Willingness to Pay for Health Insurance and Factors Affecting Demand for Health Insurance: A Case Study

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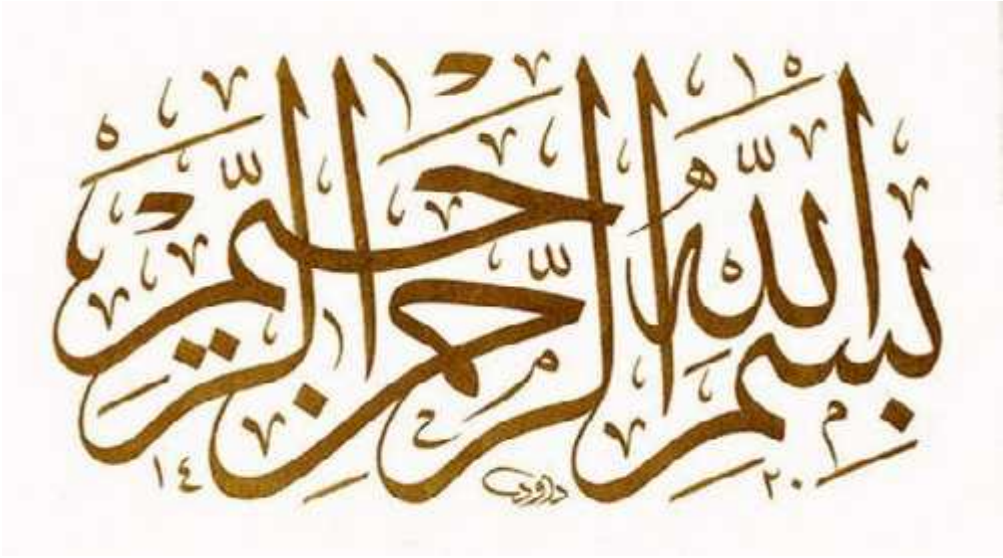
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(Kashif Habeeb)

DEDICATION

To my Father Ghulam Habib and Mother Rafiqa Begam who thought me to care and reason and to my sister Saira Habib who put it altogether and more.

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List of Abbreviations

BISP	Benazir Income Support Program
CBHI	Community Based Health Insurance
CVM	Contingent Valuation Method
GDP	Gross Domestic Product
HRS	Health and Retirement Study
ILO	International Labor Organization
ISO	International Standard Organization
MDGs	Millennium Development Goals
NAD	Namibian Dollar
NHIS	National Health Insurance Scheme
OOP	Out-of-Pocket
OECD	Organization of Economic Co-operation and Development
PBS	Pakistan Bureau of Statistics
RS	Pakistan Rupee
SAARC	South Asian Association for Regional Cooperation
WB	World Bank
WTA	Willingness to Accept
WTP	Willingness to pay
WHO	World Health Organization

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Abstract

Economic status of any country is directly proportional to the health status of the people of that country. In Pakistan, many people have no access to quality healthcare services. This is because of private out-of-pocket payment to finance the healthcare services. The present study investigates the willingness to pay of the people of Sheikhupura district for health insurance. Data of total 385 households is collected and 104 households refuse to respond due to any reason. Finally data of 269 households is used in the study. Contingent Valuation Method is used to elicit the willingness to pay and for estimations Probit and Sequential logit models are used. Result shows that only 6% of the respondents have awareness about health insurance and on average respondents are willing to pay Rs.2264 per person per year. Total 190 (71%) respondents show their WTP for health insurance and 79 (29%) respondents were not willing to pay for health insurance. The determinants which influence most the willingness to pay for health insurance are disability in the household, sickness of any household member in last 30 days, sold any household item for the treatment of any household member, Income of the household and awareness about health insurance.

Keywords: Willingness to pay, Health Insurance, Estimations, Probit, Sequential Logit Model

Jel Classification: D12, I13, C13

CHAPTER 1 INTRODUCTION

The planet earth, on which we are living is going to densely populated day by day. With this massive increase in population many problems regarding human sustainability aroused. Health related problems are also aroused with the increase in population. But the problem is that 12.7% of the world population is living below the poverty line and in Developing countries this share is 22% (World Bank report 2012). So, they are unable to combat these health related problems because of the insufficient financial resources. Now it is the food of thought for the researchers that how to build up a setup to combat the health related problems in limited resources. For this, health insurance is a good phenomenon introduced in last century. Health insurance is important because coverage helps people get timely & economic medical care and improve their lives and health (Randall *et.al*, 2007). Different studies shows that lack of access to health insurance has a negative impact on the health of individuals and households (Brook 1991). However, it is an ongoing debate on relative advantage of the different form of the health insurance models (McLaughlin and Zellers 1994).

Health insurance is a risk sharing mechanism in healthcare sector which protects patients from catastrophic health care expenditures. Insurer determines a premium or payroll tax which insured have to pay monthly or annually (Wikipedia). These premiums or taxes ensures that the enough finance is available to pay for the health care services and drugs, specified in the insurance agreement and benefits are administrated by the central entity.

Health insurance was first introduced in the form of accident insurance in the last decades of 19^{th} century which was about the same as of modern disability

insurance. During the last half of 20th century, traditional disability insurance evolved into modern health insurance. Health insurance market has become a rapid growing market especially in developing countries. Now a days many health insurance companies are proving health insurance but only little portion of population is insured. In Pakistan, only 29% of total health expenditures are funded by the Government and 98% total private health insurance are out of pocket, so there is a dire necessity for private health insurance in Pakistan (Ather and Sherin, 2014).

Willingness to pay for health insurance is defined as the maximum amount which a person is willing to pay for some pre-determined benefits of health insurance. Thus, the premium is set between the buyer's (insured) WTP and seller's (insurer) WTA. Willingness to pay is always greater than Willingness to accept, WTP to get protection from diseases is dependent on one's wealth but WTA compensation to accept protection from diseases can be extremely high and may be infinite. In health insurance market, WTP is mostly based on hypothetical market and people show their WTP based on the information provided about that hypothetical market and there may occur some difference between stated WTP and actual WTP.

Lack of appropriate health care budget is a big problem in developing countries. Every country is trying to find innovative ways to raise funds for the betterment of the public health and trying to reduce Out-of-pocket health expenditures. Lower income groups are more sensitive to price changes in health care sector as compared to medium and high income groups, so there is a need of developing a risk sharing mechanism such as implementation of health insurance which can protect low income groups from catastrophic health expenditure. Currently most of

developed countries have introduced health insurance and many of developing countries are planning to introduce health insurance in order to reduce Out-of-pocket catastrophic health care expenditures. And this is generally accepted that having health coverage is associated with better health outcomes.

According to World Bank report (2013) Pakistan is spending 2.8% of its GDP on the health sector which is lowest in the region, due to which low income families are entrapped in vicious circle of poverty because of the catastrophic health expenditures. Share of the Out-Of-Pocket (OOP) health expenditures in total health expenditures in Pakistan is 54.87% (World Bank report 2013), if compare it with OECD countries, it is clear that Pakistan is far behind OECD counties, as their out-of-pocket health expenditures share is 13.98%. If we take a look at globe then again it is a miserable condition for Pakistan as globally share of out of pocket health expenditures to total expenditures on health is 18.57%. . This shows that risk sharing mechanism is dire necessity for Pakistan. If we take a sight at health expenditures per capita then again Pakistan is among those countries who's per capita health expenditures is very low. Pakistan's per capita health expenditure is only 36.87$ per year which is below than India, Nepal, Bhutan and even below than Nigeria (World Bank report 2013). In South Asia per capita health expenditures is 55.99$ and Pakistan is running far behind than other SAARC countries. According to World Health Organization all countries must spend at least 5 percent of their GDP on health in order to meet the targets set by the nations. Example of Cuba can be put in this regard, after the fall of socialist bloc and imposition of American embargoes in 90's. Cuba cut its military spending to finance the health sector and during that time Cuba spend around 7% of their GDP on health and ultimately their maternal and child health is as good as of OECD

countries (World Health Organization, 2000). Pakistan is going through the era of epidemiological transition where it faces the double burden of communicable disease combined with perinatal and maternal problems, and chronic, noninfectious diseases (Uzma and Anum, 2013). The provision of public health services in Pakistan are also uneven between rural and urban areas. Though after the 18th Amendment in the Constitution of Pakistan, Ministry of health has been dissolved and handed over to provinces, but distribution of sources of revenue generation and responsibilities are unclear between National government and Provisional governments.

