



LUNDS UNIVERSITET
Ekonomihögskolan

Department of Economics

Master's Thesis

September 2010

**Determinants of
Women's Empowerment in Rural India
An Intra-Household Study**

Author: Julia Wiklander

Supervisor: Susanna Thede

Acknowledgements

First and foremost I would like to thank my supervisor, Susanna Thede, for all her support and good advice throughout the process of writing this thesis. I would also like to extend my gratitude to International Institute of Population Science, Mumbai, India for the inspiration I got for writing this thesis and T.V. Sekher for sharing his work with me. In addition, I would like to thank Fredrika Ornbrant for giving me the possibility to attend so many inspirational events at the UN, among others the launch of the *World Survey on the Role of Women and Development*.

Last, but definitely not least, I would like to thank my parents for their support and my husband, Markus Wiklander, for his love and encouragement during this intense period.

Abstract

Using household level data from the Survey on the Status of Women and Fertility provided by the Rockefeller Foundation and the Population Studies Centre of University of Pennsylvania, the purpose of this thesis is to investigate the determinants of women's empowerment and the presence of gender-related constraints within the household in rural India. Households from two states of different demographic development, Uttar Pradesh in the North and Tamil Nadu in the South are included in the data. Women's empowerment includes mobility, voice, decision-making in the family, property rights and freedom from domestic abuse. The explanatory variables are individual, household, husband, and geographical characteristics as well as differences in spouses' perspectives of women's empowerment. In Uttar Pradesh women's empowerment was determined by age, education (both men's and women's), income, district and village. In Tamil Nadu women's empowerment was explained by less traditional ideas of determinants, such as age at marriage, if she ever had a stillbirth, the amount of sons in the household, husband's presence in the household, as well as income and district. This shows that social norms and intra-household gender-related constraints greatly influence women's possibility of being empowered. Religious affinity and belonging to Scheduled Castes were also found to be significant to some extent in both states. Differences in spouses' perspectives were significant in determining women's empowerment and increased the coefficient of determination considerably for both states. Differences in determinants of women's empowerment shows that there is not a one-model-fits-all, instead, policies need to be directed towards institutional change and be particularly focused on shaping social norms.

Table of Contents

List of Abbreviations	6
List of Tables	7
1 Introduction	8
2 Women and Development in India.....	14
2.1 The Institution of Marriage in India	15
2.2 Family Planning and Reproductive Health	16
2.3 Sex Ratio in India	17
2.4 Women’s Labor Force Participation	19
2.5 Scheduled Castes and Tribes.....	20
2.6 Uttar Pradesh and Tamil Nadu	21
3 Women’s Empowerment: Definition and Related Studies	26
4 Data and Models.....	29
4.1 Survey Description	29
4.2 Empirical Approach	30
4.2.1 Variables.....	32
4.3 Husband and wife differences in answers	35
5 Estimation Results.....	38
5.1 Mobility.....	39
5.2 Voice	43
5.3 Decision-making power in the household	45
5.4 Freedom from domestic abuse	46
5.5 Property rights	48
5.6 Further Studies	49
6 Conclusion.....	51
References	55
Appendix 1: Correlation Matrix	61
Appendix 2: Survey Questions and Descriptive Statistics for Dependent Variables	64
Appendix 3: Descriptive Statistics for Independent Variables	67
Appendix 4: Husband’s answers and Descriptive Statistics for Differences in Spouses’ Perspectives	70
Appendix 5: Estimation Results for Common Model	74

List of Abbreviations

CEDAW	Convention on the Elimination of all forms of Violence against Women
CSW	Commission on the Status of Women
ECOSOC	United Nations Economic and Social Council
IIPS	International Institute for Population Science, Mumbai, India
MDG	Millennium Development Goal
NFHS	National Family Health Survey
SC	Scheduled Castes
SHG	Self-help groups
ST	Scheduled Tribes
SWAF	Survey on the Status of Women and Fertility
TN	Tamil Nadu
UN	United Nations
UNFPA	United Nations Population Fund
UP	Uttar Pradesh

List of Tables

Table 1	Social and demographic development in India	23
Table 2	Social and demographic development in Tamil Nadu	24
Table 3	Social and demographic development in Uttar Pradesh.....	24
Table 4	Summary statistics of the differences in husbands' and wives' answers	36
Table 5	Probit regression results for women's mobility	41
Table 6	Probit regression results for women's ability to express their opinion (voice).....	44
Table 7	Probit regression results for women's decision-making power in the household.....	45
Table 8	Probit regression results for women's freedom from violence	47
Table 9	Probit regression results for women's property rights	48

1 Introduction

“Reaffirming that gender equality is of fundamental importance for achieving sustained and inclusive economic growth, poverty eradication and sustainable development, in accordance with the relevant General Assembly resolutions and United Nations conferences, and that investing in the development of women and girls has a multiplier effect, in particular on productivity, efficiency and sustained and inclusive economic growth, in all sectors of the economy, especially in key areas such as agriculture, industry and services,”

*From 64/217 Women in Development,
United Nations Resolution adopted by the General Assembly*

As more evidence of links is seen between gender equality, economic growth and sustainable development, the interest in investigating the determinants of women’s empowerment has grown. According to the World Bank under-investment in women restricts economic growth and poverty reduction. Empirical evidence shows a positive correlation between women’s earnings, their productivity and poverty alleviation (World Bank and Gender Equality, 2010-08-10). The 2009 World Survey on the Role of Women in Development (UN DESA, 2009: v) verifies that there are positive multiplier effects for overall social and economic development when women, in the same extent as men, access economic and financial resources. This is seen through poverty reduction, children’s increased welfare and increased household

efficiency. Robust evidence shows that women's access to resources has a stronger impact on child survival, welfare and education, than when men have access to similar resources (UN DESA, 2009:7). Amartya Sen (2000:201) states that when women participate in economic activities the society as a whole benefits. Social benefits are provided through women's enhanced status and independence. Women are empowered through the reduction of gender bias in household decisions and have the possibility to generate income and affect the reduction of mortality and fertility rates in the society.

Knowing that the empowerment of women generates many positive effects for society as a whole makes the task of determining the underlying factors of women's empowerment essential. The objective of this thesis is to identify the micro-level determinants of women's empowerment in rural India, looking at two states in particular, Tamil Nadu (TN) in the South and Uttar Pradesh (UP) in the North, using data from the Survey on the Status of Women and Fertility (SWAF), provided by the Rockefeller Foundation and the Population Studies Centre of University of Pennsylvania. The two states were chosen as a part of SWAF due to the differences in demographic development. Uttar Pradesh is one of the most populous and least developed states in India, while Tamil Nadu is one of the most developed states when it comes to demography. The aim of the study is to answer the following questions:

What are the determinants of women's empowerment?

Are intra-household gender-related constraints present?

The determinants of women's empowerment must be examined and identified to understand how women can be a catalyst for social change in their communities. The 53rd session of the Commission on the Status of Women (CSW) recognizes the

importance of conducting research and developing gender-sensitive indicators to inform policymaking and to be able to conduct assessments in a coordinated matter (CSW 2009:9). Marriage, kinship and household relationships are micro level institutions that form interpersonal gender dynamics which lead to social exclusion and need to be addressed in policies (Boender et al, 2002:4). Household level statistics are important to investigate to be able to reflect the situation of all individuals within the household. To target women's empowerment, intra-household divisions need to be included in the concerns relevant for policy-makers in the world today (Sen 2000:88f). For policies and programs to make a difference in women's status in different parts of India, they must be directed towards the factors that enhance women's empowerment. This study will develop gender-sensitive indicators and give an overview of where policies should be directed for women to have the chance to be empowered. Furthermore, the household level factors which play a part in shaping the situation of women must be examined for policies and programs to be efficient.

Empowerment is not directly observable, and it may be valued differently depending on the subjective views of individuals. In this thesis we will use women's perceptions of their own situation to accurately capture women's empowerment. For example, if they believe that they do not have any part in decision-making in the household, they will most likely not participate in household decisions, even if other members of the family believe that the woman has a part to play. Social and cultural norms govern the relationship between men and women and may form gender-related constraints (UN DESA, 2009:5). In many parts of the world, reproduction and care of the family are responsibilities of women, while men are assigned the decision-making authority. In some areas females are constrained when it comes to mobility, voice, education, employment, health care and even pure existence. These gender-related constraints affect women's fertility and health, as well as their

productive outcome. Thus, gender related norms play a part in determining the empowerment of women. It is important to look at gender-related constraints, and the division of power in society and the household to be able to determine gender equality and the status of women's empowerment.

In this thesis women's empowerment will encompass the following variable sub-groups: voice, mobility, decision-making power in the household, freedom from domestic abuse, and property rights. Due to the complexity of women's disempowerment and the difficulty for overarching policies to reach the household level, we will use detailed micro data with the aim of determining links between individual, household, husband and geographical characteristics and women's empowerment. The empirical models will be examined at an aggregate level, as well as at a state level. Due to cultural and demographic differences, a state-level analysis is important. To explain our dichotomous dependent variables we use a binary choice probit model. The empowerment variables used are derived from the women's answers of the household surveys. However, regarding mobility, decision-making in the household and freedom from violence, the husbands have answered the same questions. The differences in spouses' answers will be examined to determine intra-family relationships and where found relevant be included in the models.

Only a few of the previous studies using SWAF have looked at the influence of individual and household characteristics on women's empowerment (Jejeebhoy and Sathar, 2001, Jejeebhoy, 2002, Mason et al, 2003 and Ghuman et al, 2004). Only one of the previous studies has investigated the determinants of different parts of women's empowerment, but looks at differences between five Asian countries (Mason et al, 2003). This thesis does not use a summary index for women's empowerment, since women may be empowered in some areas, but not in others. Therefore, it is more appropriate to look at the five different empowerment variables

separately, since it can indicate a woman's position in the empowerment process. None of the previous studies have included women's voice as a measure of their empowerment. This index shows the status of women within the household and their possibility to state their opinion. The determinants of women's property rights have not been examined in any of the studies using SWAF (Jejeebhoy and Sathar, 2001, include *access to and control over economic resources* in a proxy value of women's autonomy). Compared to previous studies, this thesis includes more determinants of women's empowerment and uses household and individual characteristics to show gender-related constraints. Thus, community is not the only explanatory variable that captures social norms and the importance of gender systems in shaping women's empowerment (in comparison to Mason et al, 2003).

SWAF was conducted between October 1993 and January 1994, which makes it appropriate to question if this study still is relevant for policy-making and further research. In this thesis the progress made in demographic and social development of rural India will be examined to determine the relevance of the study.

Although this study differs from previous studies, it does have some limitations. This thesis uses household data from surveys to investigate women's empowerment in rural India. However, surveys are not perfectly reliable. Individuals may not be completely honest in their answers and may feel uncomfortable speaking about topics that are "taboo" in society. Furthermore, due to the sensitivity of the topics focused on, there is not detailed data. For example, when it comes to domestic abuse, the interviews do not specify how often a woman is abused or in which way, the survey asks if her husband has ever hit her and if she is afraid of her husband. Most questions do not go into depth and are easy yes or no answers. In addition, using household data with binary choice models usually results in low determination

coefficients, since leaving factors behind, parts of women's empowerment is left unexplained (Verbeek, 2008:209).

To begin with Chapter 2 will give a background of the situation of women and the social and demographic development in India, as well as background information on the two states included in the report. A theoretical background of empowerment and an overview of previous studies will be included in Chapter 3. Chapter 4 gives an overview of the data and the model used in the thesis. The results will be presented and analyzed in Chapter 5. First, the joint models including all data will be presented, followed by state-specific models and thirdly including husband-wife differences in answers. Conclusions will be drawn in Chapter 6.

2 Women and Development in India

If social and cultural norms play a part in shaping gender-related constraints and thus women's empowerment, we must specifically look at the situation in India to be able to understand the social climate in which women live. The latest census in 2001 reported a population of 1.03 billion in India, with over 70 percent of the population living in rural areas¹. India is a vast country with a diverse population with different religions, cultures and informal institutions. This section will examine the situation of women in India, with regard to social and cultural practices and informal institutions.

