# INTERNATIONAL ADVISORY BOARD

- Rodney Wilson, Emeritus Professor 63 Bd Victor Hugo 06000 Nice France, e-mail: rodney.j.a.wilson@gmal.com
- David Rooney, Professor of Management and Organization Studies, Department of Management Macquarie University, Australia, e-mail: david.rooney@mq.edu.au
- **Ulrich Volz**, Head of Department and Reader in Economics, SOAS University of London UK, e-mail: uv1@soas.ac.uk
- Avik Chakrabarti, Associate Professor, Department of Economics, University of Wisconsin Milwaukee (USA), e-mail: chakra@uwm.edu
- **Choon Yin Sam**, School of Business and Information Technology, PSB Academy, 355 Jalan Bukit Ho Swee, 169567 (Singapore), e-mail: choon-yin.sam@psb-academy.edu.sg
- **Chulho Jung**, Professor, Department of Economics, Ohio University, Athens, Ohio (USA) e-mail: jung@ohio.edu
- Dipendra Sinha, Professor of Economics, Macquarie University College of Management Ritsumeikan Asia Pacific University (Japan), e-mail: dipendra.sinha@gmail.com
- Etienne Farvaque, Professor of Economics, Faculty of Economics and Social Sciences University of Sciences and Technologies, Lille (France) e-mail: etienne.farvaque@univ-lille1.fr
- Hubert Jayet, Director, EQUIPPE, Faculty of Economics and Social Sciences, University of Sciences and Technologies, Lille (France), e-mail: Hubert.jayet@univ-lille1.fr
- Mohammad Alauddin, Associate Professor, Postgraduate Coursework Coordinator School of Economics, The University of Queensland, Brisbane, Queensland 4072 (Australia), e-mail: m.alauddin@uq.edu.au
- Mohammad Mafiz Ur Rahman, School of Accounting, Economics and Finance University of Southern Queensland (Australia), e-mail: rahman@usq.edu.au
- Nusser Raajpoot, Associate Professor, Department of Marketing, Central Connecticut State University, 1615, Stanley Street New Britain, CT 06050 (USA) e-mail: raajpootnus@mail.ccsu.edu
- Pritam Singh, Professor of Economics, Department of Accounting, Finance and Economics Faculty of Business, Oxford Brookes University (UK), e-mail: psingh@brookes.ac.uk
- Shaikh m. Ghazanfar, Professor Emeritus, Department of Economics, University of Idaho Moscow, Idaho (USA), e-mail: ghazi@uidaho.edu
- Stéphane Vigeant, Professor of Economics, Faculty of Economics and Social Sciences University of Sciences and Technologies, Lille (France) e-mail: stephane.vigeant@univ-lille1.fr
- Sunwoong Kim, Professor of Economics, Department of Economics University of Wisconsin, Milwaukee (USA), e-mail: kim@uwm.edu
- Tayyeb Shabbir, Professor of Finance and Director, Institute of Entrepreneurship College of Business Administration and Public Policy, California State University Dominguez Hills, 1000 East Victoria Street, Carson (USA), e-mail: tshabbir@csudh.edu
- Wilfred Isioma Ukpere, Professor of Industrial Psychology and People Management University of Johannesburg (South Africa), e-mail: wiukpere@uj.ac.za

*Pakistan Economic and Social Review* can be obtained from booksellers or directly from the Department of Economics, University of the Punjab, Quaidi-Azam Campus (New Campus), Lahore-54590 (Pakistan).

# PAKISTAN ECONOMIC AND SOCIAL REVIEW



(Incorporating the Punjab University Economist)

| Volume 57                                                                                                       | Number 1                                      | Summer 2                                                                                  | 2019 |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------------------|------|
| ARTICLES                                                                                                        |                                               |                                                                                           |      |
| Targeting Efficiency of Cash Tran<br>in Pakistan: A Comparison of the I<br>Sector Initiatives in District Chaky | sfers Programmes<br>Public and Private<br>val | Ghulam Mustafa Sajid,<br>G. M. Arif <i>and</i> H. M.<br>Yasin                             | 1    |
| Impact of Materialism on Impulsiv<br>Mediating Role of Credit Card Use                                          | e Buying:<br>e and Brand Loyalty              | Muhammad Anwar<br>Rashid, Talat Islam,<br>Muhammad Uzair Malik<br><i>and</i> Zeshan Ahmer | 23   |
| Is Trade Openness Inflationary in Economies: An Asymmetric Analy                                                | Developing<br>ysis for Pakistan               | Tahir Mukhtar, Zainab<br>Jehan <i>and</i> Faiz Bilquees                                   | 47   |
| Exploring the Incidence and Corre<br>Poverty in Pakistan                                                        | lates of Rural                                | Sobia Khurram and<br>Mahmood ul Hassan                                                    | 69   |
| Role of Women Empowerment in<br>Maternal Healthcare Services: Evi                                               | Utilization of<br>dence from Pakistan         | Naeem Akram, Abdual<br>Hamid and Muhammad<br>Irfan Akram                                  | 93   |

# DEPARTMENT OF ECONOMICS UNIVERSITY OF THE PUNJAB, LAHORE-54590 (PAKISTAN)

Pakistan Economic and Social Review Volume 57, No. 1 (Summer 2019), pp. 1-22

# TARGETING EFFICIENCY OF CASH TRANSFERS PROGRAMMES IN PAKISTAN: A COMPARISON OF THE PUBLIC AND PRIVATE SECTOR INITIATIVES IN DISTRICT CHAKWAL

GHULAM MUSTAFA SAJID, G. M. ARIF AND H. M. YASIN\*

Abstract. The paper aims to assess the targeting efficiency of Dandot Bait-ul-Mal (DBM), Official Zakat System (OZS) and Benazir Income Support Programme (BISP). To address the objective, primary data is collected from 486 households through a survey conducted in Dandot town; district Chakwal, by employing convenience sampling technique. The methodology of targeting ratio, target count-gap based on Type-I and Type-II errors is applied. The findings of the paper reveal that BISP is the most efficient programme. The findings also reveal that beneficiary households are marginalized than nonbeneficiary households. The results also show that all programmes are successful to some extent in targeting the poor, however, the evidence of type-I and type-II errors is also observed. No leakage of funds is found in Dandot Bait-ul-Mal. About one-fourth of the Zakat funds are not received by 3<sup>rd</sup> quintile of its beneficiaries while one-fifth of BISP funds are not received by the first two quintiles of the beneficiaries. The DBM and BISP pay financial assistance as per their schedule while irregularity is the feature of OZS. The paper implies that these programmes can play a vital role in improving the lives of the

<sup>\*</sup>The authors are respectively Ph.D. Scholar/Assistant Professor at International Institute of Islamic Economics, International Islamic University, Islamabad and Ex-Professors at PIDE University, Islamabad and International Institute of Islamic Economics, International Islamic University, Islamabad-Pakistan.

Corresponding author's e-mail: ghulammustafa@iiu.edu.pk

poverty-ridden segments of the society but it needs sincere efforts on the part of the stake-holders.

**Keywords**: Targeting efficiency, Targeting ratio and count gap, Type-I and Type-II error, BISP, Dandot Bait-ul-Mal and Zakat

# I. INTRODUCTION

Two approaches to social benefits are available in the literature. One of them is a universalistic approach and the other one is targeting approach. The universalistic approach is unattractive because of high leakage to non-poor and fiscal burden however, undercoverage is impossible under this approach. It is more likely that undercoverage occurs in targeted intervention and also zero leakage to non-poor is impossible [Weiss (2004)]. The leakage of benefits to non-poor is caused by targeting errors, which take place owing to poorly designed schemes, erroneous identification of the poor and bad governance. To assess the performance of a targeting programme, the literature contains several measures such as type-I and type-II errors; contribution to poverty reduction, the effect on the household behaviour and budgetary costs. Type-I and type-II errors have got popularity because of their direct budgetary implications. The type-I error is the number of poor excluded from the benefits of the programme while type-II error measures the number of non-poor people who are included in the programme [Bigman and Fofack (2000)].

The targeting is the worst when no poor gets the benefits and the best targeting occurs when both errors are zero but no programme has two errors zero [Lavallee (2010)]. The error of exclusion has received the attention of researchers [Bigman and Fofack (2000)]. The targeting can be broad and narrow and hence the poverty reduction strategy of a programme (public or private) can be evaluated in terms of broad and narrow targeting [Weiss (2004)]. In broader targeting, the poor indirectly benefit from the schemes such as expenditure on roads and highways, education, health and rural development etc. The narrow targeting approach directly benefits to the poorest of the poor.

2

This paper is a comparative study of targeting efficiency<sup>1</sup> of three programmes namely Dandot Bait-ul-Mal, Official Zakat System and Benazir Income Support Programme. The distribution of Zakat, Benazir Income Support Programme, food subsidies and food support programmes are some of the examples of narrow target interventions at the government level, which assist the vulnerable segments of the society. Dandot Bait-ul-Mal is one of the narrow interventions run successfully at private initiative over the last 45 years by locally administered social welfare organization, Dandot Development Institute, which has its own administrative set up comprising of a chairman and other members [Khan (1989)].

Dandot town is part of the Northern Punjab, situated in Chakwal district. Its population is 10,718 individuals with 1,910 households<sup>2</sup>. The system is still in operation in one or the other form and contributing to the welfare of the indigent, disabled, poor, students, orphans, and widows etc. The main sources of revenue are Fitrana<sup>3</sup>, Sadqaat<sup>4</sup> including Zakat, animal hides at the time Eid-ul-Adha and earnings from catering services run under Dandot Development Institute. Rs. 700 per month were being paid to seventy-nine households in 2012-13<sup>5</sup>. Financial assistance is regularly paid in the first week of every month. The official Zakat System and Benazir Income Support Programme (BISP) have also been working in the town. In Pakistan, the System of Zakat and Ushr was officially introduced through a Presidential Ordinance on June 20, 1980. Benazir Income Support Programme was launched in 2008 under which an eligible family was granted Rs. 3,000<sup>6</sup> per quarter. The comparative

<sup>&</sup>lt;sup>1</sup> Targeting efficiency of a programme is what fraction of the programme benefits received by poor [Sumarto et al (2001)] while Lavallée et al (2010) is of the view that efficiency is the ability of the targeting to minimize both exclusion and inclusion errors.

<sup>&</sup>lt;sup>2</sup> Government of Pakistan (2017b)

<sup>&</sup>lt;sup>3</sup>. It is an annual compulsory charity which is required from every Muslim whether male or female, minor or adult as long as he/she has the means to do so at the end of fasting month *Ramzan*or before offering*Eid ul Fitar* prayer.

<sup>&</sup>lt;sup>4</sup> It is plural of *Sadaqah* which is an Arabic word. It is voluntary charity of any amount/value in cash or kind which can be given to poor and needy at any time.

<sup>&</sup>lt;sup>5</sup> Presently Rs. 1000 are being paid per month to eligible households.

<sup>&</sup>lt;sup>6</sup> Presently Rs. 4,834 are being paid quarterly to eligible households [Government of Pakistan (2017a)].

assessment of the targeting efficiency of Dandot Bait-ul-Mal, Official Zakat System and Benazir Income Support Programme is an interesting case since BISP and OSZ are managed by government of Pakistan while DBM is run on private initiative. This research will also help us to examine the claim of Desai and Kharas (2008), "Private aid is less susceptible to "leakage" due to bribery and dishonesty, more cost-efficient and larger share of private aid than official aid reach the poor" because Dandot Bait-ul-Mal is being managed privately whereas the other two are officially governed.

The literature review made in the next section helps us conclude that either no study<sup>7</sup> has been conducted so far on the targeting performance of Official Zakat System, Benazir Income Support Programme and Dandot Bait-ul-Mal or the studies conducted on targeting efficiency did not evaluate the programmes by estimating type-I, type-II errors, total count gap and other ratios available in the literature. This paper is a first ever attempt to evaluate targeting efficiency of these programmes in Pakistan.

The rest of the paper is organized as follow. The second section provides a review of the studies on the issue. Methodology and data source are discussed in section 3. Section 4 provides facts and figures of beneficiaries and non-beneficiaries households. Targeting by expenditure quintile, type-I and type-II errors, total count gap and amount received by different quintiles is discussed in section 5. Targeting by regularity in payment of financial assistance and leakage of financial assistance are also discussed in section 5. The last section concludes the paper.

#### **II. REVIEW OF LITERATURE**

Several studies have been carried out on the targeting performance of welfare programmes in Pakistan and other countries of the world. Sumarto et al (2001) concluded that all social safety nets programmes [Jaring Pengaman Social (JPS)] of Indonesia suffered from

<sup>&</sup>lt;sup>7</sup> Khan and Qutab (2010) conducted a study on Benazir Income Support Programme and *Zakat* but their focus was on political economy analysis of gender rather on targeting performance of these two interventions.

undercoverage and leakage. They evidenced that Subsidized Rice Programme had the highest coverage and Upper Secondary School Scholarship had the lowest coverage while Daly and Fane (2002) held that Health Care was the most successful programme in targeting whereas Rice Subsidy and Education Programmes did not qualify as successful programmes. Park et al (2002) demonstrated that type-I error declined from 0.094 to 0.004; and type-II error and total count gap (TCG) increased from 0.05 to 0.218 and 0.144 to 0.222 respectively over a period of ten years from 1986-1995 which means that overtime the accuracy of targeting and impact of the programmes on the income of the rural households declined in China. Park et al (2002) results are supported by Wang (2004). Weiss (2004) appraised poverty targeting programmes of five countries<sup>8</sup>. He concluded that many programmes had the problems of undercoverage and leakage. Srivastava (2004) assessing the Indian Poverty Targeting Programmes concluded that not only a fraction of benefits of these programmes were kept away from the beneficiaries by illegal means but also benefits enjoyed by well off segment of the society.

Coady et al (2004) appraised 122 anti-poverty programmes implemented in 48 countries during 1985-2003. The median targeting performance was 1.25 which signified that median programme transferred 25% more to the poor households through targeting. Garcia-Jaramilloand and Miranti (2015) selected 25 Child Focus programmes from database of Coady et al (2004). They found that Yemen's Social Welfare Fund Cash Programme had highest targeting performance (2.15) while Bulgaria Child Allowance Programme had the lowest performance (0.95). Yusuf (2010), while examining performance of 30 community targeted programme in developing countries, found that out of 30 programmes; 10, 16 and 4 programmes across 7, 9 and 3 countries were progressive, mildly progressive and regressive in targeting respectively. Zakat programme in Pakistan qualified as mildly progressive and only 21.6% of the benefits of Zakat went to bottom quintile. Kasri (2016) reached the conclusions that Zakat had effective targeting in Indonesia. Talaat (2018), while evaluating targeting efficiency of the Egyptian Food

<sup>&</sup>lt;sup>8</sup> The countries are People Republic of China, India, Indonesia, Thailand and Philippines.

Subsidy Programme (FSP), found that it suffered from 78% and 9% error of inclusion and exclusion respectively. He was of the view that 77% of the population got benefit from FSP while only 26% of the population was poor.

Shirazi (1996) found that Zakat and Ushr programme in Pakistan had excellent targeting since 94.3% of total funds were received by first decile. On account of coverage, 18.1% of the households in the lowest income decile and 2.7% of the total households were covered by Zakat and Ushr at overall level. Arif (2006), while evaluating targeting of Zakat, found that 35% of the Zakat funds were not received by beneficiaries of first two deciles and 42% of beneficiaries were recommended by elite of the community. The Zakat was also received by relatively well-off households. Neither Shirazi (1996) nor Arif (2006) evaluated the programme by type-I error and type-II errors, total count gap and other targeting ratios. A lack of targeting is one of the major problems faced by all social protection programmes in Pakistan [Jama] (2010)]. A World Bank study forecasted that proxy means test (PMT) methodology adopted by BISP to identify poor would produce 52.1% and 37.1% undercoverage and leakage rates respectively [Vishwanath et al (2009)] however, Jalal (2017), using 2011 survey data of BISP, found that BISP had undergone 52.6% and 73.6% undercoverage and overcoverage problems respectively.

The studies referred above confined to targeting efficiency of Zakat or Zakat and other social protection programmes implemented in Pakistan over a number of decades. However, no study has been conducted so far on the targeting performance of Dandot Bait-ul-Mal, Official Zakat System, and Benazir Income Support Programme. The studies conducted on targeting efficiency of programmes in Pakistan did not evaluate the programmes by estimating type-I, type-II errors, total count gap and other ratios available in the literature. This paper attempts to fill this gap in the literature by assessing targeting efficiency of the programmes being run in Dandot town to help the destitute.

6

#### **III. METHODOLOGY AND DATA SOURCE**

#### **METHODOLOGY**

The main objective of the paper is to assess the targeting efficiency of Dandot Bait-ul-Mal, Official Zakat System, and Benazir Income Support Programme. To evaluate the efficiency of the cash transfer programmes, the literature suggested many ways such as error of inclusion and exclusion, accomplishment of intended objective, effect on households' behaviour; and cost and benefit of the programme. Error of exclusion (type-I error) and inclusion (type-II error) are considered better than other measures [Bigman and Fofack (2000)]. Programme which has a minimum sum of type-I and type-II errors is considered an efficient programme [Yusuf (2010)]. Sumarto et al (2001) suggested the use of targeting ratio to assess the effectiveness of the programme. Targeting ratio is the share of non-poor (those who belong to three upper quintiles) in total beneficiaries to their share in total population which is 0.60 by definition.

Targeting ratio =  $NPB_{tb}/NP_{ts}$  (1)

Where 'NPB<sub>tb</sub>' is the proportion of non-poor beneficiaries in total beneficiaries and 'NP<sub>ts</sub>' [0.6] is the proportion of non-poor in the total sample.

If all the beneficiaries are poor households, then 'NPB<sub>tb</sub>' = 0 and targeting ratio is also zero which means perfect targeting. If all beneficiary household are non-poor, then 'NPB<sub>tb</sub>' =1 and targeting ratio will be 1.67 indicating that programme has failed in its targeting. If the fraction of non-poor beneficiaries is the same as the fraction in the total sample, the targeting ratio is 1. It implies that the programme has no targeting and; poor and non-poor are as per their proportion. It is clear from the above explanation that the value of targeting ratio varies from 0 to 1.67. Higher value of ratio shows least targeting and lower value represents better targeting.

The above discussion sheds some light on the under-coverage of poor and leakage of the funds to non-poor of the programmes under study but it does not give exact value of type-1 error and type-II error. We follow the methodology of Park et al (2002), Wang (2004) and Weiss (2004) to calculate these errors. Park et al (2002) mentioned two targeting gaps namely Target Count Gap (TCG) and Targeting Income Gap (TIG). We concentrated on Target Count Gap (TCG) since the result of these count gaps are the same. TCG can be calculated as

$$TCG = \frac{1}{N} \sum_{i=1}^{N} \{ I_{i1}(B_i = 0, E_i < Z) + I_{i2}(B_i = 1, E_i > Z) \}$$
(2)

In the above relation

- N is the total number of households in the sample
- E<sub>i</sub> stands for adult equivalent expenditure of ith household
- Z is the poverty line

 $I_{i1}$  is an indicator variable of type-1 error or under-coverage of poor and would take a value of 1 if a household is not a beneficiary of a programme (Bi =0) but his adult equivalent expenditure is less than the poverty line.

 $I_{i2}$  is an indicator variable of type-II error or leakage of funds to nonpoor and would take a value of 1 if a household is a beneficiary of a programme (B<sub>i</sub> =1) and his adult equivalent expenditure are greater than poverty line.

TCG can be constructed as a percentage of households that are mistargeted and can easily be decomposed into type-1 and type-II errors. It may be noted that target count gap is sensitive to the selected poverty line. Higher the poverty line, higher the type 1 error and lower the type-II error. The programme which has a minimum sum of type-1 and type-II errors (TCG) is considered as efficient. The coverage of poor and leakage of benefits to non-poor are also used in the literature as criteria to evaluate targeting efficiency of the programmes [Arif (2006)]. The efficiency of the programmes can also be assessed by regularity in payment and leakage of financial assistance.

#### **DATA SOURCE**

The objective of the paper is to evaluate targeting efficiency of Dandot Bait-ul-Mal, Official Zakat System and Benazir Income Programme (BISP) working to help the poor in the town. To achieve the objective, secondary data was not available so primary data was collected in 2013 through face to face survey. A detailed and comprehensive closeended questionnaire was designed and data was collected from 486 households of the town by using convenience sampling technique since it is inexpensive, fast and easy [Etikan et al (2016)]. Irrespective of the type of respondent, the same questionnaire was used for the survey.

# IV. DESCRIPTION OF BENEFICIARY AND NON-BENEFICIAIRY HOUSEHOLDS

# DISTRIBUTION OF HOUSEHOLDS BY TYPE OF CASH TRANSFER PROGRAMMES

This section provides insight about beneficiary households by type of cash transfer programmes and non-beneficiary households which is reported in table 1. The total sample consists of 486 households. Overall about 21% (102) of these households are the beneficiaries of all programmes. The table reveals that out of 102 households, 37%, 36% and about 11% of the beneficiary households benefited from DBM, BISP and OZS respectively. Though the management of DBM and OZS claimed that there was no overlapping of beneficiaries but their claim was not true since about 16% of the total beneficiaries are getting benefits from more than one programmes. The literature has termed it as leakage. It means that either there is no coordination among the managers of these programmes, particularly, Dandot Bait-ul-Mal and Local Zakat committees or they are intentionally favoring some households. The analysis of the data reveals that no one received financial assistance from all three programmes simultaneously. Our estimates of the Zakat beneficiaries (10.8%) are significantly higher than Zakat beneficiaries (2.7% and 4.1%) estimated by Shirazi (1996) and Arif (2006) respectively at the national level. The possible reason for the difference of beneficiaries may that we tried our best to approach the maximum number of beneficiaries of the programmes. The sample size and area of study may be another reason for disparity in number of beneficiaries in our study and Shirazi (1996) and Arif (2006).

#### TABLE 1

#### Distribution of Beneficiary and Non-Beneficiary Households

|                                                                               | Beneficiary Households of |              |              | Non-<br>beneficiary<br>household<br>(6) | All<br>households<br>(7)=5+6     |     |     |
|-------------------------------------------------------------------------------|---------------------------|--------------|--------------|-----------------------------------------|----------------------------------|-----|-----|
|                                                                               | DBM<br>(1)                | OZS<br>(2)   | BISP<br>(3)  | More than<br>one<br>programmes<br>(4)   | All<br>programmes<br>(5)=1+2+3+4 |     |     |
| Beneficiaries<br>and non-<br>beneficiary<br>households<br>(No.)               | 38<br>(37.0)              | 11<br>(10.8) | 37<br>(36.3) | 16<br>(15.7)                            | 102<br>(100)                     | 384 | 486 |
| Beneficiaries<br>and non-<br>beneficiaries<br>out of all<br>households<br>(%) | 7.8                       | 2.3          | 7.6          | 3.3                                     | 21                               | 79  | 100 |

Source: Statistics computed by the author based on the data collected through a survey conducted in April 2013. Figures in parenthesis are percentage of beneficiaries for each programme out of total beneficiaries.

# DISTRIBUTION OF BENEFICIARIES BY REASONS FOR RECEIVING FINANCIAL ASSISTANCE

Beneficiary households were asked as to why they considered themselves eligible for financial assistance. Their responses are reported in Table 2 which reveals that at all programmes level more than 70 percent of the beneficiaries are of the view that presence of a widow in the household and low income makes them eligible for financial assistance from these programs. At the programme level, the table shows that the presence of a widow in the household of the beneficiaries of Zakat (72.7%) and Dandot Bait-ul-Mal (48%) is quoted as major reason for receiving financial assistance from these programmes. The second main reason reported by the beneficiaries of Dandot Bait-ul-Mal is the disability of a member or head of household. The low income is reported by 69% of BISP beneficiaries as an explanation for registering their names with the programme.

#### TABLE 2

Distribution of Beneficiary Households by Reasons for Receiving Financial Assistance (%)

| Reasons cited by<br>beneficiaries for receiving<br>financial assistance | Beneficiaries of |      |      | Reasons cited by non-<br>beneficiaries for self-<br>assessed eligibility |     |
|-------------------------------------------------------------------------|------------------|------|------|--------------------------------------------------------------------------|-----|
|                                                                         | DBM              | OZS  | BISP | All<br>programmes                                                        |     |
| Low income                                                              | 9                | 9.1  | 69   | 33.3                                                                     | 83  |
| Disability                                                              | 26               | 9.1  | 11.5 | 18.6                                                                     | 6   |
| Presence of a widow                                                     | 48.              | 72.7 | 14.5 | 37.3                                                                     | 4   |
| Unemployment/No source of income                                        | 13               | 4.5  | 2.4  | 6.9                                                                      | 5   |
| No bread winner                                                         | 4                | 4.5  | 2.4  | 3.9                                                                      | 2   |
| Overall                                                                 | 100              | 100  | 100  | 100                                                                      | 100 |

Source: Statistics computed by the author from the data collected through a survey conducted in April 2013

It appears that low income and presence of a widow in the household turn out momentous reasons for receiving financial assistance by beneficiaries for the whole sample. The analysis of the responses reveals that 35% of the non-beneficiary households also consider themselves eligible for financial assistance. Eighty-three percent of the nonbeneficiary households who consider themselves eligible for financial assistance report (last column of Table 2) that low income is the main reason for considering themselves eligible for financial assistance.

## V. ASSESSMENT OF TARGETING EFFICIENCY

## TARGETING OF BENEFICIARIES BY EXPENDITURE QUINTILE AND PROGRAMME WISE

Several studies in the past have questioned the efficiency of the welfare programmes including Zakat and other programmes implemented by the government of Pakistan. To evaluate the effectiveness of the programmes, the statistics of beneficiaries and non-beneficiaries calculated by quintile and sorted based on per adult equivalent expenditure are presented in table 3. The first and fifth quintile represents the poorest and the richest segment of the population respectively. The table provides distribution of beneficiaries at programme level and non-

beneficiaries for better understanding and comparison of targeting efficiency of the programmes. The data in table 3 shows that about 60% of beneficiaries of Dandot Bait-ul-Mal and Official Zakat System belong to poor households.

| TABLE | 3 |
|-------|---|
|-------|---|

Distribution of Beneficiaries and Non-Beneficiaries by Expenditure Quintile (%), and Targeting Ratio

|                                                       | В     | eneficiaries | Non-  |               |
|-------------------------------------------------------|-------|--------------|-------|---------------|
| Quintile                                              | DBM   | OZS          | BISP  | beneficiaries |
| 1 <sup>st</sup> (Poorest)                             | 37.0  | 45.5         | 50.0  | 15.1          |
| 2 <sup>nd</sup> (Poor)                                | 22.3  | 13.6         | 23.8  | 18.8          |
| 3 <sup>rd</sup> (Middle)                              | 22.2  | 13.6         | 11.9  | 17.7          |
| 4 <sup>th</sup> (Rich)                                | 18.5  | 27.3         | 14.3  | 22.4          |
| 5 <sup>th</sup> (Richest)                             | -     | -            | -     | 26.0          |
| Total                                                 | 100   | 100          | 100   | 100           |
| Proportion of<br>beneficiaries in last<br>3 quintiles | 0.407 | 0.409        | 0.262 | -             |
| Targeting Ratio                                       | 0.678 | 0.682        | 0.437 |               |

Source: Statistics computed by the author from the data collected through a survey conducted in April 2013

Benazir Income Support Programme targets about three-fourth of the poor (first two quintiles) which is far better than that of the other two programmes. It is worth mentioning that no beneficiary of any programme belongs to fifth quintile while all programmes suffer from under coverage of poor and leakage of the benefits to the non-poor. It can also be derived from Table 3 that about 26% to 40% of the beneficiary households belong to non-poor segment (3<sup>rd</sup> and 4<sup>th</sup> quintile) whereas about same percentage of the non-beneficiary households lie in the poor quintiles (1<sup>st</sup> and 2<sup>nd</sup> quintile). It means that if poor are accurately identified and programmes are well designed and properly implemented, all poor households of the area can be reached by these programmes. Our statistics of targeting are substantially low as compared to the figure provided by Shirazi (1996). One of the reasons of low figures is that it is

impossible to differentiate between official (Public) and private Zakat in Shirazi's study [Arif (2006)]. Other most important reason is the different data sets and period used in the studies.