Apart from low level of healthcare expenditure, the nature of these healthcare expenditures is also very disconcerting. Pakistan spent about 85% of total healthcare budget on tertiary level of healthcare which is utilized by only 15% of the total population (A Islam, 2002). People from rural areas cannot get benefit from these tertiary healthcare spending. In all this scenario health insurance seems the only solution to reduce the influence of high costs of healthcare on the household's economic wellbeing because it can change the unpredictable health expenditure to predictable health insurance premium payment. And it is generally accepted that health insurance is the important factor in the economic development of the people especially living in rural areas and key component for the social protection of lower income class.

1.1 Significance of the Study: The Pakistan Context

Pakistan is 6th most populous country in the world (U.S. Census Bureau, International database, 2016) with 2.57% country share of world population. As of 2015, Pakistan total population is 188 million approximately and 55% of population earn less than $2

a day. As there is no compulsory health insurance in Pakistan so this study will be a significant endeavor in reducing out of pocket health expenditures and ultimately poverty level could be reduced. This study will also be beneficial for the policy makers to determine some premium for Prime Minister National Health Insurance, which is recently launched. Health insurance is also important because insured people can get timely medical care and can improve their health and life and their out of pocket health care expenditures will also be reduced.

There are many health insurance companies in Pakistan which are providing health insurance against premium. Health insurance in Pakistan is working under the insurance ordinance of 2000 and under the supervision of Ministry of Commerce. Health insurance policy is of two types; first one is acquiring health coverage independently and the second one is employment based health insurance. First one is a contract between the insurer and insured (who is availing the service) and is renewable. Employment based health insurance is provided by the employer. In this, insurance companies contacts employers and offer them different packages for their workers. Access to health insurance is basic right of the citizen but Government of Pakistan have failed to provide it. Insurance companies are striving hard to create the mass awareness about the importance of health insurance but have not been able to bring change in governmental policies. Health insurance companies provide coverage against different premiums for different age groups. For example, Jubilee health insurance is providing three different plans for of individual health insurance, bronze, silver and gold plan and it provides coverage of 0.1 Million, 0.25 Million and 0.5 Million respectively for the above mentioned plans. And the premium for the each plan is different for different age groups. In bronze plan there is RS. 3850 as premium

for the individual with 30 years of age. So in this way our result which is RS. 2264 per person per year is near to the existing health insurance premiums.

Pakistan government is lunching the “Prime Minister’s National health Insurance Scheme” and which will cover the expenditures of indoor hospitalization. Treatment for ailment like Diabetes Mellitus, burns and accidents, treatment of cancer and cardiovascular disease, renal disease, dialysis and chronic infection will be considered under priority disease category. Each family will get the treatment of RS. 0.3 Million (250000 for priority disease category and 50000 for secondary care treatment) per year and in case of emergency the amount can be doubled and that additional amount will be contributed by the Pakistan Baitul Maal (Ikram Junaidi, 2016). This is a milestone for the health sector of Pakistan but there is no premium determined for the end user of the “Prime Minister National Health Insurance Scheme”. According to a famous Pakistani economist Shahid Kardar, health insurance as a financing mechanism would be appropriate only when part of the cost is covered from the beneficiaries (2014, February 18: Dawn newspaper). So firstly government should determine some premium so that Government make some revenue for this scheme and by this revenue health insurance coverage can also be enhanced. This study will find out the willingness to enroll and WTP for health insurance of the people of Sheikhupura which can be generalized to other districts. So, this study will elicit the people thinking about health insurance and from this study expected involvement of the people and willingness to pay of the people about Prime Minister National Health Insurance Scheme can be find out.

1.2 Objectives of the Study

The main objective of the study is to elicit the willingness of the people of Sheikhupura for health insurance.

More specifically objectives of the study are:

1) To examine the awareness and WTP of the inhabitants of district Sheikhupura for health insurance.
2) To explore the determinants which influence the WTP for health insurance.

1.3 Hypothesis of the Study

1) H_0: There is significant association between age of the respondent and their WTP for health insurance.
2) H_0: There is significant association between awareness of the respondent about health insurance and their WTP for health insurance.
3) H_0: There is significant association between presence of any disable in the household and their WTP for health insurance.
4) H_0: There is significant association between occurrence of anyone fall sick in last 30 days in the household and their WTP for the health insurance.
5) H_0: There is significant association between any household item sold for health treatment and their WTP for health insurance.
6) H_0: There is significant association between income of the household and their WTP for health insurance.

1.4 Research Questions

1) Are people willing to enroll for health insurance?
2) If they are willing to enroll then how much they are WTP for health insurance?

3) Does this amount which they are willing to pay, varies from group to group?

4) Are people have awareness about health insurance?

5) What are the determinants which influence the WTP for health insurance?

1.5 Organization of the Study

The present study is organized as follows. Giving the introduction of the study in the first chapter, chapter 2 is about the relevant literature about the willingness to pay about health insurance, people awareness about health insurance, and determinants of health insurance. Chapter 3 is about the data and methodology. Chapter 4 is about Estimations and Results. Chapter 5 is about Summary and Conclusions. References and Questionnaire which I use in this study is given at the end.

1.6 Theoretical framework

Theoretical frame work is considered the core part of any research. The purpose of this part of the study is to provide conceptual framework of this research based on the literature available and relevant economic theories. This will help us to understand the core concept of WTP for health insurance for which current research is being taken. Theoretical framework also help to develop the hypothesis for quantitative analysis with the help of appropriate estimation technique.

The main objective of this research is empirically investigating the association between WTP for health insurance and different socioeconomic and health related variables. This is also important because it provide theoretical foundation as it helps in the choice of variables included in the empirical specification. In this way this part of the study attempts to provide a theoretical foundation on WTP for health insurance while incorporating the factors yielded by the previous research work.

Insurance theory has been extensively used in health care insurance (Arrow 1963). Accident insurance was available and operated most likely modern disability

insurance in late 19th century. This payment model was used until the second decade of 20th century. Before the start of medical expense insurance, patients were supposed to pay their health expenditures out-of-their own pockets (fee for service model). During the middle to late twentieth century accident insurance was evolved into modern health insurance. The relationship between population and health issues is extensively old literature (Malthus, 1798). The discussion about the health insurance and people WTP for that health insurance start at that time when first man become sick and he didn't have money for treatment. From literature we find that there are different factors which influence the demand for health insurance. WTP of the respondent is influenced by gender, income level, marital status, age, awareness about health insurance, disease prevalence, previous household expenditures, and size of the household (Asafu and Dzator, 2003; Dong *et. al.,* 2003; Onwujekwe, 2010, Fonta *et. al*., 2010; Milligan *et. al.,* 2010, Kaur, 2011, Donfouet *et. al.,* 2011; Babatunde *et. al*., 2012).

Almost all countries are planning and committed to develop a cost effective health insurance system. Various theoretical an experimental models have been developed to elaborate the demand for health insurance. Healthcare costs are escalating due to epidemiological and demographic transition, technological innovation in healthcare and aging population in developed world. Now it is food for thought for researchers that how to finance them in a cost effective way. It is an ongoing debate that which form of the health insurance is most effective (McLaughlin and Zellers 1994). Different countries have developed different health insurance systems. National health insurance have developed by United Kingdom, which is funded by the general taxation. Social health insurance is funded by contributing the fraction of the earning of workers. Private health insurance is most common form of health insurance, and

generally funded by the renewable premiums. Demand for health insurance can be explained by utility theory. If healthcare expenditures is higher than the benefits of purchasing health insurance, then people will not purchase health insurance and if benefits of purchasing health insurance is greater than the cost, then people will purchase it (Kreps 1990). Different studies have used different theoretical and experimental models to elicit the demand for health insurance (Besley *et. al.,* 1999; Chemew *et. al*., 1997). In this study we also incorporate various demographic, economic and health related variables (age, income of the household, presence of any old in the household, presence of any disable in the household, presence of smoker in the household, ever borrowed money for medical treatment, awareness about health insurance, any household member fall sick in last 30 days and ever sold any household item for treatment of any household member) to elicit the real demand for health insurance and it is expected that demand for health insurance is influenced by these variables.

CHAPTER 2 LITERATURE REVIEW

This chapter aims at looking the state of art literature available on the WTP for health insurance and those determinants which influence most to demand for health insurance. The literature is not limited to only developing countries but it also includes the developed countries as well. The main objective of this exercise is to bring the gap of the existing literature especially in case of Pakistan. The review of literature provide a new insights regarding the demand and willingness to pay for health insurance and factor affecting determinants. Review of literature also serves as a motivation for the topic of this study and it helps to analyze the depth of the previous studies and in findings new dimensions for further research. Review of literature about health insurance from both developing and developed world is written below.

