

[DOI: 10.20472/IAC.2015.019.003](https://doi.org/10.20472/IAC.2015.019.003)

SYED TOQUEER AKHTER

Lahore School of Economics , Pakistan

BILAL MAQBOOL

Lahore School of Economics , Pakistan

**THE IMPACT ASSESSMENT OF THE SOCIAL DEMONSTRATION
EFFECT AND RELIGIOSITY UPON CHARITABLE SPENDING:
FINDINGS OF A CROSS SECTIONAL STUDY IN PAKISTAN.**

Abstract:

The study attempts to find the extent to which the Social Demonstration Effect and Religiosity have an impact on the Charitable Spendings appearing in form of efforts towards poverty alleviation, providing financial transfers to internally displaced persons and as a response to disasters. Despite the fact that Pakistan is a developing nation, it possesses a strong culture of charitable giving which reflects high degree of concern for humanity among ordinary people in the country. This supports the government's initial effort to drive social progress in Pakistan. In order to pretest the impact of Social Demonstration Effect and Religiosity a cross sectional foundation has been preferred and the sampling frame was based upon the estimates on income disparity and the segregation of income groups. The number of respondents from five different income groups was selected on the basis of income received by each group as suggested by the Lorentz curve for Pakistan. Important sections in the questionnaire include Religiosity, Spending for Humanity, Self-personal interest, Educational quality and Socio economic factors. Competing econometric models namely Ordinary Least Squares model, Weighted Least Squares and Median Regression have been estimated so that to consolidate the impact of Social Demonstration Effect and Religiosity upon Charitable Spendings comprehensively. Model estimates entail the Social Demonstration Effect present in the society, the impact of religious norms that mandate donations and the degree to which Tax concessions help generate funds for charity. Government regulations to introduce social awareness programs about the importance of charities in religion and their effect on the economic welfare of the country tends to be a viable option to generate more funds for charities.

Keywords:

Charitable spending, Social demonstration effect, Religiosity, Weighted Least Squares model, Median Regression.

JEL Classification: I31

Part 1: Introduction and Research concerns

Part 1 of this study talks about the key focus of the research and the existing trends of Pakistan's charitable giving culture, in a cross country setting followed by a the demand side factors for charitable spending in forms of poverty, disasters and internally displaced people. More over this part discusses the sources of such charitable giving in form of supply side factors in form of humanitarian concern, religious beliefs, Tax concessions and the social demonstration effect. Lastly this part discusses the research concerns and objectives for carrying out the study.

An Overview of Preferences and Trends for Spending on Humanity in Pakistan

Today, Pakistan is experiencing a number of socio economic problems some of which are extreme poverty, excessive adult illiteracy and high infant and maternal mortality rates. These indicators mark the need for an economy that understands these key issues and becomes self-reliant in solving them. Corporations and individuals along with the government have made serious progress to ensure the availability of funds and physical efforts to encounter these alarming situations and to help the economy to come out of this trap.

Different groups of people have separate preferences for spending for humanity which motivates them to contribute in terms of money or voluntary participation. The drive behind this powerful trend comes from the fact that Pakistan is deeply religious nation and it considers itself liable to pay out in charities and the people find it satisfying to pay out a proportion of their wealth and income towards helping the affected groups of the country. Moreover, some people have non humanitarian preferences for charitable spending as they benefit from tax exemptions from the earned income. Therefore they find it profitable to donate as these tax benefits exceed the total donated amount in most cases. Furthermore, the social demonstration effect makes people indulge more in charitable giving since it increases their popularity with in that society and makes them want to improve their Social status even further.

There are more than 45,000 nonprofit organizations in Pakistan, employing above 300,000 people. Pakistan is renowned for its charitable giving culture and is ranked 6th among the top 10 nations according to total number of people donating funds.¹

¹World Giving Index 2014.(2014). In *Charities Aid Foundation*.

Table1: Top 10 countries by the number of people donating money

Donating money by country and ranking		People (million)
India	1	249
United states of America	2	175
China	3	148
Indonesia	4	117
Thailand	5	42
Pakistan	6	39
United kingdom	7	39
Myanmar	8	36
Brazil	9	33
Iran	10	31

Source: *World giving index, (WGI, 2014)*

Demand Side Aspects of Spending for Humanity: Persistent Poverty, Disasters and Internally Displaced Persons.

The need to alleviate persistent poverty creates strong demand for spending for humanity in Pakistan. The Pakistan center of philanthropy (PCP) acts as an intermediate for arranging funds from individual philanthropists, government and corporate organizations. PCP collected over \$ 1.2 billion after the 2005 earthquake and provided resources to the government in an attempt to reduce poverty.² PCP aims to increase the effectiveness of philanthropy in Pakistan.

Moreover Pakistan is prone to natural disasters that lead to severe damage. Therefore there is an increased demand for charitable spending and volunteering to help minimize these damages. The earth quake reconstruction and rehabilitation authority established in 2005 was made responsible for providing basic social services and assistance for livelihood. According to a UNICEF³ report ERRA⁴ played an important role in collecting cash and in kind transfers. (UNICEF Pakistan Earthquake Response).

Moreover there is a huge demand for humanity spending by internally displaced persons in Pakistan as they account for more 1.15 million people. The crisis in the malakand-division disrupted the lives of huge community that led to the displacement of around 3

²(n.d.). Retrieved March 28, 2015, from <https://www.imf.org/external/pubs/ft/scr/2010/cr10183.pdf>

³(n.d.). Retrieved March 27, 2015, from [http://www.unicef.org/pakistan/Overview-Updated-September-2007-1_\(2\).pdf](http://www.unicef.org/pakistan/Overview-Updated-September-2007-1_(2).pdf)

⁴ERRA refers to *Earthquake Reconstruction and Rehabilitation Authority of Pakistan*.

million people. In this time the Qatar charity initiated Malakand Integrated Early Recovery and Rehabilitation Program (MIERRP) that resulted in 37,500 people receiving basic housing facilities.