The Constitution of India prohibits discrimination on grounds of sex (Part III, Art. 15) and India has ratified the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW), which makes the country obligated to eliminate violence and discrimination against women. However, informal institutions govern gender relations in the Indian society, and in many ways justify discrimination against women. India is a patriarchal, patrilocal and patrilineal society. Many cultural and social norms create a situation where women and girls are discriminated. Women are usually restricted to household duties and are not the “providers” of the household. Inheritance usually passes from father to son in a patrilineal pattern. To give away a daughter in marriage can be costly, with the obligation to pay dowry. When a marriage is initiated the bride leaves her natal home to live with her husband's family, in a patrilocal tradition. This may involve that the

¹ The Census of India can be found at www.censusindia.gov.in

bride has to move to another village or district. Therefore, girls are not seen as reliable care-givers in the future, and the investments made in daughters will be for another family's benefit. Thus, there are many disincentives for having daughters in India (Hatti et al, 2004:33). The discrimination of women and girls will be further examined in the coming subsections.

2.1 The Institution of Marriage in India

Although women's equality and rights are addressed in national programs, policies, and legislation, women still face several barriers to empowerment, equality and equity. Sometimes women lack awareness of these laws and their rights, but many times cultural practices and social norms govern over national legislation. The Indian Union passed *The Prohibition of Child Marriage Act* in 2006, which prohibits marriage below 18 for girls and 21 for boys (UNICEF India, 2010). Yet child marriage persists in large parts of the country. The National Family Health Survey (NFHS) round 3, 2005-2006, shows that almost 50 percent of married women between 20-24 years of age were married before the age of 18. When a marriage is implemented, social and cultural norms put pressure on the couple to reproduce. These informal institutions create the "rules of the game" in which family planning is a part. UNICEF India (2010) highlights the danger with underage marriage, since the risk of dying in connection to pregnancy and childbirth is twice as high for girls aged 15-19 years compared to girls aged 20-24. Half of the women in India have their first child before the age of 20. Due to their young age at marriage and lack of knowledge of their rights, girls are more vulnerable to domestic violence, ill health and discrimination in the new household. Their early age of marriage disrupts their education and since they lack proper employment, women are restricted in participating in the country's development (Subramanian, 2008:160). This problem

has been observed by several organizations and many are working with educational programs trying to delay the age at marriage in rural parts of the country. To see the effect of a woman's age at marriage on her empowerment possibilities, age at marriage will be included as a determinant in this study.

2.2 Family Planning and Reproductive Health

India was the first country in the developing world to commence a family planning program with the aim of lowering fertility rates and slowing population growth rates (Jejeebhoy et al, 1999:S44). However, the sexual and reproductive health in India remains poor. Maternal mortality in India continues to be a large problem. In 1990 the maternal mortality ratio (deaths per 100,000 live births) was 570, in 1995 it was 440, in 2000 it rose again to 540 and in 2005 it was 450 (MDG Monitor, 2010). Problems remain in access to supplies, quality and informed choices in regard to reproductive health and family planning. Addressing sexual rights and sexual health remains taboo, and adolescent sexual education remains in many areas non-existent (ICPD+15 India, 2009).

India's family planning program has shifted from being driven by decreasing fertility to a target-free approach to be able to improve a family's economic and social status. A serious problem with India's family planning program is, however, that planning does not occur at the local level, village-level groups are not involved in program implementation, and clients' preferences for contraceptive methods are overlooked (Jejeebhoy et al, 1999:S45f). The most common family planning method in India is female sterilization. Women are placed into categories, which determine the method she is offered. Thus, a woman with two or more children, or a woman who does not want any more children is encouraged to be sterilized, while a woman who is newly

married and wants to postpone childbearing is offered a nonpermanent method of contraception. Furthermore, little information is given to the women who accept sterilization on the procedure, possible complications and after-care (ibid, 1999:S47). Especially rural women are neglected the right of making an informed choice in regard to her own reproductive health and rights. NFHS-2 highlights that few users of family planning are provided enough information to make an informed choice (IIPS, 1998-99:9). Female sterilization as the most common family planning policy does not help to empower young women to make healthy and conscious choices in regard to their reproductive health. When half of the female population in India have their first child before the age of 20, the need for new family planning methods to prolong the period before the first birth is essential.

In India, reproduction is seen as the responsibility of women. One can imagine that a woman who “fails” at this task may be treated differently within the household. For that reason, a determinant showing if the woman has ever had a still birth will be included in the models to find if it has an effect on women’s empowerment.

2.3 Sex Ratio in India

Everywhere in the world, more boys are born than girls; however, given similar care females have a higher survival rate than males in all age groups. In Europe and North America women tend to outnumber men. However, in many developing countries this is not the case (Sen, 1992:587). A phenomenon that has been growing in attention is the large deficit of women and girl children in India. Census India 2001 calculated the country’s sex ratio (females per 1000 males) to be 933. In Uttar Pradesh the sex ratio drops to 898 and in the age group 0-6 years, the sex ratio was 916 in 2001 (Census India, 2001). These numbers do not represent natural levels of

males and females in the population, but instead show of a persistent discrimination of women and girl children. The National Family and Health Surveys (NFHS)² show that the sex ratio for children under the age of seven has declined with time, from 934 in 1992-1993 (NFHS-1), to 926 in 1998-1999 (NFHS-2) and as low as 918 in 2005-2006 (NFHS-3). This decline can be explained by the access to technology which enables sex-selective abortions, an increase in the mortality of girl children compared to that of boy children, or an undercount of female children under the age of seven (Kishor and Gupta, 2009:8). Ganatra (2008:91) argues that female births remain unregistered, that girls who are killed shortly after birth remain unaccounted for, and discriminatory feeding and health care practices increase post-neonatal mortality in girls. Kishor and Gupta (2009:9) investigate the trends of the sex ratio at birth. The natural sex ratio at birth is 934-961 (Ganatra 2008:90). A declining trend is found in the sex ratio at birth, from 941 in 1992-1993 (NFHS-1), to 938 in 1998-1999 (NFHS-2) and 919 in 2005-2006 (NFHS-3). This indicates that the decline of girl children is in part due to sex-selective abortions (Kishor and Gupta, 2009:9) and, thus, a gender order exists from the very start of life in India. Abortions were legalized in 1971 through the Medical Termination of Pregnancy Act. The possibility to have an abortion due to contraceptive failure legalized abortion on demand (Hatti et al, 2004:19f). However, the problem of illegal abortions persists. In some part this may be due to the governments' lack of raising awareness about legal abortions and instead promoting the ban on sex determination (Ganatra, 2008:92f). In 1994, national legislation prohibited sex-selective abortions, as well as, prenatal sex determination through ultrasounds.

Sen (1992:588) argues that public policy can make a change in the matter of the sex-ratio when addressing the issues of discrimination. He states that when a woman is less dependent of others, she is able to express her opinion more and increase her

² More information on the National Family and Surveys, India can be found at <http://www.nfhsindia.org/index.shtml> (2010-08-10).

status within the family and affect decisions made about her children. He also argues that women's education and economic rights are important to enhance her decision-making power within the family. These ideas will be further investigated in this thesis.

The son-preference shown to be present in many parts of India is important to investigate when it comes to women's empowerment. Do sons in the household benefit women due to their "good" reproductive results, or does the son-preference indicate gender discrimination throughout the household? If women have a lower or higher status in the family with many sons will be investigated in this thesis with the help of a determinant showing the amount of sons in the household. In the opposite way the amount of daughters in the household will be included.

2.4 Women's Labor Force Participation

Women's labor force participation rate in India is estimated to 22.3 % in 1991 and 25.6 % in 2001 (LABORSTA, 2010). There has been a very limited increase in women's labor force participation, and women in India are not large contributors to the country's economic activity. In some ways this low labor force participation rate may reflect gender-related constraints in the household and in society. Women are often limited to household duties and are denied the right to work outside the household. Women may also be discriminated against in the labor force, vertically and horizontally, by not being able to get a type of job or not being able to achieve the same wage status as a man in the same type of job. Thus, women are more vulnerable to working in the informal sector with little security. Almost 60 % of the economically active women in India work in the agricultural sector, one of the most physically demanding sectors (LABORSTA, 2010).

Sen (2000:115) argues that the denial of women's freedom to seek employment outside of the household is a serious violation of women's liberty and gender equity. The economic empowerment of women is weakened through this lack of freedom and effects women's status within the family and in intra-household distributions.

One can imagine that a woman who is employed outside the household may be found to have greater empowerment in other areas as well. Almost all women in the dataset either worked in the household or with agriculture on own land or as an employee on someone else's land. Therefore determinants showing what a woman has worked with the past 12 months will be included in the study.

2.5 Scheduled Castes and Tribes

The caste system in India creates a hierarchy in society and shapes the governing informal institutions. Scheduled Castes (SC) and Scheduled Tribes (ST) were given special protection by the Indian Constitution, due to their social disadvantage. These communities were socially excluded in traditional Hindu society during thousands of years and were delegated the most basic labor and had no possibility to increase social status (Spreybroek et al, 2009:271). According to the 2001 Census, about 16 % of the population belonged to scheduled castes and 8 % to scheduled tribes. The Ministry of Social Justice and Empowerment oversees the interests of Scheduled Castes and has the responsibility of implementing the Prevention of Atrocities Act, 1989, also known as the Scheduled Castes and Scheduled Tribes act. Human Rights Watch (HRW) (1999) declares that "National legislation and constitutional protections serve only to mask the social realities of discrimination and violence..." directed toward SC and ST. "Untouchability" is still a reality for many people living

in rural India. HRW calls this “India’s hidden apartheid”. Untouchables are denied access to land, forced to work with degrading tasks and abused by the police and higher-caste members (HRW, 1999). Although they face formal protection from the state, SC and ST show higher rates of infant and adult mortality compared to the rest of the Indian population (Spreybroek et al, 2009:272). Spreybroek et al (2009) find that ST/SC have higher malnutrition rates due to their lower socioeconomic status and lower use of health care and parental education. They cannot out rule the possibility of discriminatory practices towards ST/SC in regard to access to health care services. A woman belonging to a Scheduled Caste or a Scheduled Tribe may face double barriers to empowerment, due to her being a woman and belonging to the “wrong” section of the population. Therefore, a determinant for Scheduled Caste and Scheduled Tribe will be included in this study to see its effect on women’s empowerment.

2.6 Uttar Pradesh and Tamil Nadu

The demographic and health status of people in India varies with residence. Consequently, this is a reason to investigate the determinants of women’s empowerment at a regional and community level. Tamil Nadu is among the fairly advanced states, compared to Uttar Pradesh belonging to the more backward states. Rural areas lag behind in development and rural populations show worse statistics in regard to their demographics and health status.

The 2001 Census estimates the population in Tamil Nadu to about 62 million, with almost 56 % living in rural areas. In the early 1990’s Tamil Nadu was already ahead of the country in regard to fertility and reproductive health targets. The state was the first to adopt a target-free approach in family planning, emphasizing the need for

midwives in the provision of contraceptive services. In addition, Rural Women's Social Education Center, a grassroots women's association located in TN is a local program which includes health promotion, education, women's rights as well as clinical services (Jejeebhoy et al, 1999:S46f). The State Government of TN's annual plan for women's development states that, "It is a proved maxim that women who are empowered economically and socially become a strong and vigorous force for the removal of poverty and for the overall development of the society". Economic activities run by the state government directed towards women in Tamil Nadu include self-help groups (SHG), which give women the possibility to access financial resources more easily, entrepreneurial training for women, SHG directed towards youth, vocational and skill training, a World Bank aided empowerment and poverty reduction programme, among others. In addition, a *Marriage Assistance Scheme* in Tamil Nadu, help poor parents in getting their daughters married and support poor girls in achieving education (Tamil Nadu Government, 2008-2009).

Uttar Pradesh is the most populous state in India, with over 166 million inhabitants (2001 Census) and almost 70 % of the population working in the agricultural sector (estimate for 1991) (SIFSPA, 2010-07-05). The per capita income of UP is one of the lowest in the country. The economic development of UP varies within the state, where the west is more agriculturally prosperous and the eastern parts are less developed (UP Government, 2010-07-05). As one of the least developed states in India, Uttar Pradesh lags behind in social and demographic indicators. However, many NGO's working with women's rights and empowerment, are active in UP. One of these is Rajiv Gandhi Mahila Vikas Pariyojana that works simultaneously with poverty reduction and women's empowerment through financial inclusion, gender and social action, environment initiatives, social risk management, sustainable agriculture and more (RGMVP, 2010-07-05). State-led programmes have been launched as well. One of these is the *Mahila Samakhya* Programme, which seeks to

benefit women of all ages, targeting women from marginalized groups specifically, through education and vocational training. However, gender-related constraints are present and for a woman in UP to be involved in a self-help group is not a simple task. Nevertheless, Mahila Samkhyas has helped change cultural customs in which women are discriminated into ones where women are appreciated (Sen, R 2008:26f).

