach provides greater insight into the various mechanisms at play. Moreover, the disaggregated approach reinforces the hypothesis that conflict occurs beyond subsistence goals as is evident from the household fixed estimations in which employment status has an insignificant effect on women's say in food expenditure but a significant effect on women's say in recreation expenditure. Moreover, by analyzing each decision separately, as previously mentioned, the data shows that far more women have a say in food expenditure than recreation expenditure.

Instrumental Variable Approach

As there is reverse causality in the case of employment and empowerment, the instrumental variable approach was used. The IV for female paid work is average cotton production in a district. To account for socioeconomic characteristics, a number of socio-economic controls were used. As cotton production takes place in remote areas where conservative culture prevails, women from such districts maybe less empowered than women from other areas of Pakistan. In order to address this issue of possible endogeneity, district level controls variables such as average household size, average household wealth, female literacy, distance (distance of the district to the nearest large city) and culture rate (depicts the culture in the society).

Table-3 IV Estimates: First Stage

	First Stage
Average Cotton Production	0.009***
	(0.001)
Cotton Production Squared	-0.000***
	(0.000)

Education	-0.016***
	(0.003)
Education Squared	0.002***
	(0.000)
Age	0.002***
	(0.000)
Spouse (of the head)	0.029***
	(0.008)
Spouse's Education	-0.005***
	(0.002)
Spouse's Education Squared	0.000*
	(0.000)
Spouse's Age	-0.000
	(0.000)
Household size	-0.002***
	(0.001)
Household Wealth	-0.003***
	(0.001)
Average Household Size	0.003
	(0.005)
Average Household Wealth	0.006***
	(0.001)
Average Household Income	-0.000***
	(0.000)
Above Secondary Education	-0.276**
	(0.115)
Distance (to the nearest large city)	0.002
	(0.004)
Average Age at Marriage for Women	-0.029***
	(0.010)
Usage of either prenatal of postnatal care	0.150
	(0.118)
Culture	0.055
	(0.102)
Region	-0.018
	(0.013)
Sindh	-0.070***
	(0.020)
KPK	-0.109***
	(0.023)
Balochistan	-0.119***
	(0.033)
Constant	0.656***

(0.202)

The first stage results show that the instrumental variable, district average cotton production (measured in kilograms) has a positive and significant effect on female paid work. With every 10kg rise in district average cotton production, the probability of being a female paid worker rises by nine percentage points. Other than the IV being significantly correlated with the endogenous variable, the diagnostic tests also reveal that the F-stat for the first stage regression is 31.79 which further indicates that this is a good instrument as this F-stat is greater than the rule-of-thumb value 10. In order to conduct an overidentification test, the squared value of average district cotton production was used and according to the Hansen J test of overidentification, the IVs are jointly exogenous.

The first stage results show that women that there is a negative and significant correlation between women's years of education as and this indicates that women with low levels of education are more likely to be employed.

Second Stage

Table-4: Food, Clothing Medical and Recreation

	Food	Clothing	Medical	Recreation
Employment	0.168	0.090	0.132	0.061
	(0.605)	(0.937)	(1.152)	(0.850)
Education	0.006	0.007	0.004	0.005
	(0.008)	(0.014)	(0.017)	(0.012)
Education Squared	-0.000	-0.000	-0.000	-0.000

	(0.001)	(0.002)	(0.002)	(0.002)
Age	0.004**	0.005*	0.006**	0.005**
	(0.002)	(0.002)	(0.003)	(0.002)
Spouse (of the head)	-0.031	-0.046*	-0.063*	-0.064**
	(0.023)	(0.027)	(0.034)	(0.026)
Spouse's Education	0.000	0.002	-0.002	0.001
	(0.003)	(0.004)	(0.005)	(0.004)
Spouse's Education Squared	0.000	-0.000	0.000	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Spouse's Age	-0.002***	-0.002***	-0.003***	-0.002***
	(0.001)	(0.000)	(0.001)	(0.001)
Household size	-0.003	-0.004*	-0.003	-0.003
	(0.002)	(0.002)	(0.003)	(0.003)
Household Wealth	0.002	0.002	0.001	0.001
	(0.002)	(0.003)	(0.003)	(0.002)
Average Household Size	-0.020*	-0.015	-0.005	-0.001
	(0.011)	(0.013)	(0.007)	(0.006)
Average Household Wealth	0.005	0.002	-0.004	-0.005
	(0.003)	(0.004)	(0.005)	(0.004)
Average Household Income	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Above Secondary Education	-0.221	-0.040	0.243	0.345
	(0.218)	(0.276)	(0.287)	(0.279)
Distance (to the nearest large city)	-0.006	-0.023	-0.013	-0.004
	(0.017)	(0.029)	(0.031)	(0.028)
Average Age at Marriage for Women	-0.031	0.002	0.006	-0.021
	(0.020)	(0.030)	(0.019)	(0.019)
Usage of either prenatal of postnatal care	-0.200	0.060	0.184	0.221
	(0.178)	(0.228)	(0.222)	(0.262)
Culture	-0.430**	-0.630*	-0.434	-0.312
	(0.177)	(0.328)	(0.305)	(0.280)
Hansen Statistics	1.281	0.651	0.423	0.524
Chi-sq (1) P-value	0.2578	0.4197	0.5156	0.4691

* $p<0.10$
** $p<0.05$
*** $p<0.010$

c) Standard errors in parentheses
d) Clustered at division level

The second stage results were first run without fixed effects (See Appendix-4) and the results showed employment reduces women's say in recreation expenditure

and family planning. This may be due to the unobservable characteristics associated with the areas with cotton production; therefore, the results were run with division fixed effects. The IV estimates with division fixed effects show that female paid work appears to have an insignificant effect on all of the decisions individually and on the expenditure decisions as a whole (expenditure empowerment index). Though the unobservable characteristics at the division level have been addressed, this may still be due to the local average treatment effect as cotton production takes place primarily in southern Punjab, an area in women's empowerment levels are low. This means that there may be differing marginal effects for different groups of people. As this IV mainly picks up the effect for women whose employment is significantly relies cotton production, it shows the effect of empowerment mainly for women from those areas. Moreover, it is important to note that IV picks up effect of employment for women in agriculture and as evident from the previous estimations, agriculture employment does not increase women's household empowerment. Therefore, these results are consistent with the previous estimates.

Robustness Check

To check robustness, another IV that is district female labour force participation rate, was used. The IV is informative as the higher the district participation rate, the more likely it will be that a woman from that district would be employed. It is valid because, unless a woman is employed, the district participation would not have an effect on her household decision making. The first stage results reveal that this IV is positive and significant in determining, and the F-stat is 208.41.

The results show that employment has a significant effect on only women's say in the clothing related expenditure. (See Appendix 5)

It is important to note that this IV too picks up a LATE as it shows the marginal effect for women who live in places where the employment opportunities are greater. However, the average jobs in which women in Pakistan are engaged in do not require high educational skills.