The estimates of targeting ratio<sup>9</sup> are also reported in the last row of Table 3. The value of targeting ratio varies from 0 to 1.67. If targeting ratio is zero, it shows perfect targeting. If targeting ratio is 1.67, it indicates that the programme has failed to achieve its target. Unity targeting ratio implies that programme has no targeting and; poor and non-poor are in equal proportion. It implies that higher value of ratio shows least targeting and lower value represents better targeting. The value of targeting ratio across the programmes shows that Benazir Income Support Programme (0.437) turns out as a programme of highest coverage. The possible reason may be that BISP has adopted PMT methodology to identify poor which is absent in other two programmes. Our estimates of inclusion of non-poor for BISP are 47.4 percentage points lower than that of Jalal (2017). The reason of difference in findings may be the use of different data set, area and period of study.

# TARGETING BYTYPE-I, TYPE-II ERRORS AND TARGETING COUNT GAP

The foregoing discussion sheds some light on the under coverage and leakage of benefits of the programmes under study but it does not give exact value of type-1 error and type-2 error. These errors and total count gap are calculated following Park et al (2002) Targeting count gap (TCG), type-1 error and type-2 error is calculated for Rs2000/- per adult equivalent expenditure per month poverty line. The results reported in Table 4 show that all the programmes suffer from the problem of under coverage as well as leakage. BISP is the most efficient programme since its targeting count gap (0.147) is the lowest followed by Official Zakat System (0.156) and Dandot Bait-ul-Mal (0.209). BISP has also the highest targeting performance because it has the lowest Type-I error. The results reveal that OZS has better performed in terms of exclusion of nonpoor from the programme as its type-II error is the lowest followed by BISP and DBM. Our estimates of TCG at overall level are lower than

<sup>&</sup>lt;sup>9</sup> Targeting ratio is the share of non-poor (those who belong to three upper quintiles) in total beneficiaries to their share in total population and it is 0.60 by definition.

that of Park et al (2002). The above discussion helps us conclude that BISP is the most efficient Programme.

#### TABLE 4

Estimates of Type-I and Type-II Error and Targeting Count Gap

| Programme                              | Type -I error<br>(1) | Type-II error<br>(2) | Total<br>(TCG) 1+2 |
|----------------------------------------|----------------------|----------------------|--------------------|
| Dandot Bait-ul-Mal                     | 0.125                | 0.084                | 0.209              |
| Official Zakat<br>System               | 0.121                | 0.035                | 0.156              |
| Benazir Income<br>Support<br>Programme | 0.096                | 0.051                | 0.147              |

Source: Statistics computed by the author from the data collected through a survey conducted in April 2013

Our results are similar to but somewhat better than the findings of the studies conducted for other countries of the world. Sumarto *et al* (2001), for example, found that out of seven schemes, Subsidized Rice Scheme could reach to 52% of households in the poorest quintile whereas the target rate of other six schemes ranged from 5.42% to 16.5% from 1998 to99 in Indonesia. Perdana and Maxwell (2004) concluded that 70% of beneficiaries of an Indonesian Employment Scheme belonged to non-poor households. The analysis of welfare programmes in China, India, Indonesia, Philippine and Thailand documents the presence of substantial errors [Weiss (2004)].

# TARGETING BY AMOUNT OF FINANCIAL ASSISTANCE RECEIVED BY DIFFERENT QUINTILES

The type-II error doesn't tell about the actual amount of funds leaked to non-poor. The efficiency of any programme can also be evaluated in terms of the actual amount received by different segments (poor or nonpoor) of the population. Average amount of funds received by different quintiles of beneficiary households during the year preceding the survey is reported in table.5. It is evident that average amount received from Dandot Bait-ul-Mal and BISP by richer households (third and fourth quintile) is slightly higher (6.5% and 4%) than that of poor households (first and second quintile). Though Rs. 700 is paid monthly to every household on the list of Dandot Bait-ul-Mal, yet the average amount received by beneficiaries in each quintile is not same. The reasons may be (i) some households are paid Rs. 300 as education stipend, (ii) some households are registered in DBM during the year of the study and (iii) thorough investigation of the profile of beneficiaries; revealed that two members of one household received assistance from the Bait-ul-Mal. It is a clear cut evidence of nepotism/favouritism which is not expected by the management committee running a programme on its own initiatives. The BISP beneficiaries of different quintiles also do not receive an equal amount. Although Rs. 3,000 per quarter is paid to each eligible household as per schedule, some households do not receive an installment and some other households receives Rs. 21,000 rather Rs. 12,000 as financial assistance from the programme during last year. The analysis of the data of annual average amount received by beneficiaries of Official Zakat System reveals that it disburses higher average amount to poor households than that to the rich (third and fourth quintile).

| TABLI | Ξ  | 5 |
|-------|----|---|
| INDL  | Ľ, | J |

Annual Average Amount of Financial Assistance Received from All Programmes by Quintile

| Quintile                           | Beneficiaries of |              |               |  |
|------------------------------------|------------------|--------------|---------------|--|
| 2 million                          | DBM*             | OZS          | BISP*         |  |
| 1 <sup>st</sup> (Poorest)          | 7,500 (36.1)     | 4,900 (46.8) | 10,285 (46.7) |  |
| 2 <sup>nd</sup> (poor)             | 7,525 (21.7)     | 4,667 (13.4) | 12,000 (26)   |  |
| 3 <sup>rd</sup> (middle)           | 7,875 (22.7)     | 3,667 (10.5) | 12,000 (13)   |  |
| 4 <sup>th</sup> (Rich)             | 8,120 (19.5)     | 5,083 (29.3) | 11,000 (14.3) |  |
| 5 <sup>th</sup> (Richest           | -                | -            | -             |  |
| Total amount                       | 4,16,000 (100)   | 1,04,500     | 4,62,000      |  |
| Programme wise Avg.<br>amount (Rs) | 7,704            | 4,750        | 11,000        |  |

Source: Statistics computed by the author from the data collected through a survey conducted in April 2013. Figures in parenthesis are percentage of income received by each quintile

It is claimed in the literature that OZS pays a fixed amount of Rs. 500 per month to eligible households and hence the same amount must be received by all beneficiaries in each quintile. Our results do not support this claim. Arif (2006) gave three reasons for receiving different average amounts. The discussion with chairmen of the Zakat committees and

record maintained by them show that fixed amount of Rs. 500 is not paid to eligible (deserving) households. A cheque of specific amount is handed over to the chairman of the local Zakat committee by officials with instruction that the amount should be distributed to specified number of eligible households. The selection of household is left at the discretion of the committee. During the days of our visit, a chairman of the local Zakat committee received a cheque of Rs. 42,500 with the instructions that Rs. 3,000 per household should be paid to 12 households and Rs. 6,000 be paid to blind persons out of remaining amount. The chairman told that there was only one such case in the jurisdiction of his Zakat committee, so Rs. 6,000 would be paid to that blind person. If there were two blind persons, then each would be paid Rs. 3,000. The similar story was reported by other committee's chairmen. It is also clear from the table that about 40% of the funds are paid to non-poor households by DBM and OZS while BISP transfers 27% of its funds to non-poor households.

From the above discussion it can be concluded that the programmes significantly succeed in targeting the poor, however, there is evidence of under-coverage and leakages of funds to non-poor irrespective of the programmes. Undercoverage problem is not unique to these programmes in the area. It is a universal problem. While evaluating 30 communitybased programmes in the developing countries, Yusuf (2010) concluded that all 30 programmes had suffered from under coverage. He also recorded that Zakat system in Pakistan not only suffered from the absence of monitoring, transparency and accountability but also noted the presence of elite capture, discretion and corruption. We did not find any sign of financial corruption in the programmes under study. His estimates reveal that only 21.5% of benefits of Zakat are received by bottom quintile of households while our results show that about 47% of the benefits from OZS are received by the poorest quintile which indicates significant targeting. Our estimates of leakage of zakat funds to non-poor are five percentage points higher than that of Arif (2006).

#### TARGETING BY LEAKAGE OF FUNDS

The leakage of funds is another aspect pointed out in the literature to assess the targeting performance of any cash transfer programme. The beneficiaries were asked about the amount received and entitlement during the year preceding the survey. If the amount received is less than entitlement during last year, it may be considered as leakage of funds but not necessarily. There may be other reasons for not receiving the amount due. The results of the analysis of the responses of beneficiary households regarding amount received and entitlement are presented in Table 6.

It is clear from the table that beneficiaries of DBM received financial assistance as per their entitlement. About one-fifth of the financial assistance is not received by the first two quintiles (poor) of BISP beneficiaries. It is very hard to imagine such a high leakage of funds because the funds are either delivered through money order or drawn with card. The analysis of the responses indicates that one third of beneficiaries of the BISP reported that they did not receive the whole amount due.

#### TABLE 6

Percentage of Leakage of Financial Assistance from All Programmes by Quintile

| Quintile                  | Beneficiaries of |      |      |  |  |
|---------------------------|------------------|------|------|--|--|
|                           | DBM              | OSZ  | BISP |  |  |
| 1 <sup>st</sup> (Poorest) | 0                | 0    | 10.0 |  |  |
| 2 <sup>nd</sup> (poor)    | 0                | 0    | 9.0  |  |  |
| 3 <sup>rd</sup> (middle)  | 0                | 24.5 | 0    |  |  |
| 4 <sup>th</sup> (Rich)    | 0                | 0    | 8.0  |  |  |
| 5 <sup>th</sup> (Richest  | -                | -    | 0    |  |  |
| All                       | 0                | 4.9  | 8.3  |  |  |

Source: Statistics computed by the author base on the data collected through survey conducted in April 2013

It is stringent to mention that more than 80% of BISP beneficiaries did not receive the last installment of funds. One household informed that it received only one installment during last year. It is strange to note that about four-fifth of Zakat beneficiaries did not know their entitlement. The analysis of the responses of remaining beneficiaries reveals that about one-fourth of the Zakat funds are not received by the 3rd quintile of beneficiaries. Hence the results about leakage of funds for the programmes under study should be interpreted cautiously. The findings about funds leakages of DBM, OZS and BISP support Dasai and Kharas (2008) viewpoint that "Private aid is less susceptible to "leakage" due to bribery and dishonesty, more cost-efficient and larger share of private aid than official aid reach the poor." No leakage of funds is found in DBM while 5% and 8.3% of funds of OZS and BISP respectively are not received by their beneficiaries at the overall level.

# TARGETING BY REGULARITY IN PAYMENT OF FINANCIAL ASSISTANCE

Regularity in payment of financial assistance to the deserving households can also be used to judge the efficiency of any programme. The beneficiaries of all programmes were asked about the frequency of receiving funds. The responses of the beneficiaries about the frequency of receiving financial assistance are reported in Table 7. The analysis of their responses reveals that findings are in line with the design of the programmes of Dandot Bait-ul-Mal and BISP. All beneficiaries of Dandot Bait-ul-Mal and BISP reported that they had received financial assistance on a monthly and quarterly basis respectively. It is worth noting that the management committee of Dandot Bait-ul-Mal distributes funds regularly in the first week of every month. We observed this event of funds distribution during the survey month. The disbursement of BISP funds may not be necessarily in the beginning of each quarter and possibility of delay cannot be ignored because some of the beneficiaries of the programme did not receive one or two installment(s) of the assistance. No specific pattern of receipt of funds from OZS turned out since more than 72% of its beneficiaries reported that they had received Zakat funds on quarterly, biannually and irregular basis while more than 27% of beneficiaries were of the view that they received Zakat funds for the first time. This discussion proves that regular disbursement of financial assistance to the beneficiaries is the salient feature of Dandot Bait-ul-Mal and BISP which gives them supremacy over OZS. It is pertinent to bring on record that more than 45% of Zakat beneficiaries reported that Zakat funds were disbursed irregularly which is not documented so far in the literature.

#### TABLE 7

Distribution of Beneficiaries by Frequency of Receiving Funds (%)

| Frequency of receiving funds | Beneficiaries of |      |      |  |
|------------------------------|------------------|------|------|--|
| riequency of receiving rands | DBM              | OZS  | BISP |  |
| Monthly                      | 100              | -    | -    |  |
| Quarterly                    | -                | 18.2 | 100  |  |
| Biannually                   | -                | 9.1  | -    |  |
| Irregularly                  | -                | 45.4 | -    |  |
| Other                        | -                | 27.3 | -    |  |

Source: Statistics computed by the author based on the data collected through survey conducted in April 2013

# VI. SUMMARY, CONCLUSIONS AND POLICY IMPLICATIONS

The objective of the paper is to assess targeting efficiency of the cash transfer programmes working in the Dandot town. The objective is addressed by distributing beneficiary households by expenditure quintiles, estimating targeting ratio and count gap, amount of financial assistance received by different quintiles, regularity in payment of financial assistance and leakage of funds to non-poor. The beneficiary significantly marginalized than non-beneficiary households are households. Low income and presence of a widow in the household are the rationale given by the beneficiaries for their eligibility. Though the targeting of poor is significantly higher yet leakage of funds to non-poor is evidenced irrespective of the programme. Targeting count gap documents that the programmes have the problem of undercoverage of poor as well as leakage of funds to non-poor. BISP's targeting is better in terms of targeting ratio and TCG. There is considerable evidence of leakage of funds to the non-poor; however, we do not observe any sign of financial corruption in the programmes. The DBM and BISP have amazing performance in terms of regularity in payment of financial assistance while irregularity in payment is the hallmark of OZS.

# CONCLUSIONS

- i. All the three welfare programmes have some degree of success in targeting poor; however, there is evidence of under coverage and leakage of funds to non-poor irrespective of the programmes.
- ii. In spite of the leakage of funds to non-poor, no sign of financial corruption is observed in the programmes.
- iii. In terms of targeting, BISP is the most efficient programme.
- iv. In terms of regular payment of financial assistance to their beneficiaries, DBM and BISP are the most efficient programmes.

# POLICY IMPLICATIONS

Dandot Bait-ul-Mal, Official Zakat System, and Benazir Income Support Programme have almost identical goals of providing financial assistance to the poorest segments of the society though they have different historical background and sources of financing. These programmes can play a vital role in improving the lives of the povertyridden segments of the society but it needs sincere efforts on the part of stakeholders, particularly the government. Base on the findings of this paper, the following recommendations and suggestions are offered.

- i. There is an immense need to integrate and coordinate among the administration of the programmes, specifically DBM and LZC.
- ii. Duplication of the beneficiaries can be avoided by exchanging the lists of beneficiaries and making the lists public.
- iii. The identification of the beneficiaries should be transparent, reliable and credible. The criteria for selecting the beneficiaries should be known to every stakeholder. There is need to have a third party audit of both Dandot Bait-ul-Mal and Official Zakat System.
- iv. The management of Dandot Bait-ul-Mal needs the help of some institution to impart the skill of managing the system and improve its professional competence.

20

#### REFERENCES

- Arif, G.M. (2006), Targeting Efficiency of Poverty Reduction Programs in Pakistan, Working Paper No. 4, Pakistan Resident Mission Working paper Series, Asian Development Bank
- Bigman, D., & Fofack, H. (2000), Geographical Targeting for Poverty Alleviation: An Introduction to the Special Issue. The World Bank Economic Review, 14(1), 129-145.
- Coady, D., Grosh, M., & Hoddinott, J. (2004), Targeting of Transfers in Developing Countries: Review of Lessons and Experience, Vol. 1, the World Bank
- Daly, A., & Fane, G. (2002), Anti-poverty Programs in Indonesia, Bulletin of Indonesian Economic Studies, 38(3), 309-329
- Desai, R. M., & Kharas, H. (2008), The California Consensus: can Private aid end Global Poverty? Survival, 50(4), 155-168.
- Etikan, I., Musa, S. A., & Alkassim, R. S. (2016). Comparison of convenience sampling and purposive sampling. American journal of theoretical and applied statistics, 5(1), 1-4.
- Garcia-Jaramillo, S. & Miranti, R. (2015), Effectiveness of Targeting in Social Protection Programs aimed to Children: Lessons for a Post-2015 Agenda, Paper Commissioned for the EFA Global Monitoring Report 2015, Education for All 2000-2015: Achievements and Challenges United Nations Educational, Scientific and Cultural Organization.
- Government of Pakistan (2017a), Pakistan Economic Survey 2016-17, Finance Division, Economic Advisory Wing, Islamabad, Government of Pakistan
- Government of Pakistan (2017b), Population Census 2017, Pakistan Bureau of Statistics
- Jalal, A. (2017), The Targeting Performance and Short Term Welfare Effects of Female Income Support Programs: Evidence from Pakistan, Unpublished Thesis, Department of Economics, Yale University, available at https://economics.yale.edu/sites/default/files /files/Undergraduate/Nominated%20Senior%20Essays/2016-17/Amen\_Jalal Senior%20Essay.pdf
- Jamal, H (2010), A Profile of Social Protection in Pakistan: An Appraisal of Empirical Literature Research Report No.81, Social Policy and Development Centre, Karachi
- Kasri, R. A. (2016). Effectiveness of Zakah Targeting in Alleviating Poverty in Indonesia, Al-Iqtisad: Journal Ilmu Ekonomi Syariah, 8(2), 169-186.

- Khan, R. M. A. (1989), Islami Nazam-i-Maliyat, Al-Zakat, Islamabad
- Khan, S. N., & Qutub, S. (2010). The Benazir Income Support Programme and the Zakat Programme: A Political Economy Analysis of Gender. London: Overseas Development Institute (ODI).
- Lavallée, E., Olivier, A., Pasquier-Doumer, L., & Robilliard, A. S. (2010), Poverty Alleviation Policy Targeting: A review of the Experiences in developing Countries Document de Travail. Paris: Université Paris-Dauphine/IRD.
- Park, A., Wang, S., & Wu, G. (2002), Regional Poverty Targeting in China, Journal of Public Economics, 86(1), 123-153.
- Perdana, A. A., & Maxwell, J. (2004), Poverty Targeting in Indonesia: Programs, Problems and lessons learned, CSIS Economics Working Paper Series No. WPE083, Centre for Strategic and International Studies, Jakarta, Indonesia.
- Shirazi, N. S. (1996). Targeting, Coverage and Contribution of Zakat to Household Income: The Case of Pakistan, Journal of Economic Cooperation among Islamic Countries 17(3/4), 165-186.
- Srivastava, P. (2004). Poverty targeting in Asia: Country experience of India (No. 5). ADB Institute Discussion Papers
- Sumarto, S., Suryahade, A. & Widyanti, W., (2001), Design, Implementation of the Indonesian Social Safety Nets Programs: Evidence from JSP Module in the 1999 SUSENAS, A Paper from SMERU Research Institute
- Talaat, W. (2018), The Targeting Effectiveness of Egypt's Food Subsidy Programme: Reaching the Poor? International Social Security Review, 71(2), 103-123.
- Vishwanath, T. H. X., & Yoshida, N. (2009), Poverty Scorecard for Pakistan: A Recommended Approach for Targeting the Poor. World Bank Manuscript
- Wang, S. (2004), Poverty Targeting in People Republic of China, Asian Development Bank Institute Discussion Paper No. 4
- Weiss, J. (2004), Poverty Targeting in Asia, Experiences in India, Indonesia, People Republic of China, The Philippine and Thailand" Asian Development Bank Institute, Tokyo
- Yusuf, M. (2010), Community Targeting for Poverty Reduction: Lessons from Developing Countries (The Pardee Papers No. 8). Boston, Massachusetts: Boston University Creative Services.

Pakistan Economic and Social Review Volume 57, No. 1 (Summer 2019), pp. 23-46

# IMPACT OF MATERIALISM ON IMPULSIVE BUYING: MEDIATING ROLE OF CREDIT CARD USE AND BRAND LOYALTY

# MUHAMMAD ANWAR RASHID, TALAT ISLAM, MUHAMMAD UZAIR MALIK AND ZESHAN AHMER\*

Abstract. The purpose of this study is to investigate the influence of materialism on impulsive buying behavior considering credit card use and brand loyalty as mediators between the relationship of materialism and impulsive buying in the Pakistani context. Paper, as well as electronic questionnaires, were used to collect data from consumers. In order to examine the hypotheses, regression analysis was performed. In addition, hierarchal regression method was used to test the mediators. The findings of the study indicated that materialism positively impacts credit card use, brand loyalty, and impulsive buying. Furthermore, credit card usage and brand loyalty mediate the relationship between materialism and impulsive buying. All hypotheses were supported except one regarding the association between brand loyalty and impulsive buying. The study was conducted on consumers of Pakistan. It might be possible that consumers of different regions may have different attitudes. The findings are beneficial for firms and marketers who always try to achieve a match between their offerings and consumer's dispositions. The study contributes to the existing literature by examining the

<sup>\*</sup>The authors are respectively Ex-Member at PPSC, Director General Anti-Corruption and Secretary to the Government and Assistant Professors & Research Scholar at Institute of Business Administration, University of the Punjab, Lahore, Pakistan -Pakistan. Corresponding author's e-mail: talatislam@yahoo.com

mediating role of brand loyalty which was not previously examined at large.

Keywords: Credit card use, Brand loyalty, Impulsive Buying, Consumers

## I. INTRODUCTION

Impulsive buying can be defined as an unreflective and instant purchase that consumers have not planned (Jones, Reynolds, Mothersbaugh, & Beatty, 2007). Previous studies investigated and extended our understanding of the significant antecedents of impulsive buying (Jalees, 2009). However, most of the studies on impulsive buying were conducted in western nations and little research has been done in third world countries like Pakistan (Jalees, 2009). Research indicated that economic improvements positively impact impulsive buying (Kacen & Lee, 2002) and the economic condition of Pakistan is improving as its GDP continued to raise over 5% and reached at 5.79% in the fiscal year 2018 that is highest in 13 years (Pakistan Economic Survey, 2018). Therefore, it becomes important to study impulsive buying in the Pakistani context. Moreover, Ali, Ramzan, Razi, Khan, and Fatima (2012) noted that materialistic thinking of Pakistani people is increasing. Materialistic people determine their achievement by the value of their possessions (Richins & Dawson, 1992), therefore, they are likely to make more impulsive purchases (Tatzel, 2002; Ubel, 2009). Past researches indicated that consumer's spending level and usage of credit card is positively influenced by their degree of materialism (Pinto, Parente, & Palmer, 2000; Watson, 2003). In Pakistan, credit card transactions have been growing because consumeristic and materialistic societies perceived it as a boon for themselves and this increase in credit card usage positively influences impulsive buying (Thomas, Desai, & Seenivasan, 2010). In a similar way, materialistic consumers are also brand loval because they do not desire variety in products that they possess (Troisi, Christopher, & Marek, 2006). However, these brand loyal customers are not likely to be impulsive buyers as brand loyalty is described as the continuing buying of a particular brand toward which the customer has a positive attitude (Wilkie, 1994) while impulsive buying involves a shift from routine tasks (Sharma, Sivakumaran, & Marshall, 2010). Hence, the main purpose of

24

this paper is to investigate the relationship between materialism, credit card use, brand loyalty, and impulsive buying. The two variables i.e. brand loyalty and credit card use are treated as mediators between the relationship of materialism and impulsive buying. Given that, the following research questions are developed:

RQ1: Does materialism impact on credit card use, brand loyalty and impulsive buying?

RQ2: Does credit card use and brand loyalty mediate the association between materialism and impulsive buying?

# II. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

# IMPACT OF MATERIALISM ON BRAND LOYALTY

"Materialism has been defined as the importance one attaches to worldly possessions" (Belk, 1984, p. 291). Materialism is a concept in which materialistic acquisitions provide happiness to individuals (Richins & Dawson, 1992). Belk (1984) suggests non-generosity, possessiveness, and jealousy as three estimates when materialism is considered as a personality trait. For materialistic consumers, the personal achievement is largely determined by the value of possessions that they possessed (Richins & Dawson, 1992). Wang (2016) recently studied the interrelationship between materialism, social stratification. post materialism, and consumption. However, the literature is scarce about the association between materialism and brand loyalty (Goldsmith, Flynn, & Clark, 2012). As the rapid advancements are taking place in Pakistan, therefore, it is necessary to consider the dispositions such as materialism of its people. However, a little research has done on materialism so far in Pakistan.

Rindfleisch, Burroughs, and Wong (2008) examined the relationship between brand loyalty and materialism, and results indicated a minor association among them. Goldsmith et al. (2012) found that clothing brand loyalty is positively influenced by materialism. Similarly, Sprott, Czellar, and Spangenberg (2009) indicated that the concept of brand engagement is near to the concept of materialism and found that a relationship exists between brand loyalty and brand engaged status consumption (BESC). As the possession of materialistic goods is a source of happiness for materialistic societies, therefore, they are likely to stay away from different brands because the risk factor associated with them bring unhappiness. In such instances, they will keep buying products that they trust to make them happy (Ailawadi, Neslin, & Gedenk, 2001). Based on the above literature, we hypothesize that materialism positively impacts brand loyalty.

H1: Materialism has a positive impact on brand loyalty.

#### IMPACT OF MATERIALISM ON CREDIT CARD USE

Credit card is a critical possession that has the potential to push the worldwide obsession of possession (Pinto et al., 2000). In Pakistan, the use of credit cards is increasing continuously as according to the (Payment Systems Review Report, 2018), the number of transactions made through credit cards in the fiscal year 2018 was 85.5 million and the value of these transactions was Rs. 201.5 billion. Moreover, in comparison with the previous year, a growth of 37.3% in volume and 31.2% in value was reported. The positive impact of materialism on credit card usage has been reported (Pinto et al., 2000) which is later confirmed (Pirog & Roberts, 2007). They examined the influence of credit card use on college students and they found that the possession of credit cards influence the purchasing patterns of materialistic students, and they spend more as compared to those who use other modes of payment (Soman & Gourville, 2001). Watson (2003) also found that the credit card balances of highly materialistic people are likely to be high as compared with those who are less materialistic and they prefer to use installment credit and borrow money.

Moreover, credit cards, as a tool of money, encourage materialistic consumers to achieve their materialistic goals and have the capacity to enhance one's self naturally (Pradhan, Israel, & Jena, 2018). Most studies on credit card use have been conducted in western cultures. However, materialism may produce varying effects in different cultures (Ogden & Cheng, 2011). In addition, the relationship between materialism and credit card use also vary among different segments based on different characteristics including income, gender, residential place, educational qualification and income (Pradhan *et al.*, 2018). Thus, the following

hypothesis is proposed in a context that is different culturally and demographically from the west.