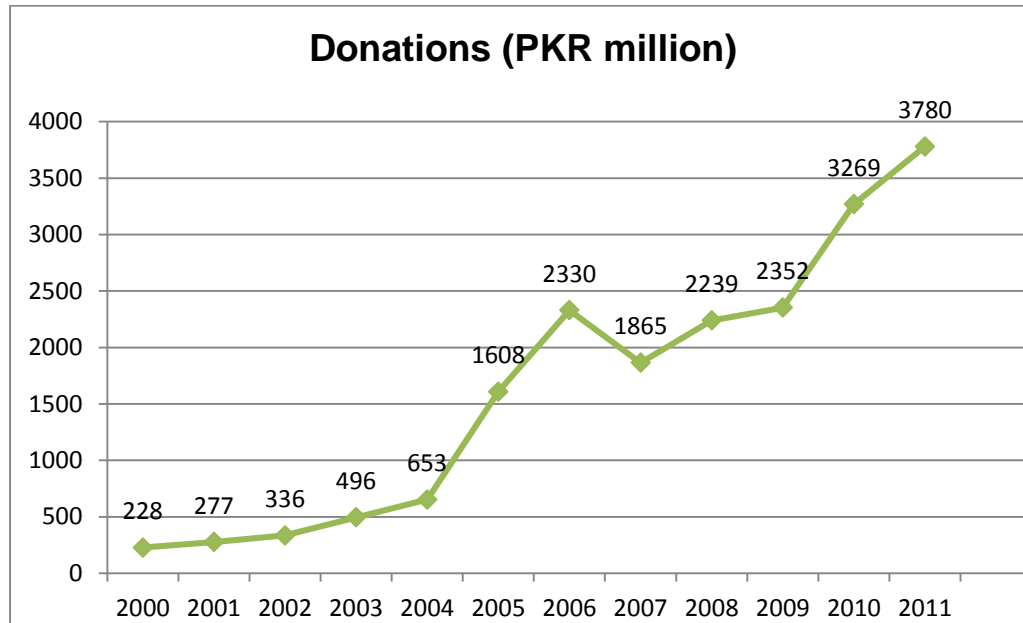
Supply Side Aspects of Charitable Spending; Humanity, Religiosity, Corporate Social Responsibility, Tax Concessions And Social Demonstration Effect

To meet the demand for charitable spending it is essential for the government along with the nonprofit organizations to recognize the supply side factors that create means for spending for humanity in the first place. Moreover the awareness about these factors among the policy makers would allow them to design policies that would attract funds for charity without exploiting people.

The results of a study cross sectional study conducted in 2010 at a Teaching Hospital in Karachi, Pakistan, revealed that 84.8% of the respondents believed that sadaqah; (a voluntary form of charity) heals diseases. About 97.5% of the participants believed that medical treatment should be combined along with sadaqah/charity for healing. Religious beliefs play an important role in how people think and participate in philanthropy.

Moreover, the corporate social responsibility nowadays makes it essential for firms to contribute as it helps them build their brand image among consumers and other stakeholders. The Punjab Center of philanthropy⁵ conducted a research project that showed the extent to which people are philanthropic in Pakistan. A study carried out by the same organization in Punjab in 2010 revealed that the individual philanthropists were able to raise Rs.104 billion, which was more than the social development budget of Rs.70 billion. Moreover, the results from another study showed that corporate giving rose by 17 times, in from 2003 to 2011.

⁵Survey of public listed companies, 2011 (Pakistan Centre for Philanthropy)

Figure 1: Total donations/year (2000 – 2011)

Source: Survey of public listed companies, 2011 (Pakistan Centre for Philanthropy)

The Figure 1 shows, that apart from individual contributions, the corporate giving has also risen which is an attempt towards improving living standards in Pakistan and eliminating huge income disparity among people in Pakistan.

Apart from these factors some people give out in donations as matter of concern to help people that are deprived of basic needs of life such as staple food and education. The rationale behind such contribution is mental satisfaction that they play an essential role in the revival of the society. The degree to which each individual has a concern for humanity differs across people and is found independent of other factors.

The other factors that help generate funds for charities involve tax benefits that people receive from paying out money in donations. Firms and individuals gain from not being taxed on the amount given out in gifts and charities out of income. According to the income tax ordinance of Pakistan, a citizen of Pakistan and corporations are entitled to a tax credit for any charitable donations made.⁶ This serves as an advantage as they find

⁶Income Tax Manual.(2006). INCOME TAX ORDINANCE, 2001.

it profitable to give out money as charities. The fund generated this way is from a non-humanitarian source, but still an inflow for charitable organizations.

Furthermore the social demonstration effect is probably the largest source of charities as people follow the giving trend and try to be a part of that trend absorbed in the society. One of the corruption issues involve the 'Demonstration Effect' that is prompt by the corporate salaries, leads to corruption. (Qadir, 2003)⁷

Research Concerns and Study Objectives

This study primarily attempts to verify the proposition that social demonstration effect has an indicative impact upon the charitable payments as a percentage of monthly income, in a cross sectional setting. Moreover it also examines the degree to which religiosity can affect charitable spending in a society, significantly or insignificantly. The basic motive of this study was to determine the factors that cause people to participate more in charitable giving and then providing basis for further spending to improve the key economic indicators in Pakistan. The study develops its focus towards determining the impact of tax benefits, an individual's social status, and young professionals (age: 27-35) and uses competing econometric models to determine their relationship of charitable spending. The relationship between social demonstration effect has been established in previous studies, but determining the demonstration effect among people in a cross sectional foundation in Pakistan has not been done before. Similarly many studies have estimated the effect of religiosity, but a detailed section to determine the extent of religiosity and then finding the relative impact on charitable spending through calculating the payments to charities as a proportion of income is a better and an accurate measure to discover the true relationship. The research includes a complete household as its single observation therefore it incorporates the views of the entire family as one observation which was absent in previous studies for Pakistan.