A further robustness test was to analyze which kind of employment is empowering using the IV, district female labour force participation rate in agriculture and district female labour force participation rate in non-agriculture were used as IVs for a married woman working in agriculture and non-agriculture, respectively. The IVs are informative since if a woman lives in a district where the availability of agriculture jobs is high, she will more likely be employed in agriculture and if she lives in a district where there are more non-agriculture jobs, she will be more likely to work in non-agriculture. The IVs are valid because unless a woman is employed in one of these fields, the overall participation rate will not direct affect the level of empowerment she exercises in her household. The results from the first stage(s) show that both the IVs are informative as each IV has a significant effect on its respective endogenous variable. The second stage results from these IV estimations reveal that non-agricultural employment increases women's say in clothing expenditure. These results are consistent with the previous estimations which shows that IV estimates for the effect of employment on empowerment are robust. (See Appendix 6)

6. Conclusion

The low level of women's empowerment is a great concern in most nations, especially in developing countries. In the case of Pakistan, the statistics depict that women lag behind in many spheres such as educational attainment and labour force participation. Moreover, due to social and cultural norms, women lack decision making autonomy in various spheres. This research studied women's household decision making power by analyzing women's say in five major decisions: family planning and expenditure on food, clothing, medical treatment and recreation. As theory suggests that resources in the form of education and employment act as means for women to gain intra household bargaining power, the core aim of this research was to determine the effect of education and employment on women's household empowerment in Pakistan. As there were endogeneity issues in studying this relationship, techniques such as fixed effects and instrumental variable approach were used to address endogeneity to a large extent.

The study concludes that education empowers women in the case of decisions pertaining to family planning as well as expenditure. With respect to employment status, the study concludes that non-agriculture and paid work increase women's household empowerment as opposed to agriculture and unpaid work, respectively.

Moreover, the study concludes that as the results for the effect of employment on family planning are not robust, but in the case expenditure decisions, employment consistently increases women's say, this shows that family planning is more of a

cultural domain and paid work may not necessarily increase women's say in family planning. However, as women who are employed earn cash, they have more of a say in how that cash is spent in the case of household expenditure as opposed to unemployed women.

The study sheds light on the phenomena about the role cultural and structural factors play a role in determining women's say in household decisions. It can be concluded that it is only cultural factors that drive these outcomes but also structural factors such as education and employment. Therefore, as a policy recommendation, governmental and non-governmental organizations need to stress on woman's education and focus on the forms of employment that may improve women's outcomes.

In order to asses which mechanism is at play in determining the effect of education or empowerment on empowerment, future research can be conducted on policy interventions – for instance, a study pertaining to how an awareness campaign about women's rights might increase women's household empowerment would highlight how education, through the channel of awareness, increases women's say in household decision making.

This study provides useful insight into studying the relationship between education, employment and women's household empowerment and a way forward as to how endogeneity issues may be addressed and robustness of results may be checked.

It is important to note that that the intra-household bargaining process is indeed a complex relationship and various determinants could not be controlled for in this study due to data constraints. Further research could involve using a methodology that involves primary data collection with a questionnaire designed to study this complex phenomena. Moreover, a natural experiment that involves a policy intervention to enhance women's household empowerment could be analyzed. Also, a more interdisciplinary approach could be employed in which tools from various disciplines such as sociology and psychology could also be used to assess the dynamics of this issue.

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Appendices

Appendix-1

Table-1: Food Expenditure

Food Expenditure	OLS	PSU FE	HH FE
Employment	0.0411**	0.0096	0.0380
	(0.0174)	(0.0116)	(0.0303)
Education	0.0049*	0.0025	-0.0025
	(0.0028)	(0.0023)	(0.0039)
Education Squared	-0.0001	-0.0000	0.0002
	(0.0002)	(0.0002)	(0.0003)
Age	0.0078**	0.0055*	0.0002
	(0.0033)	(0.0029)	(0.0039)
Age Squared	-0.0001	-0.0000	-0.0000
	(0.0001)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0339***	-0.0339***	-0.0133
	(0.0113)	(0.0096)	(0.0106)
Spouse's Education	-0.0002	-0.0010	-0.0014
	(0.0022)	(0.0016)	(0.0025)
Spouse's Education Squared	0.0000	0.0000	0.0001
	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0031***	-0.0031***	-0.0025**
	(0.0009)	(0.0008)	(0.0011)
Spouse's Age Squared	0.0000*	0.0000**	0.0001**
	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0058***	-0.0027***	
	(0.0012)	(0.0009)	
Household Wealth	0.0020***	0.0006	
	(0.0006)	(0.0005)	
Region	0.0285*		
	(0.0161)		
Sindh	-0.2935***		
	(0.0227)		
KPK	-0.4677***		
	(0.0189)		
Balochistan	-0.5161***		
	(0.0174)		
Constant	0.5198***	0.3065***	0.3847***
	(0.0537)	(0.0462)	(0.0578)

    a) Standard errors in parentheses

    b) Clustered at PSU level

Table-2: Clothing Expenditure

Clothing Expenditure	OLS	PSU FE	HH FE
Employment	0.0526***	0.0190	0.0538*
	(0.0172)	(0.0129)	(0.0309)
Education	0.0089***	0.0046*	-0.0017
	(0.0031)	(0.0026)	(0.0040)
Education Squared	-0.0001	0.0001	0.0002
	(0.0002)	(0.0002)	(0.0003)
Age	0.0049	0.0002	0.0031
	(0.0036)	(0.0032)	(0.0041)
Age Squared	-0.0000	0.0001	-0.0001
	(0.0001)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0583***	-0.0483***	-0.0147
	(0.0118)	(0.0100)	(0.0101)
Spouse's Education	0.0025	-0.0018	-0.0042
	(0.0023)	(0.0018)	(0.0026)
Spouse's Education Squared	-0.0001	0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0027***	-0.0019**	-0.0007
	(0.0010)	(0.0008)	(0.0011)
Spouse's Age Squared	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0066***	-0.0037***	
	(0.0013)	(0.0011)	
Household Wealth	0.0018***	0.0011*	
	(0.0007)	(0.0005)	
Region	0.0799***		
	(0.0177)		
Sindh	-0.3240***		
	(0.0189)		
KPK	-0.2237***		
	(0.0252)		
Balochistan	-0.4526***		
	(0.0203)		
Constant	0.5007***	0.4031***	0.3576***

| | (0.0584) | (0.0498) | (0.0615) |

Table-3: Medical Expenditure

Medical Expenditure	OLS	PSU FE	HH FE
Employment	-0.0077	0.0265**	0.0512*
	(0.0147)	(0.0120)	(0.0294)
Education	0.0070**	0.0035	0.0016
	(0.0028)	(0.0023)	(0.0037)
Education Squared	-0.0000	-0.0001	-0.0002
	(0.0002)	(0.0002)	(0.0003)
Age	0.0108***	0.0088***	-0.0053
	(0.0034)	(0.0029)	(0.0038)
Age Squared	-0.0001	-0.0001	0.0001
	(0.0001)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0669***	-0.0499***	-0.0101
	(0.0109)	(0.0097)	(0.0106)
Spouse's Education	0.0003	-0.0010	-0.0026
	(0.0020)	(0.0017)	(0.0025)
Spouse's Education Squared	0.0000	0.0001	0.0001
	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0059***	-0.0056***	-0.0016*
	(0.0009)	(0.0008)	(0.0009)
Spouse's Age Squared	0.0001***	0.0001***	0.0000
	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0039***	-0.0021**	
	(0.0011)	(0.0011)	
Household Wealth	-0.0002	0.0006	
	(0.0006)	(0.0005)	
Region	0.0506***		
	(0.0157)		
Sindh	-0.1319***		
	(0.0181)		
KPK	-0.1454***		
	(0.0196)		
Balochistan	-0.2342***		