Health insurance is considered a good phenomenon to improve healthcare delivery and it also enhance access to healthcare and it also protect people from catastrophic health expenditures. Afsaw (2004) examined that, health insurance scheme protect the poor against the downside health effects of economic reforms in rural areas of Ethiopia. The results shows that health insurance schemes can help to protect the lower income community against the adverse impacts of economic reforms on health. Asfaw (2008) investigated that 87% respondents are willing to enroll for proposed health insurance. Health insurance provide funds for the improvement of healthcare delivery and enhance access to health care especially for poor (Kwadwo *et. al*., 1997). This study elicited that over 90% of respondents are agreed to become part of this scheme. Sometime respondent who is also head of the household shows different willingness to pay for himself and for other members of the household. Dong (2002), worked to estimate the WTP of individuals and heads of the households for health

insurance in western African country Burkina Faso and find out that heads of the households show higher WTP for themselves than other members of the household. Dong (2004), estimated that households head's mean WTP for CBHI for themselves was double than the mean willingness to pay of the heads of the households for the other members of the household. Old, female, poor and uneducated respondents have lower WTP for CBHI than young, male, rich and educated respondents. Alan *et .al.,* (2002) found that willingness to pay is unaffected by physical health and is affected by mental health.

It has been found from literature that there are different factors which influence the WTP of the respondents. Dong *et.al.,* (2003) investigated that females had lower income and expenditures, less education, lower ratio of becoming household heads and less disease occurrence but their marriage rate was higher due to which Men and Women show different WTP for health insurance. Dong further investigated that WTP had positive relation with education and economic status and negative relation with age and distance of health facility. Asafu and Dzator (2003) examined that willingness to pay of the respondents is highly influenced by the formal education, income, number of children in the household and the type of their occupation and insurance which encourages 'pre-saving' towards treatment fee can reduce self-medication and promote early and efficacious treatment of malaria. Onwujekwe (2010), Investigated the impact of economic status and place of residence on the WTP for CBHI. Male more educated people stated higher willing to pay than those who are less educated. And finally it is concluded that people may not register themselves if premium is not affordable.

As there are different socio-economic determinants in different countries so these determinants differently effect the willingness to pay of the people of that country. Milligan *et. al.,* (2010) assess that years of age had negative relation with WTP and there exists positive relationship between probability of developing cancer and WTP of the respondent. Fonta *et. al.,* (2010) found that household size, gender, health status, quality of health care center, distance to the nearest health care center, income and confidence in the proposed scheme are the main determinants which influence the willingness to pay for the scheme. Babatunde et al. (2012) examines the WTP and its determinants among the heads of the households in rural areas of north central Nigeria and find out that willingness to pay is influenced by gender, education, socio-economic status, previous health expenditures and size of the household. Donfouet *et. al.,* (2011) elicited that profession, age, religion, awareness about CBHI, involvement in association and disposable income are the main determinants which influence the WTP. Kaur (2011), examines the level of awareness and willingness to enroll and WTP for health insurance and find out that gender, occupation, education, income have significant impact on WTP for health insurance and no association is found between the marital status of the respondent and his/her willingness to pay. Shafie (2013), investigated that most of the Malaysians are willing to be enrolled in proposed voluntary CBHI. People who are married and have more education level are more likely to choose voluntary community based health insurance than others.

Private health insurance is considered an effective way to reduce out-of-pocket health expenditures but the question is that, are people willing to pay for this service. Asgary *et al*., (2004) investigated that the majority of the households are willing to pay for the health insurance. He also found that the each HH is agreed to pay premium for Health Insurance based on their socio-economic conditions and benefits they received from

insurance. Here is a question that, can all income groups of population pay for health insurance, if not then how to handle them. Dong (2005), examine that exemptions and subsidies are very important to increase the enrollment of poor for CBHI otherwise appropriate results cannot be taken as majority of the population is from the lower income group.

Poor health works as catalyst for poverty so people want protection from financial burden of health expenditures and for this, they also agree to pay some premium from their income. Joglekar (2008), Investigated that how health insurance change the catastrophic out of pocket health care expenditures in India. In this study it is concluded that in India about 70% of total health expenditures are OOP due to which households are pushed to poverty. Dror (2006), find out that respondents from rural areas in India were agreed to pay 1.35% of their median HH income for health insurance. Habbani *et. al.,* (2006) elicited the WTP for good quality public health services in Khartoum, Sudan and concluded that if quality of services are improved then reasonable fee could be set. This support that policy should be continue to cover the cost as most of the households would be WTP reasonable fess.

Some governments provide basic health insurance to their workers of formal sector. Till Barnighausen (2007), examined that government should allow informal sector workers to participate in basic health insurance as this is only for formal sector workers and the results shows that informal sector workers do not consider that BHI save them from small financial losses which are due to common illnesses but BHI protect them from the rare but large financial losses which are due to catastrophic care. Paying premium is more suitable form of insurance payment as most of the people want this form of payment.

Contingent valuation method is most widely used method to elicit the willingness to pay of the people. Tang *et. al.,* (2007) estimated the WTP for drug abuse treatment using CVM and find out that people of Taiwan was more willing to pay for drug abuse treatment via increases in NHI premiums than via donations. Cawley (2008) used CVM to elicit the WTP to reduce childhood obesity and estimated that mean WTP for 50% reduction in childhood obesity is $46.41 which is less than that implied by the last survey. Some studies also reveal that CVM is not always an appropriate approach to elicit WTP. Shono *et.al* (2014) estimated that there is gap between the demand curves of both WTP scenarios. These results prove that CVM do not always reveal real willingness to pay.

Disease prevalence rate varies from country to country. Oyekale *et. al.,* (2012) examined that with 25 percent of total diseases, Malaria was the most common form of sickness and majority of the respondents are not falling sick and 36.32 percent not spending any amount on household health. Binnendijk *et. al.,* (2013) estimated that people even from low income groups and who have no prior experience of health insurance consider health insurance as necessary as food for them. Jain *et. al.,* (2013) find out that majority of the respondents will seek care when symptoms were observed. No one reported impoverishment due to heath expenditures. Those who were interested reported that they are willing to pay RS. 1500 ($27) as the annual insurance premium.

Sequential logit is used in many previous studies to estimate the categorical data. Lawrence and Kimio (1979) used sequential logit to find out the impact of unions on employment stability. In this paper, data of labor markets was used to estimate the impact of unions on the employment stability on both union and non-union workers.

Zhang (1994) used the Sequential logit and found that mortality and sex of the previous children is highly significant in affecting fertility at the current parity. Chua (2009) used sequential logit to compare the assurance on sustainability reports and find out that companies seeking to increase the credibility of their reports and make their reputation in the corporate sector are more likely to have their sustainability reports assured, while this mater does not have any impact that assurance provider come from auditing profession or not.

An extensive body of literature has been reviewed to investigate the willingness to pay of the people of different countries and the factors which effect their WTP. Results are found mixed in different countries. While the extensive body of literature is reviewed, it is find out that WTP is influenced by gender, income level, marital status, age, awareness about health insurance, disease prevalence, previous household expenditures, and size of the household (Asafu and Dzator, 2003; Dong *et. al.* 2003; Onwujekwe, 2010, Fonta *et. al*., 2010; Milligan *et. al.*, 2010, Kaur, 2011, Donfouet *et. al.*, 2011; Babatunde *et. al*., 2012). From the above whole exercise it is concluded that CVM is considered as good approach to elicit the willingness to pay for health insurance. Respondent's response to be registered for health insurance plans is very positive and most of the respondents show that they are willing to pay for health insurance. Premium should be determined according to the socio-economic status of the respondents. But it is also a fact that health insurance as a financing mechanism is appropriate only when part of the cost is covered from the beneficiaries (Kardar, 2014). It is also cleared from the literature reviewed that Sequential logit can be used to elicit the exact value of respondent's willingness to pay for health insurance. In this way this study contributes by introducing some new variable, sold any household item for the treatment of any household member, ever borrowed money for the treatment of

any household member, sickness in last 30 days of any household member and using Sequential logit and probit model to estimate the WTP for health insurance, considering these variable and estimating models as a valuable addition in the existing body of literature related to Pakistan.

I did not find any study except Shono *et al.*, 2014 showing Contingent Valuation Method do not always reveal real WTP. Though, most of the studies (Cawley, 2008; Tang *et. al.*, 2007) depicts that CVM is best approach to elicit WTP.

CHAPTER 3 DATA AND METHODOLOGY

This chapter is an essential part of the study which describes that what method is adopted for estimations and how the data is collected. Data collection method and econometric models for estimations is briefly explained below.

3.1 Contingent Valuation Method

CVM is used to estimate economic values of both use (direct and indirect utility) and non-use values, and this is considered the one of the best method to estimate the non-use values (Alberini 2006). Contingent valuation is a method to estimate the economical values of non-market goods through survey questions that bring out individuals preferences regarding such goods (Carson 1989).