Table 1 shows the demographic development in India as a whole between 1992 and 2006. A positive demographic change can be seen in most aspects, thus, the empowerment process has been moving forward the past decade. The largest change has been made when it comes to the education of girls. However, still almost 50 percent of women aged 20-24 are married before the age of 18 and almost 40 percent have experienced domestic violence in their life-time. India is a large country and the development may be pushed by more advanced states, while the progress in backward states may be lagging behind.

Table 1 Social and demographic development in India

	1992-1993	1998-1999	2005-2006
Females attending school ages 6-14 (%)	58.9	73.7	86.7
Women age 20-24 married by age 18 (%)	54.2	50	47.4
Total fertility rate	3.39	2.85	2.7
Median age at first birth for women age 25-49	19.6	19.6	19.8
Births assisted by health personell (%)	34.2	42.3	48.8
Institutional births (%)	25.5	33.6	40.8
Women whose BMI is below normal (%)	n.a.	35.8	33
Currently married women who usually participate in household decisions (%)	n.a.	n.a.	36.7
Ever-married women who have ever experienced spousal violence (%)	n.a.	n.a.	37.2

Source: NFHS-1, NFHS-2, NFHS-3

Table 2 Social and demographic development in Tamil Nadu

	1992-1993	1998-1999	2005-2006
Females attending school ages 6-14 (%)	78.7	88.5	92.7
Women age 20-24 married by age 18 (%)	36.1	24.9	22.3
Total fertility rate	2.48	2.19	1.8
Median age at first birth for women age 25-49	n.a.	n.a.	21
Births assisted by health personnel (%)	71.2	83.8	93.2
Institutional births (%)	63.4	79.3	90.4
Women whose BMI is below normal (%)	n.a.	29	23.5
Currently married women who usually participate in household decisions (%)	n.a.	n.a.	48.8
Ever-married women who have ever experienced spousal violence (%)	n.a.	n.a.	41.9

Source: NFHS-1, NFHS-2, NFHS-3

Table 3 Social and demographic development in Uttar Pradesh

	1992-1993	1998-1999	2005-2006
Females attending school ages 6-14 (%)	48.2	69.4	73.8
Women age 20-24 married by age 18 (%)	63.9	62.4	58.6
Total fertility rate	4.82	3.99	3.8
Median age at first birth for women age 25-49	n.a.	n.a.	19.4
Births assisted by health personnel (%)	17.2	22.4	29.2
Institutional births (%)	11.2	15.5	22
Women whose BMI is below normal (%)	n.a.	35.8	34.1
Currently married women who usually participate in household decisions (%)	n.a.	n.a.	33.7
Ever-married women who have ever experienced spousal violence (%)	n.a.	n.a.	42.4

Source: NFHS-1, NFHS-2, NFHS-3

Table 2 shows the demographic development in Tamil Nadu. By 2006 over 90 percent of girls between 6 and 14 attended school, which is higher than the country's average. TN lies far ahead when it comes to the health sector and the amount of births assisted by health personnel. Furthermore, TN shows a fertility rate as low as

1.8, in 2005-2006. Table 3 shows the demographic development in Uttar Pradesh, the more backward state of the two included in this thesis. UP lags behind the country's average in all aspects shown in the table.

The changes in the statistics for all areas show a positive development for social and demographic indicators over time, however, in some areas this development is very limited. In UP, still almost 60 per cent of women aged 20-24 were married by the age of 18. TN remains above average and UP below average development in most indicators. TN lies above average in spousal violence, almost as high as in UP. The development shows that the study to be made in this thesis is still relevant and highly important. The models run will be showing the marginal effect of a change in the determinants and since the tables above show that in regard to India in total, UP and TN have not changed their position much, the study is still highly applicable. Furthermore, the regional differences may indicate a difference in cultural norms across states, which may affect the determinants of women's empowerment. Thus, it is important to inspect gender-related constraints and the determinants of women's empowerment in both states. As mentioned in the introduction, the importance of investigating the presence of discriminative social and cultural norms as well as gender-related constraints in the household is important to understand the development shown above.

3 Women's Empowerment: Definition and Related Studies

The empowerment of women has been shown to be essential for sustainable development and economic growth. *What is empowerment?* Empowerment is a process which relates to the power of an individual to redefine her possibilities and options and to have the ability to act upon them (Eyben et al 2008:5). Kabeer (2001:19) defines empowerment as “the expansion in people’s ability to make strategic life choices in a context where this ability was previously denied to them.” Thus, empowerment is fundamentally about the enhancement of individuals’ capabilities to make a difference in their surroundings, which affects their life. Empowerment also relates to the influence of an individual on the social and cultural norms, informal institutions and formal institutions in society.

Women can be empowered in many ways; socially, economically, politically and legally. This thesis focuses on household dynamics, individual characteristics and gender-related constraints, when it comes to social and economic empowerment. In the discussion on women’s empowerment, gender equality and gender equity is terminology which is interrelated. Equality implies the condition or quality of being equal and equity is the equality of rights (Webster’s Dictionary, 2010). In contrast to other terms, women’s empowerment relates to a process; a progression from one state to another. In addition, empowerment includes agency, in which women themselves are actors in the empowerment process. They must not only be able to make a decision, but be aware of their rights to make it. Women’s empowerment

encompasses a complexity in comparison to other disadvantaged groups. Women make up half of the world's population, and form a cross-cutting group that overlaps all other groups in society. Compared to other disadvantaged or socially excluded groups, the household and family relations play a central part in women's disempowerment (Boender et al, 2002:5). Therefore, policies directed towards women's empowerment must be directed to the family and household level.

Several studies have been made using SWAF, investigating women's autonomy, empowerment and contraceptive behavior in the five Asian countries included in the survey. However, only a few have investigated the determinants of women's empowerment or autonomy. Jejeebhoy and Sathar (2001) compare women's autonomy in India and Pakistan, looking at the influence of region and religion. In their study women's autonomy includes four dimensions: economic decision-making, mobility, freedom from threat from husband and access to and control over resources, to create a summary index of autonomy. Jejeebhoy and Sathar find that there is a large variation in the levels and determinants of women's autonomy in South Asia. They find that region plays a greater part in shaping women's autonomy than religion or nationality.

Mason et al (2003) look at women's empowerment and social context in five Asian countries. In regard to empowerment they look at women's say in household economic decisions, their say in family-size decisions, women's freedom of movement, and their exposure to coercive controls by the husband. Their findings show that community can explain more variation in women's empowerment than their personal and household characteristics. Within countries, they find that two-thirds or more of the variation in women's empowerment between communities can be explained by gender norms. They also establish that female empowerment is multidimensional, where women can be empowered in some aspect and not in others,

and this tends to vary between communities. Thus, they find that the proxy measure of women's empowerment is problematic.

Jejeebhoy (2002) studies the convergence and divergence in spouses' perspectives on women's autonomy in India and investigates the influence of these perspectives on reproductive outcomes, such as contraception, unmet need, recent fertility and spousal communication. Women's autonomy is divided up into an index of mobility, an index of decision-making and an index of access to economic resources. She finds only a loose agreement between spouses when it comes to women's autonomy and that husband's are more likely to express a relatively liberal picture of their wives' autonomy. The results show a clear regional divide in the influence of the spouses' perspectives on reproductive health outcomes. Ghuman et al (2004) also measure women's autonomy according to women and their husbands, however in five Asian countries. They find that there is a difficulty of measuring gender relations, since the level of women's autonomy depends on if the husbands or wives answer the questions. The disagreement in perspectives between men and women differ between countries, which is not easy to explain. Therefore, they conclude that survey questions are limited in explaining differences in gender relations between countries.

4 Data and Models

4.1 Survey Description

The data used in this study is from the Survey on the Status of Women and Fertility (SWAF) India³. This micro data comes from a total of 1842 households in rural communities in Tamil Nadu and Uttar Pradesh, India. The idea behind the selection of these communities was to, within each state, draw half from a more developed area and half from a poorly developed area. Furthermore, within each site, half were to be Muslims and half were to be Hindus and the castes were to be oversampled, thus, half to be from the numerically dominant caste, and one fourth to be from the “upper” castes and one fourth to be from the “lower” castes in the area. Districts in each state were ranked according to available development indicators. The better-developed districts of UP were in the eastern part of the state and the poorly developed districts in the western part. In TN, better-developed districts were in the north west and lesser developed in the south east. Districts in UP that were politically unstable or dangerous were left out of the survey area. In TN Coimbatore (ranked 1 of 21) and Ramnathpuram (ranked 18 of 21) were selected. In UP, Meerut (ranked 2 of 63) and Pratapgarh (ranked 51 of 63) were selected. Sub-districts were selected similarly and clusters of villages were selected based on the adequate representation wanted above, and villages selected randomly.

³ Smith, Herbert L., Sharon J. Ghuman, Helen J. Lee, and Karen Oppenheim Mason. 2000. Status of Women and Fertility. Machine-readable data file (<http://www.pop.upenn.edu/swaf>). SWAF is provided by the Rockefeller Foundation and the Population Studies Centre of University of Pennsylvania. More information on Survey on the Status of Women and Fertility can be found on <http://swaf.pop.upenn.edu/index.html> (2010-08-10).

The household level surveys were directed towards married women in the ages 15-39 and included questions on the background of the woman, birth history, contraception methods, intra-family relationships, marriage history, gender issues, husband's characteristics as well as housing and possessions. Similar questions were also answered by the husband in the household.

4.2 Empirical Approach

The model used in this study is a binary choice probit model that estimates marginal effects of the determinants on the different empowerment variables. When working with discrete data (yes or no, 0 or 1) a linear regression model is in most cases inappropriate. Usually, models with limited dependent variables (binary choice models) are used when it comes to analyzing micro-data, such as data on individuals and households (Verbeek, 2008:199). The probit model used examines the probability of a woman being empowered, that is the probability of $y_i = 1$, and the probability of a woman not being empowered, that is the probability of $y_i = 0$. Thus, the probability of a woman being empowered depends on the independent variables described in the next section. The probit model is given by:

$$\text{Prob}(y_i = 1) = \Phi(\beta'x),$$

where Φ = the standard normal distribution. The coefficients' signs are clear in these models, but otherwise binary choice models can be difficult to interpret. Using a probit model reporting marginal effects, parameters can be interpreted as the direct effects of changes in the explanatory variables. The marginal effect, for a continuous explanatory variable, e.g. x_{ik} , is defined as the partial derivative of the probability that $y_i = 1$. The marginal effect in the probit model would be:

$$\partial\Phi(\mathbf{x}'_i\boldsymbol{\beta})/\partial\mathbf{x}_{ik} = \varphi(\mathbf{x}'_i\boldsymbol{\beta})\boldsymbol{\beta}_k,$$

where $\varphi(\cdot)$ denotes the standard normal density function. The change in the continuous variable, \mathbf{x}_{ik} , depends on the values of \mathbf{x}_i . In the equation above one can note that the sign of the effect of a change in \mathbf{x}_{ik} is always the sign of its coefficient $\boldsymbol{\beta}_k$. In the case of women's empowerment, some explanatory variables are discrete, e.g. a dummy variable. For a discrete variable, the effect of a change can be found by computing the implied probabilities for the two different outcomes *ceteris paribus* (Verbeek 2008:201f). The probit model was estimated in Stata, computing marginal effects directly.

Since a large number of potential determinants of female empowerment are included in our data set, our model determinants have been selected on the basis of their stable empirical performance. First, a rough estimate of the direct relationship between each dependent and potential independent variable was obtained using the simple correlation coefficient between each variable pair. Then, the models were run several times, excluding the insignificant variables, to find stable results. To begin with, the model was estimated with a state dummy for all empowerment variables, which is called the Common Model. This was done to show the relevance of geography and culture, thus, there are differences between the two states in the model. Secondly, the model was estimated for each state separately, using dummies for districts and dummies for villages. The Wald Test revealed the statistical relevance of including village dummies in the case of estimating the effects on mobility in Uttar Pradesh. Thirdly, differences between husband and wife answers to questions asked in regard to women's empowerment were looked at, and where found relevant were included in the model as a determinant. Model 1 is the state-specific model without the

differences in spouses' perspectives and Model 2 includes the differences in spouses' perspectives.