(0.0178)

Constant	0.2120***	0.1608***	0.3306***
	(0.0523)	(0.0444)	(0.0582)

* p<0.10
** p<0.05
*** p<0.010
 a) Standard errors in parentheses
 b) Clustered at PSU level

Table-4: Recreation Expenditure

Recreation Expenditure	OLS	PSU FE	HH FE
Employment	0.0011	0.0235**	0.0561**
	(0.0143)	(0.0116)	(0.0251)
Education	0.0076***	0.0026	0.0029
	(0.0025)	(0.0021)	(0.0036)
Education Squared	-0.0003	-0.0001	-0.0002
	(0.0002)	(0.0002)	(0.0003)
Age	0.0045	0.0023	-0.0055
	(0.0031)	(0.0026)	(0.0036)
Age Squared	0.0000	0.0000	0.0001
	(0.0000)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0664***	-0.0496***	-0.0086
	(0.0102)	(0.0089)	(0.0091)
Spouse's Education	0.0024	0.0014	-0.0032
	(0.0018)	(0.0015)	(0.0023)
Spouse's Education Squared	-0.0001	-0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0045***	-0.0041***	-0.0006
	(0.0008)	(0.0007)	(0.0009)
Spouse's Age Squared	0.0000**	0.0000***	0.0000
	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0014	-0.0016	
	(0.0012)	(0.0010)	
Household Wealth	-0.0001	0.0010*	
	(0.0005)	(0.0005)	
Region	0.0299*		
	(0.0157)		
Sindh	-0.1042***		
	(0.0177)		
KPK	-0.1653***		
	(0.0174)		

Balochistan	-0.1774***		
	(0.0187)		
Constant	0.2398***	0.2087***	0.2779***
	(0.0493)	(0.0404)	(0.0547)

* p<0.10
** p<0.05
*** p<0.010
    a) Standard errors in parentheses
    b) Clustered at PSU level

Appendix-2: Fixed Effects Estimates: Robustness

Table 2.1 Conditional Logit Model (CLM): Family Planning

	Family Planning PSU	Family Planning HH
Employment	0.2082**	-0.1986
	(0.0973)	(0.4299)
Education	0.0932***	0.0025
	(0.0200)	(0.0956)
Education Squared	-0.0039**	-0.0014
	(0.0016)	(0.0075)
Age	0.2202***	0.3129***
	(0.0267)	(0.1078)
Age Squared	-0.0031***	-0.0048***
	(0.0004)	(0.0017)
Spouse (of the head)	0.1440*	0.2253
	(0.0842)	(0.2916)
Spouse's Education	0.0139	0.0120
	(0.0148)	(0.0690)
Spouse's Education Squared	0.0001	-0.0001
	(0.0010)	(0.0043)
Spouse's Age	0.0161**	0.0285
	(0.0065)	(0.0216)
Spouse's Age Squared	-0.0002**	-0.0003
	(0.0001)	(0.0004)
Household Size	-0.0026	
	(0.0114)	
Household Wealth	0.0115***	
	(0.0041)	

* $p<0.10$
** $p<0.05$
*** $p<0.010$
  a) Standard errors in parentheses
  b) Clustered at PSU level

Table 2.2: CLM (Grouped at PSU Level) Food, Clothing Medical and

Recreation

	Food	Clothing	Medical	Recreation
Employment	0.0618	0.1129	0.1973**	0.2183**
	(0.0863)	(0.0832)	(0.0903)	(0.1001)
Education	0.0216	0.0315*	0.0336*	0.0240
	(0.0183)	(0.0173)	(0.0183)	(0.0198)
Education Squared	-0.0002	0.0006	-0.0010	-0.0012
	(0.0014)	(0.0013)	(0.0014)	(0.0015)
Age	0.0483*	-0.0009	0.0643**	0.0044
	(0.0267)	(0.0249)	(0.0269)	(0.0276)
Age Squared	-0.0004	0.0004	-0.0004	0.0005
	(0.0004)	(0.0004)	(0.0004)	(0.0004)
Spouse (of the head)	-0.2690***	-0.3534***	-0.4054***	-0.4522***
	(0.0858)	(0.0783)	(0.0888)	(0.0925)
Spouse's Education	-0.0101	-0.0155	-0.0096	0.0173
	(0.0144)	(0.0141)	(0.0157)	(0.0173)
Spouse's Education Squared	0.0003	0.0005	0.0008	-0.0011
	(0.0009)	(0.0009)	(0.0011)	(0.0011)
Spouse's Age	-0.0243***	-0.0096	-0.0386***	-0.0327***
	(0.0070)	(0.0061)	(0.0065)	(0.0068)
Spouse's Age Squared	0.0003**	0.0000	0.0004***	0.0002**
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Household Size	-0.0238**	-0.0271***	-0.0109	-0.0078
	(0.0095)	(0.0094)	(0.0106)	(0.0115)
Household Wealth	0.0043	0.0063*	0.0026	0.0068
	(0.0040)	(0.0036)	(0.0039)	(0.0043)

* $p<0.10$
** $p<0.05$
*** $p<0.010$
   a) Standard errors in parentheses
   b) Clustered at PSU level

Table 2.3: CLM (Grouped at Household Level): Food, Clothing, Medical and Recreation

	Food	Clothing	Medical	Recreation
Employment	0.5006	0.7790*	0.8275*	1.2476**
	(0.4134)	(0.4515)	(0.4512)	(0.5523)
Education	-0.0405	-0.0338	0.0162	0.0774
	(0.0758)	(0.0786)	(0.0770)	(0.0808)
Education Squared	0.0030	0.0030	-0.0026	-0.0067
	(0.0056)	(0.0060)	(0.0058)	(0.0059)
Age	-0.0040	0.0882	-0.1087	-0.1645
	(0.0944)	(0.0972)	(0.0967)	(0.1103)
Age Squared	-0.0004	-0.0017	0.0015	0.0025
	(0.0015)	(0.0015)	(0.0015)	(0.0018)
Spouse (of the head)	-0.3521	-0.3840	-0.2291	-0.3331
	(0.3003)	(0.3094)	(0.2938)	(0.3448)
Spouse's Education	-0.0645	-0.1090	-0.0381	-0.0969
	(0.0789)	(0.0744)	(0.0722)	(0.0860)
Spouse's Education Squared	0.0050	0.0037	0.0003	0.0056
	(0.0064)	(0.0059)	(0.0053)	(0.0070)
Spouse's Age	-0.0418**	-0.0065	-0.0373	-0.0126
	(0.0203)	(0.0205)	(0.0242)	(0.0275)
Spouse's Age Squared	0.0009**	0.0003	0.0007	0.0002
	(0.0004)	(0.0004)	(0.0005)	(0.0005)