H2: Materialism has a positive impact on credit card use.

## IMPACT OF MATERIALISM ON IMPULSIVE BUYING

Individuals who give importance to the quantifiable possessions are likely to have an assortment of goods which improve and exhibit their status, authority, and position in society. Impulsively purchased goods represent self-identity and because such possessions provide happiness to the materialistic consumers (Dittmar, Beattie, & Friese, 1995; Featherstone, 2007), they are likely to show a favorable attitude towards impulsive buying (Tatzel, 2002). Impulsive buying behavior can be influenced by consumer's short term mental position (Rook & Fisher, 1995) or by situation-specific factors (Vohs & Faber, 2007), and is related to the concept of materialism (Richins & Dawson, 1992). For comfort-seeking buyers, the value derived by making an impulse buying is likely to be more important as compared to the disutility derived from long-term downside (Ramanathan & Menon, 2006; Ubel, 2009). Richins (2011) highlighted that materialistic consumers spend more impulsively as compare to other consumers because they believe that they can achieve social position through physical possessions. Moreover, expenditures on unnecessary or relatively unimportant things are positively viewed by materialistic consumers (Amos, Holmes, & Keneson, 2014) which leads to fortify the confidence in consumers and enhances societal position (Badgaiyan & Verma, 2014; Richins, 2011). Based on the above discussion, the following hypothesis is proposed:

H3: Materialism has a positive impact on impulsive buying.

# IMPACT OF BRAND LOYALTY ON IMPULSIVE BUYING

Although impulsive and compulsive buying are two different concepts in qualitative aspect in terms of output, both have much resemblance (Flight, Rountree, & Beatty, 2012; Kwak, Zinkhan, DeLorme, & Larsen, 2006) and determinants of both are same, such as identity concerns and materialism (Verplanken & Sato, 2011). According to some researchers (Clark & Calleja, 2008; d'Astous, 1990; Thompson & Prendergast, 2015), impulsive and compulsive buying lies on the same

behavioral scale where impulsive buying occurs lies on early stage while compulsive buying lies on the upper extremity. They identified impulsive buying as a lighter indication of compulsive buying. The nature of compulsive buyers is variety seeking, therefore, their level of brand engagement is low while non-compulsive buyers have believed on their best-loved brand and perceive riskier to buy different brands (Horváth & Birgelen, 2015). The concepts that supported the variety seeking in literature includes "satiation, boredom, curiosity, novelty, change and stimulation" which appear to associate with the idea of impulsive buying behavior (Punj, 2011). Sharma et al. (2010) argued that customers feel excitement and novelty in their shopping experience with variety seeking and impulse buying and it offers customers to take a shift from boredom. However, on the other side, brand loyalty determines the level of the consumer's attachment to a specific brand (David, 1991; Podoshen, Li, & Zhang, 2011). Brand loyalty with its behavioral and attitudinal elements (Kim, Morris, & Swait, 2008) is central to brand equity (Kaynak, Salman, & Tatoglu, 2008). In a similar way, Wilkie (1994) highlighted that brand loyalty refers to the consistent buying of a specific product toward which the consumer has a favorable attitude. Oliver (1999) also described brand loyalty as the repeat and continuous buying of a specific brand. However, Sharma et al. (2010) highlighted that both variety seeking and impulsive buying makes the shopping experience novel and excited, enable customers to eliminate boredom by shifting from routine tasks.

Based on the above discussion, we can hypothesize that brand loyal customers would not likely to show impulsive buying behavior.

H4: Brand loyalty has a negative impact on impulsive buying.

# IMPACT OF CREDIT CARD USE ON IMPULSIVE BUYING

Feinberg (1986) argued the mere presence of credit cards encourage people to spend more and the availability of money positively related to the IB (Beatty & Ferrell, 1998). However, Hunt, Chatterjee, Florsheim, and Kernan (1990) attempted to replicate these findings but failed. Therefore, further studies are required to examine the association between credit card use and impulsive buying. According to Bearden and Netemeyer (1999), impulsive shoppers are influenced by the sudden shopping related stimuli because they tend to be more responsive to the surprising and unanticipated thoughts while shopping. The availability of credit cards provides an opportunity to spend beyond what a person can if only cash was available, thus resulting in impulsive buying (Pradhan et al., 2018). Research conducted by Feinberg (1986) indicated that those college students spend more who use credit cards. In a similar way, Hayhoe, Leach, Allen, and Edwards (2005) also concluded that college students prefer to buy with credit cards as compared to other means.

In addition, it is very easy for today's creditors to give revolving credit due to technological improvements (Durkin, 2000). Consumers always spend more than necessary on their consumptions when they are using credit cards (Soman & Gourville, 2001). Moreover, Karbasivar and Yarahmadi (2011) indicated that impulsive buying is directly influenced by credit card use, especially in apparel purchases. Credit cards have the potential to meet the sudden need for money which leads consumers to spend more than necessary (Ger & Belk, 1996), and ultimately encouragement of IB (Roberts & Jones, 2001). Based on the above discussion, the following hypothesis is proposed:

H5: Credit card use has a positive impact on impulsive buying.

## **MEDIATING RELATIONSHIPS**

Materialistic people have a favorable attitude toward status consumption and they are more involved in the consumption of those objects that are more evident to society (Tatzel, 2002). It suggests that materialists are likely to express the social status and credit cards have the capacity to make those purchases possible that otherwise could be difficult otherwise (Bernthal, Crockett, & Rose, 2005). Inform of credit cards, there is a huge amount of money available for materialistic people which weakens their impulse and ultimately results in IB (Beatty & Ferrell, 1998).

Moreover, past studies examined the patterns in which materialism influences credit card usage (Roberts & Jones, 2001), brand loyalty (Rindfleisch et al., 2008), and impulsive buying (Atulkar & Kesari, 2018). Similarly, prior researches also investigated the effect of credit card usage on impulsive buying (Pirog & Roberts, 2007; Thomas et al., 2010) and the impact of brand loyalty on impulsive buying (Šeinauskienė, Maščinskienė, & Jucaitytė, 2015).

In addition, Bandyopadhyay (2016) suggested that the role of credit card usage should be investigated in future studies. The researcher argued that in certain situations, the customer may feel an urge to buy impulsively but he/she may not have the required amount of money to make the actual purchase. In those situations, a credit card may facilitate the happening of actual purchase. Similarly, Omid (2016) highlighted that the relationship between brand loyalty and impulsive buying is not much investigated. He suggested relating brand loyalty with impulsive buying in future research. Moreover, a detailed review of the literature revealed that no paper examines the mediating role of brand loyalty between materialism and impulsive buying. Based on the above literature, the following hypotheses are proposed:

*H6: Credit card use mediates the relationship between materialism and impulsive buying.* 

H7: Brand loyalty mediates the relationship between materialism and impulsive buying.

# THEORY OF PLANNED BEHAVIOR

Theory of planned behavior is a well-established model to predict the behavior (Ajzen, 1991). Theory of planned behavior is based on three constructs i.e. attitude toward the behavior, subjective norms and perceived control over behavior. Attitude explains the extent to which an individual has a positive or negative assessment of the behavior. Subjective norms explain the extent to which the individual has pressure from referent groups to perform the behavior. And the last construct is perceived behavioral control which refers to the degree to which person perceive comfort or difficulty in performing the behavior. Theory of planned behavior can be used to justify the model of this study. Tatzel (2002) highlighted that materialistic people have a positive attitude towards the consumption of those products that are more evident to society. As theory of planned behavior stated that behavior is based on that person's attitude. Therefore, those materialistic people, based on their attitude are more likely to use credit cards as credit card itself is a status symbol in society (Pradhan et al., 2018) and they become brand

loyal to certain brands which ultimately leads them to the impulsive buying.

# **III. THEORETICAL FRAMEWORK**

In the previous section, the relationship between materialism, credit card use, brand loyalty, and impulsive buying is reviewed and hypotheses are developed. The proposed model for testing the hypotheses is illustrated in Figure 1





## SAMPLE AND PROCEDURES

The consistently changing lifestyle of customers, due to a developing the economy, has significantly evolved the retail sector of the country. In return, the contributions of the retail sector to the economy are significant. The value of the retail sector of Pakistan was 4.2 billion dollars that equal around 18% GDP for the period 2007-2012 (*Pakistan Bureau of Statistics*, 2012). During this period, if we consider the private sector, a significant increase of 130% in consumption occurred. It suggests that it is significant to understand the purchase behavior especially impulsive buying in the continuously growing retail sector of Pakistan. Moreover, impulsive buying has been studied mostly in the United States and other developed nations, however, a little research has been done on this topic in East countries specifically in Pakistan (Jalees, 2009). Therefore, the current study was conducted on retail customers of Pakistan. The study was conducted in non-contrived settings by using a quantitative approach. As the study involved the variable credit card use, therefore, respondents were required to have at least one credit card. Customers in shopping malls are more likely to have credit cards. For this reason, the data were collected from shoppers in different shopping malls of Lahore, Pakistan. The malls include Emporium Mall, Packages Mall, The Mall of Lahore and other retail stores. As the population of this study was unknown, therefore, the sample size was determined by using itemresponse theory with criteria of 10 responses against each item of the questionnaire. Then data were collected by using a convenience sampling technique. First, permission was obtained from managers of shopping malls and then questionnaires were handed over to those customers who were agreed to participate. Before circulating questionnaire, the respondents were asked whether they use a credit card. Paper, as well as electronic questionnaires, were used to collect data as per the convenience of respondents. A total of 210 questionnaires were distributed. Out of these 210 questionnaires, 196 received back and the response rate was (195÷210) 92.86%. As compared to paper and pencil surveys, the response rate is high in online surveys (Kaplowitz, Hadlock, & Levine, 2004).

Respondents were also evaluated based on certain demographic variables such as gender, age, qualification, age, occupation, and income level. Based on gender, most of the respondents were female (N = 102, 52.6%). Based on age, mostly respondents aged between 18 to 29 years (N = 130, 67%). In the case of qualification, most respondents were having a master's degree (N = 76, 39.6%). By occupation, most respondents were employees (N = 115, 59%). Finally, the income of majority respondents was between 25,000 to 60,000 (N = 87, 36.5%).

## MEASURES

Regarding all constructs used in the current study, all scales were developed by previous authors and operationalized in developed countries. The same scales were adapted to use in Pakistan. A five-point Likert scale ranging from "1-strongly disagree" to "5-strongly agree" was used to elicit the responses. *Materialism*: Materialism was measured by using a five-item scale adopted from study of Cakarnis and D'Alessandro (2015) and reported the reliability as 0.76. The scale was developed by Richins (2011). A sample item includes "It is really important to me to have really nice things".

*Credit Card Use:* To measure credit card use, eight items were used from a twelve-items scale developed by Roberts and Jones (2001) and reported reliability as 0.77. The 12-items scale was operationalized by Pradhan et al. (2018) and they excluded 4 items because of the low factor loading and used the remaining 8 items. The Cronbach's Alpha of these 8 items was 0.90. Therefore, the same 8 items were used in the current study. The sample item includes "I am less concerned with the price of a product when I use a credit card".

Impulsive Buying: A four-item scale developed by Sneath, Lacev, and Kennett-Hensel (2009) was used to measure impulsive buying of respondents. The reported Cronbach's Alpha is 0.87. A sample item includes "I buy things I had not planned on purchasing".

**Brand Loyalty:** To measure brand loyalty of consumers, 4 items scale was used developed by Ailawadi et al. (2001). The same scale was used by Ismail (2017) and reported reliability as 0.86. A sample item includes "I feel confidence in a brand that I always buy". (See Appendix for Questionnaire)

# **V. RESULTS**

### PRELIMINARY ANALYSIS

In a preliminary analysis, data were analyzed for missing values, outliers and data normality as these may impact the results of the study (Graham, 2009). Although the presence of missing values is a common problem in all types of researches, however, no missing value was found in current study data. The possible reasons might be the collection of data through self-administered questionnaires and electronic forms. For outlier analysis, box plot method was used and the data was found to be free from any outlier. The normality of data was examined through two methods. First, to check normality visually, frequency distribution (histogram) and P-P plot (probability-probability plot) methods were

used (Field, 2009). In a frequency distribution, the observed values are plotted with respect to their frequencies which provide a visual estimation about whether the distribution follows a bell-shaped (Peat & Barton, 2008). The data of the current study found to be normal as the distribution values lie within the bell-shaped. Second, measures of Skewness and Kurtosis were used to investigate the normality of data (Kline, 2005). According to Brown and Moore (2012), the standard values of Kurtosis ranges between -10 and +10, and for skewness, it falls between -3 and +3. In the current study, the values of Skewness and Kurtosis for all variables found to be within the acceptable range.

#### **DESCRIPTIVE STATISTICS**

Table 1 shows the values of mean, standard deviation, Cronbach Alpha and Pearson's correlation of all the variables. The mean scores for all variables range between 3.02 and 3.82 with standard deviation ranging between 0.68 to 0.98. The mean scores show that consumers agreed regarding materialism (M = 3.82) and brand loyalty (M = 3.82) while they were neutral regarding credit card use (M = 3.02) and impulsive buying (M = 3.42).

The correlation values indicate that materialism is positively related with credit card use (r = 0.48, P < 0.01), brand loyalty (r = 0.55, P < 0.01) and impulsive buying (r = 0.47, P < 0.01). Similarly, credit card use and brand loyalty are positively related with impulsive buying (r = 0.52 and 0.39, P < 0.01 respectively). The reliability values of all variables are above 0.6 which is acceptable (Hair, 2006).

### TABLE 1

Variable CC Mean S.D Cronbach Mat BL IB Alpha Mat 3.82 0.64 0.68 1 CC 3.02 0.82 0.82 0.48\*\* 1 BL. 0.43\*\* 3.82 0.84 0.73 0.55\*\* 1 IB 3.42 0.98 0.76 0.47\*\* 0.52\*\* 0.39\*\* 1

Mean, Standard Deviation, Cronbach's Alpha and Correlation

"Notes: Mat=Materialism, CC=Credit Card, BL=Brand Loyalty, IB=Impulsive Buying, S.D =Standard Deviation, \*\*p < 0.01"
#### **REGRESSION ANALYSIS**

The values of the Table 2 shows that materialism has a positive influence on credit card use ( $\beta = 0.58$ , P < 0.01), brand loyalty ( $\beta = 0.68$ , P < 0.01) and impulsive buying ( $\beta = 0.67$ , P < 0.01), thus supporting hypothesis H1, H2 and H3. Similarly, brand loyalty and credit card use found to have a positive impact on impulsive buying ( $\beta = 0.46 \& 0.61$ , P < 0.01 respectively) which supported the hypothesis H5 but not supported the hypothesis H4. The values of r-square represent the extent of variation independent variables that are explained by independent variables. The values of r-square ranges from 0.15 to 0.30.

#### TABLE 2

| Hypothesis | <b>R</b> <sup>2</sup> | β    | Р    | Result        |
|------------|-----------------------|------|------|---------------|
| Mat→BL     | 0.30                  | 0.68 | 0.00 | Supported     |
| Mat→CC     | 0.23                  | 0.58 | 0.00 | Supported     |
| Mat→IB     | 0.22                  | 0.67 | 0.00 | Supported     |
| BL→IB      | 0.15                  | 0.46 | 0.00 | Not Supported |
| CC→IB      | 0.27                  | 0.61 | 0.00 | Supported     |

#### **Regression Analysis**

"Notes: Mat: Materialism; CC= Credit Card; BL= Brand Loyalty; IB= Impulsive Buying"

# **MEDIATION ANALYSIS**

To examine the mediating role of credit card, use and brand loyalty between the relationship of materialism and impulsive buying, the study used hierarchical regression. First of all, the three basic conditions of mediation were investigated (Baron & Kenny, 1986). First, materialism was regressed with impulsive buying to note its significant impact. Second, materialism was regressed with credit card use and noted a significant association. Third, credit card use was regressed with impulsive buying to note its significance thereby all the basic assumptions were fulfilled.

In the hierarchical regression process, in the first step demographical variables were added as controlled variables. In the second step, materialism was added to note its significant impact ( $\beta$ = 0.61, *P* < 0.01). In the third step when credit card use was added as a mediating variable

then the value of materialism in the third step remains significant ( $\beta$ = 0.36, *P* < 0.01). And the value of credit card used in the third step noted as significant ( $\beta$ = 0.46, *P* < 0.01). This shows that credit card use partially mediates the association between materialism and impulsive buying (Table 3a).

| Variables            | M1(β)  | Μ2(β)  | M3(β)  |
|----------------------|--------|--------|--------|
| Control Variables    |        |        |        |
| Gender               | 0.27   | 0.20   | 0.17   |
| Age                  | 0.34** | 0.20*  | 0.14   |
| Qualification        | -0.10  | -0.10  | -0.13  |
| Occupation           | -0.01  | -0.03  | -0.00  |
| Income               | 0.09   | 0.11   | 0.12   |
| Independent Variable |        |        |        |
| Mat                  |        | 0.61** | 0.36** |
| Mediating Variable   |        |        |        |
| CC                   |        |        | 0.46** |
| R Square             | 0.07   | 0.24   | 0.35   |
| ΔR Square            | -      | 0.17   | 0.11   |

# TABLE 3-A

Results of Credit Card Use Mediation

"Notes: Mat=Materialism, CC=Credit Card, \*p < 0.05, \*\* p < 0.01"

Similarly, the mediating impact of brand loyalty was assessed by following the same procedure. First, materialism was regressed with impulsive buying to note its significant impact. Second, materialism was regressed with brand loyalty and noted a significant association. Third, brand loyalty was regressed with impulsive buying to note its significance thereby all the basic assumptions were fulfilled. Then in the hierarchical regression process, in the first step demographical variables were added as controlled variables. In the second step, materialism was added to note its significant impact ( $\beta$ = 0.61, *P*<0.01). In the third step when brand loyalty was added as a mediating variable then the value of materialism in the third step remains significant ( $\beta$ = 0.48, *P* < 0.01) and the value of brand loyalty in the third step noted as significant ( $\beta$ = 0.20, *P*<0.05). This shows that brand loyalty partially mediates the association between materialism and impulsive buying (Table 3b).

## TABLE 3-B

# Results of Credit Card Use Mediation

| Variables            | M1(β)  | M2(β)  | M3(β)  |
|----------------------|--------|--------|--------|
| Control Variables    |        |        |        |
| Gender               | 0.27   | 0.20   | 0.20   |
| Age                  | 0.34** | 0.20*  | 0.19*  |
| Qualification        | -0.10  | -0.10  | -0.10  |
| Occupation           | -0.01  | -0.03  | -0.03  |
| Income               | 0.09   | 0.11   | 0.09   |
| Independent Variable |        |        |        |
| Mat                  |        | 0.61** | 0.48** |
| Mediating Variable   |        |        |        |
| BL                   |        |        | 0.20*  |
| R Square             | 0.07   | 0.24   | 0.26   |
| ΔR Square            | -      | 0.17   | 0.02   |

"Notes: Mat=Materialism, BL=Brand Loyalty, \*p < 0.05; \*\* p < 0.01"

# **VI. DISCUSSION**

The present study examines the direct association between materialism, brand loyalty, credit card use and impulsive buying. Moreover, it also examined the mediating role of credit card use and brand loyalty between the relationship of materialism and impulsive buying.

The findings of the current study found a positive association between materialism and impulsive buying that is in line with previous researches (Richins, 2011; Tatzel, 2002), which suggests that materialistic consumers are likely to spend more and make more impulsive purchases. Materialistic people continuously contest and relate themselves with other people in society, therefore, they are more likely to make purchases impulsively in their quest of obtaining more material goods (Pradhan *et al.*, 2018). Similarly, in accordance with previous studies, the study findings suggest that the use of credit card increases due to the consumer's desire to achieve social status through material belongings (Pirog & Roberts, 2007). There are different views about the materialism of Pakistanis. They are described as fewer materialists in comparison to USA (Ger & Belk, 1996). However, as less developed countries in Asia make efforts towards achieving economic success, therefore, it is very plausible that people of these countries turn out to be more materialistic and places more emphasis on positional values, for display and conspicuous consumption (Batra. example. status Ramaswamy, Alden, Steenkamp, & Ramachander, 2000; Fang & Podoshen, 2017; Podoshen, Andrzejewski, & Hunt, 2014; Podoshen et al., 2011). Moreover, a past study conducted in Pakistan on people of different fields reported that materialistic thinking is increasing in Pakistani society due to the impact of media and materialistic lifestyle (Ali et al., 2012). Further, the study findings indicate that use of credit cards likely to encourage shoppers to make additional purchases by spending impulsively, that is in line with the findings of previous researches (Soman & Gourville, 2001; Thomas et al., 2010). Furthermore, mediation tests indicated that credit card use partially mediates the relationship between materialism and impulsive buying. This reveals that materialistic people make more impulsive purchases when they use a credit card.

Another significant finding of this study is the positive association between materialism and brand loyalty. It suggests that marketers with competitive brands can get benefit from these consumers who are high in materialistic values. This is a positive thing from the firm' perspective. However, Fitzmaurice (2008) argued that materialistic people are likely to experience the feelings of regret, and these consumers who fixated themselves with certain brands may reject these brands if the level of regret becomes significant.

Surprisingly, contrary to the proposed hypothesis, the results of the study found that brand loyalty positively impacts impulsive buying. The motivations toward impulsive buying can be used to explain this finding. Prior literature suggests that shoppers be motivated towards impulsive buying in order to get rid of their negative mood or other unwanted emotional states. However, these findings confirmed the results of (Šeinauskienė et al., 2015). Finally, brand loyalty found to mediate the relationship between materialism and impulsive buying suggesting that

materialistic people who are brand loyal are likely to buy more impulsively.

# **VI. IMPLICATIONS AND LIMITATIONS**

The researcher believes that the findings of the study will be beneficial for those companies and marketers who are interested to intersect their marketing strategies with consumer's attitude. As the consumers of Pakistan are becoming more materialists, therefore, those firms are likely to get an edge in the market who recognize these consumer trends. It will enhance consumer's positive attitude toward the firm as past research reported that concern toward consumer's dispositions positively impacts consumer's likeability (Nan & Heo, 2007).

As credit card use noted to be fully mediate the relationship between materialism and impulsive buying which suggests that materialistic consumers are more likely to make impulsive buying when they are provided with credit cards, therefore, it motivates the retail stores to integrate with different credit card companies which in turn motivate consumers to buy their goods (Pradhan *et al.*, 2018).

The penetration of credit cards in Pakistan is low as there are only 1.4 million credit cards in circulation as of June 2018 (*Payment Systems Review Report*, 2018). Therefore, the current study provides insights to credit card companies. As a positive association was found between materialism and credit card adoption and use, it suggests that credit card institutions may increase their sales of cards by targeting these materialistic consumers. In addition, previous studies also reported that materialism is increasing in Pakistani society (Ali et al., 2012), which is also a positive sign for credit card institutions.

In addition, a positive relationship found between materialism and brand loyalty suggesting that materialistic consumers are more likely to buy luxurious and strong brands in order to gain social status in society (Tuu, Olsen, & Cong, 2017). It provides beneficial insights to the marketers of strong brands in getting an edge in the market (Podoshen et al., 2014). As these brand-loyal materialists lead to impulsive buying, therefore, it encourages retail stores to have strong brands in order to increase their sales. This study also subjects to many limitations; therefore, the findings of the study should be viewed considering these limitations. The data was collected from shoppers residing in Lahore region of Pakistan. It is plausible that consumers in different regions may have different attitudes regarding impulsive buying and its related antecedents. Future researchers should conduct comparative studies between different regions as well as different countries along with their different cultural backgrounds and economic stages in order to identify the different elements that may influence impulsive buying. Like other cross-sectional studies, this study did not determine the causal inferences, therefore, future researchers should conduct a longitudinal study to examine the ways in which materialism impacts impulsive buying.

In future researches, the impact of credit card use (Pradhan *et al.*, 2018) and brand loyalty should also be examined as a moderator between materialism and impulsive buying. As significant developments are taking place in third world nations like Pakistan, so it is interesting to explore the perspective of the younger generation about materialism (Wang, 2016), and its influence on credit card consumption and impulsive buying. As the hypothesis regarding brand loyalty and impulsive buying was not supported, future researchers should examine this relationship in new settings to examine whether similar findings are obtained or not. Furthermore, the future researchers should also study the role of self-control with credit card usage and its association with impulsive buying, as could the moderating impact of self-control on the relationship between materialism and credit card usage (Pradhan et al., 2018). Finally, future research may investigate the current study specifically in an online context.

40

#### REFERENCES

- Ailawadi, K. L., Neslin, S. A., & Gedenk, K. (2001). Pursuing the valueconscious consumer: store brands versus national brand promotions. Journal of marketing, 65(1), 71-89.
- Ajzen, I. (1991). The theory of planned behavior. Organizational behavior and human decision processes, 50(2), 179-211.
- Ali, S. A., Ramzan, M., Razi, A., Khan, H., & Fatima, I. (2012). Materalistic thoughts among people. Global Journal of Management and Business Research, 12(8).
- Amos, C., Holmes, G. R., & Keneson, W. C. (2014). A meta-analysis of consumer impulse buying. Journal of Retailing and Consumer Services, 21(2), 86-97.
- Atulkar, S., & Kesari, B. (2018). Role of consumer traits and situational factors on impulse buying: does gender matter? International Journal of Retail & Distribution Management, 46(4), 386-405.
- Badgaiyan, A. J., & Verma, A. (2014). Intrinsic factors affecting impulsive buying behaviour—Evidence from India. Journal of Retailing and Consumer Services, 21(4), 537-549.
- Bandyopadhyay, N. (2016). The role of self-esteem, negative affect and normative influence in impulse buying: A study from India. Marketing Intelligence & Planning, 34(4), 523-539.
- Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. Journal of personality and social psychology, 51(6), 1173.
- Batra, R., Ramaswamy, V., Alden, D. L., Steenkamp, J.-B. E., & Ramachander, S. (2000). Effects of brand local and nonlocal origin on consumer attitudes in developing countries. Journal of consumer psychology, 9(2), 83-95.
- Bearden, W. O., & Netemeyer, R. G. (1999). Handbook of marketing scales: Multi-item measures for marketing and consumer behavior research: Sage.
- Beatty, S. E., & Ferrell, M. E. (1998). Impulse buying: Modeling its precursors. Journal of retailing, 74(2), 169-191.
- Belk, R. W. (1984). Three scales to measure constructs related to materialism: Reliability, validity, and relationships to measures of happiness. ACR North American Advances, 291.

