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Relating Managerial Ownership to Firm's Performance: Evidence from Banking Sector of Pakistan

Gul Pari* and Alvina Sabah Idrees**

Abstract: This study has tried to investigate relationship between managerial ownership and bank performance in banking sector of Pakistan. Data of 23 commercial banks from Pakistan for period 2007 to 2013 has been used where 2SLS is applied on panel data in order to capture the endogeneity. Three models (quadratic, dummies and piecewise linear regression) have been used to test two hypotheses (Convergence-of-interests and entrenchment hypotheses). Results confirm the presence of entrenchment effect in banking sector of Pakistan suggesting that ownership may be good governance tool which brings convergence of interest but up to certain threshold, so too much giving way of stock options could wane firm performance due to entrenchment effect. However, piecewise linear regression concluded a significant non-monotonic relationship that increased between 0% and 5%, decreased between 5% and 25%, and again increased after 25% .

Keywords: Banking sector, linear regression, governance, managerial ownership

JEL Classification: G24, C25, G32

1. Introduction

Large corporate structure has invented the publically traded firm. This invention has been spread on all over the world where millions and billions number of people handover their personal wealth to business controllers (managers). Here there is line between managers and shareholders on behalf of their different interests. While controlling the corporations, managers can take such decisions that maximize their own interest rather than investors . Jenison and Macklin (1976) are first to model this issue as agency problem.

Cost that is incurred in this case is called “agency cost”. Corporations continue to evaluate alternative process in order to overcome

*The author is a graduate of the Department of Economics, GC University Lahore, Pakistan.

** Lecturer, Department of Economics, GC University Lahore, Pakistan.

agency problem. All these procedures (tools and techniques) are put under heading of corporate governance.

One famous controlling procedure, proposed by Jenison and Macklin (1976), is that manger should have share in outside equity and debt. According to them, value of firm increases as managerial stack increases in firm's future cash flow, thus aligning the interest managers with minority shareholders and increasing the firm performance. More, managerial ownership may be effective internal corporate governance tool. They identified the fraction of the equity held by the managers as a fundamental to ownership structure. However, while talking about managerial behavior, there is another side of picture proposed by Stulz (1988) and Shelfer & Vishny (1989). According to them, when managers own large share in firm, they become entrenched so yielding negative relationship with profitability at higher level of shareholding (entrenchment effect).

There is vast variety in ownership and group structure of banks in Pakistan where ownership comprises of foreign, family and some state-owned banks. Each type of ownership structure has its own merits and demerits regarding the governance. Few banks work as part of non-bank financial sector having ownership and control from them. In this case, clearness, fairness and transparency in banks regarding lending and investment decisions (especially for those concerning group companies) become a challenging task.

However, no amount of regulatory intervention can fully institutionalize corporate governance unless Boards and senior management of banks appreciate the value addition of corporate governance to their productivity and competitiveness (Akhtar, 2008). Now this study strives to answer this research question in a bit detail. Whether the Pakistani banks have room for managerial ownership just as convergence of interest tool? If so, whether entrenchment effect exists in Pakistani banking sector or not?

The relationship between managerial ownership and bank performance has been tested as it might be effective corporate governance tool. The objectives of the study are: To determine the impact of managerial shareholding on bank performance, to study whether an inverted U-shaped relationship exists between managerial ownership and bank performance, to examine the different ranges of managerial shareholding at which the relationship between managerial ownership and bank performance varies.

The organization of the paper is as follows: after the introduction (Section I), Section II presents the literature review, whereas, Section III describes the theoretical framework. In Section IV, the theoretical model is developed. The data and methodology is described in Section V. Section VI is devoted for discussion of results and interpretation; while the last Section VII concludes the paper and presents some policy recommendations and future areas for research.

2. Literature Review

Morck et al., (1988) used cross-sectional data of 371 firms listed on Fortune 500 firms in order to find relationship between managerial ownership and higher firm performance. Firm performance was primarily measured by Tobin's Q, and managerial ownership was measured as combined shareholdings of all board members having a minimum stake up to 0.2%. The study used a piecewise linear regression in order to capture non monotonic relationship and concluded a significant non-monotonic relationship that increased between 0% and 5%, decreased between 5% and 25%, and again increased after 25% .

McConnell and Servaes (1990) regressed the Tobin's Q on insider and block holder ownership in order to capture any linkage between superior firm performance and insider ownership. This study used two

dissimilar cross-sectional data sets, one for 1976 and another was for 1986. 1000 COMPUSTAT firms were used for analysis. Positive relation was found for insider ownership, but it showed diminishing trend when managerial ownership becomes increased. The relationship between block holder ownership and Q was positive but not significant. The relationship of firm performance and insider ownership showed upward slop until managerial ownership reached 40% to 50% and then sloped slightly downward. Between 0% and 5%, this study found statistically significant positive relationship for insider ownership but could not found this relationship after 5%. However, ownership structure was not endogenized in this study.

DeYoung et al., (2001) argued that sometimes owners do not have proficiency and knowledge to run business. So they hire managers from outside in order to get their knowledgeable services. This out sourcing has benefits but it also engenders agency cost. These researchers, tried to look into whether gain from these out sourcing is greater than agency cost or not. Taking the sample of 266 banks from US for time frame from 1991 to 1994, they applied OLS regression and found clear evidence for convergence of interest hypothesis (showing that hired manager caused the superior bank efficiency at lower level. However, this alignment converted into entrenchment when there was over-holding of ownership by managers, thus clearly following the pattern of inverted U-Shape relationship between managerial ownership and bank efficiency (that was taken as measure of bank performance).