* $p<0.10$
** $p<0.05$
*** $p<0.010$
   a) Standard errors in parentheses
   b) Clustered at PSU level

Appendix-3: Paid Versus Unpaid Work

Table- 3.1: Food, Clothing, Medical and Recreation Expenditure
(Primary Sampling Unit Fixed Effects)

	Food	Clothing	Medical	Recreation
Paid	0.0126	0.0236*	0.0300**	0.0278**
	(0.0119)	(0.0131)	(0.0123)	(0.0118)
Unpaid	0.0203	0.0299**	0.0235*	0.0283**
	(0.0148)	(0.0150)	(0.0137)	(0.0133)
Education	0.0027	0.0049*	0.0038	0.0029
	(0.0023)	(0.0025)	(0.0023)	(0.0021)
Education Squared	-0.0000	0.0001	-0.0001	-0.0002
	(0.0002)	(0.0002)	(0.0002)	(0.0002)
Age	0.0054*	0.0001	0.0088***	0.0022
	(0.0029)	(0.0032)	(0.0029)	(0.0026)
Age Squared	-0.0000	0.0001	-0.0001	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Spouse (of the head)	-0.0341***	-0.0488***	-0.0503***	-0.0500***
	(0.0096)	(0.0100)	(0.0097)	(0.0089)
Spouse's Education	-0.0009	-0.0017	-0.0009	0.0015
	(0.0016)	(0.0018)	(0.0017)	(0.0015)
Spouse's Education Squared	0.0000	0.0001	0.0001	-0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0031***	-0.0019**	-0.0056***	-0.0042***
	(0.0008)	(0.0008)	(0.0008)	(0.0007)
Spouse's Age Squared	0.0000**	0.0000	0.0001***	0.0000***
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0028***	-0.0037***	-0.0021**	-0.0017*
	(0.0009)	(0.0011)	(0.0011)	(0.0010)
Household Wealth	0.0006	0.0011**	0.0006	0.0010*
	(0.0005)	(0.0005)	(0.0005)	(0.0005)
Constant	0.3061***	0.4024***	0.1602***	0.2081***
	(0.0462)	(0.0498)	(0.0443)	(0.0404)

* p<0.10
** p<0.05
*** p<0.010
  a) Standard errors in parentheses
  b) Clustered at PSU level

Table-3.2: Food, Clothing, Medical and Recreation Expenditure

(Household Fixed Effects)

	Food	Clothing	Medical	Recreation
Paid	0.0454	0.0609*	0.0522*	0.0584**
	(0.0315)	(0.0319)	(0.031)	(0.0265)
Unpaid	0.0388	0.0372	0.0051	0.0121
	(0.0346)	(0.0354)	(0.0331)	(0.0304)
Education	-0.0023	-0.0015	0.0016	0.003
	(0.0039)	(0.0040)	(0.0037)	(0.0036)
Education Squared	0.0002	0.0002	-0.0002	-0.0002
	(0.0003)	(0.0003)	(0.0003)	(0.0003)
Age	0.0001	0.0030	-0.0054	-0.0056
	(0.0039)	(0.0041)	(0.0038)	(0.0036)
Age Squared	-0.0000	-0.0001	0.0001	0.0001
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Spouse (of the head)	-0.0140	-0.0154	-0.0102	-0.0088
	(0.0106)	(0.0102)	(0.0106)	(0.0091)
Spouse's Education	-0.0014	-0.0042	-0.0026	-0.0032
	(0.0025)	(0.0026)	-0.0025	(0.0023)
Spouse's Education Squared	0.0001	0.0002	0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0026**	-0.0007	-0.0016*	-0.0006
	(0.0011)	(0.0011)	(0.0009)	(0.0009)
Spouse's Age Squared	0.0001**	0.0000	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Constant	0.3837***	0.3566***	0.3304***	0.2776***
	(0.0578)	(0.0614)	(0.0581)	(0.0547)

* $p<0.10$
** $p<0.05$
*** $p<0.010$
   a)   Standard errors in parentheses
   b)   Clustered at PSU level

Table-3.3: Expenditure Index and Family Planning

(Primary Sampling Unit FE)

	Expenditure Index	Family Planning
Paid	0.1883**	0.0272**
	(0.0779)	(0.0134)
Unpaid	0.1995**	-0.0011
	(0.0893)	(0.0154)
Education	0.0276*	0.0120***
	(0.0145)	(0.0025)
Education Squared	-0.0006	-0.0005***
	(0.0011)	(0.0002)
Age	0.0332*	0.0264***
	(0.0178)	(0.0034)
Age Squared	-0.0000	-0.0004***
	(0.0003)	(0.0001)
Spouse (of the head)	-0.3612***	0.0178*
	(0.0622)	(0.0103)
Spouse's Education	-0.0031	0.0023
	(0.0105)	(0.0017)
Spouse's Education Squared	0.0001	-0.0000
	(0.0007)	(0.0001)
Spouse's Age	-0.0300***	0.0022***
	(0.0049)	(0.0008)
Spouse's Age Squared	0.0003***	-0.0000**
	(0.0001)	(0.0000)
Household Size	-0.0195***	-0.0002
	(0.0062)	(0.0015)
Household Wealth	0.0064*	0.0015***
	(0.0033)	(0.0005)
Constant	1.4605***	0.1341**
	(0.2729)	(0.0557)

* p<0.10
** p<0.05
*** p<0.010
   a) Standard errors in parentheses
   b) Clustered at PSU level

Table-3.4: Expenditure Index and Family Planning

(Household FE)

	Expenditure Index	Family Planning
Paid	0.4243**	-0.0223
	(0.2028)	(0.0368)
Unpaid	0.1684	-0.0054
	(0.2352)	(0.0445)
Education	0.0036	-0.0004
	(0.0260)	(0.0044)
Education Squared	-0.0003	-0.0000
	(0.0020)	(0.0003)
Age	-0.0185	0.0139***
	(0.0249)	(0.0049)
Age Squared	0.0002	-0.0002***
	(0.0004)	(0.0001)
Spouse (of the head)	-0.0921	0.0127
	(0.0663)	(0.0120)
Spouse's Education	-0.0224	0.0015
	(0.0166)	(0.0032)
Spouse's Education Squared	0.0010	-0.0001
	(0.0010)	(0.0002)
Spouse's Age	-0.0104	0.0019
	(0.0064)	(0.0013)
Spouse's Age Squared	0.0002*	-0.0000
	(0.0001)	(0.0000)
Constant	2.0354***	0.3860***
	(0.3796)	(0.0736)

* $p<0.10$
** $p<0.05$
*** $p<0.010$
   a) Standard errors in parentheses
   b) Clustered at PSU level