4.2.1 Variables

The dependent variable is women's empowerment, which is divided up into the following subgroups: decision-making power in the household, voice, mobility, freedom from domestic violence, and property rights. These variables range from 0 to 1 where 0 is not empowered and 1 is empowered. Thus, higher values indicate a greater freedom in the different empowerment variables. Exact survey questions and descriptive statistics of the dependent variables can be found in Appendix 2.

Decision-making power in the household shows the amount of say the woman has in household decisions, and was estimated as an average of several sub-variables. It is based on if she has a say in the household income, if she has the possibility to buy goods without needing permission and if she decides over her own work, her children's schooling etc. Mason and Smith (1999) and Ghuman (2003) used decision-making power related to household or economic affairs, but looks at if the woman has the *greatest say* over the decision to work outside the home and if she has the *greatest say* about purchasing major household goods, as well as if she is free to buy a small item of jewelry or a dress. However, Jejeebhoy and Sathar (2001) include some indicators showing if the wife participates in decision-making in regard to economy and Mason and Smith (1999) and Mason et al (2002 and 2003) include some indicators showing if the wife participates in decision-making in regard to economy and fertility. When measuring women's empowerment in the patriarchal society of India, we found it more relevant to look at if women have a say at all, than if they have the greatest say of all members in the household.

Voice is a variable showing the woman's freedom of expression, if she is able to express her views in the presence of her husband, family members and others. This variable was chosen to be a part of the empowerment variables to show the status of women within the household and it has not been included in previous studies using SWAF.

Mobility is a variable showing a woman's freedom of movement. It is based on if she is able to visit different places without the permission of a family member and if she can go to these places alone. These places include the local market, health care centre, fields outside the village, a temple, relatives and friends as well as a nearby village. Compared to Mason and Smith (1999), Jejeebhoy and Sathar (2001), Mason et al (2002 and 2003) and Ghuman (2003) this thesis includes more indicators of women's mobility and includes both the variables showing if the women need permission and those showing if the woman can go to these places alone.

Freedom from domestic abuse includes if she fears her husband and if her husband beats her. A woman may fear her husband although he does not beat her, due to underlying gender relations in the family where the husband abuses her in a non-violent way. Therefore, both variables were included to measure the level of domestic abuse. This matches indicators used in the indices by Mason and Smith (1999), Jejeebhoy and Sathar (2001), Mason et al (2002 and 2003) and Ghuman (2003).

Property rights shows if the woman owns land or any other property or valuables. In difference to Jejeebhoy's and Sathar's (2001) measure *access to and control over economic resources*, this variable only includes the indicators showing the woman's

full access to and control over property or valuables. Women's say in economic decision-making is included in the *decision-making in the household*-variable.

The dependent variables, described above, can all be part of indicating the empowerment process of women. Women are restricted in many ways due to gender-related constraints, and these can be found in decision-making, freedom of speech, mobility, domestic abuse, as well as the possibility to own land or property. The level of freedom from violence is lower in Tamil Nadu, the more advanced state. However, all other empowerment variables lag behind in Uttar Pradesh. In total, not one empowerment variable's average exceeds 60 %. The empowerment variable with the lowest value is property rights, showing that women may be empowered in some ways but not in others (See Appendix 2).

The independent variables are divided up into four subgroups: individual, husband, household and geographical characteristics. Individual characteristics of the woman include age, age at marriage, birth history, education, religion, scheduled tribe/caste, employment, and if she can support herself and her children without her husband. As described in Chapter 2 many women in rural India get married at a low age, which contributes to her disempowerment. Furthermore, a woman's birth history, including if she has had a still birth, is important to use as a determinant, to investigate the affect of a woman's reproductive status on her empowerment. This is an aspect that has not been used in previous studies using SWAF. Education, employment and economic status are some of the most commonly used determinants to explain women's empowerment. At a policy level, investing in women's education as well as delaying her age at marriage have been used in India for the sake of empowering women. The impact of religion as well as belonging to a scheduled caste/tribe on women's empowerment is also investigated. Household characteristics include household demographics, possessions and income. Demographics include the

amount of sons or daughters in the household, which, as described in Chapter 2, may determine gender-related constraints within the household. Intra-household relationships have in previous studies been limited to the impact of other adults in the household, but not included the amount of sons or daughters. Possessions, property and income determine the household's standard of living, which can affect women's empowerment as well. Husband characteristics include education, employment and if he lives with his wife. To determine the presence of gender-related constraints within the household, it is important to look at the husband's characteristics which can affect the woman's status within the household. Geographical characteristics are included as dummies for state, district and village. As described in Chapter 2, there are great differences between and within the states, which makes it relevant to include these dummies. Descriptive statistics of the independent variables can be seen in Appendix 3.

4.3 Husband and wife differences in answers

The same survey questions were asked to both the husband and wife when it comes to domestic violence, women's mobility and women's participation in decision-making in the household. The answers to these questions are compared by looking at the differences between husbands' and wives' answers by subtracting the husband's answers from the wife's. If the husband's answers were greater, i.e. they have a more positive view of women's empowerment, the difference is negative. The difference for an empowerment variable in total was estimated by calculating the mean value of all the survey answers in that category⁴. Table 4 shows the summary statistics over the differences in answers, in total, for TN and UP respectively.

⁴ Appendix 4 includes the survey questions and the husbands' answers, as well as the descriptive statistics of the differences in answers, for each independent variable.

The table below shows that in both states there was a difference between spouses' answers, where husbands answered more positively about women's empowerment than the women themselves answered. This is consistent with Jejeebhoy's (2002) findings that husbands are more likely to show a "comparatively liberal picture of their wives' autonomy". Thus, either the men exaggerate women's freedom from violence, mobility and participation in decision-making, or the women understate their empowerment.

Table 4 Summary statistics of the differences in husbands' and wives' answers

All data					
Variable	Obs	Mean	Std. Dev.	Min	Max
Domestic violence: difference in answers	1660	-0.340241	0.3763278	-1	1
Mobility: difference in answers	1524	-0.0676728	0.2775975	-1	.8666667
Decision-making in the household: difference in answers	1660	-0.1313253	0.2728899	-0.8888889	0.7777778
Tamil Nadu					
Variable	Obs	Mean	Std. Dev.	Min	Max
Domestic violence: difference in answers	826	-0.4503632	0.3869146	-1	.8
Mobility: difference in answers	812	-0.0935961	0.2833219	-1	.8
Decision-making in the household: difference in answers	826	-0.0860909	0.3142725	-0.8888889	0.7777778
Uttar Pradesh					
Variable	Obs	Mean	Std. Dev.	Min	Max
Domestic violence: difference in answers	834	-0.2311751	0.3314442	-1	1
Mobility: difference in answers	712	-0.0381086	0.2680735	-1	0.8666667
Decision-making in the household: difference in answers	834	-0.1761258	0.2155341	-0.8888889	0.4444444

The questions have yes or no answers with little room for individual interpretations, so it can not only be a question of valuing women's empowerment. Jejeebhoy (2002) explains that in surveys, compared to in in-depth discussions, men tended to give a more "acceptable" view of their wives' situation. Thus, the effect of differences in

spouses' perspectives on women's different empowerment variables depends on the local social norms shaping gender-related constraints. In areas with less gender-stratification, the wife's own perception probably shapes her situation to a greater extent and should be closer to the perception of her husband.

These differences will be included in the state-specific models to see if the difference in spouses' perceptions of women's empowerment plays a part in shaping the situation of women in the household. The assumption is that if the difference is great there might be a negative effect on women's empowerment since women see their situation as worse than their husbands understand. The next section will look at the state-specific models and will run one model without the differences included (Model 1) and one with differences included (Model 2), where applicable.

5 Estimation Results

This is a study based on household data from almost 2000 households in parts of rural India. When looking at women's empowerment, one must keep in mind the important role policies, formal institutions and the economic environment play in shaping women's capabilities in society. However, this study examines the importance of social and cultural norms, intra-household dynamics and individual characteristics in shaping women's empowerment. The driving factors of women's empowerment are multifaceted and diverse. This is one explanation to the low R² in the following results. Usually, goodness-of-fit measures are fairly low in discrete choice models (Verbeek, 2008:209). Thus, the coefficient of determination may be low even though there are relevant relationships found in the results. As mentioned in the introduction, there are limitations to using household surveys, but it is still one of the only ways of capturing the relationship between household members and the roles within a family. The results in this section show the marginal effect of the independent variables on the empowerment variables.

As previously argued, we expect the determination of women's empowerment to vary between the two states. To verify the general state impact on women's empowerment, a common model including a dummy variable for TN has been estimated. The estimation results for the common model are included in Appendix 5. In four out of five cases the state dummy was found to be significant and positive (the state dummy was negative and insignificant in regard to freedom from violence). Thus, a woman has a better situation when it comes to mobility, voice, decision-

making power and property rights in Tamil Nadu than in Uttar Pradesh. When it comes to property rights this effect raises the probability of women's empowerment with 0.56, showing that women in TN have a twice as high possibility of owning land or property compared to women in UP. This shows the significance of running the regressions at state level.

5.1 Mobility

The Wald Test showed that women's mobility in Uttar Pradesh is affected by her place of residence, which village she belonged to. Therefore, village dummies are included in the models run for UP. The district dummies were found significant for both states, showing that there is a difference in women's mobility depending on where she lives. In TN a significant negative marginal effect was found for the state dummy for District 1 (Coimbatore), the more advanced district in TN. Unexpectedly, women living in Coimbatore have marginally less mobility than other women in TN. This is difficult to explain, since the district dummy may pick up differences that are not observed. However, one explanation may be that power-relations within the household become stronger income rises, which puts greater pressure on the woman's mobility. In UP there was a large and significant positive effect for living in District 3, Pratapgarh, the less developed district. An explanation for this effect may be that less developed infrastructure requires greater mobility to do the same tasks. Thus, women might have to travel greater distances to get water, wash clothes, etc. Uttar Pradesh is one of the largest states in India.

In both states, the age of the woman had a positive effect on her mobility. In other words, as a woman gets older she gains more mobility. This can be explained by her role changing in the household with age. One can assume that when her mother-in-

law or older female family members pass, she becomes the head-female of the household and may be able to exercise greater power and mobility. Furthermore, she may have more tasks which are not limited to the household. In India, a young woman in a new household usually is limited to domestic work and household chores. However, the age effect was greater in UP. This may indicate that there is a greater hierarchy within the family, in regard to mobility, in UP. Furthermore, women's mobility is lower in UP than in TN (see Appendix 2). This may imply diminishing returns, i.e. the lower the mobility the greater is the effect of age.

Years of schooling was significant in both states, however, with opposite effects. The amount of schooling displayed a negative marginal effect on women's mobility in TN, and a positive marginal effect in UP. Since TN is more socially advanced than UP, with a slightly higher level of educational enrollment. The negative effect may indicate that one more year of education hinders a woman's mobility since she is limited to household chores and school work; however the effect is still very small⁵. On the other hand, UP shows a below average level of enrollment, which makes the state reflect the general view that education has a positive effect on mobility, and thus women's empowerment. In regard to husband's years of schooling, a negative marginal effect was found in UP, but was found to be insignificant in Model 2. This phenomenon points to the effect of the husbands' perspective being captured in the *difference in perception*-variable, and thus the negative effect of husband's education shown in Model 1 is not the true explanatory variable.

⁵ The true impact is calculated as the marginal effect x the mean for TN, found in Appendix 3, which gives $-0.00073 \times 3.260427 = -0.00238$. This is still an extremely small negative effect.