- Bernthal, M. J., Crockett, D., & Rose, R. L. (2005). Credit cards as lifestyle facilitators. Journal of consumer research, 32(1), 130-145.
- Brown, T. A., & Moore, M. T. (2012). Confirmatory factor analysis. Handbook of structural equation modeling, 361-379.
- Cakarnis, J., & D'Alessandro, S. P. (2015). Does knowing overcome wanting? The impact of consumer knowledge and materialism upon credit card selection with young consumers. Young Consumers, 16(1), 50-70.
- Clark, M., & Calleja, K. (2008). Shopping addiction: A preliminary investigation among Maltese university students. Addiction Research & Theory, 16(6), 633-649.
- d'Astous, A. (1990). An inquiry into the compulsive side of "normal" consumers. Journal of Consumer Policy, 13(1), 15-31.
- David, A. A. (1991). Managing brand equity: Capitalizing on the value of a brand name. The Free Fresh. New York.
- Dittmar, H., Beattie, J., & Friese, S. (1995). Gender identity and material symbols: Objects and decision considerations in impulse purchases. Journal of Economic Psychology, 16(3), 491-511.
- Durkin, T. A. (2000). Credit cards: Use and consumer attitudes, 1970-2000. Fed. Res. Bull., 86, 623.
- Fang, Y., & Podoshen, J. S. (2017). New insights into materialism and conspicuous consumption in China.
- Featherstone, M. (2007). Consumer culture and postmodernism: Sage.
- Feinberg, R. A. (1986). Credit cards as spending facilitating stimuli: A conditioning interpretation. Journal of consumer research, 13(3), 348-356.
- Field, A. (2009). Discovering statistics using SPSS: Sage publications.
- Fitzmaurice, J. (2008). Splurge purchases and materialism. Journal of Consumer Marketing, 25(6), 332-338.
- Flight, R. L., Rountree, M. M., & Beatty, S. E. (2012). Feeling the urge: Affect in impulsive and compulsive buying. Journal of Marketing Theory and Practice, 20(4), 453-466.
- Ger, G., & Belk, R. W. (1996). I'd like to buy the world a coke: Consumptionscapes of the "less affluent world". Journal of Consumer Policy, 19(3), 271-304.

- Goldsmith, R. E., Flynn, L. R., & Clark, R. A. (2012). Materialistic, brand engaged and status consuming consumers and clothing behaviors. Journal of Fashion Marketing and Management: An International Journal, 16(1), 102-119.
- Graham, J. W. (2009). Missing data analysis: Making it work in the real world. Annual review of psychology, 60, 549-576.
- Hair, J. F. (2006). Multivariate data analysis: Pearson Education India.
- Hayhoe, C., Leach, L. J., Allen, M., & Edwards, R. (2005). Credit cards held by college students. Journal of Financial Counseling and Planning, 16(1).
- Horváth, C., & Birgelen, M. v. (2015). The role of brands in the behavior and purchase decisions of compulsive versus noncompulsive buyers. European Journal of Marketing, 49(1/2), 2-21.
- Hunt, J. M., Chatterjee, A., Florsheim, R. A., & Kernan, J. B. (1990). Credit cards as spending-facilitating stimuli: A test and extension of Feinberg's conditioning hypothesis. Psychological Reports, 67(1), 323-330.
- Ismail, A. R. (2017). The influence of perceived social media marketing activities on brand loyalty: The mediation effect of brand and value consciousness. Asia Pacific Journal of Marketing and Logistics, 29(1), 129-144.
- Jalees, T. (2009). An empirical analysis of impulsive buying behavior in Pakistan. Market Forces, 5(3).
- Jones, M. A., Reynolds, K. E., Mothersbaugh, D. L., & Beatty, S. E. (2007). The positive and negative effects of switching costs on relational outcomes. Journal of Service Research, 9(4), 335-355.
- Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behavior. Journal of consumer psychology, 12(2), 163-176.
- Kaplowitz, M. D., Hadlock, T. D., & Levine, R. (2004). A comparison of web and mail survey response rates. Public opinion quarterly, 68(1), 94-101.
- Karbasivar, A., & Yarahmadi, H. (2011). Evaluating effective factors on consumer impulse buying behavior. Asian Journal of Business Management Studies, 2(4), 174-181.
- Kaynak, E., Salman, G. G., & Tatoglu, E. (2008). An integrative framework linking brand associations and brand loyalty in professional sports. Journal of Brand Management, 15(5), 336-357.

- Kim, J., Morris, J. D., & Swait, J. (2008). Antecedents of true brand loyalty. Journal of Advertising, 37(2), 99-117.
- Kline, R. (2005). Methodology in the social sciences. In: Principles and practice of structural equation modeling (2nd ed.). New York ....
- Kwak, H., Zinkhan, G. M., DeLorme, D. E., & Larsen, T. (2006). Revisiting normative influences on impulsive buying behavior and an extension to compulsive buying behavior: A case from South Korea. Journal of International Consumer Marketing, 18(3), 57-80.
- Nan, X., & Heo, K. (2007). Consumer responses to corporate social responsibility (CSR) initiatives: Examining the role of brand-cause fit in cause-related marketing. Journal of Advertising, 36(2), 63-74.
- Ogden, H., & Cheng, S. (2011). Cultural dimensions and materialism: Comparing Canada and China. Asia Pacific Journal of Marketing and Logistics, 23(4), 431-447.
- Oliver, R. L. (1999). Whence consumer loyalty? Journal of marketing, 63(4\_suppl1), 33-44.
- Peat, J., & Barton, B. (2008). Medical statistics: A guide to data analysis and critical appraisal: John Wiley & Sons.
- Pinto, M. B., Parente, D. H., & Palmer, T. S. (2000). Materialism and credit card use by college students. Psychological Reports, 86(2), 643-652.
- Pirog, S. F., & Roberts, J. A. (2007). Personality and credit card misuse among college students: The mediating role of impulsiveness. Journal of Marketing Theory and Practice, 15(1), 65-77.
- Podoshen, J. S., Andrzejewski, S. A., & Hunt, J. M. (2014). Materialism, conspicuous consumption, and American hip-hop subculture. Journal of International Consumer Marketing, 26(4), 271-283.
- Podoshen, J. S., Li, L., & Zhang, J. (2011). Materialism and conspicuous consumption in China: A cross-cultural examination. International journal of consumer studies, 35(1), 17-25.
- Pradhan, D., Israel, D., & Jena, A. K. (2018). Materialism and compulsive buying behaviour: The role of consumer credit card use and impulse buying. Asia Pacific Journal of Marketing and Logistics, 30(5), 1239-1258.
- Punj, G. (2011). Impulse buying and variety seeking: Similarities and differences. Journal of Business Research, 64(7), 745-748.

- Ramanathan, S., & Menon, G. (2006). Time-varying effects of chronic hedonic goals on impulsive behavior. Journal of Marketing Research, 43(4), 628-641.
- Richins, M. L. (2011). Materialism, transformation expectations, and spending: Implications for credit use. Journal of Public Policy & Marketing, 30(2), 141-156.
- Richins, M. L., & Dawson, S. (1992). A consumer values orientation for materialism and its measurement: Scale development and validation. Journal of consumer research, 19(3), 303-316.
- Rindfleisch, A., Burroughs, J. E., & Wong, N. (2008). The safety of objects: Materialism, existential insecurity, and brand connection. Journal of consumer research, 36(1), 1-16.
- Roberts, J. A., & Jones, E. (2001). Money attitudes, credit card use, and compulsive buying among American college students. Journal of consumer affairs, 35(2), 213-240.
- Rook, D. W., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. Journal of consumer research, 22(3), 305-313.
- Šeinauskienė, B., Maščinskienė, J., & Jucaitytė, I. (2015). The relationship of happiness, impulse buying and brand loyalty. Procedia-Social and Behavioral Sciences, 213, 687-693.
- Sharma, P., Sivakumaran, B., & Marshall, R. (2010). Impulse buying and variety seeking: A trait-correlates perspective. Journal of Business Research, 63(3), 276-283.
- Sneath, J. Z., Lacey, R., & Kennett-Hensel, P. A. (2009). Coping with a natural disaster: Losses, emotions, and impulsive and compulsive buying. Marketing letters, 20(1), 45-60.
- Soman, D., & Gourville, J. T. (2001). Transaction decoupling: How price bundling affects the decision to consume. Journal of Marketing Research, 38(1), 30-44.
- Sprott, D., Czellar, S., & Spangenberg, E. (2009). The importance of a general measure of brand engagement on market behavior: Development and validation of a scale. Journal of Marketing Research, 46(1), 92-104.
- Tatzel, M. (2002). "Money worlds" and well-being: An integration of money dispositions, materialism and price-related behavior. Journal of Economic Psychology, 23(1), 103-126.

- Thomas, M., Desai, K. K., & Seenivasan, S. (2010). How credit card payments increase unhealthy food purchases: Visceral regulation of vices. Journal of consumer research, 38(1), 126-139.
- Thompson, E. R., & Prendergast, G. P. (2015). The influence of trait affect and the five-factor personality model on impulse buying. Personality and Individual Differences, 76, 216-221.
- Troisi, J. D., Christopher, A. N., & Marek, P. (2006). Materialism and money spending disposition as predictors of economic and personality variables. North American Journal of Psychology, 8(3), 421.
- Tuu, H. H., Olsen, S. O., & Cong, L. C. (2017). Patterns of Vietnamese buying behaviors on luxury branded products. Asia Pacific Journal of Marketing and Logistics, 29(4), 778-795.
- Ubel, P. A. (2009). Free market madness: why human nature is at odds with economics--and why it matters: Harvard Business Press.
- Verplanken, B., & Sato, A. (2011). The psychology of impulse buying: An integrative self-regulation approach. Journal of Consumer Policy, 34(2), 197-210.
- Vohs, K. D., & Faber, R. J. (2007). Spent resources: Self-regulatory resource availability affects impulse buying. Journal of consumer research, 33(4), 537-547.
- Wang, Y. (2016). Social stratification, materialism, post-materialism and consumption values: an empirical study of a Chinese sample. Asia Pacific Journal of Marketing and Logistics, 28(4), 580-593.
- Watson, J. J. (2003). The relationship of materialism to spending tendencies, saving, and debt. Journal of Economic Psychology, 24(6), 723-739.
- Wilkie, W. L. (1994). Customer behavior. John Wiley&Sons, New York.

Pakistan Economic and Social Review Volume 57, No. 1 (Summer 2019), pp. 47-68

# IS TRADE OPENNESS INFLATIONARY IN DEVELOPING ECONOMIES: AN ASYMMETRIC ANALYSIS FOR PAKISTAN

# TAHIR MUKHTAR, ZAINAB JEHAN AND FAIZ BILQUEES\*

**Abstract**. The present study reexamines inflation and trade openness nexus for the time period from 1972-2016. The study is first of its kind in applying the nonlinear autoregressive distributed lag (NARDL) technique to investigate the nature of relationship between inflation and trade openness for Pakistan. The findings reveal that both variables are symmetrically and positively associated with each other in the long run. However, their relationship appears asymmetric and positive in the short run. Overall, this study invalidates Romer's (1993) proposition that inflation tends to decline as trade openness increases.

Keywords: Trade openness, inflation, Cointegration, NARDL, Pakistan

JEL Classification: C22, F41, O53

<sup>\*</sup>The authors are respectively Associate Professor at Department of Economics, Fatima Jinnah Women University, Rawalpindi-Pakistan/Currently, Post Doctorate Fellow at Research School of Economics, Australian National University, Canberra-Australia, Assistant Professor at Department of Economics, Fatima Jinnah Women University, Rawalpindi-Pakistan and Former Joint Director at Pakistan Institute of Development Economics (PIDE), Islamabad-Pakistan. Corresponding author's e-mail: tahir.mukhtar@fjwu.edu.pk

# I. INTRODUCTION

Persistently higher inflation has always been an important factor in impeding growth and lowering the welfare levels of lower income groups. Attaining and maintaining price stability by keeping inflation rate under control has been a key goal of macroeconomic management of a large number of developed and developing economies including Pakistan. The policymakers have always focused on keeping inflation rates within reasonable bounds as it leads to uncertainty, which is more likely to adversely impact economic growth process. Therefore, considerable theoretical and empirical research has been devoted to trace the factors which tend to accelerate the inflationary pressures in a country, or help to control it. For instance, dynamic inconsistency problem of inflation presented by Kydland and Prescott (1977), and Barro and Gordon (1983), and the debate of rules versus discretionary monetary policy between Monetarists and Keynesians are the preliminary theoretical discussions carried out to understand the behavior of inflation. Recently, stronger markets and increased global integration have diverted the attention of researchers towards analyzing inflation behavior conditional on various factors such as exchange rate regimes, level of income, and trade openness. Particularly, trade openness, in this regard, has attained significant consideration.

Theoretically, there are two views explaining the link between openness and inflation. The spillover hypothesis, mainly established by the proponents of trade openness, postulates that more trade integration with the world economy leads to lower inflation. In the similar vein, the conventional view supports the spillover hypothesis stating that in open economies the cost of monetary surprise is higher due to depreciation of exchange rate, therefore, the incentive of unanticipated monetary expansion is low (Rogoff ,1985). Moreover, new growth theory portrays that inflation remains lower in small open economies as openness spurs economic growth through promoting competition and optimal allocation of resources. Trade openness fosters competition in domestic markets and diminishes the pricing power of the firms, thus reducing inflation. In addition, monetary policy is expected to be more prudent and less inflationary in the presence of stronger market competition. Furthermore, trade expansion increases country's production possibilities,

consequently, the efficient production level is higher in open economies and accordingly inflation will be low (Binici *et al.*, 2012).

Conversely, the cost-push hypothesis proposed by the opponents of trade openness maintains that trade liberalisation increases inflation. This arises because of some degree of monopoly power enjoyed by monetary authorities in the international market due to some degree of inelasticity of demand for domestically produced goods from foreign consumers (Evans, 2007). Moreover, open economies are also expected to import inflation from foreign countries through imports of goods and services (Lotfalipour et al., 2013). Most importantly, it is argued that trade openness reduces monetary policy effectiveness, particularly, in controlling inflation.

Following the theoretical underpinnings, a large body of empirical research is devoted to empirically evaluate the impact of trade openness on inflation. The pioneering empirical assessment established by Romer (1993) explains that unanticipated monetary expansion leads to depreciation in real exchange rate, thus causes more harm in an open economy compared to a closed economy. This reduces the incentive of the monetary authorities to undertake expansionary monetary policies. Through this mechanism, open economies are expected to have lower inflation rate. The negative link between trade openness and inflation is further explored and supported by various studies such as Lane (1997), Sachsida et al., (2003), Kim and Beladi (2005), Gruben and McLeod (2004), Samimi et al., (2012), Wynne and Kersting (2007), Badinger (2009), Lin (2010), Joshi and Acharya (2010), Kim et al., (2012), Haq and Zhu (2016), Bowdler and Malik (2017), Lin, Mei, Wang and Yao (2017), and Jedidia et al. (2019). These studies contend that trade openness influences inflation through various channels such as improved efficiency, reduced cost of production, better allocation of resources, higher domestic and foreign investment and increased output growth.

On the other hand, studies by Evans (2007), Terra (1998), Rajagopal (2007), Cooke (2010), Ghanem (2010), Samimi et al., (2012), Thomas (2012), Neeraj et al., (2014), Watson (2016), Zombe et al. (2017), and Sahu and Sharma (2018) refute Romer's (1993) hypothesis and substantiate positive association between inflation and trade openness. These studies maintain that trade openness leads to higher inflation. More

recently, the studies attempt to scrutinize the existence of asymmetries between trade openness and inflation. For instance, Ajaz, Nain and Kamaiah (2016) assert an asymmetric relationship between openness and inflation in India. Jedidia et al. (2019) state that it is important to identify threshold level of trade openness in order to assess asymmetries between inflation and openness. All this clearly suggests that trade openness does matter for inflation, nonetheless, the impact of the former on the latter is ambiguous.

Pakistan started its journey towards trade liberalization in the 1980s. Over time, a number of trade related reforms such as reduction in tariffs and quantitative restriction on trade along with abandonment of fixed exchange rate regime have been introduced in the economy. This is reflected in a persistent increase in trade to gross domestic product (GDP) ratio for the country, implying an increasing integration with the world economy. Inflation was not a serious problem until the end of 1960s, it remained in single digit and peaked at 9% in 1966-7 after the war with India, due to slow movement of goods across the country. In the early 1970s, however, a host of domestic and external factors including separation of East Pakistan, now Bangladesh in 1971, the sharp reversal of policies by the new government including nationalization of large manufacturing sector as well as small scale agricultural industry, the financial sector as well as the social sectors in 1972 resulted in decline in the growth performance of productive sectors of economy. Hence, the country had to experience a decline in exports and an increase in imports. This coupled with more than 100% devaluation of the currency in 1972 and sharp acceleration of oil prices in the world market particularly in 1974 and 1979 induced sharp rise in general price level. During the 1970s Pakistan adopted four Stand by or one-year non-conditional adjustment programs of the International Monetary Fund (IMF) to reform the external sector, promote growth, and control inflation with no success. In the early 1980s Pakistan devalued the currency again, the slow reversal of the policy of nationalization by the military government and a discouraging response by the private sector continued to adversely impact exports and imports, leading to sharp increase in current account deficit and the fiscal deficit stood at 8.7% of GDP in the fiscal year1987-88. After the complete failure of the Standby programs of the 1970s, Pakistan adopted the Extended Fund Facility (EFF) or the three year highly

conditional Structural Adjustment Program (SAP) of the IMF in 1988. The conditional programs which continued in the 1990s and beyond, introduced massive reforms in the manufacturing, banking, financial and foreign sectors in Pakistan (Zaidi, 2015). During the 1990s Pakistan gradually increased its pace of international integration by adopting various measures such as privatization, and liberalization of economic and financial sectors, movement towards free float exchange rate regime and lifting up controls on short term capital movement.

A journey towards the path of trade liberalization has also experienced fluctuating behaviour of inflation in the country due to a number of factors. For instance, the liberalization process expanded demand of goods and services. Easy and/ or accommodative monetary policy has been adopted to boost exports and various other fiscal measures adopted to promote trade liberalization process contributed in inflationary pressures in post liberalization process. In addition, depreciation in Pak rupee and oil price fluctuations have also major contribution in inflationary pressure in Pakistan. The relationship between inflation and trade openness remains unclear during the study period. For instance, 1970s witnessed a high inflation (10.87%) and low size of trade openness (24.06) while 1980s figures show and decrease in inflation rate (6.98%) while higher degree of trade openness (30.0%) is experienced during this time period. During 1990s, there is an increase in extent of trade openness (33.38%) along with an increase in inflation rate (9.25). The decade of 2000s indicates a very low inflation rate of 4.31% with a slight decline in the degree of (29.90%). Thus, it is not clear whether the relationship between inflation and openness is positive or negative in Pakistan. Moreover, it is also imperative to assess whether this relationship is linear or nonlinear.

The changing trends of inflation have attracted the attention of research scholars to examine the link between trade openness and inflation in Pakistan. For instance, studies by Ashra (2002), Gruben and Mcleod (2004) and Kim and Beladi (2004) based on panel data framework have concluded a negative and symmetric relationship between the two. Similarly, the time series results provided by Hanif and Batool (2006), and Mukhtar (2010) show that openness reduces inflation in Pakistan. In contrast, time series analyses conducted by Munir and Kiani (2011) and Zakaria (2011) document a positive association of

openness with inflation. Though there is considerable amount of research work available on linking the trade openness with inflation, however, all these studies have examined linear association between openness and inflation for Pakistan.

In view of the inconclusive evidence from the existing literature looking at the symmetry in inflation and openness, the present study aims to reassess inflation-trade openness nexus considering asymmetric aspect in this relationship in the context of Pakistan. In other words, the objective of the study is to examine whether the effects of trade openness on inflation are symmetric or whether increase in openness affects inflation differently than the reduction in the level of openness. Since the main focus of this study is on investigating asymmetric relationship between inflation and trade openness in a small open developing economy, it will make a vital addition to the relevant stock of literature on Pakistan.

The rest of the study is structured as follows: section II outlines a model of inflation and trade openness nexus along with data and econometric technique used to estimate the model; analysis of the results are reported in section III; and finally section IV concludes the study.

# **II. ANALYTICAL FRAMEWORK**

# THE MODEL

This study seeks to examine the dynamic association between trade openness and inflation for Pakistan's economy allowing for asymmetry in this association. Inflation is a complex phenomenon and it is not possible to identify and incorporate all the determinants of inflation in a single model. The standard practice is to work with a single equation model treating inflation rate as dependent variable while trade openness and some other important variables are taken as explanatory variables. Following Romer (1993), Yiheyis (2013), Jedidia et al. (2019), among others, the model adopted in this study is given by equation (1) as:

$$CPI = f(TROP, GDPGR, M 2, EER, REM)$$
(1)

where, *CPI*, *TROP*, *GDPG*, *M* 2, *EER* and *REM* represent consumer price index, trade openness, growth rate of GDP, the broadly defined

money supply, nominal effective exchange rate and foreign remittances respectively. The econometric specification of equation (1) can be written as:

$$LCPI _{i} = \beta_{0} + \beta_{1}TROP _{i} + \beta_{2}GDPGR _{i} + \beta_{3}LM _{2}$$

$$+ \beta_{4}LEER _{i} + \beta_{5}REM _{i} + u_{i}$$
(2)

where, all variables are logarithmic except trade openness, growth rate of GDP, and foreign remittances. LCPI is used as a measure of inflation. TROP measures trade openness. As Romer (1993) proposes that open economies experience low inflation as the incentive of monetary surprise is low in open economies thus portraying an important link between the two. GDPGR is measure of economic activity. As explained by Romer (1993), GDP can influence inflation through various channels. For instance, higher GDP leads to higher supply of goods which will reduce the prices. Following Zakaria (2011) and Mukhtar (2010), M 2 indicates the stance of monetary policy because in the long run monetary policy decisions determine the extent of inflation in a country. An expansionary monetary policy induces inflationary pressures and vice versa. Moreover, Quantity Theory of Money (QTM) by Cambridge Approach and Freidman restatement of QTM explain the direct effect of money supply on prices. The impact of exchange rate on domestic prices is advocated by currency pass through affect. An increase in *EER* leads to expensive imports which will increase domestic prices, termed as imported inflation (Mukhtar, 2010; Jedidia et al., 2019; Ajaz et al., 2016). The impact of remittances depends on how this source of external finance is utilized. Remittances tend to induces variations in price behavior by affecting the purchasing power of a country, increasing foreign exchange reserves, and also by appreciating the exchange rate (Iqbal et al., 2019).

We expect that:

 $\beta_1 < 0$  ,  $\beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 > 0$  .

# DATA AND ECONOMETRIC METHODOLOGY

The dataset consists of annual time series observations from 1972 to 2016 for Pakistan. Inflation rate has been proxied by CPI. To keep inflation within some specified limit is the principal objective of

monetary policy in Pakistan. In this regard, the State Bank of Pakistan (SBP) announces a target for inflation rate. Since long time series data for various measures of openness is hard to acquire (Ashra, 2002), therefore, trade openness is generally defined as total trade (imports + exports) as percent of GDP which indicates the overall openness of the Pakistan's economy. Data for CPI, imports, exports, money supply, nominal effective exchange rate and GDP are accessed from the IMF's International Financial Statistics (IFS) while GDPGR and foreign remittances (as percent of GDP) data are obtained from World Development Indicators (WDIs) published by the World Bank

For estimation purposes the study has employed the nonlinear autoregressive distributed lag (NARDL) technique developed by Shin et al. (2014) which is basically an asymmetric version of the renowned linear ARDL model of Pesaran et al. (2001). The NARDL technique accommodates short run and long run asymmetries (or nonlinearities) by taking partial sum decomposition of explanatory variable(s). This technique is also equally applicable in a situation when the regressors do not have same order of integration i.e., it can be employed when the underlying regressors are I(0), I(1) or an amalgamation of both. To get an expression for asymmetric association between inflation and trade openness we begin with the linear ARDL model as:

$$\Delta LCPI_{t} = \alpha_{0} + \alpha_{1}LCPI_{t-1} + \alpha_{2}TROP_{t-1} + \alpha_{3}LM_{2_{t-1}} + \alpha_{4}GDPGR_{t-1} + \alpha_{4}GDPGR_{t-1} + \alpha_{5}LEER_{t-1} + \alpha_{6}REM_{t-1} + \sum_{i=1}^{p-1}\gamma_{1}\Delta LCPI_{t-i} + \sum_{i=0}^{q-1}\gamma_{2}\Delta TROP_{t-i} + \sum_{i=0}^{q-1}\gamma_{3}\Delta LM_{2_{t-i}} + \sum_{i=0}^{q-1}\gamma_{4}\Delta GDPGR_{t-i} + \sum_{i=0}^{q-1}\gamma_{5}\Delta LEER_{t-i} + \sum_{i=0}^{q-1}\gamma_{6}\Delta REM_{t-i} + e_{t}$$
(3)

To convert expression (3) into asymmetric or nonlinear ARDL model first of all trade openness variable is decomposed into its positive and negative partial sums where formal and latter partial sums represent increase and decrease in trade openness, respectively. Ensuing Shin et al., (2014) the asymmetric decomposition of trade openness variable is computed as:

$$TROP_{t}^{+} = \sum_{i=1}^{t} \Delta TROP_{i}^{+} = \sum_{i=1}^{t} \max(\Delta TROP_{i}, 0); TROP_{t}^{-} = \sum_{i=1}^{t} \Delta TROP_{i}^{-} = \sum_{i=1}^{t} \min(\Delta TROP_{i}^{-}, 0)$$
(4)

Now equation (3) can be converted into the asymmetric error correction model (ECM) as follows:

$$\Delta LCPI_{t} = \alpha_{0} + \alpha_{1}LCPI_{t-1} + \alpha_{2}^{+}TROP_{t-1}^{+} + \alpha_{2}^{-}TROP_{t-1}^{-} + \alpha_{3}LM 2_{t-1} + \alpha_{4}GDPGR_{t-1} + \alpha_{5}LEER_{t-1} + \alpha_{6}REM_{t-1} + \sum_{i=1}^{p-1} \gamma_{1}\Delta LCPI_{t-i} + \sum_{i=1}^{q-1} \gamma_{1}\Delta LCPI_{t-i} + \gamma_{2}\Delta TROP_{t-1}^{-} + \gamma_{3}\Delta LM 2_{t-i} + \gamma_{4}\Delta GDPGR_{t-i} + \gamma_{5}\Delta LEER_{t-i} + \gamma_{6}\Delta REM_{t-i} + \gamma_{6}\Delta REM_{t-i}$$

$$(5)$$

where,  $\Delta$  indicates the first difference operator,  $\alpha_0$  shows drift component,  $\alpha_i$  is long run coefficients,  $\gamma_i$  represents short run coefficients with i = 1...6, and  $e_i$  is usual white noise random error term. Expression (5) can be more compactly written as:

$$\Delta LCPI_{t} = \alpha_{1}ECT_{t-1} + \sum_{i=1}^{p-1} \gamma_{1}\Delta LCPI_{t-i} + \sum_{i=1}^{q-1} \gamma_{1}\Delta LCPI_{t-i} + \sum_{i=1}^{q-1} \left\{ \gamma_{2}^{+}\Delta TROP_{t-1}^{-} + \gamma_{2}^{-}\Delta TROP_{t-1}^{-} + \gamma_{3}\Delta LM_{2}_{t-i} + \gamma_{4}\Delta GDPGR_{t-i} \right\} + e_{t}$$
(6)
$$\left\{ + \gamma_{5}\Delta LEER_{t-i} + \gamma_{6}\Delta REM_{t-i} \right\}$$

where,  

$$\begin{array}{l}
ECT_{i} = LCPI_{i} - \delta_{1}^{+}TROP_{i}^{+} - \delta_{1}^{-}TROP_{i}^{-} - \delta_{2}LM_{2} - \delta_{3}GDPGR_{i} - \delta_{4}LEER_{i} - \delta_{5}REM_{i}
\end{array}$$

is the nonlinear error correction term and  

$$\delta_1^+ = \frac{\alpha_2^+}{\alpha_1}, \delta_1^- = \frac{\alpha_2^-}{\alpha_1}, \delta_2^- = \frac{\alpha_3}{\alpha_1}, \delta_3^- = \frac{\alpha_4}{\alpha_1}, \delta_4^- = \frac{\alpha_5}{\alpha_1}, \delta_5^- = \frac{\alpha_6}{\alpha_1}$$
 are the

associated asymmetric long run parameters. Two important issues are set for asymmetric analysis of inflation and trade openness association using the nonlinear ARDL technique. Firstly, to check for existence or nonexistence of cointegration between inflation and all explanatory variables of model (1), the null hypothesis of no cointegration i.e.  $\alpha_1 = \alpha_2^+ = \alpha_2^- = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = 0$  is tested by using lower and upper bounds critical values of F-test statistic as provided by Pesaran et al. (2001). Rejection of null hypothesis indicates presence of long run relationship between inflation and trade openness along with other explanatory variables given in model (5). Secondly, the standard Wald test is applied to test symmetric long run and symmetric short run relationships between inflation and trade openness to the null hypotheses  $\alpha_2^+ = \alpha_2^-$  and  $\gamma_2^+ = \gamma_2^-$  respectively.