Part 2: Methodological and Modeling preferences

This part of the research analysis information from other research articles that use the concept of social demonstration effect to reflect charitable giving patterns and how religiosity powers and promotes spending for humanity. Moreover this part also sampling procedures, quantification and the questionnaire design. Lastly, the reasoning and

⁷ Corruption: Causes and Effects in Pakistan's Case (A Review Research), pg 84.

significance of choice of econometric models have been discussed to determine the credibility of the relationship among variables used in the study.

An overview of the Social Demonstration Effect.

The social demonstration effect has been widely accepted phenomenon whereby the decision to participate in an activity is influenced by the number of people already involved in that particular activity. This effect results from the confidence that larger number of participants would increase the success probability and reduce the cost of that activity as a whole. (Karklins and Petersen, 1993)

The social demonstration effect has been used as a tool to reduce poverty and improve living standards in a country by reinforcing a positive behavior. This effect can be studied both on micro and macro level. On the micro level we analyze how individuals respond to changes in their society and the extent to which people get affected by what they observe in that society. Whereas on the macro level we shift our analysis to corporations and government agencies being involved in a practice imitated by another body in general.

The social demonstration effect is derived from people's desire to maintain their high living standard by buying what others buy. In this way their absolute level of consumption of a single good holds less importance since people change their preferences with the passage of time. He further more elaborated that the demonstration effect cannot exist in the absence of conspicuous consumption⁸, whereby people indulge in consumption of apparel and other products to display the existence of wealth or economic power. The rationale behind the entire concept is the desire to be ranked higher in comparison with the society as possession of more and quality goods ensures peace of mind, that a person must have a considerable portion of goods relative to others with whom he associated himself with. Later in the same study it was established that the social demonstration effect is best witnessed in the presence of inequality of income within the society. This would strengthen the demonstration effect due to the presence of numerous opportunities that allows invidious differentiation among consumption standards. (Duesenberry, 1983)

The demonstration effect plays a dominant role in determining the economic indicators of a country which in turn influences the health of an economy. The existence of firms in a specific locality would offer positive signals to new emerging firms to enter that area and provide basis for external economies of scale. According to a panel data study for 64 provinces of Vietnam from 2005 to 2010, the demonstration effect induces change in foreign direct investment based on previous year's foreign direct investment. The results from the study clearly indicated the presence of the demonstration effect. The investments decisions by foreign companies and individuals are depend not only on the

⁸ Conspicuous consumption has been defined as consumption on luxury goods to display economic power or reflect Social status.

comparable advantages across countries but also demonstration effects when these investors follow each other.

Therefore, according to literature the demonstration effect has been proven to be strong in most studies, affecting consumption, savings and investment decisions across people and nations, which indirectly affect a country's balance of payments. In the developing countries, the social demonstration effect can be used to induce investment and to offset the undesirable effect of the excessive consumption. But lack of investment opportunities prevents the demonstration effect from growing which results in people lowering their saving propensity as they do not want to compromise on improving their living standards by increasing their conspicuous spending. (Chiang, 1959, p. 257)

The low level of savings lowers the prospects for growth in an economy according to the Solow model, as investment depends on savings. However on the other hand people are aware of new opportunities and trends prevailing in the society, therefore they provide room for more innovation and technological improvement which eventually mitigates the negative effects resulting from low savings.

Diversity of social demonstration effect and spending for humanity preferences

The social demonstration effect appears in multiple forms in various studies. According to literature, the intergenerational transfers⁹ depend highly on the element of demonstration effect. The expectations of intergenerational transfers from children to parents are dependent on the transfers made by parents to their parents. This demonstration effect is incorporated into the learning behavior and the norms of children. Similarly the reason why children do not provide financial assistance and in-kind transfers to their parents can be tracked back to parents treating the same to their parents according to evidence generated from the overlapping generational model. (Donald Cox and Oded Stark, 1994)

On a similar basis the social demonstration effect takes form of a bandwagon effect¹⁰ whereby people join a cause or a protest when they observe considerable people already participating in that activity. The number of participants is proportional to the non-participants in this case, which creates an accumulation effect. This increases the success probability of that movement as each member joins in. This type of effect is more apparent in times of elections and macro-economic alterations by the government. Moreover this effect can be witnessed in times of natural disasters. The financial and in-kind contribution made by a certain amount of people makes others want to contribute

⁹ The intergenerational transfers have been defined as monetary and non-monetary assistance by children to support their parents in need.

¹⁰ The bandwagon effect in this study has been used as a form of social demonstration effect. It is similar to the domino or the snow ball effect whereby, the number of people already participating in an activity determine an individual's decision of whether he/she wants to participate or not.

also resulting in a collective support for the disaster victims. (Gavious and Mazhari, 2001, p. 92)

Men and women have different perspectives when asked for funds towards charities. In a masculine society characterized by justice oriented people, men are most likely to donate for reasons that are personally relevant to them whereas women donate for help other reasons. However in a care oriented society both men and women have altruistic reasons to donate to charity organizations. The social demonstration effect is prominent in a masculine culture where men give out money mostly because of their self-esteem and the desire to be recognized among the giving people in the society. Male people especially in a male dominated society usually view themselves as being task oriented and self-centered which makes them value what concerns them, therefore they consider their personal motive before contributing towards a charities. On the contrast women in either feminine or a masculine culture view themselves as caring and having a concern for welfare for others in the same society, therefore women are most likely to donate as a result of help-others reasons.(Lyons et al., 2005)¹¹