Table 5 Probit regression results for women's mobility

Variables	Tamil Nadu		Uttar Pradesh	
	Model 1	Model 2	Model 1	Model 2
Age	0.00152*** (0.00052)	0.00031** (0.00022)	0.018168*** (0.0026019)	0.0196099*** (0.0028847)
Years of schooling	-0.00244*** (0.00105)	-0.00073*** (0.00049)	0.00773* (0.004938)	0.0041479 (0.0053225)
Age at marriage	0.00253* (0.00157)	-	-	-
Husband's years of schooling			-0.0059997* (0.0033745)	-0.0050893 (0.0036556)
Able to support herself and her children			0.0742849** (0.0299473)	0.0941354*** (0.0327451)
Total Income past 12 months	-2.75e-07** (1.25e-07)	-		
Husband or wife owns house			0.0936143*** (0.032869)	0.0993571*** (0.0366084)
Dummy religion (Hindu)	0.01761*** (0.00683)	0.00877*** (0.00488)	-	-
Dummy District 1	-0.02703*** (0.00920)	-0.00608*** (0.00411)	-	-
Dummy District 3	-	-	0.2538899*** (0.0657469)	0.3536937*** (0.0715857)
Village 1			0.1120456* (0.0556993)	0.1033338 (0.0608478)
Village 2			-0.0154888 (0.1302857)	0.499472 (0.1166509)
Village 3			-0.0937187 (0.1411766)	-0.0813908 (0.1566801)
Village 4			-0.0396929 (0.119675)	-0.0064974 (0.1204026)
Village 5			-0.3248333** (0.176121)	-0.2917136* (0.1985274)
Village 6			-0.2736759** (0.1465142)	-0.2421695* (0.162356)
Village 7			-0.1670124 (0.1167777)	-0.297528** (0.1352372)
Village 19			-0.0128991 (0.0858217)	0.0416199 (0.0804479)
Village 21			0.0053556 (0.0658898)	0.0049616 (0.0718337)
Village 22			-0.0535198 (0.1321895)	-0.0347178 (0.1559763)
Village 23			0.1137646* (0.0497298)	0.0970078 (0.0577612)
Village 24			0.0183683 (0.1366512)	0.0650994 (0.1211989)
Village 25			0.0767005 (0.0594945)	0.0647138 (0.0671028)
Difference in spouses' perceptions		0.02435*** (0.01353)		0.5485296*** (0.0672443)
Pseudo R2 =	0.2039	0.4031	0.1685	0.2403
Log likelihood =	-104.08371	-70.698945	-397.96044	-313.3548

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses

The woman's age at marriage was found to have a significant positive marginal effect on mobility in Tamil Nadu. The older the woman is when married, the greater

mobility she has in the new household. This reveals the significance of policies directed at delaying the age at marriage and the importance of putting the existing laws into practice.

If the woman is able to support herself and her children, there is a strong positive marginal effect on the woman's mobility in UP. As explained earlier, an increased economic status of women can come to increase her status within the household. Another income measure is if the husband and/or wife own their house, which shows a positive effect on women's mobility. Thus, the better-off the family is the greater mobility the wife has. In TN, however, the income effect on women's mobility was very low, but significant. The results indicate that being a Hindu has a positive marginal effect on a woman's mobility in TN. Since the sample only consists of Hindu and Muslim women, one can conclude that Muslim women in rural TN have less mobility than Hindu women.

Model 2 for both states prove that the difference in husbands' and wives' answers in regard to women's mobility is significant, having a much greater effect in UP than in TN. Thus, not only the perspective of the wife, but the perspective of the husband helps shape norms in which gender-related constraints are formed. Including the *difference in perception*-measure in the model increases the coefficient of determination. This implies that the perspective of the husband influences women's situation in rural India.

5.2 Voice

The results give evidence that a woman's ability to express her opinion in TN is negatively affected if she has had a still birth (see Table 6). This is consistent with the common model (see Appendix 4), showing that a woman's status within the family decreases when she "fails" in reproducing. When a woman has a still birth there is a negative marginal effect on her voice. A still birth represents her inability of reproducing, which is expected of her as a married woman. This shows the importance of investing in reproductive health programs involving the husband and the wife. Furthermore, in TN the amount of sons in the household has a negative marginal effect on women's voice, indicating the presence of gender-related constraints within the household. This result indicates that a mother may be restrained by her own sons when wanting to express her opinion. The son-preference may be reflected as a male-preference, where they are valued higher than senior female members of the family.

In UP a positive marginal effect was seen if the woman can support herself and her children without the help of her husband. She may be less constrained by other peoples' presence in expressing herself, confirming that a woman with economic status also gains a self-esteem which enables her to utilize her right to express herself. This reflects the argument of Amartya Sen (2000:115), that a woman with a greater economic status is able to increase her status within the family. Another income measure is household possessions, which is significant with regard to women's voice in UP. One can interpret this as when a family has a higher economic status, the woman's voice is affected positively.

Table 6 Probit regression results for women's ability to express their opinion (voice)

Variables	Tamil Nadu	Uttar Pradesh
Age	0.00105** (0.00050)	0.001646* (0.0009908)
Ever had a stillbirth	-0.02739* (0.02455)	-
Sons in household	-0.00408** (0.00218)	-
Able to support herself and her children	-	0.0356199** (0.0147741)
Husband's years of schooling	-	0.0035931** (0.0014885)
Household possessions	-	0.0213101** (0.0075102)
Dummy district 1	-0.01900*** (0.00835)	-
Dummy district 3	-	0.0103491 (0.0130366)
Pseudo R2	0.1456	0.0785
Log likelihood	-49.983761	-110.96757

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses

The husband's education displays a positive marginal effect on women's voice in rural UP. An educated man may not be as bound to social and cultural norms, which an uneducated man may be, thus his wife may feel freer to express herself in his presence. The levels of education are higher in TN than in UP, indicating that female empowerment increases with husband's education up to a certain level. Investing in men's education is thus important for the empowerment process of women. Surprisingly, the district dummy was only significant in the case of TN, implying a negative marginal effect on women's voice if the woman lives in Coimbatore, the more advanced district in TN. This is the same effect seen with women's mobility in TN.

5.3 Decision-making power in the household

In both states, the greatest positive marginal effect on a woman's decision-making power in the household was if the husband and/or wife own their house (See table 8). Stable results show that women's decision-making power in the household in TN is determined by their age, household possessions, if she or her husband owns their house and which district she lives in. In contrast to women's mobility and voice in TN, women living in the more advanced district (District 1) seem to be greater empowered when it comes to household decision-making.

Table 7 Probit regression results for women's decision-making power in the household

Variables	Tamil Nadu		Uttar Pradesh	
	Model 1	Model 2	Model 1	Model 2
Age	0.00104*** (0.00045)	0.00003* (0.00005)	0.00498*** (0.00130)	0.00360*** (0.00928)
Years of schooling	-	-	0.00637** (0.00250)	0.00160 (0.00123)
Age at marriage			-0.00440* (0.00263)	-
Household possessions	0.00471*** (0.00254)	0.00022*** (0.00037)	-	-
Husband or wife own house	0.01241*** (0.00686)	0.00105*** (0.00154)	0.04506*** (0.01626)	0.01712* (0.00933)
Dummy District 1	0.00526* (0.00393)	0.00056** (0.00082)	-	-
Dummy District 3	-	-	-0.01223 (0.01551)	-0.00862 (0.00751)
Difference in spouses' perspectives	-	0.00161*** (0.00256)	-	0.16879*** (0.03592)
Pseudo R2	0.2240	0.4319	0.0960	0.2950
Log likelihood	-69.712457	-37.98983	-194.30866	-148.4404

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses

The results show that in UP a woman's decision-making power in the household is determined by her years of schooling, age, age at marriage, and if the husband and/or wife own their house. In both states traditional empowerment factors, such as education and income measures, seem to be the main determinants of women's

ability to participate in decision-making in the household. Surprisingly, in UP the age at marriage seems to have a negative effect on women's decision-making in the household. This may be explained by the stigma for a woman to be married at an older age or that a young wife is limited to household activities, which gives her a greater say of matters of the household, than if she had employment outside of her home.

The differences in husbands' and wives' perceptions on women's decision-making power in the household were highly significant in both states, with a larger effect in UP. This implies that the smaller the difference in spouses' perspectives on women's decision-making power in the household, the greater is the woman's possibility to engage in household decisions. Including this measure increased the coefficient of determination notably.

5.4 Freedom from domestic abuse

The results indicate that a woman's freedom from domestic abuse in TN depends on her age at marriage, her husband's education, if her husband lives with her, household income and if she or her husband owns their house (see Table 8). These results give further evidence that a younger wife is more vulnerable to domestic abuse. Furthermore, if a husband lives with his wife she is more exposed to her husband's abuse. In this case investing in husbands' education is positive for women's freedom from abuse in the household. The income effect is negative, but very small. If the spouses own their house there is a stronger positive marginal effect on women's freedom from domestic abuse. In Tamil Nadu the district dummy was found to be insignificant.

Table 8 Probit regression results for women's freedom from domestic abuse

Variables	Tamil Nadu		Uttar Pradesh	
	Model 1	Model 2	Model 1	Model 2
Age at marriage	0.00716** (0.00283)			
Years of schooling	-		0.00401** (0.00188)	0.00031** (0.00032)
Husband's years of schooling	0.00388** (0.00168)	0.00265*** (0.00115)		
Husband live with wife	-0.03262** (0.00952)			
Total Income of past 12 months	-6.27e-07** (3.07e-07)			
Husband or wife own their house	0.03164*** (0.01242)	0.01260* (0.00831)		
Dummy District 1	0.00220 (0.01117)	-0.00580 (0.00732)		
Dummy District 4	-	-	-0.07462*** (0.01487)	-0.00623*** (0.00432)
Difference in spouses' perceptions	-	0.07248*** (0.01520)	-	0.00822*** (0.00804)
Pseudo R2	0.0752	0.1898	0.1725	0.4264
Log likelihood	-160.46208	-117.39139	-133.40006	-91.825066

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses

In UP, the results display a significant positive marginal effect of women's schooling on their freedom from abuse, as well as a significant negative effect if they live in district 4, Meerut, the more advanced district within the state. Therefore, one can conclude that in UP, women's education is the most important individual characteristic to combat domestic abuse.

In both states there is a positive marginal effect from the *difference in perception*-variable and Model 2 has a higher coefficient of determination. Thus, the smaller the difference in spouses' perceptions on women's freedom from abuse, the less vulnerable she is to being abused. The effect is larger in TN than in UP. The effect of differences in spouses' perspectives on women's empowerment seems to be larger in the state with less empowerment. TN has an average lower than UP when it comes to freedom from domestic abuse. Further, TN has a greater difference in spouses' answers when it comes to domestic violence.

5.5 Property rights

The results show that a woman's ability to own property in UP is affected by her education, her husband's education, their income, and if she belongs to a scheduled caste. Thus, the importance of education for the possibility to own land in UP is clear.

Table 9 Probit regression results for women's property rights

Variables	Tamil Nadu	Uttar Pradesh
Years of schooling	-	0.0102451** (0.0049536)
Sons in household	-0.02946** (0.01175)	
Husband's years of schooling	-	0.015486*** (0.0034713)
Husband live with wife	-0.11564*** (0.03372)	
Total income past 12 months	7.42e-06*** (1.63e-06)	6.11e-07* (4.10e-07)
Dummy Scheduled caste	-0.12615*** (0.05063)	-0.0746817* (0.0433134)
Dummy District 1	-0.00036 (0.02965)	
Dummy District 4	-	0.020883 (0.0315262)
Pseudo R2	0.0701	0.0594
Log likelihood	-427.61781	-472.26003

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses

The negative marginal effect of the amount of sons in the household in TN can be explained by the social norms around inheritance. The effect reflects the patrilineal pattern of inheritance and the view that women are less suited to own property than men. A woman would not have as large possibilities to inherit land or other property with sons in the household. These gender-related constraints may also be shown through how the family prioritizes its members and intra-family relations. Thus, one can assume that a male is prioritized over a female when it comes to status, and that a male would be given more possibilities to own property than females. In TN it was

also proven that when the husband lives with his wife there is a negative marginal effect on his wife's possibility to own property. This reinforces the gender-related constraints, indicating that a woman is inferior to her husband when it comes to owning property.

Household income displays a positive marginal effect on women's property rights in TN. Thus, women who live in "better-off" households have a greater chance of owning property. This effect is however extremely small.

The dummy for scheduled castes is negative for both states, being consistent with the joint model, showing the discriminated status of Scheduled Castes. In neither state the district dummies were significant, which may indicate a widespread view of women being unsuitable as property owners. In the case of property rights it seems as though individual and household traits play a greater importance than community and in TN gender-related constraints are shown to be present within the family and helps to shape women's disempowerment.

5.6 Further Studies

Further studies on women's empowerment in India would need to dig deeper into gender-related constraints within the household. These have been seen to be present in both Tamil Nadu and Uttar Pradesh and need to be investigated further for effective policy making. The models can be improved by including more determinants to increase the coefficient of determination. Furthermore, the link between individual characteristics and community need to be examined. In addition, the determinants of husband and wife divergences in perspectives of women's empowerment would be needed to achieve micro-level social change within the

household. Not all determinants are easy to explain, which makes it more important with knowledge of local customs, culture and community characteristics.