# **III. RESULTS AND DISCUSSION**

Before running the asymmetric cointegration test between inflation and trade openness, it is pertinent to test the stationarity properties to ensure that none of the selected variable is integrated of order two i.e., I(2). To this end, we have applied the widely used Augmented Dickey-Fuller (ADF) unit root test and the results are displayed in Table 1. Inflation, money supply, nominal effective exchange rate and foreign remittances are non-stationary (contain a unit root) at level, nonetheless, these become stationary at the first difference. Trade openness and economic growth are found to be stationary at level. As the regressors of the model (2) are a mixture of I(0) and I(1) while none of them is I(2), we can conveniently proceed to test for the asymmetric long run association between inflation and trade openness in Pakistan.

| TABLE | 1 |
|-------|---|
|-------|---|

Estimates of Unit Root Test

| Variable | Level  | First Diff | Test Critical Value (at 5%<br>Significance Level) | Decision |
|----------|--------|------------|---------------------------------------------------|----------|
| LCPI     | -0.534 | -3.226     | -2.933                                            | I(1)     |
| TROP     | -2.999 | -          | -2.933                                            | I(0)     |
| GDPG     | -4.971 | -          | -2.933                                            | I(0)     |
| LM2      | -2.019 | -4.890     | -2.933                                            | I(1)     |
| LEER     | -0.431 | -7.231     | -2.933                                            | I(1)     |
| REM      | -1.009 | -4.344     | -2.933                                            | I(1)     |

The NARDL technique begins by distinguishing between positive and negative components of trade openness variable. Figure 1 portrays the overall trade openness along with its positive and negative components

#### FIGURE 1

Overall Trade Openness (a) its positive (b) and negative (c) components









As a first important step pertaining to the determination of the cointegrating relationship between inflation and all the selected explanatory variables including positive and negative components of trade openness variable given in model (5), we have tested the following null hypothesis of no cointegration:  $\alpha_1 = \alpha_2^+ = \alpha_3^- = \alpha_3 = \alpha_4 = \alpha_5 = \alpha_6 = 0$ 

We reject the null hypothesis of no cointegration at 1% level of significance as the F-test statistic for the joint significance of the parameters of the lagged level variables is11.422 which surpasses the upper bound value at 1% level (Table 2).

# TABLE 2

#### Estimates of F Test (Bound Test)

| Test Statistic | Value            | df      |
|----------------|------------------|---------|
| F-stat         | 11.422<br>(0.00) | (7, 24) |

Next, existence of the long run asymmetric association between inflation and trade openness is determined by the Wald test (Table 3).

#### TABLE 3

# Long Run Asymmetry (Wald Test)

| Test Statistic | Value   | Df |
|----------------|---------|----|
| Chi Square     | 0.086   | 1  |
|                | (0.769) |    |

The results displayed in Table 3 indicate that we fail to reject the null hypothesis of a long run symmetric association between inflation and trade openness in Pakistan. Hence, it can safely be stated that the positive and negative components of trade openness have exerted similar influence on inflation in Pakistan during the selected time period. This finding supports the use of linear ARDL model for analysing cointegration between inflation and trade openness in Pakistan. It also implies that taking into account long run non-linearity lacks any merit while investigating the relationship between inflation and trade openness in the context of Pakistan.

#### TABLE 4

#### Long Run Parameter Estimates

| Dependent Variable: LCPI |             |        |  |
|--------------------------|-------------|--------|--|
| Variable                 | Coefficient | t-stat |  |
| TROP_POS                 | 0.153***    | 3.518  |  |
| TROP_NEG                 | 0.127***    | 3.214  |  |
| LM2                      | 0.571***    | 3.473  |  |
| GDPGR                    | -0.009*     | -1.946 |  |
| LEER                     | 0.680***    | 5.544  |  |
| LREM                     | 0.124***    | 6.144  |  |
| С                        | 6.235***    | 3.234  |  |
| @TREND                   | -0.149***   | -3.517 |  |

Note: \*\*\* and \* indicate significant at 1% and 10% levels respectively.

In the long run, both the positive and negative components of trade openness establish a positive relationship with inflation which indicates that inflation is increasing in trade openness irrespective of the asymmetric nature of the variable (Table 4). The extent of positive impact of both the components of trade openness on inflation are not considerably different as the estimated values of positive and negative components are 0.153 and 0.127, respectively. Hence, a positive shock to trade openness will lead to an increase in inflation while a negative shock to this variable will have a dampening effect. This finding raises serious questions about the price stability objective of the State Bank of Pakistan in the presence of the stated policy of the government of Pakistan towards more outward-orientation of the economy. This outcome can be defended if we consider the importance of oil, machinery and other manufactured goods' imports to Pakistan which have an increasing effect on price level in the country due to their price increasing trend. Overall, the finding of the study corroborates the positive relationship between inflation and trade openness as shown by Evans (2007), Terra (1998), Rajagopal (2007), Cooke (2010), Ghanem (2010), Munir and Kiani (2011), Zakaria (2011), Samimi et.al., (2012), Thomas (2012), and Neeraj et al. (2014). Hence, we fail to find the validity of Romer's proposition regarding inflation and trade openness association in the long run in Pakistan.

With regard to rest of the explanatory variables the results are in accordance with our prior expectations. Money supply, nominal effective exchange rate and foreign remittances are positively related to inflation. Over the course of time, the monetary authorities were unable to check unnecessary increases in money supply in Pakistan as successive governments refused to grant autonomy to the Central Bank. Our findings are similar to Zakaria (2011) and Iqbal et al. (2013) who also document an increase in inflation in consequence to increase in money supply. At the same time, the external sector performance remained poor; current account deficit has become a permanent feature due to declining exports and rising imports passed on to the investors as well as the consumers at highly subsidized rates, along with a persistent decline in the value of domestic currency in terms of all the major currencies of the world. Persistent rise in money supply and effective exchange rate directly contributed in generating inflationary pressures in the country. Mukhtar (2010) and Iqbal et al. (2013) have also reported an increase in domestic price level in response to an increase in real exchange rate. No doubt,

foreign remittance income is regarded as a blessing for a foreign exchange deficit country like Pakistan but excessive consumption oriented use of remittances mainly results in price hike. Same has happened in Pakistan where increase in foreign remittances brought a significant boost in consumption spending rather than in enhancing productive capacity of the economy. Consequently, the inflow of excessive money supply through remittances, unmatched by increase in domestic output leads to a positive relationship between inflation and money supply. Similar findings are reported by Iqbal et al. (2013). They also stress on the importance of channelizing the remittances towards productive investment. Finally, economic growth rate bears a negative relationship with inflation which implies that for price stability it is essential to keep economic growth performance at reasonable levels in accordance with the rise in money supply which helps in checking price hike (Bilquees, 1988; Kemal, 2006; Iqbal et al., 2013).

The short run analysis brings some conflicting outcomes as we reject the null hypothesis of short run symmetry (see middle section of Table 5). It implies an asymmetrical association between inflation and trade openness in the short run. This finding questions the application of linear error correction model for testing the inflation-trade openness nexus in Pakistan. The top section of Table 5 shows that the positive component of trade openness positively affects inflation, while its negative component appears to be an insignificant determinant of inflation in the short run.

Money supply, nominal effective exchange rate and foreign remittances are again appeared as significantly and positively influencing inflation rate in Pakistan. It implies that all these three variables play their role in determining inflation both in the short run and the long run in the country. However, economic growth performance does nothing in shaping inflation behaviour in the short run in Pakistan. Notably, the coefficient of lagged error correction term (ECT) carries a negative sign which signifies stability of long run equilibrium relationship between inflation and all the explanatory variables of model (1). The coefficient value of lagged ECT is -0.556 and it is significant at 1% level. It indicates that if the long run equilibrium between inflation and all the regressors of model (1) is disturbed, in every short run period almost 56% correction towards restoring the long run equilibrium will take place. In other words within two years any deviation from the equilibrium position

will be corrected. At the bottom of Table 5, results of four diagnostic tests are reported which clearly depict that the estimated model does not suffer from serial correction, heteroscedasticity, functional form and normality issues. These outcomes actually increase our confidence on the overall findings of the estimated model. Finally, CUSUM and CUSUM of Squares tests suggest stability of the parameter estimates of the estimated model as their plots stay within 5% level of significance (see Figure 2).

| Dependent Variable: LCPI        |             |                               |  |
|---------------------------------|-------------|-------------------------------|--|
| Variable                        | Coefficient | t-stat                        |  |
| D(TROP_POS)                     | 0.066**     | 2.215                         |  |
| D(TROP_NEG)                     | -0.002***   | -0.593                        |  |
| D(TROP_NEG(-1))                 | -0.009      | -0.448                        |  |
| D(LM2)                          | 0.317***    | 3.058                         |  |
| D(GDPGR)                        | -0.003      | -1.609                        |  |
| D(LEER)                         | 0.248***    | 3.015                         |  |
| D(LEER(-1))                     | 0.138       | 1.580                         |  |
| D(LREM)                         | 0.032***    | 3.872                         |  |
| D(@TREND())                     | -0.038***   | -5.746                        |  |
| ECT(-1)                         | -0.559***   | -4.714                        |  |
| Short Run Asymmetry (Wald Test) |             |                               |  |
| Test Statistic                  | Value       | Df                            |  |
| Chi Square                      | 19.786      | 1                             |  |
| (p value)                       | (0.000)     |                               |  |
| Diagnostic Tests                |             |                               |  |
| $\chi_{sc}^2 = 0.784(0.521)$    |             | $\chi_{H}^{2} = 0.955(0.387)$ |  |
| $\chi^{2}_{FF} = 0.622(0.603)$  |             | $\chi_N^2 = 3.525(0.183)$     |  |

TABLE 5

Short Run Asymmetry and Asymmetric Error Correction Model

Note: \*\*\* and \*\* indicate significant at 1% and 5% levels respectively.  $\chi_{SC}^2$ ,  $\chi_{H}^2$ ,  $\chi_{FF}^2$  and  $\chi_{N}^2$  denote LM test for serial correlation, heteroscedasticity, functional form and normality respectively. The associated p values are in parentheses



# FIGURE 2 Plots of CUSUM and CUSUMSQ

# **IV. SUMMARY AND CONCLUSIONS**

Since Romer's (1993) seminal work the researchers have failed to get a decisive answer about the nature of relationship between inflation

and trade openness. Consequently, this issue continues to attract the attention of researchers to reassess inflation-trade openness nexus for a small open developing economy like Pakistan. One of the basic limitations of the existing body of literature on inflation and trade openness is treating inflation as a linear function of trade openness without any economic or econometric reasoning. The development of nonlinear ARDL technique by Shin et.al. (2014) paved the way for empirically investigating inflation and trade openness association within a nonlinear or asymmetric framework. This technique is capable of simultaneously testing the short run and the long run nonlinearities through positive and negative partial sum decompositions of trade openness variable.

Since in the 1980s, Pakistan's economy started to steadily integrate with the world economy which has increased the possibilities of external shocks to shape price behaviour in the country. The present study has attempted to reinvestigate the inflation-trade openness nexus for the period 1972 to 2016 using the nonlinear ARDL model in Pakistan. The findings of the study indicate that in the long run inflation and trade openness form linear or symmetric relationship while their association is nonlinear or asymmetric in the short run in Pakistan. Furthermore, the link between inflation and trade openness has emerged to be positive both in the short run and the long run which obviously illustrates that increasing integration with the world economy brings inflationary pressure in the country. Hence, Romer's assertion that trade openness tends to restrain inflation has turned out to be inconsistent with Pakistan's data. Money supply, nominal effective exchange rate and foreign remittances are significantly associated with inflation both in the short run and the long run, whereas, economic growth rate adversely impacts inflation only in the long run while it does not influence inflation in the short run. As greater openness to trade is associated with possible soaring of inflation, it reinforces the fear that trade liberalization will increase macroeconomic instability in Pakistan. Therefore, it is imperative to adopt effective and well integrated fiscal, monetary and trade policies in the country so that price stability can be achieved and maintained without compromising the degree of trade liberalization.

# REFERENCES

- Ajaz, T., Nain, M. Z., and Kamaiah, B. (2016). Inflation and openness in India: an asymmetric approach. Macroeconomics and Finance in Emerging Market Economies, 9(2): 190-203.
- Ashra, S. (2002). Inflation and Openness: A Case Study of Selected Developing Economies. Working Paper 84, Indian Council of Research on International Economic Relations (ICRIER).
- Badinger, H. (2009). Globalization, the output–inflation trade off and inflation. European Economic Review, 53(8): 888-907.
- Barro, R. J. and Gordon, D. B. (1983). Rules, Discretion and Reputation in a Model of Monetary Policy. Journal of Monetary Economics, 12 (1): 101-121.
- Bilquees, F. (1988). Inflation in Pakistan: Empirical Evidence on the Monetarist and Structuralist Hypothesis. The Pakistan Development Review, 27(2):109–130.
- Binici, M., Cheung, Y. W., and Lai, K. S. (2012). Trade openness, market competition, and inflation: Some sectoral evidence from OECD countries. International Journal of Finance & Economics, 17(4): 321-336.
- Bowdler, C., and Malik, A. (2017). Openness and inflation volatility: Panel data evidence. The North American Journal of Economics and Finance, 41(2016), 57-69.
- Cooke, D. (2010).Openness and Inflation. Journal of Money, Credit and Banking, 42(2–3): 267–287.
- Evans, R.W. (2007). Is Openness Inflationary? Imperfect Competition and Monetary Market Power. Working Paper No. 1, Federal Reserve Bank of Dallas.
- Ghanem, D. (2010). Inflation and Exchange Rate Regimes: Evidence from MENA Countries, Paper presented at the 14th Annual Conference on Macroeconomic Analysis and International Finance, Crete, Greece. May 27-29.
- Gruben, W.C., and McLeod, D. (2004). The Openness-Inflation Puzzle Revisited. Applied Economics Letters, 11(8): 465-468.
- Hanif, M.N., and Batool,I. (2006). Openness and Inflation: A Case Study of Pakistan, MPRA Paper No. 10214.

- Haq, I and Zhu, S. (2016).Does Proxy of Openness or Methodology Matter to Hold Romer's Hypothesis?. International Journal of Economics, Commerce and Management, 4(1): 1-12.
- Iqbal, J., Nosheen, M., and Javed, A. (2013). The Nexus between Foreign Remittances and Inflation: Evidence from Pakistan. Pakistan Journal of Social Sciences (PJSS), 33(2):331-342.
- Joshi, A. R., and Acharya, D. (2010). Inflation and trade openness: Empirical investigation for India. IUP Journal of Monetary Economics, 8(1/2):113-127.
- Jedidia, K. B., Dammak, T. B., and Kamel, H. (2019). Trade-threshold Effect on Inflation in Tunisia: New Evidence Resulting from a Nonlinear Approach. International Economic Journal, 33(1): 149-169.
- Kemal, M.A. (2006). Is Inflation in Pakistan a Monetary Phenomenon?. The Pakistan Development Review, 45(2):213-220.
- Kim, M., and Beladi, H. (2005). Is Free Trade Deflationary?. Economic Letters, 89(3):343-349.
- Kim, Y. K., Lin, S. C., and Suen, Y. B. (2012). The Simultaneous Evolution of Economic Growth, Financial Development, and Trade Openness. The Journal of International Trade and Economic Development, 21(4): 513-537.
- Kydland, F. E.and Prescott, E. C. (1977). Rules Rather than Discretion: The Inconsistency of Optimal Plans. The Journal of Political Economy, 85(3): 473-492.
- Lane, P. R. (1997). Inflation in open economies. Journal of International Economics, 42(3-4): 327-347.
- Lin, F., Mei, D., Wang, H., and Yao, X. (2017). Romer was right on openness and inflation: Evidence from Sub-Saharan Africa. Journal of applied economics, 20(1): 121-140.
- Lin, Yi-Hsin (2010). Openness and Inflation Revisited. International Research Journal of Finance and Economics, 37(2010):40-47
- Lotfalipour, R., M. Montazeri, S. and Seidghi, S. (2013). Trade Openness and Inflation. Evidence from MENA Region Countries. Economic Insights-Trends and Challenges, 65(2): 1-11
- Mukhtar, T. (2010). Does Trade Openness reduce Inflation?. Empirical Evidence from Pakistan. The Lahore Journal of Economics, 15(2): 35–50.

- Munir, S. and Kiani, A. K. (2011). Relationship between Trade Openness and Inflation: Empirical Evidences from Pakistan. The Pakistan Development Review, 50 (4): 853–876.
- Neeraj, K., Kapoor, V., and Poddar, S. (2014). Openness and Inflation: Empirical Evidence from India. Journal of Business Management and Social Sciences Research, 3(9): 49–53.
- Pesaran, M.H., Shin, Y., and Smith, R.J. (2001). Bounds Testing Approaches to the Analysis of Level Relationships. Journal of Applied Econometrics, 16(3):289–326.
- Rajagopal, D. (2007). Trade Openness and Economic Growth in Latin American Countries, Working Paper No. 2007-MKT-05, Department of Marketing, Business Division, Monetary Institute of Technology and Higher Education, ITESM, Mexico City, Mexico.
- Rogoff, K. (1985). The optimal degree of commitment to an intermediate monetary target. The quarterly journal of economics, 100(4):1169-1189.
- Romer D. (1993). Openness and Inflation: Theory and Evidence. Quarterly Journal of Economics, 108(4):869-903.
- Sachsida, A., Galrao, F., and Loureiro, P.R.A. (2003). Does Greater Trade Openness Reduce Inflation? Further Evidence Using Panel Data Techniques. Economic Letters 81(3):315-319.
- Sahu, P., and Sharma, N. K. (2018). Impact of Trade Openness on Inflation in India: An Autoregressive Distributed Lag (ARDL) Approach. The Empirical Economics Letters, 17(1):1-12.
- Samimi, A.J., Ghaderi, S., Hosseinzadeh, R., and Nademi, Y. (2012). Openness and Inflation: New Empirical Panel Data Evidence. Economics Letters, 117(3):573–577.
- Shin, Y., Yu, B. and Greenwood-Nimmo, M. (2014). Modeling Asymmetric Cointegration and Dynamic Multipliers in a Nonlinear ARDL Framework, In W.C. Horrace and R.C. Sickles, ed., Festschrift in Honor of Peter Schmidt: Econometric Methods and Applications, New York: Springer Science & Business Media, pp. 281-314.
- Terra, C.T. (1998). Openness and Inflation: A New Assessment. Quarterly Journal of Economics, 113(2): 641-648.
- Thomas, C. (2012). Trade Openness and Inflation: Panel Data Evidence for the Caribbean. International Business and Economics Research Journal,11(5):507-516.

- Watson, A. (2016). Trade openness and inflation: The role of real and nominal price rigidities. Journal of International Money and Finance, 64:137-169.
- Wynne, M., and Kersting. E. (2007). Openness and Inflation. Federal Reserve Bank of Dallas Staff Papers No 2.
- Zaidi,S.A.(2015). Issues in Pakistan's Economy, 3rd ed. Karachi: Oxford University Press.
- Zakaria, M. (2011). Openness and Inflation: Evidence from Time Series Data. Doğuş Üniversitesi Dergisi, 11(2):313–322.
- Zombe, C., Daka, L., Phiri, C., Kaonga, O., Chibwe, F., and Seshamani, V. (2017). Investigating the causal relationship between inflation and trade openness using toda–yamamoto approach: evidence from Zambia. Mediterranean Journal of Social Sciences, 8(6), 171-182.

Pakistan Economic and Social Review Volume 57, No. 1 (Summer 2019), pp. 69-92

# EXPLORING THE INCIDENCE AND CORRELATES OF RURAL POVERTY IN PAKISTAN

## SOBIA KHURRAM AND MAHMOOD UL HASSAN \*

**Abstract**. The study seeks to measure incidence of poverty and explore correlates of rural poverty in district Bhakkar - Pakistan. The study employed the Foster-Greer-Thorbecke (FGT) class of decomposable poverty measure as an analytical tool to decompose poverty against various household groups and their characteristics. Analysis of data collected from 300 households showed that household size, dependency ratio, gender, age and educational attainments of household head, female-male ratio, participation rate, landholding size and ownership of livestock and physical assets were found to be correlated with the household poverty status. Poverty headcount, gap and severity indices in the area worked out to be 64%, 31% and 19% respectively. The results were consistent with findings of the literature. The study suggests investment on socio-economic conditions as a remedy to reduce poverty.

**Keywords**: Poverty, Poverty Line, Foster-Greer-Thorbecke (FGT) indices, Correlates of poverty

<sup>\*</sup>The authors are respectively Assistant Professor at Institute of Administrative Sciences, University of the Punjab and Monitoring and Evaluation Specialist at Punjab Skills Development Project, Govt. of Punjab Lahore-Pakistan. Corresponding author's e-mail: sobia.ias@pu.edu.pk

# I. INTRODUCTION

## THEORETICAL AND PRACTICAL RELEVANCE

Poverty remains one of the most daunting challenges Pakistan has been facing since its inception in 1947, having bearings on the socio-economic development of the country. Over time Pakistan has adopted various development models and strategies to tackle poverty, but the threat still looms large. Estimates depict 29.5% of the population living below the poverty line (Pakistan Economic Survey, 2015-16). Given the population estimate of 186.2 million for 2013-14, it implies that 55 million people in Pakistan live below the poverty line. The situation is worst for the rural areas with 35.6% of the population living under poverty line. Pakistan Multidimensional Poverty Index for 2016 measures an overall poverty headcount as 38.8% with 54.6% of total population in rural areas living below the poverty line. This shows the enormity of the challenge and need for informed policy measures to effectively control poverty.

Pakistan implemented various development models to spur economic growth and reduce poverty. Haq (1976), for example, noted that emphasis during 1948-55 was on import substitution industries, 1960-65 witnessed a shift to export expansion, in 1966-67 focus was shifted towards industry from agriculture, population control policies remained dominated during 1967-68 and during 1971-75 GNP growth model was replaced by growth with re-distribution, aiming to share the benefits of growth with the masses. The decades of 1980s and 1990s were dominated by Structural Adjustment Programme (SAP), emphasizing on deregulation of economy and privatization of state owned enterprises. First decade of twenty first century witnessed the emergence of Poverty Reduction Strategy Papers (PRSPs). The development strategy for 2015-30 has been ushered in the form of Sustainable Development Goals (SDGs), with poverty alleviation being at the top.

The literature, however, suggests that none of the development models succeeded in bringing the number of poor down. For example, 1960s witnessed tremendous increase in agriculture, but the index of rural poverty rose from 42% in 1963-64 to 55% in 1969-70 (Irfan & Amjad, 1984). The decrease in rural poverty index during seventies was largely owed to the remittances sent by the expatriates. Kemal and Naseem (1994) noticed negative effects of SAP for employment, poverty and
governance. The poverty headcount ratio of 24% in 1987-88 rose to 30% in 1998-99 (Naseem, 2012). There was also ample evidence suggesting rise in the poverty during the 1990s period (Amjad & Kemal, 1997; Ali & Tahir, 1999; Jafri, 1999; Arif, 2000). The World Bank (2010) estimated that poverty headcount remained between 34.5% to 17.2% from 2001-02 to 2007-2008. The decrease in poverty was taken with a grain of salt, leading to revision of official poverty line in 2012, and poverty headcount was estimated as 29.5 % in 2015. Gable, Lofgren and Osorio (2015) argued that, if maintaining the current pace of GNI growth, the projected incidence of poverty in the year 2030 in Pakistan would be 6%. The prevalence and continuation of the poverty concept remains a challenge for both academia and policy makers. It calls for identification of factors associated with poverty and devise an indigenous strategy to take on the challenge.

Besides its local context, prevalence of poverty has a global spectrum. World Bank (2016) noted that across globe as many as 900 million people were obliged to live in extreme poverty. In South Asia, in Bangladesh 39.6 million (24.3%), in Bhutan 0.06 million (8.2%), in India 273 million (21.9%), in Nepal 6.8 million (25.2%), in Pakistan 46 million (24.3%) and in Sri Lanka 0.847 million (4.1%) people are languishing below national poverty lines<sup>1</sup>. Responding to policy interventions, poverty keeps on shifting its center of gravity across regions. In 1981, China was the center of gravity and in 1990 it was shifted to India, gradually shifting across Arabian Peninsula. In 2015, it was noted that center of gravity of poverty was shifted to African continent. Projected estimates indicate that currently the center of gravity is in South Sudan, a country beleaguered by fragility and high poverty rates<sup>2</sup>. Given its global dimension, poverty measurement and reduction has been the focus of development strategy at global level for last at least three decades. For example, erstwhile Millennium Development Goals (MDGs) and its successor Sustainable Development Goals (SDGs). sustainable development agenda 2030 of United Nations declare poverty alleviation as a goal number one to be achieved by the global community through

<sup>&</sup>lt;sup>1</sup> https://databank.worldbank.org/data/download/poverty/33EF03BB-9722-4AE2-ABC7 AA2972D68AFE/ global\_POVEQ\_SAR.pdf (Retrieved on 03 March 2019)

<sup>&</sup>lt;sup>2</sup> http://blogs.worldbank.org/developmenttalk/shifting-gravity-global-poverty (Retrieved on 03 March 2019)

contextually focused and global outlook policies and programs. Similarly, Poverty Reduction Strategy Papers (PRSPs) of International Monitory Fund (IMF) and Global Poverty Monitoring Reports of World Bank all provide a strong testimony to the fact that combating poverty has acquired the central stage in the development policy at local and global level. It has also been noted that studies conducted to understand various dimensions and correlates of poverty, at national and international level, suggest that factors such as landholding size, dependency ratio, household size and educational attainments of the households proved to have significant relationship with poverty status of rural households.