And

$$WTA > WTP$$

While, WTA stands for “willingness to accept”, and WTP stands for “willingness to pay”.

Contingent valuation method is “stated preference” method because it asks people to directly state their values, rather than “revealed preference” method (inferring values from actual choice). The difference is “what people say they would do as opposed to what they actually do. CVM is one of the best way to assign money values to non-use values. The practical, empirical, and conceptual problems associated with developing money estimates of economic values on the basis of how people respond to hypothetical questions about hypothetical market situations is widely debated topic and is also criticized in economics literature. Contingent valuation researchers are trying constantly to address these problems but they are far from finished because gap

exists between stated and revealed preference. In recent years contingent valuation method is widely used in both developed and developing countries to evaluate the wide range of goods and services (Mustafa 2007).

CVM is a stated preference method to measure willingness to pay and preference data derived from surveys are referred to as stated preference.

3.2 Why Contingent Valuation Method

CVM is selected because of its importance for non-use values, and their potentially significant levels. Though application of CVM is a complicated, lengthy and is also expensive so Contingent valuation must be proper designed, pre-tested and implemented to collect appropriate data meaningful results. Outcomes of CVM are often considered highly sensitive to what people believe they are being asked to value, as well as the context that is described in the survey. Thus it is important to clearly define the services, and context and to demonstrate that respondents are actually stating their values for these services when they answer the valuation questions Different methods are used to elicit the WTP in literature. Results shows that both these methods (CVM and TIOLI) can be used to extract the WTP for CBI.

One of the biggest advantage of the CVM is that enormously flexible in that virtually it can be used to estimate economic value of anything but contingent valuation is considered best to estimate values for goods and services that are easily identified and understood by the user.

CVM is the most widely accepted method for estimating total economic value, including all types of non-use or passive values. CVM has been used in different studies of both developing and developed countries (Shackley and Dixon 2000), (Krieger 1999).

Hedonic pricing method, which is used to estimate economic values for ecosystem or pay is also not feasible for health insurance because as it is commonly applied to variation in housing prices that reflect the value of local environmental attributes. This method is also relatively complex to implement and interpret requiring a high degree of statistical expertise and its interpretation is complicated.

Travel cost method is also used to estimate economic use values associated with ecosystems or sites that are used for recreation. Travel cost method is normally used to estimate the willingness to pay from the different areas to some specific environmental place or species. So to elicit willingness to pay in this health insurance case this travel cost method will not get appropriate results.

3.3 Data Collection and Description

Questionnaire was designed to collect the primary, cross sectional data to check willingness to pay and this data was collected from household survey. Total 385 households were randomly selected and finally data of 281 households was collected 104 households refused to answer due to any reason and in these 281 collected household data, the data of 269 households was able to use for estimations.

Firstly respondent was described about our purpose of coming then health insurance was briefly explained and after the initial questions about the basic information (Age, name, gender, family members etc.) their willingness to be enrolled for the health insurance was asked and if the respondent was willing then further portion of the bidding was started. The reason to opt Sheikhupura is that I did not find any study to estimate WTP for health insurance. Prime Minister National Health Insurance (PMNHI) has been launched in Pakistan and Sheikhupura is also one of that districts where PMNHI is going to be launched. So, eliciting willingness to pay will be a good

recommendation for policy maker to determine some premium (as PMNHI do not determine any premium). According to census of 1998 total population of Sheikhupura was 3,321,029 and at that time Nankana Sahib (that time was part of Sheikhupura) total population was about 55000. If we exclude this population of Nankana Sahib from Sheikhupura then total population of Sheikhupura is 3266029. Using sample size calculator, we fix confidence level at 95% and level of significance at 5% and obtained the sample of 385. Refusal rate was about 27% (104 households refused to participate in the study). During data collection most respondent first believe that we are agent of some health insurance company and came there to sell the health insurance policy though I clearly told them at the beginning that I am a student and this data will be confidential and will be used only for the research purpose. So firstly we spend 5 to 10 minutes to satisfy that we are not from some health insurance company and then we further proceed. Table displayed below is the summary statistics of the data collected.

Table 3.1: Summary Statistics

Variable	Description	Mean	SD	Min	Max
Age	Age of the respondent (respondent is head of the household)	44.49	14.66	18	90
Old	=1 if any of the household member is 60 year or older	0.47	0.50	0	1
Disable	=1 if any of the household member is disable	0.12	0.32	0	1

Borrowing	=1 if ever borrow money by any household member for the treatment of any household member	0.64	0.48	0	1
Sickness30	=1 if any household member fall sick in last 30 days	0.74	0.44	0	1
SoldPI	=1 if ever sold any household item by any household member for the treatment of any household member	0.32	0.47	0	1
Income	Household income	20847.58	19007.24	1000	100000
Awareness	=1 if head of the household (respondent) has awareness about health insurance	0.06	0.23	0	1
Smoker	=1 if any household member is smoker	0.42	0.50	0	1

Response rate was about 73% (281 respondents) and 27% (104 respondents) refuse to provide information due to any reason and 12 questionnaires were incomplete. After completion of the data collection, 269 questionnaires were able to use in our research. There is gap in data of income and expenditures of some household's and when it was asked from the respondents that how they manage his gap then most of respondents respond that, this gap is covered by zakat or some other financial assistance from the community. Some household heads respond that we sold our household assets to meet the expenditures.

3.4 Probit Model

Probit Model is used for the estimations for our first objective and the reason is that as our dependent variable is dummy variable (binary form) so probit and logit model is most feasible for this type of estimations. And as the distribution of the data is normal that's why probit model is used in the estimation. Probit model is better to understand the residual structure of the model and provide residual analysis after estimations.

Here our dependent variable is dichotomous, that it has two possible outcomes which are 1 and 0. Here are also vector of regressors X, which can influence the dependent variable. So, the model takes the form.

$$Pr(Y = 1|X) = \Phi(X^T\beta),$$

Here Pr is the probability, Φ is the Cumulative Distribution Function (CDF) of the Standard normal distribution and the parameters β are typically estimated by Maximum likelihood.

Probit model can be motivated as discrete variable model. If there exists an auxiliary random variable then

$$Y^* = X^T\beta + \varepsilon,$$

Here $\varepsilon \sim N(0,1)$, So, dependent variable can be viewed as an indicator that whether this variable is positive

$$Y = \begin{cases} 1 & if\ Y^*>0\ i.e.\ -\varepsilon<X^T\beta, \\ 0 & otherwise \end{cases}$$

If we compare use of standard normal distribution with the use of arbitrary mean and standard deviation then it will be clear that standard normal distribution causes no loss

of generality, as if we multiply a fixed amount to the mean and subtract that same fixed amount from the intercept.

To see that two models are equivalent, note that

$$Pr(Y = 1|X) = Pr(Y^* > 0) = Pr(X^T\beta + \varepsilon > 0)$$

$$= Pr(\varepsilon > -X^T\beta)$$

$$= Pr(\varepsilon < X^T\beta) \quad \textit{(by symmetry of the normal dist)}$$

$$= \Phi(X^T\beta)$$

3.5 Sequential Logit

If Pr(y = s | x) is the probability of being in stage s given X and Pr(y > s | x) is the probability of being in a stage later than s, the sequential logit model for the odds is

$$\frac{\Pr(y=s|x)}{\Pr(y>s|x)} = \exp(\alpha_s - X\beta) \quad \text{for s} = 0, 1, 2, 3, 4$$

Where the βs are constrained to be equal across outcome categories, where the constant term differs by stage. Accordingly, exp(βk) can be interpreted as the effect of a unit increase in xk on the odds of being in s with being in a higher category given that an individual is in category s or higher, holding all other variables constant.

CHAPTER 4 ESTIMATIONS AND RESULTS

The table given below is showing the frequencies of the collective WTP of the respondents for health insurance. 79 households were not willing to pay anything for health insurance due to any reason. The bid which attract most of the people is 1000 and about 13% respondents show that they are willing to pay this amount for health insurance.