6 Conclusion

This thesis has investigated the determinants of women's empowerment in rural Tamil Nadu and Uttar Pradesh, India, with the aim to see if intra-household gender-related constraints are present. The aggregate model showed that there is a divide between TN and UP and that the determinants of women's empowerment vary between states and within states. Geography, environment and community play a part in shaping the informal institutions, which, in turn, shape women's empowerment possibilities. When looking at the different empowerment variables the results showed that they are determined by different things. This verifies the relevance of investigating the different sides of women's empowerment and not looking at it as an overall index. Women's empowerment is multidimensional and at different stages of the empowerment process women may have different needs.

This study shows that social and cultural norms are present in regard to determining women's status within the household and the role she has in society. The gender-related constraints found in intra-household relations were captured in the variables showing if a woman ever had a still birth, how many sons live in the household, if the husband lives with his wife. These were more often found to be significant in Tamil Nadu, but not in Uttar Pradesh. Furthermore, the husband's education and the husband's perceptions of his wife's empowerment also show the interplay between members of the household in shaping a woman's empowerment. In Uttar Pradesh, education and income seemed to have a greater significance on women's empowerment. The economic status of a woman, shown by a variable indicating if

she can support herself and her children, had a strong positive marginal effect on women's voice and mobility in UP. In order to increase women's economic status, policies should continue to support women's organizations and self-help groups, which are directed towards education, vocational training, employment and access to microfinance. This is in line with the recommendations given in the *World Survey on the Role of Women in Development* (UN DESA, 2009:91).

The findings in this thesis support policies which have been used to empower women in India, e.g. promoting education and delaying age at marriage (with an exception of decision-making in the household in Uttar Pradesh). Education of both men and women is a highly relevant investment in regard to women's empowerment. Although this is an end in itself, it is not enough to address women's empowerment in regard to mobility, voice, decision-making power in the household, freedom from domestic abuse and property rights. Women need to understand their rights, which they can do through education, but gender-related constraints hinder their possibilities to use them. The results show that educational policies should be directed towards less developed areas, where there is a lack of universal primary school education. In Uttar Pradesh there seemed to be a greater significance of education (both men's and women's education) on all aspects of women's empowerment, mobility, voice, decision-making power, freedom from violence and property rights. However, in Tamil Nadu, the effect of education was insignificant except on women's freedom from domestic abuse where husbands' education showed a positive marginal effect.

Women's age at marriage was seen as a significant determinant when it comes to mobility, decision-making in the household and freedom from domestic violence. Therefore, continued efforts towards delaying a woman's age at marriage are encouraged. A woman who is older at marriage has a greater possibility to control

her own situation and has a greater say in her own life. The positive age effect was found in both states for mobility, voice, and decision-making power. In some aspects of empowerment, women in India gain status with age. However, in regard to freedom from domestic abuse and property rights she may be discriminated her whole life.

However, the traditional strategies of increasing education and delaying the age of marriage is not enough where social norms still discriminate against women. One can see that the more demographically advanced state when it comes to education, marriage age and fertility was the state where social norms were the greatest barriers to women's empowerment. One must keep in mind that the individual characteristics shaping women's empowerment may be shaped by the community in which she lives. This indicates further that in order to deal with intra-household discrimination the community must change. Since gender relations are shaped by social and cultural norms, which are captured by community level differences, policy-making directed towards empowering women should involve social change. Due to the great impact of communities on women's domestic situation, changing societies' gender systems can help empower women. This is in line with previous studies showing that institutional changes are essential for the empowerment of women and girls (see Mason and Smith, 2003; World Bank, 2001; UN DESA, 2009).

Furthermore, social norms captured by the groups women belonged to were also relevant in determining their empowerment. Hindu-Muslim differences were found in women's mobility and women belonging to Scheduled Castes were disadvantaged when it comes to property rights. This indicates that more needs to be done when it comes to disadvantaged groups in society and that the national legislation in place must be implemented. The results encourage the accountability of policy-makers and further implementation of existing laws. New mechanisms need to come into place

when it comes to women's legal aid in regard to domestic violence and women's rights to land and property. Further, awareness should be raised on the issue of equal property rights (in line with recommendations given by the UN DESA, 2009:91).

Differences in spouses' perceptions of women's empowerment were seen to have a great impact on women's situation in both states. Thus, there is an interaction between household members in shaping rules and norms. In a policy perspective it is important to involve men in promoting women's empowerment. The *World Survey on the Role of Women and Development* recommends to "Take specific measures to address stereotypes relating to the employment of both women and men, including through awareness raising and advocacy and identifying positive role models," (UN DESA, 2009:90). This should not only be limited to work outside the household, but to unpaid work in the household. Women in India lack full empowerment in all areas studied, thus a lot is left to be done. Educating women and men in the presence of gender roles and challenging traditional structures are essential to create a sustainable change for women in society and for overall development.

References

Boender, Carol, Anju Malhorta, and Sidney R. Schuler, 2002, *Measuring Women's Empowerment as a Variable in International Development*, Background Paper Prepared for the World Bank Workshop on Poverty and Gender: New Perspectives,

Census India, 2001, <http://www.censusindia.gov.in/>, (2010-08-24)

Constitution of India, <http://indiacode.nic.in/coiweb/welcome.html>, (2010-08-24)

CSW, Commission on the Status of Women, 2009, *Report of the 53rd Session*, United Nations: Economic and Social Council

Eyben, Rosalind, Andrea Cornwall and Naila Kabeer, 2008, *Conceptualising empowerment and the implications for pro poor growth*, A paper for the DAC Poverty Network, Institute of Development Studies

Ganatra, Bela, 2008, "Maintaining Access to Safe Abortion and Reducing Sex Ratio Imbalances in Asia," in *Reproductive Health Matters*, Vol. 16, No. 31 Supplement, pp. 90-98

- Ghuman, Sharon, 2003, "Women's Autonomy and Child Survival: A Comparison of Muslims and Non-Muslims in Four Asian Countries" in *Demography*, Vol. 40, No. 3, pp. 419-436
- Ghuman, Sharon, Helen J. Lee and Herbert L. Smith, 2004, *Measurement of Women's Autonomy According to Women and Their Husbands in Five Asian Countries*, PSC Research Report, Report No. 04-556, Population Studies Center at the Institute for Social Research, University of Michigan
- Hatti, Neelambar, T.V. Sekher and Mattias Larsen, 2004, *Lives at Risk: Declining Child Sex Ratios in India*, Lund Papers in Economic History, No. 93, Department of Economic History, Lund University.
- HRW, Human Rights Watch, 1999, *Broken People: Caste Violence Against India's "Untouchables"*, New York: Human Rights Watch
- ICPD+15 India, 2009, *Gains and Gaps – ICPD + 15: A Civil Society Review in India*, <http://www.icpd15india.org/about-us/concerns-today.html>, 2010-07-01
- IIPS, *National Family and Health Survey Key Findings 1998-99*, Mumbai: International Institute for Population Science, <http://www.nfhsindia.org/data/india/keyfind.pdf> (2010-08-10)
- Jejeebhoy, Shireen, 2002, "Convergence and Divergence in Spouses' Perspectives on Women's Autonomy in India," in *Studies in Family Planning*, Vol. 33, No. 4, pp. 299-308

- Jejeebhoy, Shireen, Leela Visaria and Tom Merrick, 1999, "From Family Planning to Reproductive Health: Challenges Facing India," in *International Family Planning Perspectives*, Vol. 25, Supplement (Jan 1999), pp. S44-S49
- Jejeebhoy, Shireen and Zeba A. Sathar, 2001, "Women's Autonomy in India and Pakistan: The Influence of Religion and Region," in *Population and Development Review*, Vol. 27, No. 4, pp. 687-712.
- Kabeer, Naila, 2001, "Resources, Agency Achievements: Reflections on the Measurement of Women's Empowerment," in *Discussing Women's Empowerment – Theory and Practice*, Sida studies no.3, pp. 17-57
- Kishor, Sunita and Kamla Gupta, 2009, *Gender Equality and Women's Empowerment in India*, National Family Health Survey (NFHS-3), India, 2005-06, Mumbai: International Institute for Population Sciences; Calverton, Maryland, USA: ICF Macro,
http://www.nfhsindia.org/a_subject_report_gender_for_website.pdf,
(2010-08-12)
- LABORSTA, 2010, ILO's database of Labor Statistics,
<http://laborsta.ilo.org/STP/guest>, (2010-07-01)
- Mason, Karen O. and Herbert L. Smith, 1999, *Female Autonomy and Fertility in Five Asian Countries*, Paper presented at the Annual Meetings of the Population Association of America, New York, March 25-27. Can be found at: <http://swaf.pop.upenn.edu/publicationspage.html>, (2010-08-12)

Mason, Karen O. and Herbert L. Smith, 2003, *Women's Empowerment and Social Context: Evidence from Five Asian Countries*, Paper at The World Bank and The University of Pennsylvania

Mason, Karen O., S. Philip Morgan, Sharon Stash, and Herbert L. Smith, 2002, "Muslim and Non-Muslim Differences in Female Autonomy and Fertility: Evidence from Four Asian Countries," in *Population and Development Review*, Vol. 28, No. 3, pp. 515-537.

MDG Monitor, *Tracking the Millennium Development Goals*, An initiative of the United Nations,
<http://www.mdgmonitor.org/map.cfm?goal=4&indicator=0&cd=>,
(2010-07-01)

NFHS, *National Family and Health Surveys, India*,
<http://www.nfhsindia.org/index.shtml> (2010-08-10).

RGMVP, *Rajiv Gandhi Mahila Vikas Pariyojana*, <http://www.rgmvp.org/>,
(2010-07-05)

Sen, Amartya, 1992, "Missing Women: Social Inequality Outweighs Women's Survival Advantage In Asia And North Africa," in *British Medical Journal*, Vol. 304, No. 6827, pp. 587-588.

Sen, Amartya, 2000, *Development as Freedom*, New Delhi: Oxford University Press

Sen, Ruchira, 2008, *Education for Women's Empowerment: An Evaluation of the Government Run Schemes to Educate the Girl Child*, CCS Working Paper No. 183, Centre for Civil Society, India

SIFSPA, *State Innovations in Family Planning Services Project Agency*, http://www.sifpsa.org/upp_policy/intro/background.htm, (2010-07-05)

Speybroeck, Niko and Ellen Van de Poel, 2009, "Decomposing malnutrition inequalities between Scheduled Castes and Tribes and the remaining Indian population", in *Ethnicity & Health*, Vol. 14, No. 3, pp. 271-287

SWAF: Smith, Herbert L., Sharon J. Ghuman, Helen J. Lee, and Karen Oppenheim Mason. 2000. *Status of Women and Fertility*. Machine-readable data file (<http://www.pop.upenn.edu/swaf>).

Tamil Nadu Government, *2.29 Women's Development and Child Rights*, in Annual Plan 2008-2009, Tamil Nadu: State Planning Commission, found at http://www.tn.gov.in/spc/annualplan/ap2008_09/2_29_WOMEN%27S_DEVELOPMENT.pdf, (2010-07-05)

UN DESA, 2009, *World Survey on the Role of Women in Development*, United Nations Publication

UNICEF India, http://www.unicef.org/india/child_protection_1536.htm, (2010-05-03)

United Nations Resolution, *64/217 Women in Development*, 2nd Committee

UP Government, *Uttar Pradesh Government*, <http://upgov.nic.in/>, (2010-07-05)

Verbeek, Marno, 2008, *A Guide to Modern Econometrics*, 3rd Edition, Chichester:
John Wiley and Sons Ltd.

Webster's Dictionary, <http://www.websters-online-dictionary.org>, (2010-07-01)

World Bank, 2001, *Engendering Development: Through Gender Equality in Rights, Resources, and Voice*, Washington D.C.: Oxford University Press and The World Bank.