Another reason for charitable contribution is the desire to maintain one's own status with in the society. It is believed that donors indulge in charitable giving to disclose their wealth and simultaneously revealing their concern for welfare. The prestige of most donors makes them want to keep donating for a continued period of time as it allows them to distinguish themselves from the rest of the society.(Glazer and Konrad 1996).¹²

Although apparently it may seem that people donate out of their concern for welfare but some people become additionally aware of their cultural background and their status association with others that creates a demonstration effect among those people.¹³

Religious Norms, Religiosity and Charitable Spending

All most in all religions it is obligatory for people to spend a proportion of their income and wealth for charitable purposes, which makes people to see it as their duty to indulge in such practices. And even for people that do not feel religiously motivated to donate, the morals established in the society makes almost compulsory for them to be involved in these charities.

Religious charities account for the most widespread component of above \$183 billion in annual donations made by individuals. This figure exceeds all forms of individual

¹¹ (Lyons et al., 2005)

¹²(Glazer and Konrad 1996).

¹³ Alan J. Kidd, (1996)

contributions towards charities.¹⁴ Most studies have shown a positive trend for religious charitable spending signaling rapid growth over the past few decades.¹⁵

The in depth analysis of various studies indicate that religious norms that are incorporated into the culture and the religious practice itself leads to a rise in charitable spending regardless of the choice of religion. The religious norms in a particular religion act as a major determinant of amount given out towards charities. Zakaah¹⁶ and sadaqah¹⁷ are two main forms of charities in Islam, with the former being a compulsory form of charitable practice. Zakaah, in Islam means purification of soul and wealth. This religious belief makes it obligatory for all Muslims to contribute two and half percent of their idle wealth. Sadaqah refers to a form of charity that is voluntary. Muslims see sadaqah as giving away their possessions for sake of Allah, either in form of goods or in monetary terms.

There are numerous studies that have established an empirical relationship between charitable giving and religious practice, but the econometric models used in these studies lack the effects that are usually employed in income and price effects econometric models. The evidence found in major studies show that religion has a significant and positive impact on giving and volunteering for help to others. (Brooks, 2006)

But the impact of religiosity is more clearly captured if it is measured taking into account two major dimensions of religious behavior, firstly the association of a person with a particular religion and secondly the intensity of practice in that religion. Moreover the empirics strongly support that practicing religion causes people to volunteer more and enhances the charitable giving. Similarly the lack of practice causes it to go down.

Literature supports that increasing the frequency of religious participation by one step causes the level of charitable spending to go up by almost 60 percent. For instance going to a worship place once a week instead of going there once a month would result in an increase in total charitable spending. (PamalaWiepking and Ineke Maas, 2009)

Besides education, religion has the strongest demographic effects in terms of charitable giving and volunteering activities. Furthermore the study maintains that belief in a particular religion gives rise to certain types of charitable giving. The evidence from data predicts that people who practice religion regularly are likely to give and volunteer more than those that do not follow any form of religion. The empirics from the same study demonstrate that earlier established notion that probability of giving and volunteering in people that practice religion exceeds by 25 percentage points and 23 percentage points

¹⁴(Giving USA 2003; Van Slyke and Brooks, 2005).

¹⁵ (Giving USA 1999)

¹⁶ Zakaah is an obligatory form of charity payment under the Islamic law. The payment is made on the basis of 2.5% of one's idle wealth.

¹⁷ Sadaqah is a voluntary form of charity payment that is considered as a proof of one's faith.

respectively from those that do not practice any religion. Moreover their charitable giving exceeds by \$1568 as compared to secularists. (C. Brooks, 2004)

The study analyzed the effect of the same religious group for non-religious causes. Surprisingly the gap does not diminish. The probability of giving and volunteering of the same group to non-religious organizations also exceeds by 10 percentage points and 21 percentage points respectively from the secularist people. The empirical evidence also determines that the religion's role in giving appears to increase the frequency of religious practice itself creating a chain effect.

People with more strong religious networks tend to have extended social networks also, which in turn induces charitable donations. Therefore having a large social network ensures charitable giving as one considers it as a positive norm which makes them want to make regular and substantial contributions towards charities. (PamalaWiepking and Ineke Maas, 2009)

Data Instruments for Religiosity, Social Demonstration Effect and Preferences for Humanity

The religiosity variable in this study has been measured by calculating an average score of questions 61-71 (see appendix 1). These 11 questions in the questionnaire asked the respondents about how often they perform the important religious activities in their religion. The frequency of practice is measured by a ranking scale ranging from 5 to 1, with 5 signally high frequency of religious practice and 1 signaling the least form of religious practice.

The average score for each individual respondent determines the extent of religiosity. Recent evidence in major studies confirms that religiosity can be measured by a unidimensional scale (Voas 2009).¹⁸ However it is important to measure religiosity using three aspects, affiliation with a particular religion, the frequency of practice and the belief itself. Combined score of these three aspects would determine true religiosity within studies.

The social demonstration effect in this study has been measured by asking people about a personality trait of openness. The questions asked in this section ask a respondent about how open they are to new ideas and trends in the society. This was measured by a scale where 4 signaled, "To a great extent" and 1 signaled, "Not at all". Naturally people that were open to new trends would not have a general concern for welfare for others as they prefer their personal spending as their first priority.

¹⁸(Voas, 2009).

The preferences for spending for humanity were also measured by three sections of which charitable spending as a percentage of monthly income was used as the Y variable for the study. The second section was comprised of a series of questions that asked a respondent about their frequency of participation in natural disasters relief operations and was measured using a scale whereby 5 signaled most frequent and 1 signaled never. Then another section was used to ask about people's general concern for welfare. It was also measured the same way as the previous section.