Table 4.1: Frequency of collective WTP of respondents

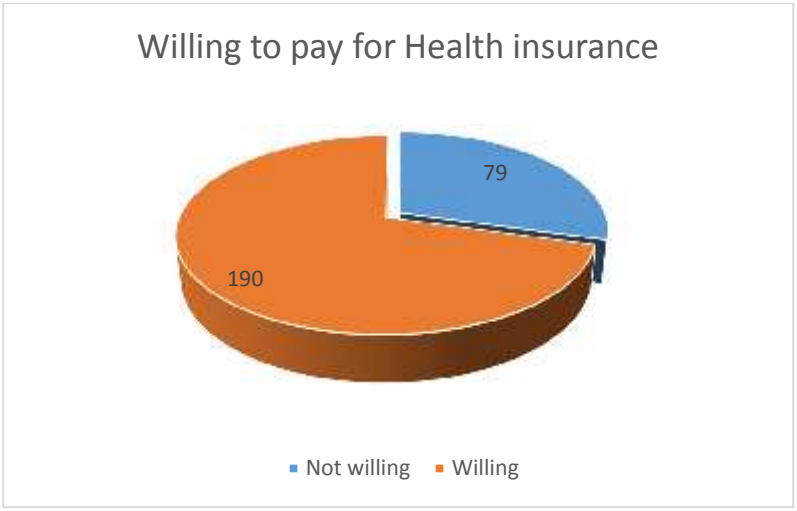
Respondent Collective WTP	Frequency	Percentage	Cum
0	79	29.37	29.37
400	4	1.49	30.86
500	4	1.49	32.34
600	6	2.23	34.57
700	4	1.49	36.06
800	1	0.37	36.43
900	5	1.86	38.29
1000	35	13.01	51.30
1100	4	1.49	52.79
1200	3	1.12	53.90
1300	3	1.12	55.02
1400	2	0.74	55.76
1500	24	8.92	64.68
1550	1	0.37	65.06
1600	2	0.74	65.80
1800	1	0.37	66.17
1900	1	0.37	66.54
2000	10	3.72	70.26
2050	3	1.12	71.38
2100	17	6.32	77.70
2150	1	0.37	78.07
2200	3	1.12	79.18
2300	2	0.74	79.93
2400	2	0.74	80.67
2500	2	0.74	81.41
2550	2	0.74	82.16
2650	1	0.37	82.53
2700	1	0.37	82.90
2750	1	0.37	83.27

2800	1	0.37	83.64
2850	2	0.74	84.39
2900	2	0.74	85.13
2950	1	0.37	85.50
3000	13	4.83	90.33
3100	3	1.12	91.45
3150	1	0.37	91.82
3200	1	0.37	92.19
3250	1	0.37	92.57
3400	1	0.37	92.94
3500	1	0.37	93.31
3700	1	0.37	93.68
3750	1	0.37	94.05
4000	2	0.74	94.80
4200	1	0.37	95.17
4500	1	0.37	95.54
5000	2	0.74	96.28
6000	3	1.12	97.40
7200	1	0.37	97.77
10000	2	0.74	98.51
12000	1	0.37	98.88
14000	1	0.37	99.26
15000	1	0.37	99.63
20000	1	0.37	100.00
Total	269	100.00	

About 71% of the respondents show their willingness to pay for health insurance and 29% respond that they are not willing to pay anything for health insurance. On average respondents were willing to pay RS 2264 per person per year. Six respondent respond that they are willing to pay more than the RS 10000 and 12 respondents responded that they are willing to pay more than RS 5000.

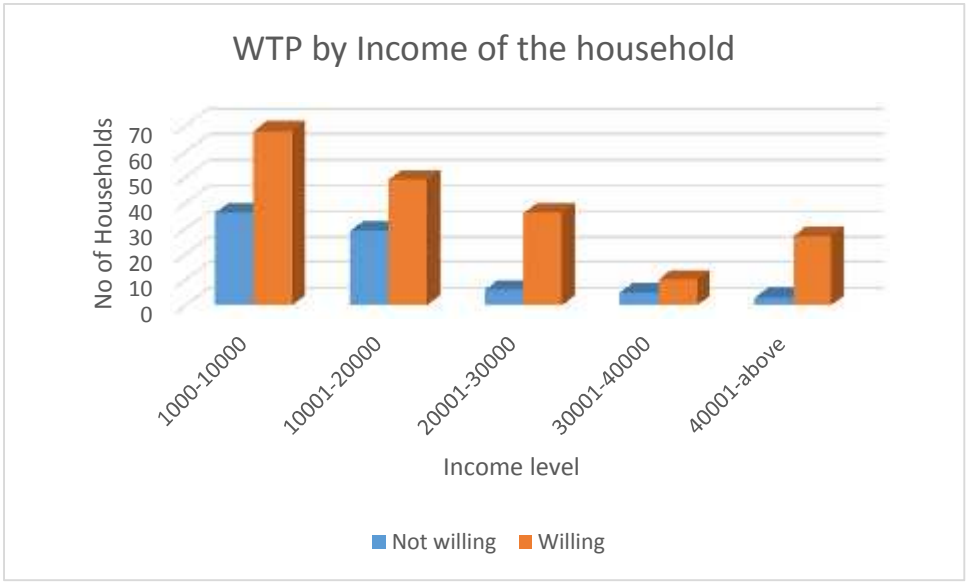
The pie chart which is displayed below is showing the numbers of the households willing and not willing to pay for health insurance. And it is clear that most of the respondents are willing to pay for health insurance scheme.

Figure 4.1: Willingness to pay for health insurance



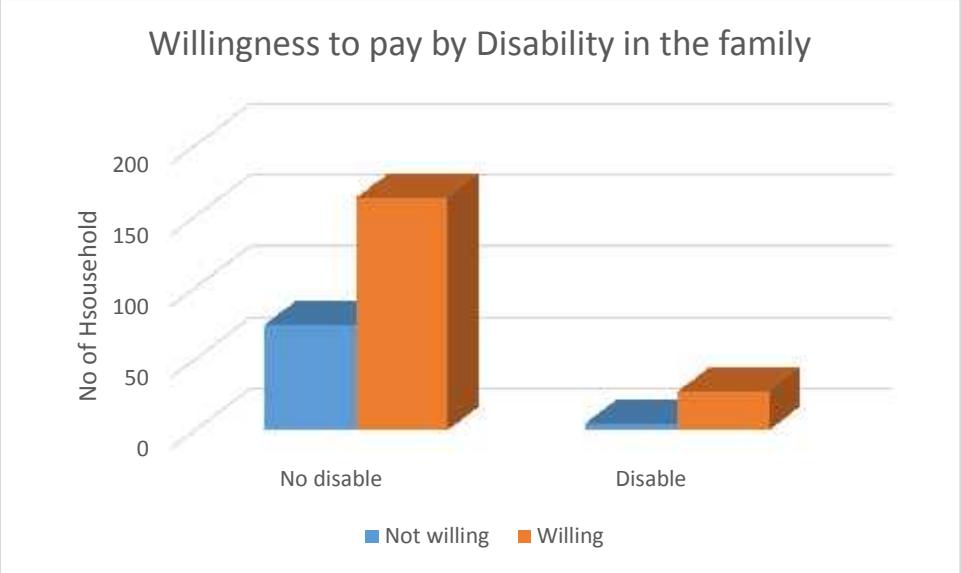
Pie chart shows that most of the respondents (71%) are willing to pay for health insurance and 29% respondents deny to pay any amount for health insurance. This pie chart depicts that if any health insurance policy is offered (like PMNHI) then people will accept it and even will pay for that scheme.

Figure 4.2: Willingness to pay by the income of the household



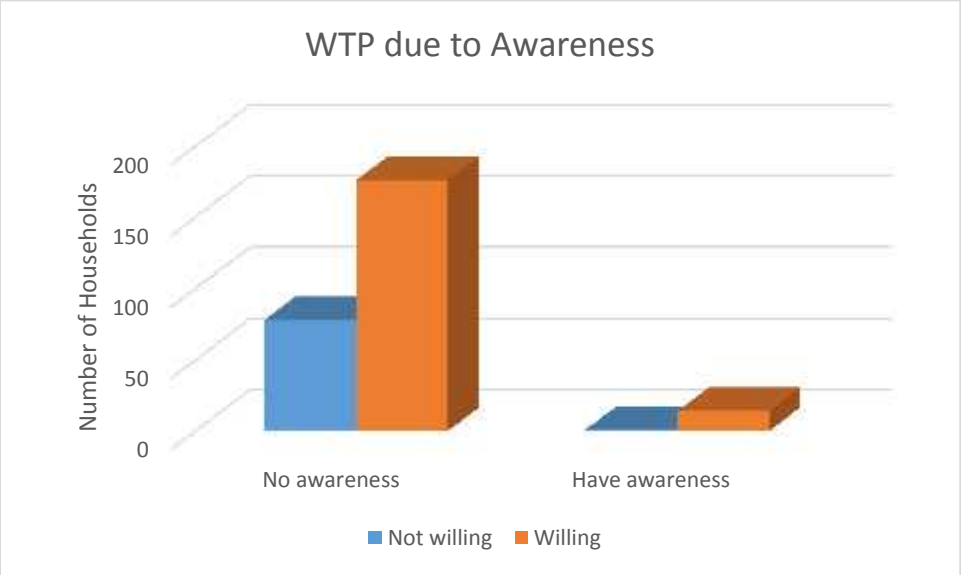
The bar chart displayed above (Fig 4.2) is showing the relationship of income with the willingness to pay. It show the positive relationships and most of the previous researches showed the same results Dong *et.al.,* (2003). As the income of the household increases the WTP for health insurance also increases.