World Bank, *The World Bank and Gender Equality: At a glance*,
[http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/0,,
contentMDK:22386117~pagePK:210058~piPK:210062~theSitePK:336868,0
0.html](http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTGENDER/0,,contentMDK:22386117~pagePK:210058~piPK:210062~theSitePK:336868,00.html), (2010-08-10)

Appendix 1: Correlation Matrix

	Freedom from domestic abuse	Property Rights	Decision-making in the household	Mobility	Voice	Age	Years of Schooling
Property Rights	-0.0810	1.0000					
Decision-making in the household	-0.0364	0.1858	1.0000				
Mobility	0.0177	0.2387	0.3642	1.0000			
Voice	0.0412	0.0609	0.2678	0.3462	1.0000		
Age	-0.0048	0.0273	0.2683	0.3204	0.1802	1.0000	
Years of schooling	0.1251	0.2684	0.0766	0.0751	0.0884	-0.0792	1.0000
Age at marriage	-0.0482	0.3131	0.1203	0.2004	0.1661	-0.0347	0.4288
Able to support herself and children alone	-0.0179	-0.1027	0.1604	0.0407	0.0697	0.0300	-0.0104
Farm work	0.0862	-0.0524	-0.0983	-0.1903	-0.1088	-0.1227	0.1613
Agri work	0.0221	-0.0545	-0.0801	-0.1211	-0.1380	-0.1132	0.0465
HH possessions	-0.0974	-0.2398	-0.0533	0.0817	0.0084	0.0008	-0.4786
HH income past 12 months	0.0334	0.0539	-0.0340	-0.1148	-0.0639	-0.0132	0.2557
H/W own house	-0.0222	0.0478	0.1837	0.2375	0.1316	0.3563	-0.1448
Husband's years of schooling	0.1331	0.1066	0.0141	-0.1082	-0.0092	-0.0716	0.4468
Husband live with wife	0.0752	0.1169	0.0317	0.0850	0.0086	-0.0155	0.0663
Husband work past 12 months	0.0153	0.0020	-0.0364	-0.0328	-0.0379	-0.0215	0.0338
Sons in HH	-0.0201	-0.0961	0.0716	-0.0180	-0.0388	0.4048	-0.1681
Daughters in HH	0.0092	-0.0855	0.0185	-0.0217	-0.0203	0.3092	-0.1257
Still birth	0.0262	-0.0899	-0.0060	-0.0691	-0.0155	0.1391	-0.0937
Live births	-0.0013	-0.1450	0.1168	0.0947	0.0142	0.6643	-0.2641
Hindu	0.0601	-0.0095	0.0276	0.1176	0.1090	-0.0018	0.0831
Muslim	-0.0609	0.0106	-0.0271	-0.1165	-0.1081	0.0023	-0.0823
Scheduled Caste	-0.0332	-0.1169	0.0008	0.0747	0.0348	-0.0209	-0.1873
Difference							
Mobility Difference	0.0225	-0.0433	0.1200	0.4464	0.0246	0.0812	0.0329
Decisions Difference	-0.0097	0.0674	0.6641	0.1569	0.1260	0.0610	0.0700
Freedom from abuse	0.7575	-0.1515	-0.0737	-0.0857	-0.0867	-0.0752	-0.0171

	Age at marriage	Able to support herself and children alone	Farm work	Agri work	HH possessions	HH Income past 12 months	Husband or wife own house
Age at marriage	1.0000						
Able to support herself and children alone	-0.1047	1.0000					
Farm work	0.0828	-0.1193	1.0000				
Agri work	0.0329	-0.0361	0.1787	1.0000			
HH possessions	-0.1740	-0.0295	-0.1441	-0.0684	1.0000		
HH income past 12 months	0.0670	0.0310	0.0221	0.0460	-0.4399	1.0000	
Husband or wife own househ	-0.0410	-0.0054	-0.0961	-0.0875	0.1296	-0.1272	1.0000
Husband's years of schooling	0.0964	0.0287	0.1229	0.0854	-0.5227	0.3232	-0.2052
Husband live with wife	-0.0184	-0.0357	-0.0437	0.0244	-0.0727	0.0856	-0.0142
Husband work past 12 months	0.0119	-0.0367	0.0554	0.0350	0.0035	-0.0237	-0.0343
Sons in HH	-0.1548	-0.0010	0.0420	0.0258	0.0451	0.0086	0.1568
Daughters in HH	-0.1499	0.0031	0.0465	-0.0051	0.0463	-0.0217	0.1127
Still birth	-0.1170	0.0216	0.0093	-0.0010	0.0510	-0.0108	0.0647
Live births	-0.3050	0.0500	-0.0141	-0.0323	0.0943	-0.0312	0.2939
Hindu	-0.0406	0.0993	-0.1985	-0.1734	-0.0724	0.0875	-0.0388
Muslim	0.0408	-0.1006	0.1977	0.1731	0.0725	-0.0871	0.0398
Scheduled Caste	-0.1984	0.0805	-0.1494	-0.1596	0.1913	-0.1183	0.0699
Difference Mobility	0.0621	0.1086	0.0321	0.0145	-0.0961	0.0295	0.0139
Difference Decisions	0.0663	0.1217	-0.0319	-0.0508	-0.0238	-0.0402	0.0253
Differnce Freedom from abuse	-0.1433	0.0273	0.0717	0.0313	-0.0176	-0.0191	-0.0342

	Husband's years of schooling	Husband live with wife	Husband work past 12 months	Sons in HH	Daughters in HH	Stillbirth	Live births
Husband's years of schooling	1.0000						
Husband live with wife	0.1289	1.0000					
Husband work past 12 months	0.0576	-0.0006	1.0000				
Sons in HH	-0.0731	-0.0375	0.0078	1.0000			
Daughters in HH	-0.0393	-0.0250	-0.0297	-0.0295	1.0000		
Still birth	-0.0219	0.0079	0.0127	0.0743	0.0347	1.0000	
Live births	-0.1312	-0.0312	-0.0335	0.6184	0.5768	0.1338	1.0000
Hindu	0.1683	-0.1040	-0.0508	-0.1084	-0.0997	-0.0423	-0.0969
Muslim	-0.1681	0.1045	0.0510	0.1090	0.0991	0.0392	0.0970
Scheduled Caste	-0.1901	-0.0594	-0.0244	-0.0035	-0.0231	0.0003	0.0324
Difference Mobility	-0.0210	-0.0180	-0.0522	0.0121	-0.0181	-0.0702	0.0465
Difference Decisions	0.0116	-0.0412	-0.0290	0.0176	-0.0492	-0.0195	-0.0047
Difference Freedom from abuse	0.0488	0.0890	0.0347	-0.0303	-0.0143	0.0632	-0.0097

	Hindu	Muslim	Scheduled Caste	Difference Mobility	Difference Decisions	Difference Freedom from abuse
Hindu	1.0000					
Muslim	-0.9989	1.0000				
Scheduled Caste	0.3760	-0.3755	1.0000			
Difference Mobility	-0.0894	0.0890	-0.0552	1.0000		
Difference Decisions	0.0185	-0.0181	0.0265	0.1836	1.0000	
Difference Freedom from abuse	0.0412	-0.0423	0.0109	0.0317	-0.0473	1.0000

Appendix 2: Survey Questions and Descriptive Statistics for Dependent Variables

Decision-making power – survey questions and descriptive statistics

Questions asked	Obs	Mean	Std.Dev.	Min	Max
Do you have say in how the household's overall income is spent?	1842	.8501629	.3570086	0	1
Do you get any cash in hand to spend on household expenditure?	1842	.8441911	.3627726	0	1
If you wanted to buy yourself a dress/sari, would you feel free to do so without consulting your husband or a senior member of your family?	1842	.281759	.4499786	0	1
If you wanted to buy yourself a small item of jewellery, such as a pair of earrings or bangle, would you feel free to do it without consulting your husband or a senior member of your family?	1842	.1628664	.369344	0	1
If you wanted to buy a small gift (such as bangles, clothes) for your parents or other family members, would you feel free to do so without consulting your husband or a senior member of your family?	1842	.1786102	.3831296	0	1
Do you have a say in whether to purchase major goods for the household such as a TV?	1842	.2893594	.4535882	0	1
Do you have a say in whether or not you should work outside the home?	1842	.6281216	.4834374	0	1
Do you have a say in how many children to have?	1842	.8306189	.37519	0	1
Do you have a say in whether to purchase or sell animals?	1842	.3452769	.4755876	0	1
Do you have a say in whether to purchase or sell gold/silver jewelry?	1842	.437025	.496153	0	1

Voice – Survey questions and descriptive statistics

Questions asked	Ob.	Mean	Std. Dev	Min.	Max.
Do you feel uncomfortable speaking/giving an opinion in the presence of the following people?					
- Husband?	1842	.9218241	.2685211	0	1
- Father-in-law?	1705	.2609971	.4393072	0	1
- Mother-in-law?	1709	.6196606	.4856123	0	1
- Elder brother-in-law?	1834	.2922574	.454924	0	1
- Elder sister-in-law?	1834	.8451472	.361863	0	1
- Outside men?	1842	.1221498	.3275477	0	1

Mobility – Survey questions and descriptive statistics

Questions asked	Obs.	Mean	Std. Dev	Min.	Max.
Can you go to these places without asking permission of your husband or a senior family member?					
- Any place outside your compound?	1842	.7795874	.4146375	0	1
- The local market?	1842	.4961998	.5001213	0	1
- The local health centre?	1842	.3186754	.4660894	0	1
- Fields outside the village?	1842	.2193268	.4139029	0	1
- A community centre in the village?	1842	.2318132	.422105	0	1
- The homes of relatives or friends in the village?	1842	.4115092	.4922407	0	1
- A nearby fair?	1842	.1286645	.3349192	0	1
- A nearby shrine?	1842	.2263844	.4186044	0	1
- The next village?	1842	.0624321	.2420045	0	1
Can you go to these places alone?					
- The local market?	1842	.630836	.4827095	0	1
- A community centre in the village?	1842	.3132465	.4639396	0	1
- The homes of relatives or friends in the village?	1842	.6112921	.4875891	0	1
- A nearby fair?	1842	.2421281	.4284878	0	1
- A nearby shrine?	1842	.3838219	.4864474	0	1
- The next village?	1842	.2209555	.4150032	0	1

Freedom from domestic abuse – Survey questions asked and descriptive statistics

Questions asked	Obs.	Mean	Std.Dev	Min.	Max.
Are you afraid to disagree with you husband because he will be angry with you?	1839	.5356172	.4988655	0	1
Does your husband ever hit or beat you?	1833	.5973813	.490559	0	1

Property rights – Survey questions and descriptive statistics

Questions asked	Obs.	Mean	Std. Dev.	Min.	Max.
Do you own any land in your own name?	1842	.0184582	.1346378	0	1
Do you personally own any other property or valuables such as jewelry, gold/silver vessels, etc?	1842	.5428882	.4982925	0	1

Descriptive Statistics of Empowerment Variables in Total, for Tamil Nadu and for Uttar Pradesh

Total					
Variable	Obs	Mean	Std. Dev.	Min	Max
Freedom from violence	1831	0.510962	0.2814865	0	1
Mobility	1842	0.3517915	0.2687713	0	1
Decisions	1842	0.4463747	0.240001	0	1
Voice	1647	0.5141672	0.2569442	0	1
Property right	1842	0.2806732	0.2645977	0	1

Tamil Nadu					
Variable	Obs	Mean	Std. Dev.	Min	Max
Freedom from violence	983	0.4701352	0.2676416	0	1
Mobility	983	0.4689047	0.2346524	0	1
Decisions	983	0.505143	0.2393712	0	1
Voice	950	0.5866667	0.2555507	0	1
Property right	983	0.404883	0.2275714	0	1

Uttar Pradesh					
Variable	Obs	Mean	Std. Dev.	Min	Max
Freedom from violence	848	0.5582884	0.2897682	0	1
Mobility	859	0.2177726	0.2414232	0	1
Decisions	859	0.379123	0.2225494	0	1
Voice	697	0.4153515	0.2239106	0	1
Property right	859	0.1385332	0.2303199	0	1

Note: Variables range between 0-1 where 0 indicates no freedom and 1 indicates freedom

Appendix 3: Descriptive Statistics for Independent Variables

Descriptive Statistics for Independent Variables – All data

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	1842	28.30347	6.285069	15	39
Years of schooling	1842	2.650923	3.376641	0	15
Age at marriage	1842	16.41911	3.086693	5	29
Able to support herself and children alone	1834	0.4225736	0.4941035	0	1
Farm work past year	1842	0.3393051	0.4736021	0	1
Agricultural work past year	1842	0.0960912	0.2947963	0	1
Household possessions	1842	4.082157	0.883049	1	5
Total income past 12 months	1842	20360.8	28042.38	1050	568400
Husband or wife own their house	1842	0.4929425	0.500086	0	1
Husband's years of schooling	1842	5.628664	4.514447	0	19
Husband lives with wife	1842	0.8550489	0.3521472	0	1
Husband worked past year	1842	0.9885993	0.1061923	0	1
Sons in HH	1621	1.590376	1.238281	0	9
Daughters in HH	1621	1.407156	1.160906	0	6
Amount of live births	1842	3.178067	2.251874	0	12
Ever had a stillbirth	1842	0.1064061	0.3084404	0	1
Hindu (1)	1842	0.4744843	0.4994841	0	1
Muslim (2)	1842	0.5249729	0.4995116	0	1
Scheduled caste	1842	0.1221498	0.3275477	0	1
Difference in perceptions - Mobility	1524	-0.0676728	0.2775975	-1	0.8667
Difference in perceptions - Decision-making in HH	1660	-0.1313253	0.2728899	-0.8889	0.7778
Difference in perceptions – Freedom from abuse	1660	-0.340241	0.376378	-1	1