Appendix 4: Agriculture and Non-agriculture employment

Table 4.1: Expenditure Index

	Expenditure Index PSU FE	Expenditure Index HH FE
Agriculture	0.3160	-0.0382
	(0.4689)	(0.1379)
Non-Agriculture	0.2040***	0.5510***
	(0.0783)	(0.1992)
Education	0.0260*	0.0032
	(0.0146)	(0.0262)
Education Squared	-0.0005	-0.0004
	(0.0011)	(0.0020)
Age	0.0334*	-0.0197
	(0.0178)	(0.0248)
Age Squared	-0.0000	0.0002
	(0.0003)	(0.0004)
Spouse (of the head)	-0.3590***	-0.0914
	(0.0622)	(0.0661)
Spouse's Education	-0.0040	-0.0222
	(0.0105)	(0.0165)
Spouse's Education Squared	0.0001	0.0010
	(0.0007)	(0.0010)
Spouse's Age	-0.0297***	-0.0104
	(0.0049)	(0.0064)
Spouse's Age Squared	0.0003***	0.0002*
	(0.0001)	(0.0001)
Household Size	-0.0190***	
	(0.0062)	
Household Wealth	0.0064*	
	(0.0033)	
Constant	1.4715***	2.0644***
	(0.2732)	(0.3787)

* $p<0.10$
** $p<0.05$
*** $p<0.010$
   c) Standard errors in parentheses
   d) Clustered at PSU level

Table-4.2: Food and Clothing

	Food PSU FE	Food HH FE	Clothing PSU FE	Clothing HH FE
Agriculture	0.0658	-0.0047	-0.0315	-0.0029
	(0.0835)	(0.0205)	(0.0775)	(0.0214)
Non-Agriculture	0.0165	0.0587*	0.0256**	0.0756**
	(0.0117)	(0.0307)	(0.0130)	(0.0312)
Education	0.0026	-0.0024	0.0047*	-0.0016
	(0.0023)	(0.0039)	(0.0026)	(0.0040)
Education Squared	-0.0000	0.0002	0.0001	0.0002
	(0.0002)	(0.0003)	(0.0002)	(0.0003)
Age	0.0054*	0.0000	0.0002	0.0029
	(0.0029)	(0.0039)	(0.0032)	(0.0041)
Age Squared	-0.0000	-0.0000	0.0001	-0.0001
	(0.0000)	(0.0001)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0339***	-0.0136	-0.0485***	-0.0151
	(0.0096)	(0.0106)	(0.0100)	(0.0101)
Spouse's Education	-0.0010	-0.0014	-0.0018	-0.0042
	(0.0016)	(0.0025)	(0.0018)	(0.0026)
Spouse's Education Squared	0.0000	0.0001	0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0031***	-0.0025**	-0.0019**	-0.0007
	(0.0008)	(0.0011)	(0.0008)	(0.0011)
Spouse's Age Squared	0.0000**	0.0001**	0.0000	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0027***		-0.0037***	
	(0.0009)		(0.0011)	
Household Wealth	0.0006		0.0011**	
	(0.0005)		(0.0005)	
Constant	0.3076***	0.3873***	0.4034***	0.3609***
	(0.0462)	(0.0576)	(0.0498)	(0.0613)

* p<0.10
** p<0.05
*** p<0.010
  a) Standard errors in parentheses
  b) Clustered at PSU level

Table 4.3: Medical and Recreation

	Medical PSU FE	Medical HH FE	Recreation PSU FE	Recreation HH FE
Agriculture	0.0653	-0.0105	0.0523	-0.0013
	(0.0675)	(0.0204)	(0.0789)	(0.0195)
Non-Agriculture	0.0314**	0.0675**	0.0289**	0.0789***
	(0.0128)	(0.0304)	(0.0122)	(0.0261)
Education	0.0036	0.0016	0.0027	0.0030
	(0.0023)	(0.0038)	(0.0021)	(0.0036)
Education Squared	-0.0001	-0.0002	-0.0002	-0.0003
	(0.0002)	(0.0003)	(0.0002)	(0.0003)
Age	0.0088***	-0.0055	0.0022	-0.0058
	(0.0029)	(0.0038)	(0.0026)	(0.0036)
Age Squared	-0.0001	0.0001	0.0000	0.0001
	(0.0000)	(0.0001)	(0.0000)	(0.0001)
Spouse (of the head)	-0.0500***	-0.0104	-0.0496***	-0.0089
	(0.0097)	(0.0106)	(0.0089)	(0.0091)
Spouse's Education	-0.0010	-0.0026	0.0013	-0.0032
	(0.0017)	(0.0025)	(0.0015)	(0.0023)
Spouse's Education Squared	0.0001	0.0001	-0.0001	0.0002
	(0.0001)	(0.0001)	(0.0001)	(0.0001)
Spouse's Age	-0.0056***	-0.0016*	-0.0041***	-0.0006
	(0.0008)	(0.0009)	(0.0007)	(0.0009)
Spouse's Age Squared	0.0001***	0.0000	0.0000***	0.0000
	(0.0000)	(0.0000)	(0.0000)	(0.0000)
Household Size	-0.0021**		-0.0016	
	(0.0011)		(0.0010)	
Household Wealth	0.0006		0.0010*	
	(0.0005)		(0.0005)	
Constant	0.1617***	0.3336***	0.2096***	0.2814***
	(0.0444)	(0.0581)	(0.0404)	(0.0544)

* p<0.10
** p<0.05
*** p<0.010
   a) Standard errors in parentheses
   b) Clustered at PSU level

Table 4.4: Family Planning

	Family Planning PSU FE	Family Planning HH FE
Agriculture	0.1173	-0.0027
	(0.0796)	(0.0224)
Non-Agriculture	0.0208	-0.0369
	(0.0140)	(0.0373)
Education	0.0119***	-0.0004
	(0.0025)	(0.0044)
Education Squared	-0.0005***	0.0000
	(0.0002)	(0.0003)
Age	0.0264***	0.0140***
	(0.0034)	(0.0049)
Age Squared	-0.0004***	-0.0002***
	(0.0001)	(0.0001)
Spouse (of the head)	0.0180*	0.0128
	(0.0103)	(0.0121)
Spouse's Education	0.0023	0.0015
	(0.0017)	(0.0032)
Spouse's Education Squared	-0.0000	-0.0001
	(0.0001)	(0.0002)
Spouse's Age	0.0022***	0.0019
	(0.0008)	(0.0012)
Spouse's Age Squared	-0.0000**	-0.0000
	(0.0000)	(0.0000)
Household Size	-0.0002	
	(0.0015)	
Household Wealth	0.0014***	
	(0.0005)	
Constant	0.1343**	0.3850***
	(0.0558)	(0.0736)

* p<0.10
** p<0.05
*** p<0.010
   a)   Standard errors in parentheses
   b)   Clustered at PSU level