Figure 4.3: Willingness to pay by Disability in the family



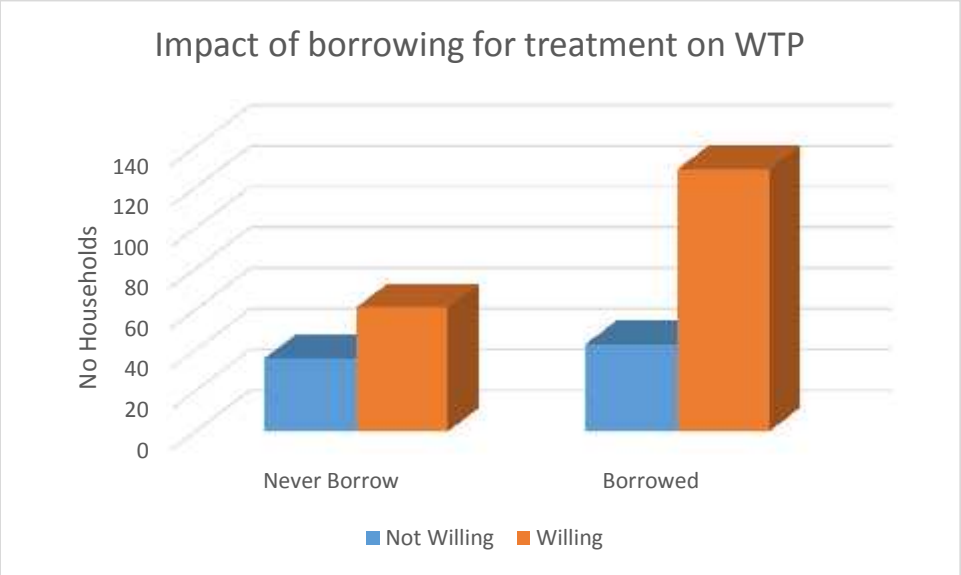
Above displayed chart (Fig 4.3) is about the presence of any disable in the household and it is relationship with the willingness to pay for health insurance. . It is found from results that when there is disable in the household then respondent is more willing to enroll and pay for health insurance. This is understood that head of the household will prefer to purchase insurance for the disable person of his/her home to reduce the healthcare expenditures which he/ she is bearing for the treatment of disabled person.

Figure 4.4: Willingness to pay due to awareness about health insurance



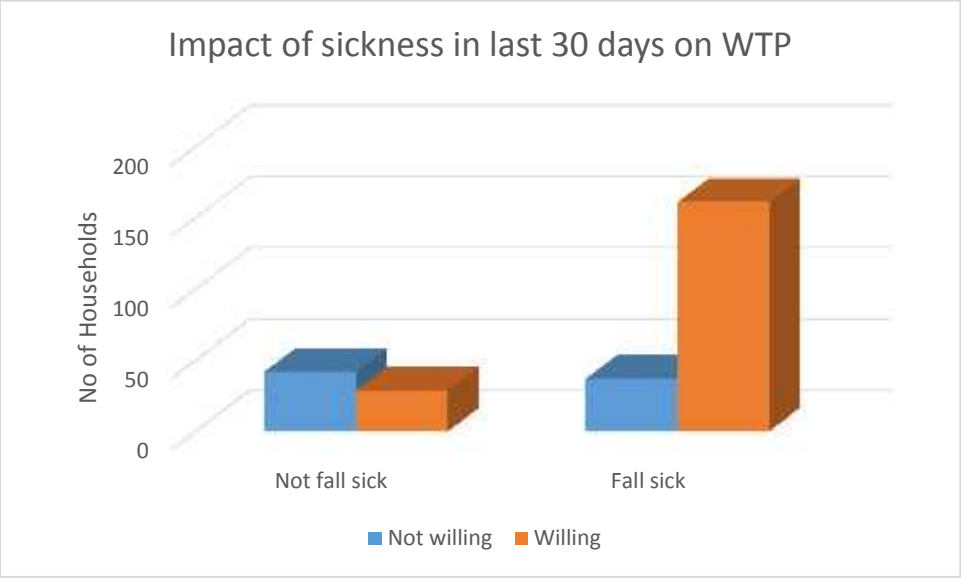
This above displayed bar chart (Fig: 4.4) is about the awareness about health insurance and its impact on health insurance. And it is showing that awareness level increases the WTP for health insurance. Many of the previous researches show the same positive relation of awareness with the willing ness to pay for health insurance. It looks logical that when a person have awareness about the benefits of the health insurance then he/she will prefer to buy health insurance.

Figure 4.5: Impact of borrowing for treatment on WTP for Health Insurance



Above displayed bar chart (Fig: 4.5) is showing the relationship of borrowing money for treatment on willingness to pay for health insurance. And it is depicting that the household who ever borrow money for the treatment of any household member is more willing to pay for health insurance than those who never borrow money specifically for the treatment of any household member.

Figure 4.6: Impact of sickness in last 30 days on WTP



The above displayed bar chart (Fig: 4.6) is showing the association of anyone household member fall sick in last 30 days and willingness to pay for health insurance. The results which we found is that when any household member fall sick in last 30 day then their WTP for health insurance increases much more than that household whose no member fall sick in last 30 days.

4.7: Impact on WTP of selling HH items for treatment

The above displayed bar chart (Fig: 4.7) is showing the association between selling any household item for treatment of any household member and their willingness to pay for health insurance. And chart shows that, the household who sold any of their personal item for treatment show more willingness to be enrolled and to pay for health insurance than that household who never sold any of their household item for the treatment of any household member.

4.1 Probit Model Estimations

$$WTP = \alpha + \beta_1 age + \beta_2\, lnHHexp + \beta_3 old + \beta_4 disable + \beta_5 borrowing + \beta_6 sickness30 + \beta_7 soldPI + \beta_8 lnincome + \beta_9 awareness + \beta_{10} smoker + \varepsilon_t$$

As respondent is the head of the household and his/her decision is final decision to take or deny the health insurance. So, most of the questions are about household and some questions are about the respondent only.

In order to estimate the above mentioned equation and to elicit the effects of independent variables on the WTP of head of the household, the probit regression model was used. Willingness to pay of the respondent is defined into zero and one category, which is according to the response given by the respondents. Zero shows that the respondent (which is also head of the household) is not WTP for health insurance. While the integer one shows that the respondent is willing to pay for health insurance. Willing to pay of the respondent (Head of the household) is taken as the dependent variable and on the other side variables (age, household expenditures, old, disable, borrowing, sickness30, soldPI, income, awareness and smoker) which influencing the WTP are taken as independent variables. Stata software is used for estimation and to deal with the multicollinearity and heteroscedasticity robust command is used and to interpret the values of the coefficients marginal effects are also found. After running the regression final results are displayed at table 1.

Table 4.2: Marginal effects after probit

Y=Pr (d_willing_pay) (predict)

=0.75466767

Variable	Coef.	dy/dx	Std. Err.	X
age**	-0.012	-0.004	0.002	44.487
old	-0.28	-0.090	0.060	0.468
disable*	0.60	0.156	0.061	0.119
borrowing	0.30	0.098	0.064	0.639
sickness30***	1.20	0.420	0.071	0.736
SoldPI*	0.36	0.109	0.059	0.323
lnincome***	0.49	0.154	0.039	9.619
Awareness***	1.04	0.217	0.061	0.058
Smoker	0.29	0.089	0.058	0.416

*Read: *p < 0.10, **p < 0.005, ***p < 0.01*

To estimate above mentioned variables, probit model have used. The results shows that sickeness30, lnincome and awareness are positive and highly significant at the level of 1%. Age is negative but also significant at the level of 5%, some of previous studies also show this result (Milligan *et. al.,* 2010). SoldPI and disable is positive and significant at level 10%. While old, borrowing and smoker are insignificant to the WTP for health insurance.