Questionnaire Design, Sampling And Related Procedures

In this particular section of the research paper we examine the choice of data used to carry out the study. The study makes use of the cross sectional data to estimate the association between social demonstration effect and religiosity on the charitable spending as proportion of monthly income.

The data was gathered by the means of conducting personal interviews over a period of over one month and a comprehensive questionnaire based on a survey from 40 respondents that were of age bracket 25 to 67 and are earning. A structure of the sampling frame was based upon the estimates on income disparity¹⁹ and the number of respondents from each income group was calculated through the income received by that particular income group as suggested by Gini index²⁰ of Pakistan by Kanwal Bilal. Using this data the 9% of the sample was on poor people, 14% was on lower middle class people, 17% was on middle class people, 24% was on upper middle class people and remaining 36% was on the upper class people. Some respondents made regular monthly payments to charity organizations were as some gave out once in 3 months, whereas the rest made infrequent charity payments. But a uniform measure was determined by calculating an average monthly payment for each respondent. Non probability sampling design namely quota sampling was adopted, however the sampling units were selected on convenience basis according to their relative proportion in the population.

In order to quantify the most significant factors that influence the charitable spending, ordinal scales, dichotomous questions and open ended questions were used as a part of this questionnaire. To gather information about a respondent's demographics there were some categorical questions used, (See Q3, Q7, Q8, Q13, Q18, Questionnaire, (Appendix 1). Then the quality of education and disaster relief participation was measured by a rating scale. (See Q44-111, Questionnaire, Appendix 1). The questionnaire comprises of various different sections, all of which are demographics, quality of education, parental occupation, wealth, personality traits, religiosity, Tax concessions, social recognition,

¹⁹ Income disparity was determined through the Lorentz curve for Pakistan. It was plotted against the cumulative percentage of the corresponding population for Pakistan.

²⁰Journal of Asian Scientific Research, 1(4), pp.204-211.

personal spending, household possessions, health status, and concern for social wellbeing, everyday life spending, disaster relief participation and proportional question. The dependent variable is the charitable spending as proportion of monthly income.

Questions measured on scale basis were recorded from 5 to 1 in the excel sheet where 1 meant low frequency of participation and strongly disagree in other questions, but 5 meant high frequency of participation and strongly agree in other questions. Similarly for dichotomous questions 1 was used to signal yes and 0 to signal no. Some open ended questions were also used to assist in interpreting the results. However for estimation purposes the most suitable questions were used based on rationality and evidence from past studies, to determine the relationship between the Y and X variables.

Specification of Ordinary Least Squares, Weighted Least Squares, and Median Regression Model

Ordinary Least Squares

Ordinary Least Squares model is a reliable model to apply since the data reflects no multicollinearity or serial correlation. Ordinary Least Squares is a suitable model to use since the y variable is in numeric form and it will accurately reduce the gap between the predicted and actual values. The errors for this regression are homoscedastic and serially uncorrelated.

Weighted Least Squares

For cross-section data regressions it is usually safe to assume that the errors are uncorrelated. But the variance across individuals is usually not constant. This results in the problem of heteroskedasticity. The Weighted Least Squares model has been used to obtain estimates that are efficient and unbiased. The process starts with dividing the dependent variable along with all of the independent variables and the constant term by the under root of h_i , and then apply least squares. This is done for a multiple regression model. We regress y on the z_i and x_i , which involves the minimization of the following equation.

$$\sum_{i=1}^n (y_i^* - a^*z_i - b^*x_i)^2 = \sum_{i=1}^n (y_i - a - b^*x_i)^2 / h_i$$

The estimates as a result are found to be efficient, and the standard errors from the regression are correct for the coefficient estimates.

Median Regression model

Median Regression model is used to estimate the median value of the Y variable, which is dependent on the values of the remaining X variables. These results from this model

correspond to the results from least-squares regression models, which also estimate the mean value of the dependent variable. In other words, the regression estimates found from the median regression model minimize the aggregate of the absolute residuals values.

The equation below is the functional form of the equation:

(Charitable spending as a percentage of monthly income) = f (**Working professionals, Ratio of personal income to household income to household, social demonstration effect, Social status, religiosity, Tax concessions**)..... (2.6.1)

Coefficients	
B₀	Constant term
β₁	Coefficient of Working professionals (27-35)
β₂	Coefficient of Ratio of personal income to household income to household
β₃	Coefficient of social demonstration effect
β₄	Coefficient of Social status
β₅	Coefficient of religiosity
β₆	Coefficient of Tax concessions
ε₀	Error term

The interpretation of the coefficients is as follows:

$$\frac{\partial y}{\partial x_1} = \beta_1$$

The charitable spending as percentage of income for the young professionals is higher than that of other age brackets by about β₁ units.

$$\frac{\partial y}{\partial x_2} = \beta_2$$

An increase of 1 unit in **Ratio of personal income to household income to household** leads to a β₂ unit increase in **monthly spend** (Charitable spending)

$$\frac{\partial y}{\partial x_3} = \beta_3$$

An increase of 1 unit **Social demonstration effect** in leads to a β₃ unit decrease in **monthly spend** (Charitable spending)

$$\frac{\partial y}{\partial x_4} = \beta_4$$

An increase of 1 unit in **Social status** leads to a β₄ unit decrease in **monthly spend**, Charitable spending

$$\frac{\partial y}{\partial x_5} = \beta_5$$

An increase of 1 unit in **Religiosity** leads to a β_5 unit increase in **monthly spend** (Charitable spending)

$$\frac{\partial y}{\partial x_6} = \beta_6$$

An increase of 1 unit in **Tax concessions** leads to a β_6 unit increase in **monthly spend** (Charitable spending)

Monthly spend (Charitable spending as proportion of income) has been used as the Y variable whereas Working professionals, Ratio of personal income to household income to household income, social demonstration effect, Social status, religiosity, Tax concessions have been included as X variables in the regression.