It is worth taking note that most of poverty studies conducted in Pakistan are based on secondary data collected through Household Integrated Economic Surveys (HIES) carried out by Pakistan Bureau of Statistics. HIES approach limited number of households, for example, HIES 2015-16 targeted covers 24,238 households across country<sup>3</sup>. The small sample size, therefore, put limits on generalizability of findings of poverty studies carried out on the bases of data collected through HIES. It has also been noticed there is a dearth of studies conducted on rural poverty by focusing on Union Council and village level households. The present study is different from previous studies in that it is based on primary data collected directly from rural households in the study areas. The study follows a systematic sampling design covering two tehsils and all three topographic areas of district Bhakkar. The study is also novel in the sense that it measures incidence of poverty and decomposes it across household characteristics and studies correlates of rural poverty using FGT Indices. Measuring indices of rural poverty by using primary household data is rare in previous studies. The present studies, therefore, carries features that distinguishes it from studies already conducted in Pakistan in gauging the breadth and depth of rural poverty. The study has limitation in that, owing to paucity of time and resources, it has been restricted to 300 households in district Bhakkar alone. It may have implications in relation to generalizability of study. However, the study

<sup>&</sup>lt;sup>3</sup> http://www.pbs.gov.pk/content/household-integrated-economic-survey-hies-2015-16 (Retrieved on 12 March 2019)

expected to have greater generalizability to areas of Pakistan having similar socio-economic and demographic characteristics.

## **II. REVIEW OF LITERATURE**

The literature on poverty is divided into two major strands (Aikaeli, 2010). While the first strand claims poverty to be a cultural or behavioral incident, the second strand views poverty under the light of structural or The first strand aligns itself to the classical economic paradigm. economic theory and defines poverty as a consequence of an individual's failure to make rational choices. This seems probably derived from the eugenics movement of 19th century whereby the genetic makeup determines the status of an individual in the society (Gordon, 2003). It is held that dysfunctional values of the poor are responsible for their poverty. The standpoint is, however, criticized on the ground that it highlights the symptoms, not the causes of poverty. The structural debate draws on neoclassical (Liberal/Keynesian) economic theory, which highlights the role of market externalities and individual differences such as potential, skills and resources across individuals determining their status in the society. The approach acknowledges inequality of economic opportunities and location disadvantages significantly affecting income levels of individuals. Put simply, the poverty level of an individual cannot only be attributed to their individual characteristics, without taking into account location's socio-economic characteristics (Holzer, 1991). The level of median income, availability and access to economic opportunities and inequality have also been identified as important factors underlining incidence of poverty (Keynes, 1936; Ellwood & Summers, 1985; Abramovitz, 1996).

This study locates itself in structural paradigm and holds that the social, economic and demographic characteristics have bearing on the income (or welfare) level of the households. There is a considerable number of studies, at national and international level, related to structural strand of poverty. Shirazi (1995) deduced that both educational level of a household's head and rate of participation of a household were negatively related to household poverty, while household size was positively correlated to the household's poverty status. A.A. Hashmi, Sial, M.H. Hashmi and Anwar (2008) suggested that factors such as education of a household's head, ownership of livestock, household size, dependency

ratio, landholding size, and ownership of physical assets had a strong impact towards determining the poverty status of a household. Arif and Farooq (2012) undertook multivariate analysis of the panel datasets and revealed that household size and dependency ratio were found to have significant positive relationship with protracted poverty, while, factors exhibiting negative relationship with chronic poverty included ownership of land and livestock, housing structure and availability of room. Khan, Rehman and Haq (2015) concluded that, among others, household size, female-male ratio and participation rate turned out to be the significant factors associated with the rural poverty. Akhtar et al. (2015) utilized the Household Integrated Economic Survey datasets to estimate the headcount ratio, poverty gap and squared poverty gap of rural poverty.

The view point that socio-economic conditions and household composition play an important role towards determining the poverty status of households has also been supported by international literature on developing countries. Datt and Jolliffe (1999) found that level of education, participation rate, household size, child dependency ratio and old age of head of a household were among the determinants of poverty in Egypt. Bogale, Hagedom and Korf (2005) noted that landholding size, education level and livestock ownership were the determinants of rural poverty in Ethiopia. T.G. Apata, O.M. Apata, Igbalajobi and Awonivi (2010) showed that factors including level of education and female headed households were among important factors associated with rural poverty in Nigeria. Aikaeli (2010) concluded that education of head of a household, participation rate; landholding size and gender of household head were among the determinants of rural poverty in Tanzania. Bahta and Haile (2013) revealed that education level, landholding size, household size and child dependency ratio were among the determinants of poverty in Eretria. Muhammadhussen (2016) also demonstrated that, among others, livestock ownership, family size and land possession were important towards calculating rural poverty in Ethiopia.

It is evident that most of the studies discussed in this section are based on secondary data collected through HIES by government agencies. Only a few are based on primary data collected by the researcher(s) directly from households in target areas. It has also been noted that focus of most of studies was on identification of household characteristics important in determining the poverty status of households using multiple linear regression model. There is also dearth of studies measuring incidence of rural poverty using primary data directly collected from sampled households. The present study was designed to fill these gaps and analyze household socio-economic and demographic features having correlation with poverty status of rural households. The study focusses on district Bhakkar and measures incidence of rural poverty using FGT Indices and then carries out bivariate analysis to identify correlates of rural poverty in district Bhakkar.

## **III. THEORETICAL FRAMEWORK**

Based upon the discussion in the literature review, following theoretical framework for the present study was drawn with poverty as dependent variable and household size, dependency ratio, gender of household head, age of household head, female – male ratio, education of head of household, participation rate, landholding size, value of livestock and value of physical assets as independent variables having impact on poverty.

FIGURE 1



## It can be seen from the above theoretical framework that relationship between independent and dependent variables is clearly supported by literature and variables used by previous studies in local as well as in comparable developing countries. There is clear evidence in the literature that suggests that economic, social and demographic characteristics of a household play important role towards determining its poverty status. The increased demographic burden increases the likelihood of a household to fall into poverty trap, while an improvement in economic status leads to a positive impact on a household's well-being. There is

enough evidence suggesting that factors associated with rural poverty are diverse and complex in nature. It is important to note that the rural areas in developing countries are generally characterized by location disadvantages, such as less than desirable availability and access towards social as well as economic infrastructure. The economic literature on poverty, therefore, clearly suggests that structural and economic realities are important towards defining the poverty status of a household. The theoretical framework of the present study grounded itself in structural paradigm of poverty theory and attempts to test the relationship between socio-economic characteristics of households and its poverty status.

## **IV. EMPIRICAL RESULTS AND DISCUSSION**

## **PROFILE OF STUDY AREA**

Bhakkar District is located in the west of the province of Punjab Pakistan. According to the Human Development Index (HDI) Report on districts of Pakistan, based on data for the year 2013, Bhakkar is ranked as "underdeveloped" district with HDI 0.48. It has four tehsils namely Mankera, Kallurkot, Bhakkar, and Darya Khan and 42 Union Councils (UCs) where Tehsil has been conceptualized as an administrative division in Pakistan whereby a city acts as an administrative center for towns and villages, whereas Union Council has been conceptualized as a third tier of Local Government in Pakistan and is headed by a chairperson along with number of elected councilors. UC can span an area of a large village also covering surrounding areas and small villages. As the census estimate of 1998 population of the district comprises 1,051,456 persons, of which 83.96% live in rural areas. Average household size in the district is 6.61 persons per household. Literacy rate is 51%, while unemployment rate has been estimated as 6.8%, with average annual growth rate of 2.72%. As per Multiple Indicator Cluster Survey (MICS) for 2007-08, 39% people in the district have been classified as underweight, out of which 12% people are facing extreme underweight conditions. Cheema, Khalid and Patnam (2008), based on MICS 2003-04 data, found out that people living below the poverty line constitute 58% of rural population in Bhakkar. Topography wise district Bhakkar can be classified in three main areas including riverain area irrigated mostly by tube wells, secondly the plain area irrigated both by tube wells and canal, and thirdly the desert area which is mainly rain fed. Agricultural produce

76

and livestock represent two main sources of income in the rural areas of Bhakkar.

## SAMPLING DESIGN

Multi-stage implicit stratified cluster sampling design was used to draw a sample of 300 households. Two tehsils namely Bhakkar and Mankera were selected at the first stage. The underlying logic was that Bhakkar tehsil represents both riverain and plain area, while Mankera tehsil represents the desert area. At second stage, three UCs, one each from riverain, plain and desert areas were selected. At the third stage, a total of twelve villages, with four from each UC, were randomly selected. At the fourth stage of sampling, 300 households with 25 from each village, were randomly selected. It is pertinent to mention here that unit of data collection was a household for this study. It is worth taking note that one of the contributions of this study lies in its sampling design. Review of existing studies on the topic in district Bhakkar hardly provide any evidence that poverty measurement and its correlates have been studied at Union Council level, that too by collecting primary data directly from households. Sample collected from three Union Councils, each representing one of three topographical areas of the district lends it more credence and representativeness of the characteristics of the poverty prevalent in the district

## **DATA COLLECTION**

Following cross-sectional survey design, 300 households were randomly selected for data collection on a multi-topic questionnaire. The questionnaire, originally designed in English language, was translated into Urdu language before initiating data collection. This translation was duly vetted by a linguistic expert. The questionnaire was divided into three main sections for collecting data on demographic, economic and social characteristics of the households sampled. In sum there were 50 questions: 13 related to demographic characteristics, 21 on economic characteristics and 16 on social characteristics of the households surveyed. The respondents were also invited to propose remedies to overcome poverty. It was ensured that respondents were heads of the sampled households. The data collection lasted total four months from April–July 2016.

### **SELECTION OF VARIABLES**

Criterion and predictor variables discussed in theoretical framework section have been identified based on previous poverty studies conducted at national and international level. The variables included in the present study have sufficient grounding in literature available on poverty measurement at national and international level.

### ANALYTICAL MODEL

The socio-economic and demographic profile of the district was developed using descriptive statistics. The absolute poverty of rural households was measured using Foster-Greer-Thorbecke (FGT) indices of poverty (Foster, Greer & Thorbecke, 1984). Following FGT expression was used in the present study to measure headcount, poverty gap and poverty squared gap/poverty severity indices:

 $P = 1 / N \sum_{i}^{N} i (z-yi/z)^{\alpha}$ 

Where N denotes the total number of households in the sample, Z denotes poverty line, yi is per capita income per month and  $\alpha$  is the parameter and its values 0, 1 and 2 gives poverty headcount, poverty gap and poverty squared gap/poverty severity indices respectively.

Also for this study the household size was adjusted by utilizing the Adult Equivalent (AE) Scale as used for Organization for Economic Cooperation and Development (OECD) countries (World Bank, 2005). Following formula was used in the present study to obtain the AE Scale:

A.E. = 1 + 0.7 (N adult - 1) + 0.5 N Children

### **POVERTY LINE**

The concept of poverty line employed in the current study assumed that poverty has a discrete characteristic that could be represented by a single measure. Officially, the poverty line of Pakistan stands at Rs. 3030 (or US\$ 28.91) per person per month (where 1 US\$ = 104.800 PKR). As per Pakistan Economic Survey 2015-16 this poverty line was determined in 2015 following the Cost of Basic Needs (CBN) approach and this same poverty line has been utilized for analyses in the present study. The dependent variable in this study represents rural income at the rate of Rs.

**78** 

3030 (or US\$ 28.91) per adult equivalent per month which was decomposed against various household characteristics and against various categories within a household.

### V. RESULTS

Descriptive analysis of the sample revealed some important socioeconomic features of rural households in Bhakkar. The results showed that average age of the head of households was 45 years with only 2% of household heads having age equal or less than 24 years. This showed that the generally held belief about early marriages in rural areas was not lent support by the results of data analysis. Also the average household size was equal to 6.5 persons per household for the sample, quite close to the average household size of 6.6 persons reported in official reports for the district<sup>4</sup>. Literacy rate of head of households was 53%; however, only 02% went on to receive education equivalent to bachelors or above. This finding was also close to the overall 56% literacy rate of the district. The mean income of households included in the sample turned out Rs. 209,824 (or US\$ 2,002.137) per household per annum. Since the household size stood at 6.5 persons per household in the sample, it meant that annual per capita income works out to be US\$ 308.021, which is significantly less than national per capita GNI of US\$ 1,440<sup>5</sup>. Average landholding size in sample was 4.21 acres per household. It showed that majority of farmers in the sample consisted of small land holders. 76% farm sizes were found between the range of 01 to 7.5 acres. This finding was in close proximity to official estimate stating that 79% private farms in Punjab ranged from 0.5 to 7.5 acres as per census of agriculture in 2010.Descriptive analysis also highlighted that Hakeems (Physician utilizing traditional remedies) provided healthcare to 42% of sample whereas doctors provided healthcare to 38% of population. In general, 70% households had access to medical facilities. Majority of sample households (94%) were satisfied with the quality of drinking water available. Access to Latrine in their own premises was available to 58% of the sample households. No proper sewerage is available in the area. Majority of the households (70%) had used baked bricks as the main

<sup>&</sup>lt;sup>4</sup>. http://www.pbs.gov.pk/ (Retrieved on June 18, 2017)

<sup>&</sup>lt;sup>5</sup>. http://data.worldbank.org/country/pakistan?view=chart (Retrieved on June 18, 2017)

construction material for the houses. Room occupancy stood at 3.3 persons per room. It is highlighted that in most of the cases, results of the present study are found to be in agreement with national statistics.

### **INCIDENCE OF POVERTY**

The incidence of poverty in the areas is measured using FGT Indices namely poverty headcount, poverty gap and poverty severity. The results of analysis are presented in the tables below.

### TABLE 1

### Incidence of Poverty

| Description    | Poverty Incidence ( $\alpha_0$ ) | Poverty Gap ( $\alpha_1$ ) | Poverty Severity (a <sub>2</sub> ) |
|----------------|----------------------------------|----------------------------|------------------------------------|
| Total Sample   | 64                               | 31                         | 19                                 |
| Tehsil Bhakkar | 61                               | 30                         | 18                                 |
| Tehsil Mankera | 70                               | 35                         | 21                                 |

The results showed that, in a sample of 300 households, comprising 2378 individuals, 64 % people were found to have been living below poverty line. The poverty headcount was in close proximity with the incidence of poverty reported in Pakistan Multidimensional Poverty Index Report for 2016, which estimates the incidence of poverty in district Bhakkar between 50% - 59.9%. Slightly higher incidence of poverty might be because the sample was drawn from rural population alone; rural poverty is usually on higher side compared to urban poverty. Poverty gap index was 31%, which signified that cash transfers equal to 31% of poverty line was required to enable the poor to escape the poverty. Poverty severity index was 19 %, which showed that income inequality among the poor was 19 percent.

Results for tehsils showed that in tehsil Bhakkar 61% people were below poverty line, poverty gap index was 30% and poverty severity index was 18%. In tehsil Mankera, 70% people were below poverty line, poverty gap index was 35% and poverty severity index turned out to be 21%. It was evident that incidence of poverty was on higher side in tehsil Mankera. This could be explained by the fact that tehsil Mankera mainly comprised desert plains and agriculture was mainly rain fed, resulting in low per acre yield, leading to low household income.

80

## **CORRELATES OF POVERTY**

In order to study its correlates, the rural poverty was decomposed by household characteristics with the help of FGT indices. The results of analysis are presented in Table 2 to Table 11.

### TABLE 2

| Household Size | Poverty Incidence ( $\alpha_0$ ) | Poverty Gap ( $\alpha_1$ ) | Poverty Severity ( $\alpha_2$ ) |
|----------------|----------------------------------|----------------------------|---------------------------------|
| 2              | 33                               | 12                         | 5                               |
| 3              | 50                               | 21                         | 10                              |
| 4              | 50                               | 19                         | 8                               |
| 5              | 62                               | 31                         | 19                              |
| 6              | 61                               | 30                         | 19                              |
| 7              | 66                               | 35                         | 22                              |
| 8              | 36                               | 18                         | 11                              |
| 9              | 70                               | 33                         | 21                              |
| 10 & above     | 77                               | 36                         | 22                              |

### Decomposition of Poverty by Household Size

The results showed that in households with 10 and above members, 77% individuals were below poverty line, poverty gap index was 36% and poverty severity index was 22%. It was evident that poverty indices were highest among the households having greater number of people. It was, therefore, justified to deduce that household size was found to have a positive relationship with poverty status of a household. Hence, it was an important correlate of rural poverty.

## TABLE 3

### Decomposition of Poverty by Dependency Ratio

| Dependency Ratio | Poverty Incidence( $\alpha_0$ ) | Poverty $Gap(\alpha_1)$ | Poverty Severity( $\alpha_2$ ) |
|------------------|---------------------------------|-------------------------|--------------------------------|
| 0.00 to 0.33     | 51                              | 21                      | 11                             |
| 0.34 to 0.67     | 65                              | 32                      | 19                             |
| 0.68 to 1        | 85                              | 55                      | 38                             |

The results suggested that increase in dependency ratio resulted in increase in poverty headcount, gap and severity indices. It was clear that dependency ratio was positively correlated with poverty status of a household. This showed that dependency ratio of a household was an important factor having bearings on the poverty status of a household.

### Decomposition of Poverty by Gender of Household Head

| Gender of<br>Household Head | Poverty Incidence ( $\alpha_0$ ) | Poverty Gap $(\alpha_1)$ | Poverty Severity ( $\alpha_2$ ) |
|-----------------------------|----------------------------------|--------------------------|---------------------------------|
| Female                      | 69                               | 33                       | 20                              |
| Male                        | 64                               | 31                       | 19                              |

The results showed that poverty incidence, gap and severity was on higher side in female headed households compared to household headed by males. The trend supported that the households having females as their heads were expected to have a greater probability of being poor. However, it may be interesting to note that difference in poverty level between female headed house and male headed households was not found to be very significant.

### TABLE 5

### Decomposition of Poverty by Age of Household Head

| Age of Household<br>Head | Poverty Incidence $(\alpha_0)$ | Poverty Gap $(\alpha_1)$ | Poverty Severity $(\alpha_2)$ |
|--------------------------|--------------------------------|--------------------------|-------------------------------|
| Up to 24                 | 55                             | 41                       | 31                            |
| 25 to 64                 | 64                             | 30                       | 17                            |
| 65 & above               | 72                             | 44                       | 31                            |

The results showed that poverty headcount, gap and severity was high in households where age of head of household was 65 years and above compared to households with heads aging between 25 to 64 years. Poverty gap and severity was also found to have been high in households with their heads aging up to 24 years compared to households with heads aging between 25 to 64 years. Results largely supported that the households having their heads within the age bracket of 25 to 64 years had a lesser probability of being poor and households having their heads  $\leq 24$  years or  $\geq 65$  years of age had a greater probability of being poor. This showed that there was relationship between age of the head of household and its poverty status.

### Decomposition of Poverty by Female – Male Ratio

| Female – Male | Poverty Incidence | Poverty Gap               | Poverty Severity  |
|---------------|-------------------|---------------------------|-------------------|
| Ratio         | $(\alpha_0)$      | ( <b>a</b> <sub>1</sub> ) | (a <sub>2</sub> ) |
| 0.00 to 0.5   | 62                | 26                        | 14                |
| 0.51 to 1.00  | 63                | 31                        | 19                |
| 1.01 to 1.5   | 70                | 36                        | 22                |

The results showed that higher female – male ratio resulted in increase in poverty headcount, poverty gap and poverty severity. This revealed a positive relationship between female – male ratio and poverty indices. The results indicated that the bigger the female-male ratio of a household, the higher the probability of its being poor.

#### TABLE 7

### Decomposition of Poverty by Education of Head of Household

| Education of<br>Level | Poverty Incidence $(\alpha_0)$ | Poverty Gap $(\alpha_1)$ | Poverty Severity $(\alpha_2)$ |
|-----------------------|--------------------------------|--------------------------|-------------------------------|
| Illiterate            | 67                             | 37                       | 23                            |
| Primary               | 65                             | 31                       | 18                            |
| Middle                | 73                             | 36                       | 22                            |
| Matriculation         | 50                             | 15                       | 07                            |
| Intermediate          | 53                             | 26                       | 14                            |
| Bachelor & above      | 53                             | 20                       | 09                            |

The results showed that poverty measures were highest among the households headed by persons having no formal education. Generally, it was observed that educational attainment of the head of a household had a negative relationship with its poverty status. The analysis supported that higher educational attainments of the head of a household resulted in decreased probability of its being poor.

### Decomposition of Poverty by Participation Rate

| Participation | Poverty Incidence | Poverty Gap       | Poverty Severity |
|---------------|-------------------|-------------------|------------------|
| Rate          | $(\alpha_0)$      | (α <sub>1</sub> ) | $(\alpha_2)$     |
| 0.00 to 0.33  | 68                | 35                | 21               |
| 0.34 to 0.67  | 62                | 29                | 17               |
| 0.68 to 1     | 55                | 25                | 14               |

The results showed that higher the participation rate, the lower the value of poverty indices. Poverty headcount, gap and severity was found to be higher among households having lower participation rate. The relationship between participation rate and poverty showed that participation rate of a household is negatively correlated with poverty status of the household.

### TABLE 9

### Decomposition of Poverty by Landholding Size

| Landholding Size (Acres) | Poverty Incidence (a0) | Poverty Gap (α1) | Poverty Severity (a <sub>2</sub> ) |
|--------------------------|------------------------|------------------|------------------------------------|
| Landless                 | 79                     | 44               | 28                                 |
| 1 to 2.5                 | 72                     | 41               | 27                                 |
| 2.6 to 5                 | 74                     | 27               | 13                                 |
| 5.1 to 7.5               | 58                     | 20               | 9                                  |
| 7.6 to 10                | 30                     | 11               | 6                                  |
| 10.1 & above             | 12                     | 6                | 3                                  |

The results showed that landless households were the group where the poverty measures were highest. The trends of poverty among landowning households depicted a negative relationship between landholding size and the poverty measures. The results showed that landholding size was an important correlate of household poverty.

### TABLE 10

## Decomposition of Poverty by Value of Livestock in PKR

| Value of Livestock<br>(in Rs.) | Poverty Incidence (a <sub>0</sub> ) | Poverty Gap (a1) | Poverty Severity (a <sub>2</sub> ) |
|--------------------------------|-------------------------------------|------------------|------------------------------------|
| Up to 150000                   | 67                                  | 37               | 24                                 |
| 151000 to 300000               | 70                                  | 33               | 19                                 |
| 301000 to 450000               | 64                                  | 27               | 15                                 |
| 451000 to 600000               | 40                                  | 6                | 1                                  |
| 601000 & above                 | 12                                  | 6                | 3                                  |

The results showed that generally the increase in monetary value of livestock resulted in decrease of poverty measures of a household. The analysis established a negative relationship between monetary value of livestock and poverty status of a household.

### TABLE 11

### Decomposition of Poverty by Value of Physical Assets in PKR

| Value of Physical | Poverty Incidence | Poverty Gap  | Poverty Severity |
|-------------------|-------------------|--------------|------------------|
| Assets            | $(\alpha_0)$      | $(\alpha_1)$ | $(\alpha_2)$     |
| Up to 150000      | 72                | 36           | 21               |
| 151000 to 300000  | 45                | 17           | 8                |
| 301000 to 450000  | 0                 | 0            | 0                |
| 451000 to 600000  | 43                | 16           | 7                |
| 601000 & above    | 5                 | 0.06         | 0.007            |

The results showed a trend that higher the monetary value of physical assets of a household, the lower the poverty measures. This revealed a negative relationship between value of physical assets of a household and its poverty status.

## **VI. DISCUSSION**

Results of descriptive analysis revealed that most of the socio-economic characteristics of households included in the sample were in close proximity with those of reported in national statistics (such as Pakistan Multidimensional Poverty Index, 2016). For example, estimates of household size, literacy rate, and mean farm size were found to be in close agreement with that of reported in the surveys conducted at national or sub-national level. This lends credence to the representativeness of the sample and generalizability of findings of the study. The incidence of rural poverty showed that 64% of total population in the sample lived below the poverty line. The figure was much higher than the national estimates, which on the basis of 2013-14 data, reported the incidence of rural poverty in the country as 35.6%. Similarly, results of FGT Indices showed that household size, dependency ratio, gender of head of household, age of household head, female - male ratio, educational attainments of head of household, participation rate, landholding size, livestock ownership, and possession of physical asset were found to have been correlated with poverty status of rural households in the district. The results are in congruence with findings of the similar studies conducted in

the developing countries (such as Datt and Jolliffe, 1999; Bogale, Hagedom and Korf, 2005; Apata, et al., 2010; Aikaeli, 2010; Bahta and Haile, 2013; Muhammadhussen, 2016). This further strengthened our standpoint that poverty is a structural (or economic) phenomenon and not a mere outcome of the choices of an individual.

The results have two major implications. First, it interpreted that incidence of rural poverty in the country was on the rise since 2013-14. The situation is even deteriorating in the underdeveloped districts, where the incidence of rural poverty was measured more than double the national head count ratio. Second, the study supported our premise that location disadvantages play important role in determining the poverty status of the households; the incidence of rural poverty in the study district was high, being an underdeveloped district. Put another way, socio-economic factors form important correlates of rural poverty. The findings have significant practical implications vis-à-vis formulation of evidence based public policy targeted at improving HDI of the country. The sample demonstrated a reasonably good representative character in terms of its outcomes. The findings of the study can, therefore, be safely extrapolated to other districts in the country having similar socioeconomic profiles. The study, however, had its limitation in terms of empirical analysis like analyzing the statistical significance of the combined effect of the poverty correlates on the poverty status of the sampled households.

## VII. CONCLUSION AND POLICY IMPLICATIONS

## CONCLUSION

The results showed that rural poverty was on the rise, and situation was even worse in underdeveloped districts. The household size, dependency ratio, gender of household, age of household head, female – male ratio, educational attainments of head of household, participation rate, landholding size, livestock ownership, and possession of physical asset were turned out to be the correlates of rural poverty in the district. The results were found to be comparable with the findings of the literature available on the subject. Overall, the results supported the premise that poverty was a context specific phenomenon and socio-economic structures did play important role in defining the poverty status of households.

## POLICY RECOMMENDATIONS

The study offered two sets of policy recommendations to combat the rural poverty. The first set of recommendations was based on suggestions sought from the respondents through survey questionnaire. The second set of recommendations was proposed based on suggestions made by the respondents as well as results of the FGT indices. The priorities, identified by the respondent, to fight the menace of poverty, are summarized as under:

## **Economic Empowerment**

Measures respondents suggested to pull themselves out of poverty were included: provision of metaled roads, electricity, interest free loans to set up small businesses, skills trainings for youth, creation of employment opportunities, set up industrial units, extending financial assistance and increase in minimum wages of laborers.

Development of Social Infrastructure and Safety Nets: Measures specifically suggested to improve the social indicators were included: provision of healthcare, proper sewerage system, quality education, scholarship for students, adult literacy programs, financial assistance for ultra-poor and old age people, transparency and meritocracy in public offices and developing and maintaining a database of poor and deserving families at UC level.