The regression results in table shows that age has marginal effects value of -0.004 which is negative and significant at 5% level of significance. If age increase by 1 unit then respondent's (head of the household) willingness to pay for health insurance diminishes by 0.4% from the base line (44.487). This may be due to the reason that when age increases then the number of dependents also increased due to which household expenditures increased and saving reduced and finally respondent with higher age will be less willing for health insurance (as he/she may not able to pay premium). Disable has marginal effects of 0.16 which is positive and significant at 10% level of significance, it means that if disable in any household increase by one unit then the willingness to pay of the respondent will increase by 16% from the base line (0.119), this is due to the reason that if there is any disable in the household then it is expected that household must spending some money for his/her treatment or recovery. And in this scenario health insurance will be more attractive for the head of that household. Sickness30 is highly significant at 1% level of significance with 0.42 marginal effects, it shows that if sickness30 increase by 1 unit then respondent's WTP for the health insurance will be increased by 42% from the base line (0.736). The reason behind this is that if one or more household fall sick in last 30 days then head of the household will be more conscious about future unexpected catastrophic health expenditures which he have to bear up for the treatment of sick member and he show

more tendency for health insurance. SoldPI is significant at 10% level of significance with 0.11 marginal effects, shows that if SoldPI increased by one unit then the WTP of the respondent whose any household member who sold any of their household item for the treatment of sick household member increased by 11% from the base line (0.323). This may be due to the reason that when household face such situation that they come at a stage when there is no other way but to sell their household items for the treatment of sick household member then head of the household will want some shelter from these type of catastrophic health expenditures and he/she will be more willing to be enrolled for some health insurance scheme. Lnincome is significant at 1% level of significance with 0.11 marginal effects, which shows that if income increased by 1 unit then respondent is 11% more willing to pay for health insurance from the base line (9.619). It is normal for the families that when their income increases then they start routine checkups and if any member fall sick then on first priority he/she visit the doctor because he/she do not have any financial issue so if some health insurance policy is offered to them, then will prefer to be enrolled for health insurance because after that they will be on health insurance penal and roll of cash for treatment will be eliminated. Awareness is significant at 1% level of significance with 0.22 marginal effects, which shows that if awareness increased by one unit then respondent (he who has awareness about health insurance) is 21% more WTP for health insurance from the base line (0.056). As awareness is one of the important factor for anything to pick, so respondent who already knows about the benefits of the health insurance will have more attraction for health insurance. Old, borrowing and smoker are insignificant. Old has marginal effects of -0.090 which is negative and if presence of in the family increases by one unit then the willingness to pay of the respondent decreases by 9%. Borrowing by any household member for the

treatment of any household member has marginal effects of 0.098 which shows that if borrowing increases by one unit then the willingness to pay of the respondent for health insurance increases by 9.8%. Marginal effects of the smoker is 0.089 which shows that if presence of smoker in the household increased by 1 unit then the willingness to pay for health insurance increases by 8.9%. Age of the respondent and presence of old person in the family are also taken as independent variable so there was a possibility of occurring the problem of collinearity, so, first we check the correlation between these two and that was only 24%, so we incorporate this in our data. The stars on some variables in the above displayed table 4.1 shows the discrete change of dummy variables from 0 to 1.

4.2 Sequential Logit Model Estimations

For the 2nd objective and to estimate the variables sequential logit model is used. First reason that why this sequential logit model is used is that it make it easier to test hypotheses across transitions since the entire model is estimated simultaneously. Second reason is that, it implements the decomposition of the effect of an explanatory variable on the outcome of the process described by the sequential logit into the contributions of each of the transition (proposed by Buis (2010). Third reason is that, it implements and extends the strategy of doing a sensitivity analysis to investigate the potential influence of unobserved variables (proposed by Buis 2011).

Stata software is used for estimation and to deal with the multicollinearity and heteroscedasticity robust command is used and to interpret the values of the coefficients odds ratio is found. Standard error is also find out to put in the formula and this is used because it eliminates the effects of unobserved variables. Probability of Chi2 is 0.000 which shows that this is highly significant.

The results of sequential logit are displayed below.

Table 4.3: Sequential logit

Number of obs = 269

Wald chi2 (10) = 71.40v

Prob > chi2 = 0.0000

Log pseudo likelihood = - 3426.48293

Categories_WTP	Odds Ratio	Std. Err. (Robust)	P > |z|
_1_2_3_4v0			
age	0.972	0.014	0.039
old	0.522	0.223	0.129
disable	3.727	2.446	0.045
borrowing	2.030	0.880	0.103
sickness30	14.355	6.464	0.000
SoldPI	2.245	1.030	0.078
lnincome	2.999	0.830	0.000
Awareness	11.954	15.291	0.052
Smoker	1.805	0.766	0.164
_2_3_4v1			
age	0.968	0.015	0.042
old	1.052	0.480	0.912
disable	1.745	1.070	0.364
borrowing	1.406	0.764	0.531
sickness30	8.000	4.940	0.001
SoldPI	4.308	2.230	0.005
lnincome	3.984	1.411	0.000
Awareness	0.853	0.468	0.856
Smoker	1.009	0.468	0.985
_3_4v2			
age	0.996	0.020	0.842
old	2.054	1.111	0.183
disable	0.501	0.380	0.362
borrowing	3.038	1.796	0.060
sickness30	35.541	35.756	0.000
SoldPI	1.180	0.669	0.771
lnincome	5.195	2.517	0.001
Awareness	3.418	4.284	0.327
Smoker	3.459	2.068	0.038
_4v3			
age	0.965	0.0241	0.151
old	1.189	0.760	0.786
disable	2.095	1.911	0.417
borrowing	1.595	1.280	0.560

sickness30	14.828	18.750	0.033
SoldPI	1.583	1.187	0.540
lnincome	3.478	0.406	0.02
Awareness	1.847	2.122	0.593
Smoker	3.027	1.910	0.079

For the above mentioned variables, sequential logit regression is used to estimate them. Results shows that age of the respondent is significant for first and second bid at 5% level of significance. The odds of passing the first bid decreases by 2.8% [(0.972-1) × 100%)] = -2.8% for every year the respondent get older. The odds of passing the 2nd bid decreases by 3.2% as [(0.968-1) × 100% = - 3.2% for every year respondent get older. 1st and 3rd bid of Old are not significant but near to significant and odd of passing the first decreases by 47.79% and odd of passing the 3rd bid increases by 105.38%. Disable is significant for the first bid, showing that the odds of passing the first bid increases by 283.6% as ([(3.836-1) × 100] = 283.6% for every new disable in the household. 1st and 3rd bids of the borrowing is significant at 10% level of significant and the odds of passing the first bid increases by 102.94% as [(2.029-1) × 100] = 102.94% for every new borrowing from any member of household for any sick household member and the odds of passing the 3rd bid increases by 203.77% for every new borrowing. Sickness30 is highly significant at 1% level of significance for the first 3 bids and significant at 5% level of significance for 4th bid. The odds of passing the 1st, 2nd, 3rd and 4th bid increases by 1335.5%, 700%, 3454% and 1382.8% respectively. SoldPI is highly significant for the 2nd bid at 1% level of significant and significant for 1st bid at 10% level of significance and the odds of passing the 1st and 2nd bids increases by 124.5% and 330.8% respectively for every new incident of selling any household commodity for the treatment of any household member. Log of household income is highly significant for all four bids at 1% level of

significance and odds of passing the 1st,2nd, 3rd and 4th bid is 200%, 298.4%, 419.5% and 247.8% respectively. Awareness is significant for the first bid at 5% level of significance and odds of passing the first bid is increases by 903%. Smoker is significant for 3rd and 4th bid and significant at 5% and 10% level of significance and odds of passing the 3rd and 4th bid is 245.9%% and 202.7% respectively. And as the probability of Wald Chi square is 0.000, this shows that this is highly significant.

CHAPTER 5 SUMMARY AND CONCLUSION

This chapter examine that there are different factors which influence the WTP for health insurance and that factors are gender, income level, marital status, age, awareness about health insurance, disease prevalence, previous household expenditures, and size of the household. Data of Sheikhupura district is used for analysis and Sequential logit model and Probit model are used for estimations.

Data of total 385 households is used in this study and 1n these 269 respondents 190 show their willingness to enroll for health insurance and 79 respondents responded that they are not interested in health insurance. And only 15 respondents (6%) have awareness about health insurance and 254 (94%) respondents do not have any awareness about health insurance. On average respondents who want to enroll for health insurance show that they are willing to pay RS 2264 per person per year. In this way it can be said that any private, community or National health insurance will be beneficial for the people of Sheikhupura and they are willing for such kind of scheme.

5.1 Limitations of the Study

Though this study was prepared very carefully but there are also some limitations which should be pointed out at this stage of the study.

The current study was about the complete health insurance in which every type of disease is covered and patient can visit physician as much times as he/she want. So, for more precise results further work is needed to analyze the willingness to pay of the people for some limited coverage or for some specific diseases. Some important variables like access to public healthcare and facility of health insurance provided from employer can also be incorporated in future research as we could not incorporate

these variables. We cannot generalize this study to the other districts of Punjab as each district has its own socio-economic determinants.