Descriptive Statistics for Independent Variables – Tamil Nadu

Variable	Obs	Mean	Std.dev	Min	Max
Age	983	28.97864	6.077282	15	39
Years of schooling	983	3.260427	3.255159	0	15
Age at marriage	983	17.8057	2.263203	12	29
Able to support herself and children alone	980	.3071429	.4615447	0	1
Farm work past year	983	3.347915	1.970509	1	5
Agricultural work past year	983	4.471007	1.355731	1	5
Household possessions	983	4.136656	.8288598	1.666667	5
Total income past 12 months	983	16676.43	16968.33	2000	180000
Husband or wife own their house	983	.5523906	.4975008	0	1
Husband's years of schooling	983	5.003052	3.857834	0	19
Husband lives with wife	983	1.638861	1.466113	1	5
Husband worked past year	983	1.052899	.4571777	1	5
Sons in HH	858	1.47669	1.171438	0	6
Daughters in HH	858	1.33683	1.102483	0	6
Ever had a stillbirth	983	.069176	.2538823	0	1
Amount of livebirths	983	2.93591	2.083531	0	11
Hindu (1)	983	.4435402	.497055	0	1
Muslim (2)	983	.5564598	.497055	0	1
Scheduled caste	983	.1129196	.3166556	0	1
Difference in perceptions - Mobility	812	-.0935961	.2833219	-1	.8
Difference in perceptions - Decision-making in HH	826	-.0860909	.3142725	-.8888889	.7777778
Difference in perceptions – Freedom from abuse	826	-.4503632	.3869146	-1	.8
District 1	1551	.445519	.4971833	0	1
District 2	1551	.554481	.4971833	0	1

Descriptive Statistics for Independent Variables – Uttar Pradesh

Variable	Obs	Mean	Std. Dev.	Min	Max
Age	859	27.53085	6.431813	15	39
Years of schooling	859	1.953434	3.38	0	14
Age at marriage	859	14.83236	3.139689	5	25
Able to support herself and children alone	854	.5550351	.4972531	0	1
Farm work past year	859	3.98021	1.744343	1	5
Agricultural work past year	859	4.781141	.9102207	1	5
Household possessions	859	4.01979	.9378493	1	5
Total income past 12 months	859	24577.02	36392.72	1050	568400
Husband or wife own their house	859	.4249127	.4946177	0	1
Husband's years of schooling	859	6.344587	5.072895	0	16
Husband lives with wife	859	1.512224	1.337387	1	5
Husband worked past year	859	1.037253	.3844409	1	5
Sons in HH	763	1.718218	1.298301	0	9
Daughters in HH	763	1.486239	1.219163	0	6
Ever had a stillbirth	859	.1490105	.3563063	0	1
Amount of livebirths	859	3.45518	2.401686	0	12
Hindu (1)	859	.5098952	.5001933	0	1
Muslim (2)	859	.4889406	.5001689	0	1
Scheduled caste	859	.1327125	.3394614	0	1
Difference in perceptions - Mobility	712	-.0381086	.2680735	-1	.8666667
Difference in perceptions - Decision-making in HH	834	-.1761258	.2155341	-.8888889	.4444444
Difference in perceptions – Freedom from abuse	834	-.2311751	.3314442	-1	1
District 3	895	.4960894	.5002643	0	1
District 4	895	.5039106	.5002643	0	1

Appendix 4: Husband's answers and Descriptive Statistics for Differences in Spouses' Perspectives

Decision-making power – Husband's answers and descriptive statistics

Questions Asked	Obs	Mean	Std. Dev.	Min	Max
Does your wife have any say in how the household's overall income is spent?	1660	.9487952	.2204817	0	1
Does your wife have any cash in hand to spend on household expenditure?	1660	.8668675	.3398203	0	1
If your wife wanted to buy herself a small item of jewellery, such as a pair of earrings or bangle, would she be free to do so without consulting you or a senior family member?	1660	.3451807	.4755704	0	1
If your wife wanted to buy a small gift (such as bangles, clothes) for her parents or other members of her family, would she be free to do it without consulting you or a senior family member of your family?	1660	.2783133	.4483035	0	1
Does your wife have a say in whether to purchase major goods for the household such as a TV?	1660	.5006024	.5001503	0	1
Does your wife have a say in whether or not she should work outside the home?	1660	.7162651	.4509456	0	1
Does your wife have a say in how many children to have?	1660	.8987952	.3016906	0	1
Does your wife have a say in whether to purchase or sell animals?	1660	.4668675	.4990514	0	1
Does your wife have a say in whether to purchase or sell gold/silver jewelry?	1660	.6831325	.4653955	0	1

Mobility – Husband’s answers and descriptive statistics

Questions Asked	Obs	Mean	Std.Dev.	Min	Max
Can your wife go to these places without asking permission of you or a senior family member?					
Any place outside your compound?	1660	.8620482	.3449533	0	1
The local market?	1657	.5033193	.5001399	0	1
The local health centre?	1654	.3706167	.483116	0	1
Fields outside the village?	1656	.2699275	.444056	0	1
A community centre in the village?	1652	.2693705	.4437671	0	1
The homes of relatives or friends in the village?	1658	.5156815	.4999048	0	1
A nearby fair?	1647	.1542198	.361269	0	1
A nearby shrine?	1657	.4363307	.4960794	0	1
The next village?	1655	.0688822	.2533302	0	1
Can your wife go to these places alone?					
The local market?	1611	.6238361	.4845724	0	1
The local health centre?	1611	.5418994	.4983961	0	1
The homes of relatives or friends in the village?	1606	.6724782	.4694555	0	1
A nearby shrine?	1603	.5739239	.4946594	0	1
A nearby fair?	1619	.1735639	.3788511	0	1
The next village?	1607	.1362788	.3431912	0	1

Freedom from domestic abuse – Husband’s answers and descriptive statistics*

Questions asked	Obs	Mean	Std.Dev.	Min	Max
In your opinion, would you NOT be justified in beating your wife if:					
She was disrespectful to your parents or other senior members	1660	.9240964	.2649236	0	1
She neglected household chores	1660	.953012	.2116768	0	1
She was disobedient or did not follow your orders?	1660	.8078313	.3941236	0	1
She was a drunkard or a drug addict?	1660	.5457831	.4980495	0	1
She beat the children?	1660	.9771084	.1496029	0	1

* These answers should be interpreted as 0 = justified to beat his wife, 1 = not justified to beating his wife.

Descriptive Statistics of differences in spouses' perspectives – Mobility*

Variable	Obs	Mean	Std. Dev.	Min	Max
Differences in spouses' perspectives if wife can go to the following places without asking permission:					
Any place outside your compound?	1660	-.0975904	.4685339	-1	1
The local market?	1657	-.0343995	.4119583	-1	1
The local health centre?	1654	-.076179	.5502029	-1	1
Fields outside the village?	1656	-.0706522	.5367091	-1	1
A community centre in the village?	1652	-.0562954	.5356828	-1	1
The homes of relatives or friends in the village?	1658	-.1375151	.5062354	-1	1
A nearby fair?	1647	-.0340012	.4423619	-1	1
A nearby shrine?	1657	-.2130356	.5730451	-1	1
The next village?	1655	-.0169184	.310562	-1	1
Differences in spouses' perspectives if wife can go to the following places alone:					
The local market?	1611	0	.475486	-1	1
The local health centre?	1611	-.2271881	.6006462	-1	1
The homes of relatives or friends in the village?	1606	-.0747198	.5277553	-1	1
A nearby fair?	1619	.0716492	.5364862	-1	1
A nearby temple?	1603	-.1777916	.6008366	-1	1
The next village?	1607	.0889857	.5054344	-1	1

*Is the variable negative, the husband has answered more positively than the wife about his wife's mobility.

Descriptive Statistics of differences in spouses' perspectives – Decision-making in the household*

Variable	Obs	Mean	Std.Dev	Min	Max
Difference in spouses' perspective of:					
Does wife have any say in how the household's overall income is spent?	1660	-.1048193	.4017453	-1	1
Does wife have any cash in hand to spend on household expenditure?	1660	-.0289157	.4649318	-1	1
If wife wanted to buy herself a small item of jewellery, such as a pair of earrings or bangle, would she be free to do so without consulting you or a senior family member?	1660	-.1873494	.5967232	-1	1
If wife wanted to buy a small gift (such as bangles, clothes) for her parents or other members of her family, would she be free to do it without consulting you or a senior family member of your family?	1660	-.1090361	.5658902	-1	1
Does wife have a say in whether to purchase major goods for the household such as a TV?	1660	-.2192771	.6308252	-1	1
Does wife have a say in whether or not she should work outside the home?	1660	-.0963855	.6376656	-1	1
Does wife have a say in how many children to have?	1660	-.0662651	.4649958	-1	1
Does wife have a say in whether to purchase or sell animals?	1660	-.1240964	.6385431	-1	1
Does wife have a say in whether to purchase or sell gold/silver jewelry?	1660	-.2457831	.6334652	-1	1

*Is the variable negative, the husband has answered more positively than the wife about his wife's participation in decision-making in the household.

Descriptive Statistics of differences in spouses' perspectives – Freedom from domestic abuse*

Variable	Obs	Mean	Std.Dev	Min	Max
Differences in spouses opinions showing if a husband NOT be justified in beating his wife if:					
She was disrespectful to his parents or other senior members	1660	-.310241	.5408151	-1	1
She neglected household chores	1660	-.4524096	.5306974	-1	1
She was disobedient or did not follow his orders?	1660	-.4445783	.5840461	-1	1
She was a drunkard or a drug addict?	1660	-.3259036	.6087003	-1	1
She beat the children?	1660	-.1680723	.4253197	-1	1

*Is the variable negative, the husband has answered more positively than the wife about his wife's mobility.

Appendix 5: Estimation Results for Common Model

Common Model: Probit regression results showing the marginal effects

Variable	Mobility	Voice	Decisions	Freedom from Domestic Abuse	Property Rights
Age	0.00724*** (0.00107)	0.00090 (0.00055)	0.00248*** (0.00065)	-	-
Years of schooling	-	-	-	0.00635*** (0.00158)	-
Farm work past year	0.03003** (0.01216)	-	-	-	-
Able to support herself and her children	0.02759** (0.01149)	0.01258** (0.00576)	-	-	-
Husband worked past year	-	-	0.07102* (0.07115)	-	-
Husband live with wife	-0.04340*** (0.01195)	-	-	-0.03862*** (0.00733)	-0.12699*** (0.03923)
Husband's years of schooling	-	0.00177** (0.00073)	-	-	-
Daughters in household	-	-	-0.00443 (0.00285)	-	-0.02463** (0.01223)
Sons in household	-	-0.00447** (0.00230)	-	-	-0.02322** (0.01167)
Ever had a still birth	-0.03526* (0.02226)	-0.01993* (0.01454)	-	-	-
Total Income past 12 months	-4.37e-07*** (1.54e-07)	-	-	-	-
Household possessions	-	0.01135*** (0.00346)	-	-	-0.20960*** (0.01777)
Husband or wife own house	0.04311*** (0.01303)	-	0.01954*** (0.00756)	0.01411* (0.00844)	0.04730 (0.02987)
Dummy Scheduled Caste	0.02824* (0.01457)	-	-	-	-0.11038** (0.04423)
Dummy State (TN)	0.17375*** (0.01605)	0.01238** (0.00697)	0.02456*** (0.00760)	-0.00829 (0.00854)	0.56129*** (0.02252)
Pseudo R2	0.2451	0.0923	0.1224	0.0492	0.2836
Log likelihood	-537.21743	-128.85521	-204.85218	-318.33717	-802.15838

*significant at the 10 per cent level **significant at the 5 per cent level ***significant at the 1 per cent level
Standard errors shown in parentheses