Appendix 5: IV Cotton without division FE

Table-5.1: Expenditure Index and Family Planning

	Expenditure Index	Family Planning
Employment	-2.054	-1.191***
	(1.666)	(0.414)
Education	-0.008	-0.006
	(0.029)	(0.008)
Education Squared	0.004	0.002**
	(0.003)	(0.001)
Age	0.045***	0.004***
	(0.006)	(0.001)
Spouse (of the head)	-0.357***	0.079***
	(0.115)	(0.021)
Spouse's Education	-0.019	0.002
	(0.015)	(0.003)
Spouse's Education Squared	0.001	0.000
	(0.001)	(0.000)
Spouse's Age	-0.018***	-0.000
	(0.003)	(0.001)
Household size	-0.030***	-0.001
	(0.008)	(0.002)
Household Wealth	0.002	-0.003*
	(0.006)	(0.002)
Average Household Size	-0.099	0.008
	(0.072)	(0.017)
Average Household Wealth	-0.045**	0.000
	(0.019)	(0.006)
Average Household Income	0.000	0.000
	(0.000)	(0.000)
Above Secondary Education	3.845**	-0.688
	(1.726)	(0.448)
Distance (to the nearest large city)	-0.007	0.015
	(0.072)	(0.022)
Average Age at Marriage for Women	-0.186	0.010
	(0.162)	(0.036)
Usage of either prenatal of postnatal care	2.912*	0.401
	(1.586)	(0.400)
Culture	-3.214***	-1.136***
	(1.193)	(0.354)
Region	-0.223	-0.111***
	(0.149)	(0.029)

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Sindh	-1.759***	0.069
	(0.308)	(0.065)
KPK	-1.767***	-0.029
	(0.506)	(0.105)
Balochistan	-1.776***	-0.545***
	(0.506)	(0.116)
constant	6.208*	0.608
	(3.479)	(0.834)

* p<0.10
** p<0.05
*** p<0.010
  a) Standard errors in parentheses
  b) Clustered at district level

Table-5.2: Food, Clothing, Medical and Recreation

	Food	Clothing	Medical	Recreation
Employment	0.574	0.223	-0.774**	-0.794**
	(0.440)	(0.364)	(0.367)	(0.372)
Education	0.011*	0.006	-0.010	-0.007
	(0.007)	(0.006)	(0.006)	(0.007)
Education Squared	-0.001	-0.000	0.002**	0.001*
	(0.001)	(0.001)	(0.001)	(0.001)
Age	0.003**	0.004***	0.008***	0.007***
	(0.001)	(0.001)	(0.001)	(0.001)
Spouse (of the head)	-0.046***	-0.056***	-0.040*	-0.044**
	(0.016)	(0.016)	(0.022)	(0.022)
Spouse's Education	0.002	0.002	-0.007**	-0.004
	(0.003)	(0.003)	(0.003)	(0.003)
Spouse's Education Squared	-0.000	-0.000	0.000**	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Spouse's Age	-0.002***	-0.001***	-0.003***	-0.003***
	(0.000)	(0.001)	(0.001)	(0.001)
Household size	-0.003*	-0.004***	-0.005***	-0.004***
	(0.002)	(0.001)	(0.002)	(0.001)
Household Wealth	0.003**	0.002*	-0.002	-0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Average Household Size	-0.028**	-0.027*	-0.008	0.006
	(0.012)	(0.015)	(0.013)	(0.013)
Average Household Wealth	-0.004	-0.009**	-0.006	-0.005
	(0.004)	(0.004)	(0.004)	(0.004)

Average Household Income	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Above Secondary Education	0.210	0.792**	0.593*	0.387
	(0.392)	(0.347)	(0.307)	(0.323)
Distance (to the nearest large city)	-0.007	-0.019	0.007	0.011
	(0.008)	(0.014)	(0.012)	(0.012)
Average Age at Marriage for Women	0.058**	0.034	-0.063**	-0.094***
	(0.026)	(0.031)	(0.027)	(0.025)
Usage of either prenatal of postnatal care	0.093	0.233	0.510*	0.566**
	(0.283)	(0.325)	(0.276)	(0.272)
Culture	-0.587**	-0.349*	-0.342	-0.392*
	(0.225)	(0.208)	(0.225)	(0.227)
Region	0.003	-0.036	-0.038	-0.038
	(0.023)	(0.025)	(0.028)	(0.029)
Sindh	-0.178***	-0.266***	-0.223***	-0.233***
	(0.051)	(0.054)	(0.054)	(0.054)
KPK	-0.269***	-0.070	-0.229**	-0.311***
	(0.075)	(0.096)	(0.091)	(0.085)
Balochistan	-0.292***	-0.245***	-0.209**	-0.182*
	(0.082)	(0.086)	(0.102)	(0.098)
constant	-0.491	-0.104	1.528**	2.029***
	(0.611)	(0.715)	(0.584)	(0.558)

* $p<0.10$
** $p<0.05$
*** $p<0.010$

    a) Standard errors in parentheses
    b) Clustered at district level

Appendix 6: IV Cotton Estimates with Division FE

Table-6.1: Expenditure Index and Family Planning
Second Stage

	Expenditure Index	Family Planning
Employment	0.861	-0.366
	(5.569)	(1.428)
Education	0.042	0.010
	(0.081)	(0.019)
Education Squared	-0.002	0.000
	(0.011)	(0.002)
Age	0.039***	0.003
	(0.014)	(0.003)
Spouse (of the head)	-0.409**	0.054
	(0.175)	(0.047)
Spouse's Education	0.001	0.005
	(0.025)	(0.006)
Spouse's Education Squared	0.000	-0.000
	(0.001)	(0.000)
Spouse's Age	-0.017***	-0.000
	(0.003)	(0.001)
Household size	-0.025	-0.001
	(0.017)	(0.003)
Household Wealth	0.012	0.001
	(0.015)	(0.004)
Average Household Size	-0.073	0.006
	(0.050)	(0.015)
Average Household Wealth	-0.008	-0.006
	(0.024)	(0.006)
Average Household Income	0.000	0.000***
	(0.000)	(0.000)
Above Secondary Education	0.838	0.139
	(1.408)	(0.375)
Distance (to the nearest large city)	-0.085	-0.025
	(0.168)	(0.019)
Average Age at Marriage for Women	-0.083	0.061
	(0.132)	(0.038)
Usage of either prenatal of postnatal care	0.645	0.259
	(1.286)	(0.304)
Culture	-3.444**	-1.016***
	(1.719)	(0.348)

Hansen Statistic	0.147	1.863
Chi Sq	0.7014	0.1722

* p<0.10
** p<0.05
*** p<0.010

    c) Standard errors in parentheses
    d) Clustered at division level

Appendix 5: IV Estimates: Robustness Check - District Female Labour Force Participation with Division FE

Table 6.1: First Stage

	First Stage
FLFPR	0.968***
	(0.034)
Education	-0.015***
	(0.003)
Education Squared	0.002***
	(0.000)
Age	0.002***
	(0.000)
Spouse (of the head)	0.026***
	(0.008)
Spouse's Education	-0.004**
	(0.002)
Spouse's Education Squared	0.000
	(0.000)
Spouse's Age	-0.000
	(0.000)
Household size	-0.002***
	(0.001)
Household Wealth	-0.003***
	(0.001)
Average Household Size	0.003*
	(0.001)
Average Household Wealth	0.002***
	(0.001)
Average Household Income	0.000
	(0.000)