## **Development of Agriculture and Livestock Sector**

Priorities identified by the respondents regarding agriculture and livestock sector were included: provision of subsidy on agricultural inputs, development of barren lands, provision and improvement of irrigation system, provision of high yielding varieties of seed, improved access to agricultural extension services, competitive rates for agricultural produce and provision of veterinary services.

### **Women Empowerment**

The respondents suggested that there should be women specific initiatives. Measures identified to empower women were included: provision of skills trainings, sewing machines, establishment of quality educational institutions and scholarships for girl students.

Priority actions suggested by the respondents provided a raw estimation of what was expected of public policy makers to reduce poverty in the area. However, in view of the findings of the FGT Indices, the study offered the following set of recommendations for consideration of public policy makers to address the challenge of rural poverty:

- i. Rural economy largely depends on agriculture, there was a need to invest more on this sector to create more job opportunities and thereby reducing dependency ratios. Ensuring extension services, better management of natural resources, provision of suitable technologies and expansion of livestock would lead to improvement in productivity of agricultural labour force, which, in turn, would result in increase in rural income. More land equipped for irrigation would mean more employment opportunities – increased participation rate and decrease in dependency ratio. There was a strong and clear evidence that sustained investment to enhance agricultural productivity had a large impact on poverty reduction (Fan 2008; Fan, Hazell & Thorat, 1999, Fan, L. Zhang & X. Zhang, 2002).
- ii. More investment on improving social infrastructure particularly provisions of education would ensure more opportunities for rural youth, leading to better accumulation of physical assets, leading to reduction in rural poverty.
- Expand off-farm iii. employment opportunities. encourage overall entrepreneurship improve infrastructure and and characteristics of rural economy to induce structural changes. It was important to note that more than half the rural workers were employed away from farms. Therefore, development of non-farm sector could be a possible way to reduce rural poverty (Farooq, 2014). This would again help improve participation rate and lower the dependency ratios.

88

- iv. Special initiatives may be launched to create decent employment opportunities for land poor, landless and vulnerable groups of society such as women, youth and other marginalized ethnic groups. This may be achieved by providing skills trainings and small loans, enabling the youth and women to set up their own small business. This would help the rural youth to build their resource base and cross the poverty threshold.
- v. Poverty reduction programs and strategies, at local and national levels, need be aligned with targets fixed under Pakistan Vision 2025 and international commitments, for example, SDGs. This would lend synergy and sustainability to poverty reduction initiative launched at local level with targets at national level and would facilitate monitoring as well.

### REFERENCES

- Abramovitz, M. (1996). Regulating the lives of women: Social welfare policy from colonial times to the present. Cambridge, USA: South End Press.
- Aikaeli, J. (2010). Determinants of Rural Income in Tanzania: An Empirical Approach. Research Report 10/4. Dar es Salaam, Tanzania: REPOA.
- Akhtar, S., Saboor, A., Mohsan, A. Q., Hassan, F. U., Hussain, A., Khurshid, N., & Hassan, I. (2015). Poverty Dynamics of Rural Punjab and Over Time Changes. J. Anim. Plant Sci, 25, 572-577.
- Ali, S. S., Tahir, S., & Arif, G. M. (1999). Dynamics of Growth, Poverty, and Inequality in Pakistan [with Comments]. The Pakistan Development Review, 38(4), 837-858.
- Amjad, R., & Kemal, A. R. (1997). Macroeconomic Policies and their Impact on Poverty Alleviation in Pakistan. The Pakistan Development Review, 36(1), 39-68.
- Apata, T. G., Apata, O. M., Igbalajobi, O. A., & Awoniyi, S. M. O. (2010). Determinants of Rural Poverty in Nigeria: Evidence from Small Holder Farmers in South-Western, Nigeria. International Journal of Science and Technology Education Research, 1(4), 85-91.
- Arif, G. M. (2000). Recent Rise in Poverty and its Implications for Poor Households in Pakistan. The Pakistan Development Review, 39(4), 1153-1170.
- Arif, G. M., & Farooq, S. (2012). Dynamics of Rural Poverty in Pakistan: Evidence from Three Waves of the Panel Survey. Islamabad, Pakistan: PIDE.
- Bahta, Y. T., & Haile, B. O. (2013). Determinants of Poverty of Zoba Maekel of Eritrea: A Household Level Analysis. International Journal of Food and Agricultural Economics, 1(2), 73-84.
- Becker, G. S. (1975). Front Matter, Human Capital: a Theoretical and Empirical Analysis, with Special Reference to Education. In Human Capital: A Theoretical and Empirical Analysis, with Special Reference to Education. New York, USA: NBER.
- Bogale, A., Hagedorn, K., & Korf, B. (2005). Determinants of poverty in rural Ethiopia. Quarterly Journal of International Agriculture, 44(2), 101-120.
- Cheema, A., Khalid, L., & Patnam, M. (2008). The geography of poverty: Evidence from the Punjab. The Lahore Journal of Economics, 13, 163-188.

- Datt, G., & Jolliffe, D. (1999). Determinants of poverty in Egypt: 1997. FCND Discussion Paper. Washington, DC, USA: IFPRI.
- Ellwood, D. T., & Summers, L. H. (1985). Poverty in America: Is welfare the answer or the problem? NBER Working Paper No. 1711. New York, USA: NBER.
- Fan, S., ed. (2008). Public expenditures, growth, and poverty: lessons from developing countries. Baltimore, MD, Johns Hopkins University Press.
- Fan, S., Hazell, P.B.R. & Thorat, S. (1999). Linkages between government spending, growth, and poverty in rural India. Research Report 110. Washington, D.C. USA: International Food Policy Research Institute.
- Fan, S., Zhang, L. & Zhang, X. (2002). Growth, inequality, and poverty in rural China: the role of public investment. Research Report 125. Washington, D.C. USA: International Food Policy Research Institute.
- Farooq, S. (2014). The Rural Non-Farm Economy, Livelihood Strategies and Household Welfare in Rural Pakistan. 2nd ADB-Asian Think Tank Development Forum. Seoul, Republic of Korea: ADB.
- Foster, J., Greer, J., & Thorbecke, E. (1984). A class of decomposable poverty measures. Econometrica: Journal of the Econometric Society, 52(3), 761-766.
- Gable, S., Lofgren, H., & Osorio Rodarte, I. (2015). Trajectories for Sustainable Development Goals: Framework and Country Applications. Washington, DC, USA: World Bank.
- Gordon, H. S. (2002). The history and philosophy of social science. London, UK: Routledge.
- Haq, R., & Nazli, H. (2005). An Analysis of Poverty at the Local Level [with Comments]. The Pakistan Development Review, 44(4), 1093-1109.
- Hashmi, A. A., Sial, M. H., Hashmi, M. H., & Anwar, T. (2008). Trends and Determinants of Rural Poverty: A Logistic Regression Analysis of Selected Districts of Punjab [with Comments]. The Pakistan Development Review, 47(4), 909-923.
- Holzer, H. J. (1991). The Spatial Mismatch Hypothesis: What has the Evidence Shown? Urban Studies, 28(1), 105-122.
- Irfan, M., & Amjad, R. (1984). Poverty in Rural Pakistan. Poverty in Rural Asia. Bangkok, Thailand: ILO/ARTEP.

- Jafri, S. Y., & Younis, M. (1999). Assessing poverty in Pakistan. A profile of poverty in Pakistan. 1999
- Kemal, A. R., & Naseem, S. M. (1994). Structural Adjustment, Employment, Income Distribution and Poverty [with Comments]. The Pakistan Development Review, 33(4), 901-914.
- Keynes J.M. (1936). The General Theory of employment, interest and money. Macmillan: Cambridge University Press.
- Khan, R. E. A., Rehman, H., & Haq, M. A. U. (2015). Determinants of rural household poverty: the role of household socioeconomic empowerment. American-Eurasian J. Agric. & Environ. Sci, 15(1), 93-98.
- Muhammedhussen, M. (2016). Determinants of Rural Income Poverty in Ethiopia: Case Study of Villages in Dodola District. Global Journal of Management and Business Research, 15(11).
- Naseem, S. M. (2012). A Review of Studies on Poverty in Pakistan: Origin, Evolution, Thematic Content and Future Directions. Islamabad, Pakistan: PIDE.
- Rowntree, B.S. (1901). Poverty: A Study of Town Life. London, UK: Macmillan.
- Schultz, T. W. (1961). Investment in Human Capital. The American Economic Review, 51(1), 1-17.
- Shirazi, N. S. (1995). Determinants of Poverty in Pakistan. Pakistan Economic and Social Review, 33(1), 91-101.
- Ul Haq, M. (1976). The Poverty Curtain: Choices for the Third World. Columbia University Press.
- Woodhall, M., & Psacharopoulos, G. (1985). Education for Development: An Analysis of Investment Choices. London, Uk: Oxford University Press.
- World Bank (2005). Introduction to Poverty Analysis. Washington, DC, USA: World Bank.
- World Bank. (2016). Monitoring Global Poverty: Global Report of the Commission on Global Poverty. Washington, DC, USA: World Bank.

# ROLE OF WOMEN EMPOWERMENT IN UTILIZATION OF MATERNAL HEALTHCARE SERVICES: EVIDENCE FROM PAKISTAN

## NAEEM AKRAM, ABDUAL HAMID AND MUHAMMAD IRFAN AKRAM\*

Abstract. The utilization of maternal health care services plays very crucial role in reducing the maternal mortality in developing countries. In Pakistan very limited research has been conducted to analyze the role of various socio-cultural factors on utilization of maternal health care services. There is a dire need to analyze the role of the women's empowerment within household on utilization of maternal health care services at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. The present study will provide evidence based policy guidance on the nexuses between women empowerment along with other socio economic indicators and the maternal health seeking behavior by using the data of Pakistan Demographic and Health Survey 2012-13. It has been found that urbanization, wealth, education of wife and husband, media exposure, women's empowerment, self or husband being the household head and age at the time of wedding have significant and positive impact on utilization of maternal health care facilities in all three stages. Study finds that transportation and distance to health care facility have

<sup>\*</sup>The authors are respectively Assistant Chief, Economic Affairs Division, Islamabad-Pakistan, Chief Financial Officer (CFO) at Pakistan Railways-Islamabad and MPhil student at PMAS Arid Agriculture University, Rawalpindi -Pakistan.

Note: The views presented in the paper are the personal and do not reflect the views of affiliated institution in any respect

Corresponding author's e-mail: naeem378@yahoo.com

significant impact on only the utilization of health care service at the time of delivery. However, study is unable to find any significant impact of women's employment on the utilization of maternal health care services in Pakistan.

Keywords: Women empowerment, Education, Awareness, Maternal health

**JEL Classification:** J16, I26, D83, I12

## I. INTRODUCTION

According to World Health Organization (WHO) estimates approximately 800 women die daily because of the pregnancy related diseases; among them 99% of the deaths occurred in middle and low income countries and one third of them are from South Asian countries (WHO, 2012). If women are provided maternal healthcare facilities then 80% of maternal deaths can be prevented (Wessel et al, 1999; Kilpatrick et al, 2002). Maternal health care facilities are provided at three stages i.e. during the period of pregnancy (antenatal care), during childbirth (delivery care) and soon after childbirth (postnatal care).

The situation of maternal health care in Pakistan is not satisfactory. In Pakistan, Maternal Mortality Ratio (MMR) was 533 during the 1990-91, which has reduced to 276 in 2006-07 and was 178 in 2014 (world bank estimates<sup>1</sup>). This high maternal mortality rate is an outcome of the low utilization of health care facilities by women in Pakistan. In this regard, during 1990-91, proportion of childbirths attended by skilled birth attendants was 18%; this ratio has increased to 52.1 % in 2012-13. Proportion of women who made at least one antenatal care consultation during their pregnancy was 15% in 1990-91, and this ratio reached to 68% in 2011-12 (PMDGR, 2010 & 2013). In comparison to other countries, these indicators are on the lower side for example MMR was 30 in Sri Lanka, 148 in Bhutan and 27 in China.

<sup>&</sup>lt;sup>1</sup>http://data.worldbank.org/indicator/SH.STA.MMRT

Earlier studies are of the view that lack of education, income, early marriage, distance to hospital/health care facility, transportation, early age pregnancy are major factor that are hindering maternal health care service utilization (Cham *et. al*, 2005; Furuta & Salway, 2006; Suwal, 2008; Ye et al., 2010). However, after the Cairo International Conference on Population and Development 1994, women autonomy had been recognized a critical factor in improving their maternal health. The conferences asserted that:

"Improving the status of women also enhances their decisionmaking capacity at all levels in all spheres of life, especially in the area of sexuality and reproduction" UN (1994)

According to Shrestha (2012) three delays are the major cause of maternal deaths, i.e. not making timely decision in seeking health care, delay in reaching the health care facility and delays in getting treatment in healthcare institution. Major determinant of these delays include transportation, financial problems, complexed nature of household decision-making and cultural beliefs (Suwal, 2008). In South Asia, lack of women's empowerment restricts her access to maternal health care in numerous ways. For example, because the pregnant condition is recognized as "shameful" therefore during the pregnancy women had to face extended restrictions on the movement. Furthermore, young pregnant women had very limited say within household and older women are considered as main source of knowledge regarding the issues of pregnancy. Interestingly in most of the cases husband also have very limited say in decisions related to childbirth (Jeffery P. et al., 1989; Goodburn E. A., 1997; and Mumtaz Z. and Salway S., 2007). Numerous studies had concluded that women's participation in household decisionmaking leads towards better utilization of maternal health care services (Beegle et al., 2001; Bloom et al., 2001). It minimizes the likelihood of child and maternal mortality (Castle, 1993; Choe & Chen, 2006).

In Pakistan like other countries of South Asia, women got fewer opportunities in terms of education, health and participation in labour force. Consequently, women had very limited say in household decisionmaking. However, in Pakistan very limited research has been conducted to examine role of various socio-cultural factors on utilization of health care services. Especially, the impacts of women's empowerment in decision making on utilization of maternal health care at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. In view of that present study is an attempt to analyze the impact of women empowerment as well as different other socio economic factors on the usage of maternal health care facilities in Pakistan.

## **II. LITERATURE REVIEW**

Over the years, different studies were conducted to examine the role of various socio economic indicators on utilization of maternal health care services at different stages. A brief overview of the existing literature is summarized as under:

Ye *et al.*, (2010) found that education, distance from health care facility, availability and cost of public transport, income of the household, knowledge about the maternal care, fee of the doctor/service provider have a significant impact on utilization of antenatal care services in China.

Singh *et al.* (2012) concluded that household's economic status is a very strong determinant of using the antenatal care services in India and found that rich women are 2.5 times higher likelihood to visits doctors during pregnancy in comparison to the poor. Furthermore, lack of awareness about the benefits of checkups during pregnancy, sickness, feeling shamed, distance to the facility are the major reasons for low utilization of antenatal care services. Similarly, Nisar& White (2003) concluded that in Pakistan women with high income are 2 times higher likelihood of using antenatal care services as compared to women with low income. Bloom *et al.* (2001) concluded that women that have freedom in movement are having significantly higher chances of using maternal health care services in India.

Matsumura & Gubhaju, (2001) found that there is negative relationship between employment of women and utilization of maternal health care services. There are 43% less likelihood for working women to deliver their baby at health care facility in Nepal. However, study finds 2.2 times more likelihood for more empowered women to deliver their baby at health care facility in comparison to the less empowered women. Paudel & Pitakmanaket (2010) also supported these findings and concluded that working of the women reduces the chances of receiving antenatal and delivery health care services in Nepal. It has been found that working women are 36% less likely to utilize antenatal health care facilities and 50% less likely to use the delivery healthcare services in comparison to non-working women. Dhakal et al., (2007) finds that education and occupation of women have significant relationship with the use of postnatal healthcare services in Nepal. Later on Dhakal (2011) found that education of women, education of husband and husband having skilled job, having the first or second childbirth and history of illness are significantly related with the utilization of maternal health care facilities. Similarly, according to Baral et. al (2012) there is more likelihood that educated and women belonging to urban areas will use maternal healthcare services in Nepal. Furthermore, chances of using the maternal healthcare services significantly decreased after the birth of third child. Neupane & Doku (2013) found that education and wealth have significant impacts on the use of postnatal healthcare in Nepal.

Iyaniwura & Yussuf, (2009) reported that in Nigeria, the women for not delivering the babies at health care center had given various reasons, the major reasons emerged as perception of long waiting and attitude in the health care centers, unavailability of public health care facility and transportation related issues. According to the Tsegay et al., (2013) education and age of the women along with husband's occupation had a positive impact on the choice of maternal health care facility in Ethiopia. Woldemicael & Tenkorang (2010) concluded that women's autonomy in decision-making had a significant relationship with the maternal and child health. However, in contrast to the findings from Nepal (Matsumura & Gubhaju, 2001; Paudel & Pitakmanaket 2010) it has been found that in Ethiopia there is 47% more likelihood that working women will use maternal health care facilities in comparison to the non-working women. Woldemicael (2007) also found that in Eritrea and Ethiopia women's autonomy in decisions regarding visiting friends or relatives and household purchases had positive and significant impact on utilization of antenatal care services.

Ahmed *et al.* (2010) concluded that women with primary education have 5 times more likelihood to utilize the services of skilled birth attendants at the time of delivery. Hou & Ma (2013) concluded that women's empowerment had significant impact on maternal healthcare utilization.

Titaley *et al.* (2009) found that in Indonesia, lack of education and wealth, more distance from health services result in low utilization of postnatal healthcare services. Similarly, low income and non-availability of healthcare facility, lack of transportation along with awareness were the significant factors behind the limited utilization of maternal healthcare services. Ruth et al., (2000) found that the prenatal care is the major determinant of the utilization of postnatal care in Africa.

Haque *et al.* (2012) finds that women having autonomy are more likely to utilize the antenatal healthcare services in Bangladesh. It has been estimated that women with medium level of autonomy have 1.4 times more chances to deliver their baby in assistance of skilled healthcare professional. Similarly, according to Paudel & Pitakmanaket (2010) women who are the sole decision makers regarding their healthcare are 1.61 times more likely to utilize antenatal healthcare services.

Chiang *et al.* (2012) concluded that women education, husband support and married in older age had positive impact on the usage of maternal healthcare facilities in Egypt. However, it was found that women participation in the household decisions regarding cooking, family planning and children's schooling had insignificant relationship with skilled attendants at birth and regular antenatal visits.

Fotso *et al.* (2009) found that education of women and wealth had significant impact, however, women's autonomy do not have any significant impact on the choice of place of delivery in Kenya. The results revealed that women having secondary school education are more likely to deliver their baby in healthcare facility.

## **III. METHODOLOGY**

The data of Pakistan Demographic and Health Survey (PDHS) 2012-13 has been used to conduct the analysis. The survey provides information on different health aspects. A total of 12,943 households were selected in PDHS 2012-13 and 13,558 ever married women of age 15-49 were interviewed.

As in the present study various independent variables are observed at the interview time while on the other hand maternal health care variables i.e. receipt of antenatal, delivery and post antenatal care are related to the time of delivery most likely few years before the conduct of interview. Therefore, in order to reduce this time, lag and avoid misreporting because of the recall errors, the present study is focused on the survey data of married women having the last live birth 3 years prior to conduct of the survey. This has resulted in reduction of sample size and now our sample size is 5,777 married women.

The maternal health care can be measured at three different stages i.e. during pregnancy (antenatal care), at the timing of the delivery (delivery care) and after the childbirth (postnatal care). The status of health care on each and every stage can be measured by using the number of antenatal visits, proportion of births delivered in healthcare centers and postnatal visits. In the analysis three econometric models i.e. 1) model for antenatal visits, 2) model for selection of place of delivery and 3) model for checkup after delivery have been estimated. The dependent variables are dichotomous, it takes the value of one when the respective women meet minimum criteria of the respective model i.e. at least four antenatal visits, birth in a private or public health care facility and mother checked up after delivering the baby for model 1-3 respectively. To estimate such models binary choice model i.e. logit model has been used. The main idea behind that model is to find the relationship between the probability Pi that Y (dependent variable i.e. utilization of maternal healthcare facilities) will take the value of 1 and the characteristics of considered individuals. In the functional form it can be written as under:

$$P_i = P(y_i = 1) = F(\beta_0 + \beta_1 x_{1i} + \beta_2 x_{2i} + \dots \dots + \beta_k x_{ji})$$

where:

- P<sub>i</sub> probability, i=1, 2, n and n is the sample size
- F cumulative distribution function (CDF)
- $\beta$  parameters, j=0,1,2,...,k,
- x<sub>ji</sub> value of explanatory variable Xj for ith household
- k number of explanatory variables

The parameters of the logit models have been estimated by using the maximum likelihood method (ML) method in STATA. The impacts of different explanatory variables on utilization of maternal healthcare facilities by women have been interpreted in terms of odds ratios. Odds

are defined as the ratio of two probabilities Pi and (1- Pi), i.e. the ratio of the probability of occurrence of an event to that of nonoccurrence. A brief summary of the variables used is as under:

### **DEPENDENT VARIABLES**

In present study we used three independent variables for three different models.

### **Antenatal Visits**

World Health Organization recommends that during the entire cycle of pregnancy a woman must visit the health center at least four times (WHO, 2002), following that present study constructed a binary variable that takes value of 1 if women had visited any healthcare facility (excluding homeopath and Hakim) at least four times during the pregnancy.

### **Place of Delivery**

The place of birth is other important aspect of maternal health and delivery in the presence of health professional minimizes the risks of maternal deaths. In the present study we had constructed a binary variable giving the value of 1 to those who gave birth in a private or public health care facility (excluding the homeopath and Hakim).

### **Check up After Delivery**

The purpose of the check up after the delivery is to maintain health of mother and child and to avoid infections or any other serious complications during the process of delivery. In the present study a binary variable is generated that takes value of 1 if the mother checked up after delivering the baby.

### **INDEPENDENT VARIABLES:**

### Urbanization

Urbanization is a binary variable, where 1 represent that household living in urban areas and 0 for rural areas.

### **Education of Women/ Education of the Husband**

Numerous studies had recognized that education plays pivotal role in utilization of maternal healthcare services. We had divided education in three categories i.e. secondary or higher education, primary education and no education.

### **Relationship with the Household Head**

It is also a binary variable that takes value of 1 if she or her husband heads the household and zero if household is headed by someone else.

### Age of the Household Head

Considering the importance of age of household head in the decision making regarding use of maternal healthcare facilities, age has been used in number of years.

#### Wealth of Household

The wealth of household is very crucial factor in the use of maternal healthcare facilities. In the dataset wealth index can take value from 1-5; where 5 suggest the richest 1 as poorest household.

### **Distance to Health Facility**

Various studies had found that distance to health facility has significant role in utilization of the maternal care facilities. In the present study we have constructed a binary variable which takes values of 1 if the household feels that distance to health facility is a big problem.

### **Transportation to Health Facility**

Similarly, in the present study we have constructed a binary variable which takes values of 1 if the household feels that transportation to reach health facility is a big problem.

### Age at Marriage

The age at the time of wedding of a woman is a vital factor in determining the utilization of maternal healthcare facilities. We have categorized age at the time of marriage as below 18 years, 18-29 years and above 30 years.

### Use of Media

We constructed variable that take value of 1 if the respondent either reads newspaper, watch TV or listen to radio.

## **Nature of Employment**

The employment variables have three options that either woman is; not involved in any type of work, employed for cash, employed but without any monetary benefits.

### **Women Empowerment**

The dataset provides information regarding four areas of women empowerment i.e. her autonomy in; visiting to family or friends, seeking health care, using the earning of her husband and making household purchases. We renamed these variables as 1) empowerment to visit relatives/friends 2) empowerment in seeking healthcare, 3) empowerment in utilization of husband earning 4) empowerment in household purchases respectively. In order to simplify the analysis, we clubbed the responses into three broader categories i.e. 1) respondent alone 2) Jointly 3) husband/someone else.

## **IV. RESULTS AND DISCUSSIONS**

## **DESCRIPTIVE ANALYSIS**

The Table 1 provides the percentage of women who had utilized maternal health care facilities at different stages of their pregnancy. The column 1 gives the percentage of women who reported that they had visited at least 4 times to a health care facility during the pregnancy. In column 2 percentages of women who had deliver their baby at proper healthcare center in the presence of health professional and in column 3 percentages of women who visited to health professional after delivery for post antenatal checkup have been shown.

102

Percentage of Women Utilizing the Maternal Health Care Services

| Background Characteristics                  | Antenatal Visits     | Place of Delivery | Check up After |
|---------------------------------------------|----------------------|-------------------|----------------|
|                                             | (At least 4)         | (Health Facility) | (%)            |
|                                             | Age at marriag       | e                 | (70)           |
| Below 18                                    | 41.96                | 33.05             | 42.32          |
| 18-29                                       | 56.01                | 65.50             | 56.49          |
| 30+                                         | 2.03                 | 1.45              | 1.19           |
|                                             | Education            |                   | <u> </u>       |
| No Education                                | 12.61                | 13.63             | 13.77          |
| Primary                                     | 32.23                | 38.60             | 43.46          |
| Secondary or Higher                         | 55.04                | 47.77             | 43.46          |
|                                             | Education of the Hu  | ısband            |                |
| No Education                                | 12.87                | 10.49             | 10.92          |
| Primary                                     | 30.42                | 19.54             | 22.98          |
| Secondary or Higher                         | 56.70                | 69.96             | 66.10          |
|                                             | Wealth of the Hous   | ehold             |                |
| Poorest                                     | 13.60                | 10.01             | 20.18          |
| Poorer                                      | 17.24                | 12.91             | 19.35          |
| Middle                                      | 18.49                | 15.44             | 18.75          |
| Richer                                      | 20.86                | 24.25             | 19.70          |
| Richest                                     | 29.81                | 37.39             | 22.02          |
|                                             | Urbanization         |                   |                |
| Urban                                       | 50.02                | 62.73             | 56.54          |
| Rural                                       | 49.98                | 37.27             | 43.46          |
|                                             | Employment           |                   |                |
| Not Employed                                | 39.17                | 40.17             | 38.68          |
| Employed not for cash                       | 20.50                | 13.71             | 16.16          |
| Employed for cash                           | 40.33                | 46.12             | 45.16          |
|                                             | Use of Media         |                   |                |
| Do not use newspaper or Radio or Television | 44.83                | 35.83             | 38.0           |
| Use the media                               | 55.17                | 64.17             | 62.0           |
|                                             | Distance to Health F | Facility          |                |
| Not an issue                                | 65.17                | 72.14             | 69.06          |

| Background Characteristics                    | Antenatal Visits<br>(At least 4)<br>(%) | Place of Delivery<br>(Health Facility)<br>(%) | Check up After<br>Delivery<br>(%) |
|-----------------------------------------------|-----------------------------------------|-----------------------------------------------|-----------------------------------|
| Big Problem                                   | 34.83                                   | 27.86                                         | 30.94                             |
| Transportation to Health Facility             |                                         |                                               |                                   |
| Not an issue                                  | 61.47                                   | 68.88                                         | 65.87                             |
| Big Problem                                   | 38.53                                   | 31.12                                         | 34.13                             |
| Relationship with Household head              |                                         |                                               |                                   |
| Self or Husband                               | 67.84                                   | 63.69                                         | 64.28                             |
| Others                                        | 32.16                                   | 36.31                                         | 35.72                             |
| Empowerment in Seeking Healthcare             |                                         |                                               |                                   |
| Respondent alone                              | 21.07                                   | 21.86                                         | 20.7                              |
| Jointly                                       | 41.36                                   | 43.32                                         | 40.56                             |
| Partner/ Someone else                         | 37.57                                   | 34.82                                         | 38.74                             |
| Empowerment in Household purchases            |                                         |                                               |                                   |
| Respondent alone                              | 17.47                                   | 16.66                                         | 15.81                             |
| Jointly                                       | 41.03                                   | 43.56                                         | 41.49                             |
| Partner/ Someone else                         | 41.5                                    | 39.77                                         | 42.7                              |
| Empowerment to visit relatives/friends        |                                         |                                               |                                   |
| Respondent alone                              | 19.29                                   | 19.26                                         | 17.79                             |
| Jointly                                       | 43.39                                   | 43.94                                         | 42.31                             |
| Partner/ Someone else                         | 37.31                                   | 36.8                                          | 39.9                              |
| Empowerment in utilization of husband earning |                                         |                                               |                                   |
| Respondent alone                              | 16.54                                   | 16.05                                         | 15.59                             |
| Jointly                                       | 37.61                                   | 37.92                                         | 34.93                             |
| Partner/ Someone else                         | 45.85                                   | 46.03                                         | 49.48                             |

The results reveal that at three stages of the pregnancy, utilization of maternal health care services is associated with the socio-economic characteristics of the respondents. It has been found that age at the time of the marriage plays important role in the utilization of maternal health care services. Women married at the age of 18-29 are more likely to utilize the maternal health care services in comparison to the women married either below 18 years of age or above 30 years of age.