5.2 Policy Recommendations

1) Prime Minister National Health program has launched in Pakistan and people will not pay any premium for this national health insurance. So, after results it is clear that, people are willing to pay for any health insurance scheme. So, now it is recommended that there should be some premium and by that revenue collected from premiums, health care services can be improved and insurance coverage can be extended.
2) Awareness should be spread about health insurance so that people become able to take decision that how they can reduce the catastrophic health expenditures.
3) By exploring the determinants which effect the willingness to pay for health insurance, it is recommended that the premium should vary from group to group. For example if old people are less willing to pay because of their low income or due to some other reason than they should subsidized so that all groups of population can get equal service.
4) The poor group of the society whose willingness to pay is minimal or zero and they are unable to pay to health insurance should be subsidized: i.e. Families who are registered in Benazir Income support program should enrolled without any premium so that they also become able to get timely care without any financial hurdle.

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QUESTIONNAIRE

Pakistan Institute of Development Economics, Islamabad

Department of Health Economics

Respected Respondent.

Scholarly research is undertaken to incur household's willingness to pay for health insurance. This is often accomplished through use of questionnaire. This questionnaire is designed to investigate "Willingness to Pay for Health Insurance and Factors Affecting Demand for Health Insurance: A case study of Sheikhupura District". In this regard, your cooperation in term of providing insight on the above mentioned problem is required. The answer provided by you would be kept strictly confidential and will be used only for academic purpose only. Thanks in advance, for your help in furthering this research endeavor.

Kahif Habeeb

P.I.D.E, Islamabad

Questionnaire: Estimating Household's willingness to pay for health insurance and the factors effecting the demand for health insurance: case study of Sheikhupura District.

Socio-demographic/ Socio-economic section

1) Age of respondent (Household head) at last birthday (years)_____
2) Gender.
   a. Male ( ) b. Female ( )
3) Level of education
   a. No formal education ( ) b. Primary ( ) c. Matric ( )
   d. Intermediate ( ) e. Bachelors or higher ( ) f. Quranic ( )
   g. Vocational ( )
4) Marital status
   a. Single ( ) b. Married ( ) c. Divorced ( ) d. Widowed e. Separated ( )
5) Religion
   a. Islam ( ) b. Christianity ( ) c. Other ( ) specify_____
6) Employment status of the respondents in last four weeks?
   a. Employed ( ) b. Unemployed ( )
7) If employed then main occupation
   a. Trader ( ) b. Farmer ( ) c. Civil servant ( ) d. Artisan/Technician
   e. Professional ( ) f. Student ( ) g. None ( ) h. Other_____
8) What is the income of the household per month on average? _____
9) If none in question Q 7 how do you sustain a living?
   a. Parent ( ) b. Spouse ( ) c. Government ( ) d. Friend ( )
   e. Others (specify) _____
10) Do you consider your job as being secured?
   a. Yes ( ) b. No ( )
11) How many are you in the household currently? _____
12) Does any of the household member is 60 years or older?
   Yes ( ) b. No ( )
13) *If Yes* then how many? _____
14) Does any of the household disable?
   a. Yes ( ) b. No ( )

15) Does any of the household member has any chronic disease? Cardio, Diabetes, Blood Pressure etc. If yes then how many?

a. Yes ( ) b. No ( ) c. How many ( )

16) Any of the member a smoker?
a. Yes ( ) b. No ( )

16a) Monthly average household expenditures? _____

Section B: To assess their level of knowledge about Health insurance.

17) Are you aware about health insurance?

a. Yes ( ) b. No ( )

If No to Q 17 skip to section C

18) If Yes to Q 17 what is the source of your information about health insurance?

a. TV/ Radio ( ) b. Friend ( )

c. Family members ( ) d. Community members ( )

e. Town meeting ( ) f. Others ( ) Specify

Section C: To ascertain respondents' expenditure on health (one of the factors responsible for respondents' willingness to pay for health insurance)

19) In the last year, what is the best estimate of your household health expenses (including hospital bills, drugs, chemists, and traditional healers) on illness of family members _____

20) What is the main means of paying your health expenditure in the last one year?

a. Out of pocket ( ) b. Private health insurance ( ) c. Friend/Relative ( ) d. From some charity organization ( ) e. Others ( ) specify_____

21) Did you ever borrow money to pay health bills?

a. Yes ( ) b. No ( )

22) *If Yes to Q 21* from whom did you borrow the money mainly?

a. Friend ( ) b. Relative ( ) c. Cooperative ( )

d. Bank ( ) e. Others ( ) specify_____

23) Did any of your household member fall sick in the last 4 weeks?

a. Yes ( ) b No ( )

24) Type/nature of illness_____

25) Visited anyone for treatment?

Yes ( ) b. No ( )

26) How much household spent on consultation fee, lab tests, medicines and hospitalization from last 4 weeks for any household member?_____

27) What is the distance from your home to the nearest health care center in KM? _____

28) Have you ever sold personal items (Assets) to pay healthcare bills?

a. Yes ( ) b. No ( )

29) Was there any time you were sick but did not seek health care in any hospital/ clinic?

a. Yes ( ) b. No ( )

30) *If Yes to Q 29* what was your main reason for not seeking health care?

a. Lack of money ( ) b. Distance ( )

c. Illness perceived as not serious ( ) d. Others ( ) specify_____

Section D: To ascertain their willingness to be Insured

Describe what health insurance is to the respondent

Health insurance means that by paying a fixed amount to an insurance company for a year, your medical costs are paid by the company if you experience certain illness or injury at any time during the year. The five main characteristics are pooling of pre-paid funds, a dynamic of mutual aid, targeting of the informal sector, not-for-profit characteristic and community participation in.

31) Would you be interested in enrolling in a health insurance?

a. Yes ( ) b. No ( )

32) *If No to Q 31* Why would you not be interested?

a. Don't know health insurance ( ) b. Just not interested ( )

c. Never ill ( ) d. No trust in insurance ( ) e. Can't afford premium ( ) f. Money is lost if not sick ( ) g. Afraid of tempting fate ( ) h. Does not cover what I need ( ) i. Others ( ) specify_____

33) *If yes to Q 31* how many persons in your household are willing to enroll in the health insurance?_____

34) Will you be willing to pay RS850 per person per year?

a. Yes ( ) b. No ( )

35) *If Yes to Q34* will you be willing to pay 1000 per person per year?

a. Yes ( ) b. No ( )

36) *If Yes to Q35* will you be willing to pay 1200 per person per year?

a. Yes ( ) b. No ( )

37) *If Yes to Q36* what is the maximum amount you are willing to pay per person per Year_____

38) *If No to Q34* will you be willing to pay 700 per person per year?

a. Yes ( ) b. No ( )

39) *If No to Q 38* will you be willing to pay 600 per person per year?

a. Yes ( ) b. No ( )

40) *If No to Q39* how much you are willing to pay per person per year? _____

If healthcare covers accident and emergency, antenatal care and delivery and Hospitalization and surgery.

41) Will you willing to pay RS 1000 per person per year?

a. Yes ( ) b. No ( )

42) *If Yes to Q41* will you willing to pay 1250 per person per year?

a. Yes ( ) b. No ( )

43) *If Yes to Q42* will you willing to pay 1500 per person per year?

a. Yes ( ) b. No ( )

44) *If Yes to Q43* what is the maximum amount which you are willing to pay per person per year? _____

45) *If No to Q41* will you be willing to pay 850 per person per year?

a. Yes ( ) b. No ( )

46) *If No to Q45* will you be willing to pay 750 per person per year?

a. Yes ( ) b. No ( )

47) *If No to Q46* will you willing to pay 650 per person per year?

a. Yes ( ) b. No ( )

48) *If No to Q47* how much you are willing to pay per person per year? _____

If healthcare covers laboratory investigations, and all drug expenses

49) Will you willing to pay RS 1000 per person per year?

a. Yes ( ) b. No ( )

50) *If Yes to Q49* will you be willing to pay RS 1250 per person per year?

a. Yes ( ) b. No ( )

51) *If Yes to Q 50* will you be willing to pay RS 1500 per person per year?

a. Yes ( ) b. No ( )

52) *If Yes to Q51* then maximum how much you are willing to pay per person per year? _____

53) *If No to Q 49* will you be willing to pay RS850 per person per year?

a. Yes ( ) b. No ( )

54) *If No to Q 53* will you be willing to pay 750 per person per year?

a. Yes ( ) b. No ( )

55) *If No to Q 54* will you be willing to pay 650 per person per year?

a. Yes ( ) b. No ( )

56) *If No to Q 55* how much you are willing to pay per person per year? _____