Above Secondary Education	-0.183***
	(0.044)
Distance (to the nearest large city)	0.001
	(0.001)
Average Age at Marriage for Women	-0.001
	(0.003)
Usage of either prenatal of postnatal care	-0.005
	(0.034)
Culture	-0.059***
	(0.018)
Region	-0.014
	(0.010)
Sindh	0.012*
	(0.006)
KPK	-0.012*
	(0.006)
Balochistan	-0.011
	(0.007)
Constant	-0.012
	(0.058)

* p<0.10
** p<0.05
*** p<0.010
   a) Standard errors in parentheses
   b) Clustered at division level

Table 6.2: Expenditure Index and Family Planning

Second Stage

	Expenditure Index	Family Planning
Employment	1.111	-0.265
	(1.193)	(0.304)
Education	0.046*	0.011**
	(0.025)	(0.005)
Education Squared	-0.002	-0.000
	(0.003)	(0.001)
Age	0.038***	0.003**
	(0.006)	(0.001)
Spouse (of the head)	-0.416***	0.051**
	(0.134)	(0.020)

Spouse's Education	0.002	0.005**
	(0.014)	(0.002)
Spouse's Education Squared	0.000	-0.000
	(0.001)	(0.000)
Spouse's Age	-0.017***	-0.000
	(0.003)	(0.001)
Household size	-0.025**	-0.000
	(0.011)	(0.002)
Household Wealth	0.012**	0.001
	(0.005)	(0.001)
Average Household Size	-0.073	0.006
	(0.052)	(0.015)
Average Household Wealth	-0.009	-0.007
	(0.016)	(0.005)
Average Household Income	0.000	0.000***
	(0.000)	(0.000)
Above Secondary Education	0.850	0.145
	(1.305)	(0.346)
Distance (to the nearest large city)	-0.086	-0.026
	(0.161)	(0.017)
Average Age at Marriage for Women	-0.082	0.061
	(0.134)	(0.039)
Usage of either prenatal of postnatal care	0.616	0.246
	(1.331)	(0.184)
Culture	-3.404**	-1.000***
	(1.340)	(0.372)

* p<0.10
** p<0.05
*** p<0.010
    a) Standard errors in parentheses
    b) Clustered at division level

Table 6.3: Food, Clothing, Medical and Recreation

	Food	Clothing	Medical	Recreation
Employment	0.295	0.717***	-0.143	-0.142
	(0.243)	(0.129)	(0.330)	(0.294)
Education	0.008*	0.017***	0.000	0.002
	(0.004)	(0.004)	(0.006)	(0.005)
Education Squared	-0.001	-0.001***	0.000	0.000
	(0.000)	(0.000)	(0.001)	(0.001)

Age	0.003***	0.003***	0.007***	0.006***
	(0.001)	(0.001)	(0.001)	(0.001)
Spouse (of the head)	-0.035*	-0.064***	-0.055***	-0.058***
	(0.019)	(0.020)	(0.019)	(0.018)
Spouse's Education	0.001	0.005	-0.003	-0.000
	(0.003)	(0.003)	(0.002)	(0.002)
Spouse's Education Squared	-0.000	-0.000	0.000**	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Spouse's Age	-0.002***	-0.001***	-0.003***	-0.003***
	(0.000)	(0.000)	(0.001)	(0.001)
Household size	-0.003**	-0.003*	-0.004*	-0.003*
	(0.001)	(0.002)	(0.002)	(0.002)
Household Wealth	0.002***	0.004***	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Average Household Size	-0.020*	-0.016	-0.005	-0.000
	(0.011)	(0.014)	(0.008)	(0.007)
Average Household Wealth	0.004	0.001	-0.004	-0.004
	(0.003)	(0.003)	(0.004)	(0.004)
Average Household Income	0.000	0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Above Secondary Education	-0.215	-0.009	0.229	0.335
	(0.223)	(0.257)	(0.265)	(0.272)
Distance (to the nearest large city)	-0.007	-0.026	-0.011	-0.003
	(0.016)	(0.027)	(0.029)	(0.026)
Average Age at Marriage for Women	-0.031	0.005	0.005	-0.022
	(0.019)	(0.028)	(0.022)	(0.021)
Usage of either prenatal of postnatal care	-0.214	-0.012	0.216	0.244
	(0.172)	(0.236)	(0.229)	(0.277)
Culture	-0.410***	-0.531**	-0.477*	-0.344
	(0.130)	(0.266)	(0.250)	(0.231)

* p<0.10
** p<0.05
*** p<0.010

c) Standard errors in parentheses
d) Clustered at division level

Table 7.1: First Stage(s)

	First Stage Agriculture	First Stage Non-Agriculture
Agriculture	1.179***	
	(0.208)	
Education	0.000	-0.013***
	(0.000)	(0.002)
Education Squared	-0.000	0.002***
	(0.000)	(0.000)
Age	0.000***	0.003***
	(0.000)	(0.000)
Spouse (of the head)	-0.000	0.024***
	(0.000)	(0.008)
Spouse's Education	0.000	-0.002
	(0.000)	(0.001)
Spouse's Education Squared	-0.000	0.000
	(0.000)	(0.000)
Spouse's Age	-0.000*	-0.001**
	(0.000)	(0.000)
Household size	-0.000**	-0.001***
	(0.000)	(0.000)
Household Wealth	-0.000	-0.003***
	(0.000)	(0.000)
Average Household Size	0.000	0.003*
	(0.000)	(0.001)
Average Household Wealth	0.000**	0.002***
	(0.000)	(0.000)
Average Household Income	0.000	(0.000)
	(0.000)	(0.000)
Above Secondary Education	0.000	-0.218***
	(0.004)	-0.032
Distance (to the nearest large city)	0.000	(0.000)
	(0.000)	-0.001
Average Age at Marriage for Women	-0.000	-0.001
	(0.000)	(0.002)
Usage of either prenatal of postnatal care	-0.001	-0.005
	(0.004)	(0.032)
Culture	0.005*	-0.064***

	(0.003)	(0.016)
Region	0.001	-0.023***
	(0.001)	(0.006)
Sindh	0.000	0.015**
	(0.000)	(0.006)
KPK	-0.000	-0.008
	(0.001)	(0.006)
Balochistan	-0.000	-0.008
	(0.001)	(0.007)
Nonagriculture		0.943***
		(0.030)
Constant	-0.003	-0.010
	(0.009)	(0.057)

* p<0.10
** p<0.05
*** p<0.010
  c)   Standard errors in parentheses
  d)   Clustered at division level

Table 7.2: Expenditure Index and Family Planning

Second Stage

	Expenditure Index	Family Planning
Agriculture	-2.533	-3.934
	(10.784)	(3.849)
Non-agriculture	1.193	-0.042
	(1.769)	(0.608)
Education	0.045*	0.015**
	(0.027)	(0.007)
Education Squared	-0.002	-0.001
	(0.004)	(0.001)
Age	0.038***	0.004*
	(0.006)	(0.002)
Spouse (of the head)	-0.418***	0.042
	(0.119)	(0.027)
Spouse's Education	-0.000	0.006***
	(0.011)	(0.002)
Spouse's Education Squared	0.000	-0.000
	(0.001)	(0.000)