From the cross table results it is also evident that two education related indicators i.e. respondent own educational level and the education of her husband plays crucial role in utilization of maternal health care services. Only 12.6 % of women with no education visit at least 4 times to a health care centre during pregnancy whereas this ratio is 55.0 % for women with secondary or higher education. Similar behavior is observed in other dimensions; for delivery at health facility (increased from 13.6% for no education to 47.8% for secondary or higher education), checkup after delivery (13.8% for no education and 43.5% for secondary or higher education). Similarly, utilization of maternal health care services increased with the level husband's education. As only 12.9 % women adequately visited to health care centers during pregnancy whose husband has no education, this ratio has increased to 56.7 % for the women whose husband is having secondary or higher education. For other dimensions also utilization of maternal health care increased with the level of husband's education; as for delivery at health facility (increased from 10.5% for no education to 69.9 % for secondary or higher education), checkup after delivery (10.9% for no education and 66.1% for secondary or higher education).

Maternal health care services utilization gradually increases with wealth of the household. In the poorest households (household belonging to the lowest 20% of wealth index) only 13.6%, 10.0%, 20.2% of the women make adequate visits to health professional, give birth at health facility and make visits to check up after delivery respectively. Whereas the women belonging to richest segment (Top 20% of wealth index) are more likely to use maternal health care services and 29.8%, 37.4% and 22.0 % of the women make adequate visits to health professional, give birth at health facility and make visits to check up after delivery respectively.

Study found that there is considerable variation among the rural and urban households in utilization of maternal healthcare services. The women living in urban areas are more likely to use maternal health care services at all three stages of the pregnancy. However, cross table results reveal that there is minimal impact of working of women on the utilization of maternal healthcare services.

Furthermore, women who use either print or electronic media have higher ratio of using maternal healthcare services in comparison to women who do not use it. Similarly, women not facing the issue of transportation or distance to health facility are more likely to use maternal health care services. Furthermore, if she or her husband is household head then there are more chances that she will utilize the maternal healthcare services in comparison to the women living in households headed by someone else.

As far as the indicators of women empowerments are concerned the cross table results reveal that all the four indicators have a role in the utilization of maternal health services. Women who take the decision alone or jointly in seeking healthcare services are more likely to use maternal health care facilities. It has been evident that 62.4 % of women who can take decisions about seeking health care alone or jointly visit at least 4 times to a healthcare center during pregnancy whereas this ratio is 37.6 % for women with no authority in health seeking decision. For other dimensions almost same behavior is observed; for delivery at health facility (65.2% for women that can take decision alone or jointly regarding seeking health care in comparison to 34.8 % for women with no authority), checkup after delivery (61.3% for women that can take decision alone or jointly regarding seeking health care in comparison to 38.7 % for women with no authority). Furthermore, 58.5 % of women who can take decisions about making household purchase alone or jointly visit at least 4 times to a health care centre during pregnancy whereas this ratio is 41.5 % for women with no authority in making household purchases. For other dimensions almost same behavior is observed i.e. for delivery at health facility, checkup after delivery. As far as role of women empowerment in visits to her family or friends is concerned it is evident that 62.7% of women who had autonomy in decision (take decision alone or jointly) visit at least 4 times to a health care centre during pregnancy whereas this ratio is 37.3% for women with no authority. For other dimensions of maternal health care services almost same behavior is observed i.e. for delivery at health facility, checkup after delivery. The women empowerment in utilization of husbands earning also exhibits similar impact on the utilization of maternal healthcare services. As 54.2% of women who had autonomy in using her husband earning visit at least 4 times to a health care centre during pregnancy whereas this ratio is 45.9 % for women with no authority. For other dimensions of maternal health care services almost same behavior is observed i.e. for delivery at health facility, checkup after delivery.
## **ESTIMATION RESULTS**

As mentioned earlier three different models have been estimated by using the logit model technique. The odd ratios of these estimations are presented in Table 2.

#### TABLE 2

### Estimation Results Models Analyzing the Impact on the Utilization of Maternal Healthcare Center (odd ratios)

| Name of the Variables   | Antenatal Visits         | Place of Delivery | Check up After Delivery |  |  |  |  |  |
|-------------------------|--------------------------|-------------------|-------------------------|--|--|--|--|--|
| Urbanization            |                          |                   |                         |  |  |  |  |  |
| Urban                   | 1                        | 1                 | 1                       |  |  |  |  |  |
| Rural                   | 0.8416**                 | 0.8275*           | 0.7902**                |  |  |  |  |  |
| Education               |                          |                   |                         |  |  |  |  |  |
| No Education            | 1                        | 1                 | 1                       |  |  |  |  |  |
| Primary                 | 1.0495                   | 1.3727**          | 1.3009                  |  |  |  |  |  |
| Secondary or Higher     | 2.4409*                  | 2.3694*           | 3.6363*                 |  |  |  |  |  |
|                         | Education of the Husband |                   |                         |  |  |  |  |  |
| No Education            | 1                        | 1                 | 1                       |  |  |  |  |  |
| Primary                 | 0.9672**                 | 1.1592            | 0.9759                  |  |  |  |  |  |
| Secondary or Higher     | 1.8092*                  | 2.1316**          | 1.9958**                |  |  |  |  |  |
|                         | Relationship with H      | Household head    | •                       |  |  |  |  |  |
| Self or Husband         | 1                        | 1                 | 1                       |  |  |  |  |  |
| Others                  | 0.7289*                  | 0.8745**          | 0.9861                  |  |  |  |  |  |
| Age of H. Head          | 1.2561*                  | 1.0119            | 0.9779                  |  |  |  |  |  |
| Wealth of the Household |                          |                   |                         |  |  |  |  |  |
| Poorest                 | 1                        | 1                 | 1                       |  |  |  |  |  |
| Poorer                  | 1.2677*                  | 1.0822            | 0.9006                  |  |  |  |  |  |
| Middle                  | 1.5039*                  | 2.1421            | 1.3147                  |  |  |  |  |  |
| Richer                  | 2.2641*                  | 1.8026*           | 1.8901*                 |  |  |  |  |  |
| Richest                 | 4.5558*                  | 4.1819*           | 4.4623*                 |  |  |  |  |  |
|                         | Distance to Hea          | alth Facility     | •                       |  |  |  |  |  |
| Not an issue            | 1                        | 1                 | 1                       |  |  |  |  |  |
| Big Problem             | 0.9799                   | 0.7407**          | 0.9212                  |  |  |  |  |  |
|                         | Transportation to l      | Health Facility   | •                       |  |  |  |  |  |
| Not an issue            | 1                        | 1                 | 1                       |  |  |  |  |  |
| Big Problem             | 0.9563                   | 0.7176*           | 0.7862                  |  |  |  |  |  |

| Name of the Variables | Antenatal Visits       | Place of Delivery     | Check up After Delivery |  |  |  |  |  |  |
|-----------------------|------------------------|-----------------------|-------------------------|--|--|--|--|--|--|
| Age at marriage       |                        |                       |                         |  |  |  |  |  |  |
| Below 18              | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| 18-29                 | 1.0800*                | 1.3184*               | 1.3586*                 |  |  |  |  |  |  |
| 30+                   | 2.3424                 | 0.6776                | 2.7048                  |  |  |  |  |  |  |
|                       | Use of Media           |                       |                         |  |  |  |  |  |  |
| Do not use any media  | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Use the media         | 1.3118*                | 1.3145*               | 1.5623*                 |  |  |  |  |  |  |
|                       | Employment             |                       |                         |  |  |  |  |  |  |
| Not Employed          | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Employed not for cash | 1.0303                 | 0.6173                | 0.9824                  |  |  |  |  |  |  |
| Employed for cash     | 0.9454                 | 1.0389                | 1.0127                  |  |  |  |  |  |  |
| ]                     | Empowerment in Se      | eking Healthcare      |                         |  |  |  |  |  |  |
| Respondent alone      | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Jointly               | 0.8507                 | 0.8831                | 0.8584                  |  |  |  |  |  |  |
| Partner/ Someone else | 0.7977*                | 0.8937*               | 0.9351**                |  |  |  |  |  |  |
| E                     | Empowerment in Hou     | usehold purchases     |                         |  |  |  |  |  |  |
| Respondent alone      | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Jointly               | 0.7098                 | 0.9590                | 1.0207                  |  |  |  |  |  |  |
| Partner/ Someone else | 0.6927**               | 0.7879                | 0.8087**                |  |  |  |  |  |  |
| E                     | Empowerment to visi    | t relatives/friends   |                         |  |  |  |  |  |  |
| Respondent alone      | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Jointly               | 1.1428*                | 0.7805                | 1.2537**                |  |  |  |  |  |  |
| Partner/ Someone else | 0.9431**               | 0.7169**              | 0.8503*                 |  |  |  |  |  |  |
| Empo                  | werment in utilization | on of husband earning | r<br>>                  |  |  |  |  |  |  |
| Respondent alone      | 1                      | 1                     | 1                       |  |  |  |  |  |  |
| Jointly               | 1.1143**               | 1.1244*               | 0.8214                  |  |  |  |  |  |  |
| Partner/ Someone else | 0.7627**               | 0.8475**              | 0.8740                  |  |  |  |  |  |  |
| Constant              | 2.5374*                | 0.4585                | 0.4873*                 |  |  |  |  |  |  |
| p < 0.05; p < 0.10    | <u> </u>               | <u> </u>              |                         |  |  |  |  |  |  |

The results suggest that urbanization is having significant relationship with utilization of maternal health care at three different stages of the pregnancy. Women belonging to rural areas have significantly lesser odds in comparison to women belonging to urban areas. It was also evident that women education and her husband's education have significant impacts on the utilization of maternal health care services. Women with secondary or higher education have two and three time significantly higher odds of using antenatal health care services in comparison to women with no education. Similarly, with the husband's education chances of spouse's maternal health care seeking increases. However, odds are relatively less than that of the women's own education.

It has also been found that if women herself or her husband are the household heads then there are significantly higher odds of seeking antenatal care and make delivery at proper health facility in comparison to the households headed by someone else. However, in case of checkup after delivery there is no significant impact and there is only marginal difference in the odds of households headed by women herself or husband and the households headed by someone else.

It has also been found that odds of receiving antenatal care increases with the age of household head but there is no significant impact of the age of household head on the other two dimensions of maternal health care utilization i.e. post antenatal care and delivery at health facility

The results also indicate that wealth of the household also significantly increases the likelihood of using maternal health care services. It was found that women belonging to the richest household are having significantly four time higher odds of utilizing the maternal care services at all the three stages of pregnancy in comparison to the women belonging to the poorest households.

The results further reveal the insignificance of distance and transportation to health facility on the utilization of antenatal and post antenatal maternal health care services. However, odds of giving birth at health facility are significantly lower for the women who consider that distance to health facility and transportation to health facility is the big problem.

It has also been found that women who got married at the age of 18-29 are having significantly higher odds of utilizing maternal healthcare services in comparison to women married below the age of 18. However, women married after age of 30 do not have significantly higher odds.

Women having exposure of media have significantly higher odds of using maternal care at all three stages of pregnancy in comparison to

women having limited or no media exposure. The results also reveal the insignificance of working of women on the utilization of antenatal and post antenatal maternal health care services.

Results indicate that women empowerment (all the examined four dimensions of empowerment) is having significant impact on the utilization of maternal health care services at all the three stages of pregnancy. The women who are sole decision makers in terms of seeking health care, making daily household purchases, utilizing the household earning and visiting to families or relatives are having significantly higher odds of using antenatal care, delivery at proper healthcare facility and post antenatal care in comparison to those women who are not the sole decision makers. The significance of these empowerment indicators reveals that women inputs on health related issues, household matters, views on budgetary issues, and freedom of movement significantly related to important and measureable differences in their maternal health care seeking behaviors

#### **V. CONCLUSIONS AND POLICY IMPLICATIONS**

Utilization of maternal health care services has been recognized as key factor in reducing the maternal mortality. In Pakistan very limited research has been conducted to analyze the role of various socio-cultural factors on utilization of health care services. Especially, how the women's empowerment within the household have an impact on utilization of maternal health care at three stages i.e. antenatal care and delivery in a health care facility and post antenatal care. In the present study role of different dimensions of women empowerment along with other socio economic indicators on the maternal health seeking behavior has been examined.

The major finding of the present study is that all the examined dimensions of women empowerment are significantly related to maternal health care seeking behavior. In this regard women being sole decision maker in seeking health care and making household purchases increase her chances of using maternal health care services at antenatal, delivery and post antenatal stages. However, being a joint decision maker in the context of visits to family or relatives and utilization of her husband's income had significantly higher odds of utilization of maternal health care services than of being sole decision maker or having no say. It

110

reflects the value of family togetherness in Pakistani society and suggest that individuality is least important than family. Thus decisions related to utilization of income and making social contacts are mostly made jointly by negotiations. These differences of the impact of different dimensions of women empowerment on the maternal healthcare justify that woman empowerment should be measured multidimensional way instead of using a single measure.

Study also finds that education of wife, education of husband and uses of media have very significant impacts on the utilization of maternal health care services in Pakistan. It suggests that awareness plays key role in the utilization of maternal health care services. Very early study of Caldwell (1979) had also recognized that education increases capability of women in maneuvering the world. By getting more education and having access to media women become aware of the locality of better maternal health care facilities. It also gave her self-confidence and they are in a better position to get proper attention of health professionals.

The study confirms the significant role of urbanization in the utilization of maternal health care services. Keyfitz(1996) also supported that many of the developing countries experience the urban bias. Because there is concentration of infrastructures including health in the urban areas, whereas majority of population in developing countries lives in the rural areas so it become difficult for a rural woman to get adequate access to health care facilities. It is strongly recommended that the government must take initiatives to minimize the inequalities in provision of health facilities and more health facilities may be provided in rural and neglected areas.

The study finds that age and nature of relationship with household head is another important factor in determining the utilization of maternal health care services. Similarly, women age at the time of marriage also have significant impact and in this regard it has been found that women married between the ages of 18-30 are more likely to use maternal health care services. Jejeebhoy & Sathar (2001) also comes to similar conclusion that women married at the higher age are more independent and empowered in comparison to women got married at early age. It reflects that role of age at marriage on the health seeking behavior is transmitted through the women empowerment.

Wealth emerges as a very strong predictor of the maternal health care services utilization. Singh et al., (2012) also comes to the similar findings that in India economic status emerged as the significant and strong determinant of the maternal care services utilization. Women belonging to higher income households are in better position to avail maternal health care facilities in adequate manner. Furthermore, wealth also enables them to attain the better quality services and attention from health professionals.

However, study finds that distance and transportation to health facility have significant impact only on the utilization of health care service at the time of delivery. The employment of women has insignificant impact on the utilization of maternal health care services in Pakistan.

#### REFERENCES

- Ahmed S., Creanga A., Gillespie D. G. and Tsui A. O. (2010) "Economic status, education and empowerment: implications for maternal health service utilization in developing countries". Plos One, 5(6) pp111-190
- Baral Y. R., Lyons K., Skinner J. and Teijlingen E. R. (2012) "Maternal health services utilisation in Nepal: Progress in the new millennium?" Health Science Journal, 6(4) pp 62–66.
- Beegle, K., Frankenberg, E., & Thomas, D. (2001). "Bargaining power within couples and use of prenatal and delivery care in Indonesia", Studies in Family Planning, 32 (2), pp 130–146.
- Bloom S. S., Wypij Dc, Gupta D. M. (2001) "Dimensions of Women's Autonomy and the Influence on Maternal Health Care Utilization in a North Indian City", Demography, 38(1) pp. 67–78
- Caldwell, J. (1979). "Education as a factor in mortality decline: An examination of Nigerian data". Population Studies, 33, pp 395–413
- Castle, S. (1993). "Intra household differentials in women's status: Household function and focus as determinants of children's illness management and care in rural Mali" Health Transition Review, 3, pp 137–157.
- Cham, M., Sundby, J., &Vangen, S. (2005)." Maternal mortality in the rural Gambia, a qualitative study on access to emergency obstetric care", Reproductive Health, 2(3), pp 1–8DOI: 10.1186/1742-4755-2-3
- Chiang C., Elshair I.H.H., Kawaguchi L., Fouad N., Abdou N. M., Higuchi M. (2012) "Improvements in the status of women and increased use of maternal health services in rural Egypt", Nagoya journal of medical science, 74(3-4) pp 233–240
- Choe, M., & Chen, J. (2006) "Potential for reducing child and maternal mortality through reproductive and child health intervention programmes: An illustrativecase study from India" Asia-Pacific Population Journal, 21(1), pp 13–44.
- Dhakal S., Chapman G. N., Simkhada P. P, Teijlingen E. R. V., Stephens J. and Raja A.E. (2007) "Utilization of postnatal care among rural women in Nepal" BMC Pregnancy and Childbirth , 7 (19) doi:10.1186/1471-2393-7-19

- Dhakal S., Teijlingen E. R. V., Raja E.A, Dhakal K. B. (2011) "Skilled care at birth among rural women in Nepal: practice and challenges", Journal of health, population, and nutrition, 29(4) pp 371–378.
- Fotso J.C., Ezeh A.C., Essendi H. (2009) "Maternal health in resource-poor urban settings: how does women's autonomy influence the utilization of obstetric care services?", Reproductive health, 6(9) pp 1-8 doi: 10.1186/1742-4755-6-9.
- Furuta M. & Salway S. (2006) "Women's Position Within the Household as a Determinant Of Maternal Health Care Use in Nepal", International Family Planning Perspectives, 32(1) pp17–27
- Goodburn E.A. (1997) "A prospective study of maternal morbidity related to delivery and the puerperium in Bangladesh", dissertation, London School of Hygiene and Tropical Medicine, London
- Haque S. E, Rahman M., Mostofa M.G, Zahan M.S. (2012) "Reproductive Health Care Utilization among Young Mothers in Bangladesh: Does Autonomy Matter?" Women's health issues, 22(2) pp171–180.
- Hou X., Ma N. (2013) "The effect of women's decision-making power", Health policy and planning 28(2)
- Iyaniwura C., Yussuf Q. (2009) "Utilization of antenatal care and delivery services in Sagamu, south western Nigeria", African journal of reproductive health, 13(3) pp111–122
- Jejeebhoy, S., & Sathar, Z. (2001). "Women's autonomy in India and Pakistan. The influence of religion and region" Population and Development Review, 27, pp 687–712
- Jeffery P., Jeffery R. and Lyon A. (1989) Labour Pains and Labour Power: Women and Childbearing in India, London and Atlantic Highlands, NJ, USA: Zed Books
- Keyfitz, N. (1996). Internal migration and urbanization. In B. Colombo, P. Demeny, &M. F. Perutz (Eds.) Resources and population: Natural, institutional and demographic dimensions of development (pp. 269–285). New York: The Population Council.
- Kilpatrick S.J., Crabtree K.E., Kemp A. and Geller S. (2002) "Preventability of maternal deaths: comparison between Zambian and American referral hospitals", Obstetrics and Gynecology, 100(2) pp 321–326.

- Matsumura M. and Gubhaju B. (2001) "Women' s Status, Household Structure and the Utilization of Maternal Health Services in Nepal"Asia-Pacific Population Journal, 16(1) pp 23–44
- Mumtaz Z. and Salway S. (2007), "Gender, pregnancy and uptake of antenatal care services in Pakistan", Sociology of Health and Illness, 29(1) pp 1-26.
- Neupane S. and Doku D. T. (2012) "Determinants of time of start of prenatal care and number of prenatal care visits during pregnancy among Nepalese women". Journal of community health, 37(4) pp 865–873.
- Neupane S and Doku D. (2013) Utilization of Postnatal Care Among Nepalese women". Maternal and child health journal17(10) pp 1922-1930
- Nisar N. and White F. (2003) "Factors affecting utilization of antenatal care among reproductive age group women (15-49 years) in an urban squatter settlement of Karachi" The Journal of the Pakistan Medical Association53(2) pp 47–53.
- Obermeyer, C. (1995)." Reproductive rights in the West and in the Middle East: Across-cultural perspective". In C. Obermeyer (Ed.), Family, gender, and population in the Middle East: Policies in context. Cairo: American University Press.
- Paudel, D. R. and Pitakmanaket O. (2010) "Utilization of Maternal Health Services in Nepal" Journal of Health and Allied Science1(1) pp 28–37
- PMDGR (2013), Pakistan Millennium Development Goals Report 2013, available online at: pc.gov.pk/PMDGR-2013/Paskistan%20MDGR2013.pdf
- PMDGR (2010), Pakistan Millennium Development Goals Report 2010, available online at: http://www.pk.undp.org/content/pakistan/en/home/library/mdg/pakistanmillennium-development-goals-report-2010.html
- Ruth, Y., Lorraine, T.& Kathleen B. (2000) "Postnatal Care in Low-income Urban African American Women Relationship to Level of Prenatal Care Sought". Journal of Perinatology, 20(1) pp34–40.
- Shrestha R. (2012) "Maternal Mortality in Nepal Addressing the Issue" Student pulse, 4(10) pp 1–4.
- Singh P.K., Rai R.K., Alagarajan M., Singh L. (2012) "Determinants of maternity care services utilization among married adolescents in rural India". PloS one 7(2) pp 31-66.

- Suwal J. (2008) "Maternal Mortality in Nepal Unraveling the Complexity", Canadian Studies in Population, 35(1) pp 1–26.
- Titaley C. R., Dibley M. J., Roberts C.L. (2009) "Factors associated with nonutilisation of postnatal care services in Indonesia", Journal of epidemiology and community health 63 (10) pp 827–831.
- Tsegay Y., Gebrehiwot T., Goicolea I., Edin K., Lemma H. and Sebastian M. S. (2013) "Determinants of antenatal and delivery care utilization in Tigray region, Ethiopia a cross-sectional study"International Journal for Equity in Health, 12(30)doi: 10.1186/1475-9276-12-30.
- UN (1994). United Nations International Conference on Population and Development, Programme of Action, 1994, <a href="http://www.unfpa.org/icpd/icpd\_poa.htm">http://www.unfpa.org/icpd/icpd\_poa.htm</a>>, accessed 24th August 2016.
- Wessel H., Reitmaier P., Dupret A., Rocha E., Cnattingius S., Bergström S. (1999). "Deaths among women of reproductive age in Cape Verde: causes and avoidability" Actaobstetricia et gynecologicaScandinavica78(3) pp225–232.
- WHO (2002) "Antenatal care randomized trial: manual for the implementation of the new model". WHO document WHO/RHR/01.30. Geneva: WHO, 2002.
- WHO (2012). Maternal mortality, downloaded from: http://www.who.int/mediacentre/factsheets/fs348/en/index.html accessed on 12th July 2016
- Woldemicael G. (2007) Do Women with Higher Autonomy Seek More Maternal and Child Health-Care? Stockholm Research Reports in Demography
- Woldemicael G., Tenkorang E.Y. (2010) "Women's autonomy and maternal health-seeking behavior in Ethiopia" Maternal and child health journal, 14(6) pp 988–998
- Ye Y., Yoshida Y., Harun-Or-Rashid M. S.J. (2010) "Factors affecting the utilization of antenna", Nagoya journal of medical science. 72(1-2) pp 23–33.

# SUBSCRIPTION FORM

|        | 1. | I would like to subscribe to <i>Pakistan Economic and Social</i><br><i>Review</i> (PESR) for year(s).                                                                                                                                    |          |              |    |          |           | al |  |
|--------|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|--------------|----|----------|-----------|----|--|
| S<br>€ |    | O Institu                                                                                                                                                                                                                                | tion     | O Individual |    | С        | ) Student |    |  |
| Ż      |    | Name                                                                                                                                                                                                                                     |          |              |    |          |           |    |  |
| e      |    | Address                                                                                                                                                                                                                                  |          |              |    |          |           |    |  |
| 2      |    |                                                                                                                                                                                                                                          |          |              |    |          |           |    |  |
|        |    | E-mail                                                                                                                                                                                                                                   |          |              |    |          |           |    |  |
|        | 2. | The journal should be supplied by:                                                                                                                                                                                                       |          |              |    |          |           |    |  |
| 00     |    | O Air Mail                                                                                                                                                                                                                               |          |              |    |          |           |    |  |
| and So |    | A crossed cheque/demand draft in the name of <i>The Chairman, Department of Economics, University of the Punjab, Quaid-i-Azam Campus, Lahore-54590 (Pakistan),</i> for the sum of PKR/US \$ is enclosed to cover the above subscription. |          |              |    |          |           |    |  |
| mic    | 3  | Signature                                                                                                                                                                                                                                |          |              |    | Date     |           |    |  |
| 0      | 5. | Subscript                                                                                                                                                                                                                                | ion Rac  | 20           | A  | Air Mail |           |    |  |
| 0      |    | Foreign                                                                                                                                                                                                                                  | Annual   | Subscription | L. | JS \$    | 5 100.00  |    |  |
| Ö      |    |                                                                                                                                                                                                                                          | Per Co   | ру           | U  | JS §     | 5 55.00   |    |  |
|        |    | Inland                                                                                                                                                                                                                                   | Annual   | Subscription | R  | ls. 1    | 1,000.00  |    |  |
|        |    |                                                                                                                                                                                                                                          | Per Co   | ру           | R  | ls.      | 500.00    |    |  |
| ta     | 4. | Please ad                                                                                                                                                                                                                                | dress yo | ur order to: |    |          |           |    |  |
| Pakis  |    | <b>The Managing Editor</b><br><i>Pakistan Economic and Social Review</i><br>Department of Economics, University of the Punjab<br>Quaid-i-Azam Campus, Lahore-54590 (Pakistan)<br>E-mail: pesr.eco@pu.edu.pk, Tel: +92 42 99231167        |          |              |    |          |           |    |  |