Part 3: Model Estimates and analysis

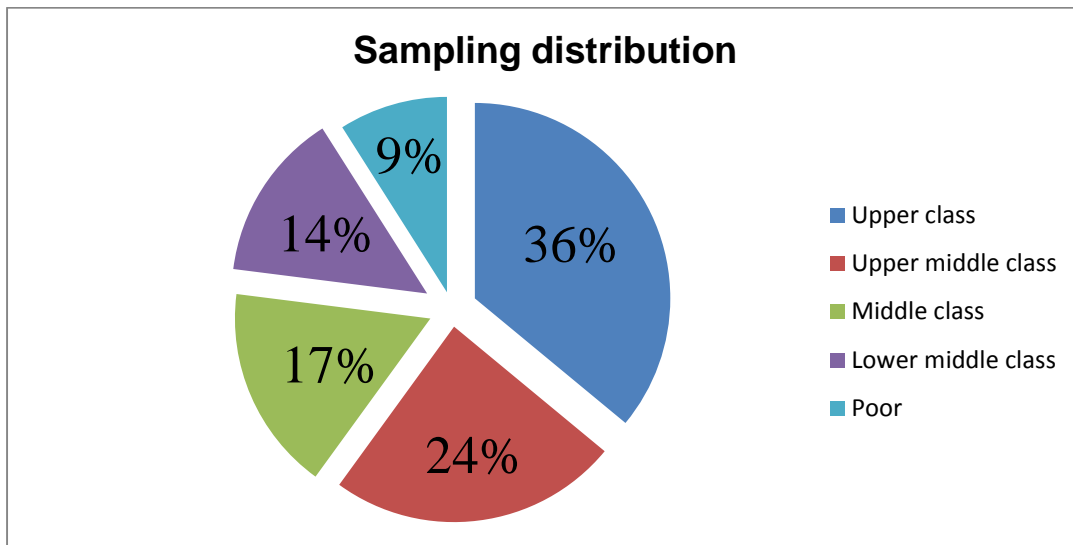
This section of the study provides an estimation of the final model used in the research. The results derived from the modeling techniques are displayed in a tabular form, which demonstrates the association between the key regressors and the regressand, and their significance. Later in this section we look at the analysis of finding, important conclusions resulting from the study and critical imitation of the study.

Survey Respondents Profile: Key Observation

In Pakistan around 45 million people have been reported as donating money. This is approximately 23.8 percent of the entire population. The number of respondents selected was 40, on the basis of income inequality in Pakistan. Each one of these respondents were personally interviewed and were asked to fill in a questionnaire that included several key questions to determine the degree to which people are inclined towards giving out in charities. Both these sources provided sufficient information to determine the relationship between charitable spending and some key regressors incorporated in the study.

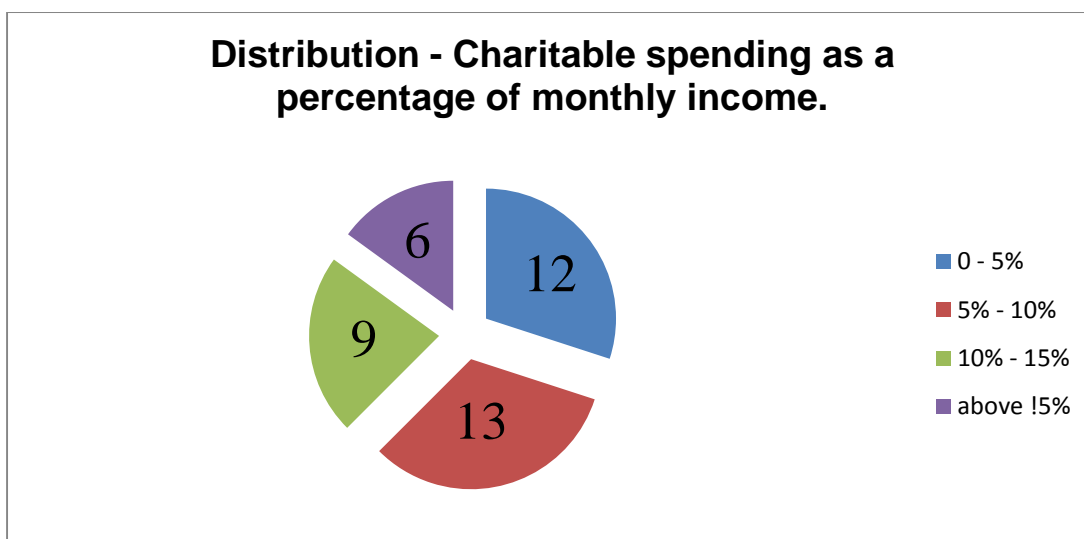
The sample division for this survey was made according to the Lorentz curve of Pakistan that provided information about income inequality in Pakistan. The entire sample was broken down into five main categories which represented different income groups. The data gathered from the journal of Asian scientific research revealed that lowest 20% of the population earned 9% of the income; the next 20% earned 14% of the income. Similarly the middle income group earned 17% of the income. The upper middle class and the upper class earned 24% and 36% respectively. The weightage given to each of these five groups were according to the income earned. Therefore 4 respondents, which are almost 9% of a sample of 40, were interviewed from the lower income group. Similarly the respondents were interviewed from the other groups.