Spouse's Age	-0.017***	-0.000
	(0.003)	(0.001)
Household size	-0.025**	-0.001
	(0.011)	(0.002)
Household Wealth	0.012**	0.001
	(0.005)	(0.001)
Average Household Size	-0.073	0.005
	(0.052)	(0.015)
Average Household Wealth	-0.008	-0.007
	(0.016)	(0.005)
Average Household Income	0.000	0.000***
	(0.000)	(0.000)
Above Secondary Education	0.841	0.097
	(1.304)	(0.342)
Distance (to the nearest large city)	-0.069	-0.022
	(0.160)	(0.019)
Average Age at Marriage for Women	-0.085	0.062*
	(0.133)	(0.037)
Usage of either prenatal of postnatal care	0.705	0.263
	(1.311)	(0.204)
Culture	-3.363**	-0.934**
	(1.376)	(0.368)

* p<0.10
** p<0.05
*** p<0.010
   e)   Standard errors in parentheses
   f)   Clustered at division level

Table 7.3: Food, Clothing, Medical and Recreation

Second Stage

	Food	Clothing	Medical	Recreation
Agriculture	3.474	0.979	-2.555	-2.124
	(2.995)	(2.084)	(1.901)	(2.009)
Non-agriculture	0.097	0.884***	-0.124	-0.098
	(0.418)	(0.213)	(0.483)	(0.493)
Education	0.004	0.017***	0.001	0.003
	(0.006)	(0.003)	(0.007)	(0.007)
Education Squared	-0.000	-0.002***	0.000	-0.000
	(0.001)	(0.000)	(0.001)	(0.001)

Age	0.003*	0.002**	0.007***	0.006***
	(0.002)	(0.001)	(0.002)	(0.002)
Spouse (of the head)	-0.027	-0.066***	-0.057***	-0.061***
	(0.020)	(0.019)	(0.018)	(0.018)
Spouse's Education	-0.000	0.003	-0.003*	0.000
	(0.002)	(0.002)	(0.002)	(0.002)
Spouse's Education Squared	0.000	-0.000	0.000*	-0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Spouse's Age	-0.001*	-0.001***	-0.003***	-0.003***
	(0.001)	(0.000)	(0.001)	(0.001)
Household size	-0.003*	-0.003	-0.004*	-0.003*
	(0.002)	(0.002)	(0.002)	(0.002)
Household Wealth	0.002**	0.004***	0.000	0.001
	(0.001)	(0.001)	(0.001)	(0.001)
Average Household Size	-0.019*	-0.016	-0.005	-0.001
	(0.011)	(0.014)	(0.008)	(0.007)
Average Household Wealth	0.004	0.001	-0.004	-0.004
	(0.003)	(0.003)	(0.004)	(0.004)
Average Household Income	0.000	-0.000	0.000	0.000
	(0.000)	(0.000)	(0.000)	(0.000)
Above Secondary Education	-0.176	0.028	0.193	0.307
	(0.224)	(0.261)	(0.258)	(0.268)
Distance (to the nearest large city)	-0.010	-0.017	-0.009	-0.002
	(0.018)	(0.028)	(0.028)	(0.025)
Average Age at Marriage for Women	-0.032*	0.003	0.006	-0.021
	(0.018)	(0.028)	(0.021)	(0.020)
Usage of either prenatal of postnatal care	-0.223	0.010	0.234	0.256
	(0.176)	(0.239)	(0.231)	(0.275)
Culture	-0.469***	-0.507*	-0.455*	-0.321
	(0.142)	(0.260)	(0.261)	(0.242)

* p<0.10
** p<0.05
*** p<0.010
   a)   Standard errors in parentheses
   b)   Clustered at division level

Appendix-8: Summary of Literature Review

Variable	Literature	Location	Measurement	Dependent Variable	Estimation Strategy	Findings
Education	Acharya et al (2010)	Nepal Direct Method	Dummy Variables for educational levels	Dichotomous variables for say in decisions regarding own health, major purchases, daily purchases, visits to family	Logistic Regressions	Positive
	Hou and Ma (2011)	Pakistan Direct and Indirect Method	Dummy variables for levels of educational attainment	Index Uptake of reproductive health care services	OLS Logit	Positive
Education	Murphy-Graham (2008)	Central America Direct Method	SAT intervention	Say in Decision Making	Qualitative Analysis	Positive
	Mabsout and Stavern (2010)	Ethiopia Direct Method	Years	Empowerment Index (health, purchases and visits to relatives)	Ordered Logit	Mediated when community influences are controlled for
	Malhotra and Mathar (1997)	Sri Lanka Direct Method	Years and Years Square	Say in decisions regarding financial decisions, social and organizational decisions	Multinomial Logit Logit	Insignificant in social and organizational decisions

Variable	Literature	Location	Measurement	Dependent Variable	Estimation Strategy	Findings
Employment Status	Acharya et al (2010)	Nepal Direct Method	Dummy variables: not employed, employed for cash, employed not for cash	Dichotomous variables for say in decisions regarding own health, major purchases, daily purchases, visits to family	Logistic Regressions	Paid Employment is more empowering than unpaid employment
	Hou and Ma (2011)	Pakistan Direct Method	1=Employed, 0 otherwise	Index Uptake of reproductive health care services	OLS Logit	Positive
Employment Status	West (2006)	India Direct Method	Dummy variables for types of occupation	Index for say in decision making, freedom of movement and husband's attitude towards domestic violence	Logit Ordered Logit	Employment is empowering in some aspects and not others
	Malhotra and Mathar (1997)	Sri Lanka Direct	Dummy variables: Unpaid, employed and shares wage with family, wage for herself	Say in decisions regarding financial decisions, social and organizational decisions	Multi-nomial Logit Logit Model	Insignificant in social (eg networking) and organizational (eg matters of the household) decisions

Appendix-9: Measurement of Control Variables

Control Variable	Measurement	Type
Age	Years and years squared	Continuous
Spouse (of the head)	1 for spouse of head, 0 otherwise	Dummy variable
Spouse's Age	Years and years squared	Continuous
Husband's Education	Years and years squared	Continuous
Household Wealth	Index	Continuous
Household Size	Number of family members living in the household	Continuous
Average Household size in a district	Average number of family members in a district	Continuous
Average Household wealth in a district	Index	Average of indices, Continuous
Average Household income in a district	Rupees	Continuous
Percentage of women with above secondary education	Percentage	Continuous
Percentage of married women who used postnatal or prenatal care	Percentage	Continuous
Average age at which women in a district get married	Years	Continuous
Culture	Percentage	Continuous
Distance (in 100 km) to nearest large city	Kilometers	Continuous
Region	1 for urban, 0 for rural	Dummy variable
Province	Punjab, Sindh, KPK and Balochistan	Dummy variables, Punjab base category