Figure 2: Sampling distribution



The sample selected for this cross sectional survey were family heads those that were currently earning and had a past experience in paying out in charities. Therefore the age bracket chosen for the sample ranged from 25 to 67. Each family head represented a household and answered questions that applied to both the household and the individual itself. 90% percent of the sample included males and the rest 10% of the sample was comprised of women. This was done to demonstrate the male dominated society of Pakistan. There were 30% of the respondents that disclosed that they donate 5% or less of their income towards charities, similarly 60% of the sample donated above 5% and below 20% of their income in charities. Only 10% percent of the population donated above 20% of their income towards charities.

Figure 3: Distribution - Charitable spending as a percentage of monthly income.



Estimates of The Ordinary Least Squares, Weighted Least Squares and The Median Regression Model, Goodness of Fit and Specification Tests.

Ordinary least squares model has been estimated along with two other competing models namely weighted least squares and median regression model. The equations 2.6.1, 2.6.2, 2.6.3 explain the mathematical form of the equations. The estimates have been explained below

The equation for the ordinary least squares:

$$\text{Charitable spending as a percentage of monthly income} = 0.7737075 * \text{Working professionals} + 2.25616 * \text{Ratio of personal income to household income over household income} - 0.3359601 * \text{Social demonstration effect} + 1.9588498 * \text{Religiosity} + 1.260268 * \text{Tax concessions} + -0.4999382 * \text{Social status}$$

Table 2: Tabular Representation of Competing Econometric Modeling Choices (Ordinary Least Squares model, Weighted Least Squares (WLS) and Median Regression)

Regressand: Charitable spending as a percentage of monthly income			
	Ordinary Least Squares model	Weighted least squares model	Median Regression model
Estimates			
Working professionals Dummy variable for working professionals where 1 = (ages 27-35) and 0 otherwise.	0.020418 (1.57)	0.0189536* (1.66)	0.014133 (1.24)
Ratio of personal income to household income over household income	0.0614431*** (3.16)	0.06327*** (3.67)	0.0560887*** (3.38)
Social demonstration effect Social demonstration effect was measured through a scale where 4 represent "To a great extent" and 1 represents "Not at all".	-0.0143242** (-2.19)	-0.0123013** (-2.19)	-0.0151687** (-2.51)
Religiosity An average of 11 questions have been used that have been measured using a scale where 5 shows high frequency of religious practice and 1 shows low frequency of religious practice.	0.0503546*** (4.44)	0.0476655*** (4.69)	0.0561781*** (5.68)
Tax concessions An average of 3 questions have been used that have been measured using a scale where 5 represents high frequency and 1 represents low frequency.	0.0338535*** (5.30)	0.0402017*** (6.95)	0.0308741*** (5.27)
Social status	-0.0146686***	-0.0187797***	-0.0181839***

5 questions have been used to form categories of 5 social statuses, where 5 represents high social status and 1 represents low social status.	(-3.35)	(-4.40)	(-4.62)
Total respondents	40	40	40
Tests for goodness of fit	-	-	-
R-square	0.7248	0.8282	
Adjusted R-square	0.6748	0.7969	
F test	14.49	26.51	
Pseudo R ²			0.4934
Test for model consolidation			
Variance Inflation Factor for Multicollinearity	1.21	1.25	

Note: The t-statistics is reported in () parenthesis under the coefficient term, *denotes significance at 10% level, ** denotes significance at 5% level while *** denotes significance at 1% level. Source: Survey

The results from the econometric models used show logical and practical relationship between the dependent and the independent variables. The resulting significance and the signs of all the independent variables with the monthly spending as a percentage of income are as predicted. Moreover the results are consistent with the previous studies conducted which ensure rationality and pragmatism in the estimation of each model. The most significant relationship established is of religiosity and Tax concessions with the proportion of charitable spending over monthly income, according to the Ordinary Least Squares model.

Median Regression model has been used as competing models to further testify if the results from the previous model as still consistent to the already established theories. The estimates from the Median Regression model show higher significance and consistency with other models used. The results show that the monthly spending as a proportion of income has a negative relation with and the social demonstration effect and positive relation with extent of religiosity in people. Furthermore the Weighted Least Squares model has been used to support the already established results from other models.

The values of the coefficient of determination, R² and adjusted R² from the Ordinary Least Squares model are 0.7248 and 0.6748, respectively, signaling that 72.48% variation in the regressand is caused by the regressors used in the model. However these values for the Weighted Least Squares model depict improved significance as they come out to be 0.8282 and 0.7969 showing that 82.82% of the variation caused in the charitable spending as a percentage of monthly income is caused by the independent variables used in the equation. This reflects strong relationship between the dependent and the independent variables. Moreover, the F-statistic for Ordinary Least Squares and the Weighted Least Squares model have values of 14.49 and 26.51 respectively which depict high significance determining a strong linear relationship between the dependent and the independent variables. Furthermore, the specification test namely variance inflation factor

for testing multicollinearity has been applied. The values for the variance inflation factor for Ordinary Least Squares and Weighted Least Squares are 1.21 and 1.25 respectively which reflects the absence of multicollinearity in the model as the values are closer to 1.

Analysis of the Findings

Social Demonstration Effect and Charitable Spending

The estimated results depict that people give out less as a proportion of their income in charities with the rise in the social demonstration effect. It is evident that when people become more conscious about their social status, they spend more on luxury goods in an attempt to improve image even further. People do this to reflect their wealth in what they consume. Personal spending supports the relationship the concern for general welfare declines as people spend more to restore their prestige. The coefficients and high level of significance for both social demonstration effect and Social status reflect the same notion that people are less inclined towards giving in charities with an increase in household possessions such as number of air conditioners, televisions, bed rooms, cars and servants. The social demonstration effect in charitable spending is very common in Pakistan's case according to the interviews conducted, as people take interest in what the society does and try to imitate to feel comfortable and part of that society.

Religiosity, Religious Norms and Charitable Spending

The extent of religiosity is positively related with the amount of charitable spending as proportion of monthly income. This is partially due to the religious beliefs established in the society about the positive outcomes of paying out in charities. Moreover the religious norms make it almost compulsory for members of the society to pay a minimum amount in charities. The positive coefficient and significance at 1% level affirms the notion that the high extent of religiosity in people causes them to donate more to the charitable organizations. Moreover the response from the personal interview were consistent with the regression estimates as most people mentioned about their religious belief that charity is done for the sake of god which makes them want to donate more. The findings are consistent with Pakistan case as most people with strong religious beliefs spend more as percentage of their income towards charitable behavior as they see it as their duty to help the poor and that it would provide a solution to their worldly problems.

Personality traits and preferences for charitable spending

The results of the personality trait of openness to new experiences in the regression analysis which determined that as people as more open to the upcoming consumption patterns and about new trends the society, the spending towards charities a proportion of monthly income falls. This is consistent with the social demonstration effect as openness to new ideas reflects how the changes in the society a person's behavior.

Experimental Econometrics Modeling and Other Key Repressors

The remaining key regressors in the model comprise of Working professionals, which is a variable that includes respondents with an age bracket of 25-35. This was to determine the impact of young professionals towards the charitable spending as a proportion of income. The results of the regression analysis show that young professionals are more inclined towards charitable spending as they spend more as a proportion of their income towards charities. The results are rational and practical because people that lie in an age category of above 35 have many other responsibilities such as family and career planning which requires them to spend more on their children and savings. This leaves them with less to spend out in charities. Moreover another key variable in the regression analysis is the Ratio of personal income to household income. There is positive coefficient of this variable with the charitable spending as proportion of monthly income in all econometric models employed. The positive sign accompanied by significance at 1% level determines that the family head plays an influential role in determining the amount that a household as a whole donates. Lastly the Tax concession variable in the model also shows a positive relation with the Y variable, which means that the benefits received from Tax concessions pay a significant role in persuading people to donate more in charities as proportion of their income.

Conclusions

A positive trend of charitable spending in a country ensures economic welfare in terms of income redistribution. The important findings of this study explain a two way relationship of charitable spending with religiosity as the high extent of religious practice causes people to donate more which in turn leads to people being more religious as an outcome. The study further explains that concern for welfare declines as the number of household possessions rise; this is partially because spending on these items leaves an individual with less to give out in charities and because people want to keep improving their living standards. Moreover the study demonstrates a male dominated society and reflects that males donate money as matter of helping themselves in restoring their prestige and a maintaining a certain level of social status, reflecting a social demonstration effect. Furthermore the study also explains how availability of Tax concessions and young professionals can lead to an increase in donations in general. Lastly the regression results from the study depict that the dependent member's income has a very minimal impact on the total amount of funds generated for charities from a single household.

Limitations of the Study

The study was based on a single cross section therefore temporal trend for the key variables could not be captured. The limitations of this study mainly include the temporal and financial constraints. The study was carried out over a period of one month which made it difficult to conduct 40 personal interviews given that it is a matter of asking for a respondents availability to offer a time for an interview and filling the a long questionnaire

It is difficult to determine the generalizability to due limited sample size. The results from the econometric models used can improve if the sample size is increased. Moreover there is always an apprehension of a respondent bias, limited sample due to financial constraints. Lastly the sample size of 40 respondents was insufficient to represent the true demographics of the population of Pakistan; therefore it is hard to determine the variability in results with the income categories established.

References

- Annual Survey of Public Listed and Unlisted Companies 2012.(2013). In *Corporate Philanthropy in Pakistan*.
- Barry, F., Görg, H. & Strobl, E., Foreign direct investment, agglomerations, and demonstration effects: An empirical investigation. *Review of World Economics Rev World Econ*, 583–600.
- Brunel, F.F. & Nelson, M.R., Explaining Gendered Responses to “Help-Self” and “Help-Others” Charity Ad Appeals: The Mediating Role of World-Views. *Journal of Advertising*, 15–28.
- C. BROOKS, A. (n.d.). FAITH, SECULARISM, AND CHARITY. 43, 1-8.
- Chiang, A.C., The "Demonstration Effect" in a Dual Economy. *American Journal of Economics and Sociology Am J Economics & Sociology*, 249–249.
- Garrett, T. & Rhine, R., 2009. Government growth and private contributions to charity. *Public Choice*, 103–120.
- Gavious, A. & Mizrahi, S., 2001. A continuous time model of the bandwagon effect in collective action. *Social Choice and Welfare*, 91–105.
- Hornikx, J., Hendriks, B. & Thijzen, D., The Effects of Cultural Adaptation in Fundraising Letters: The Case of Help-Self and Help-Others Appeals in a Feminine Culture. *Communications*.
- Hughes, R.B., Demonstration Effects on Production. *Journal of Farm Economics*, 659–659.
- James, R.N. & Sharpe, D.L., The "Sect Effect" in Charitable Giving: Distinctive Realities of Exclusively Religious Charitable Givers. *American Journal of Economics and Sociology Am J Economics & Sociology*, 697–726.
- L. DRISKELL, R. (n.d.). Assessing the role of religious beliefs on secular and spiritual behaviors. *Review of Religious Research*, 52(2), Pp. 386-404.
- McCormick, K. (1983). Duesenberry and Veblen: The Demonstration Effect Revisited. *Journal of Economic Issues*, 17(4), 1125-1129.
- Fund, I.M., Pakistan: Poverty Reduction Strategy Paper. IMF Staff Country Reports, 1–1.
- Wiepking, P. & Maas, I., 2009. Resources That Make You Generous: Effects of Social and Human Resources on Charitable Giving. *Social Forces*, 1973–1995.
- Religious Charitable Givers. *American Journal of Economics and Sociology*, 697-726.