Park and Jang (2010) took restaurant industry and tested the relationship between insider ownership and firm performance. This study found over all positive relationship between firm performance and managerial ownership. The time frame ranged from first quarter of 2001 to fourth quarter of 2006. 251 restaurant firms were selected where total numbers of observations were 1315. Two hypothesis (Convergence-of-interests and entrenchment hypotheses) were tested using cross-section and panel two-stage least square (2SLS) GMM estimation methods both for

linear as well as non-linear models. The quadratic model explored the effect that restaurant firm performance improved/increased until insider ownership ranged between 38% and 40%, after this it decreased. Similarly, the piece-wise regression model illustrated that insider ownership had a significant and positive effect on restaurant performance at array of 5–25% and became negative after 25% insider ownership. So according to this study, convergence-of-interests and entrenchment hypothesis for managerial ownership co-exist in the industry of restaurant. Its mean when convergence-of-interests are prominent, too much giving way of stock options and awards to managers could wane firm performance because of strong entrenchment effects.

Din and Javid (2011) from corporate sector of Pakistan investigated the relationship between managerial ownership and firm performance in the sixty non-financial firms listed on KSE 100 index for the time frame of 2000 to 2007 where panel data set was used with 2sls technique. The study found positive relationship between the corporate performance and manager's ownership concentration. When the managerial ownership was separated in three different ranges, low level (0-5%), and moderate level (5%-25%) and high concentrated (above 25%), the firm performance was positive only at low and moderate level. The ownership after 25% was showing negative relationship with performance thus supporting the entrenchment theory.

Westman (2011) investigated agency problems in European banks. It was argued that agency cost problem may differ in banks with different strategies. The study further argued that non-traditional banks are complicated to monitor as compare to conventional banks, so managerial ownership would improve firm profitability in nontraditional banks. This study used sample of banks from thirty seven (37) different European countries and applied simple OLS regression and found significant positive relationship between

managerial ownership and bank performance in non-conventional banks. However this association did not appear in traditional banks where there was no opacity of activities. This study further explored positive impact of management ownership on profitability. However management ownership did not show impact on risk-adjusted profitability. This is due that management ownership induces risk-taking behavior. It also found inverted U-shape relationship between management ownership and profitability.

3. Theoretical Framework

Most prevailing ownership structure in banking sector of Pakistan are state owned, private and foreign ownership; institutional ownership. These banks have majority/control by different welfare trusts, financial groups and investment trusts etc. In current banking industry, managerial shareholding is not dominant ownership structure. Its mean value is 7.63%. Standard deviation for this variable is 13% quite enough to show large variation in data set where minimum value is 0% and maximum is 63.41%. Most of banks have managerial equity up to 5% (124 obs.). However there are some banks how have managerial shareholding up to 25% or beyond 25 %.(57 obs.). In spite of its lower presence, importance of management and directors is not neglect able as no amount of regulatory intervention can fully institutionalize corporate governance unless Boards and senior management of banks appreciate the value addition of corporate governance to their productivity and competitiveness (Akhtar, 2008). That's why the agency cost theory seems the managerial equity holding as best ownership governance tool. So It looks interesting to explore reality whether managerial equity holding leads convergence of interest or nor? And whether it is good substitute/alternative for ownership structure or not? And most important is comparison of performance of banks having different proportionate of managerial equity holding. This study would tell overall philosophy of management in banking sector of Pakistan. Whether, they become motivated on being owner or go for

wealth expropriation. If they go for convergence of interest then agency theory proposed by Jensen and Meckling (1976) becomes approved. However, in latter case, they may entrench on being owner exhibiting expropriation of wealth.

4. Theoretical Model

Model-1

Three models have been tested to capture relationship between managerial ownership and bank performance (ROA) by using 2SLS where managerial ownership is considered endogenous which is instrumented by instrumental variables.

First model is quadratic model that takes linear term of managerial ownership and square of managerial ownership in order to capture non linearity of relationship between managerial ownership and firm performance. This model determines whether there is inverted U-shaped relationship between managerial ownership or not.

Expected sign: Here, in accord with theory of entrenchment, researcher is expecting significant positive sign with linear term of managerial ownership (MAOWPER) and significantly negative sign with coefficient of quadratic term of managerial-and performance relationship (MAOWPERsq).

Here, endogenous variable (MAOWPER) is regressed over instrumental variables (no. of insiders, size-sq and second lag of independent variables). Size square is used in order to introduce non-linearity in model 1 & 3 ((Park & Jang, 2010). Main model is as follow:

$$\text{LogF.P}_{it} = \beta_1 + \beta_2 \text{SIZE}_{it} + \beta_3 \text{BLOCKDUM}_{it} + \beta_4 \text{LogLIQUIDITYRISK}_{it} + \beta_5 \text{LogCREDITRISK}_{it} +$$

$$\beta_6 \text{MAOWPER}^*_{it} + \beta_7 \text{MAOWPERsq}_{it} + \mu_{2it} \quad (1)$$

Where $i = 1, 2, 3 \dots 23$; representing the number of cross sections/banks used in study

$t = 1, 2, 3 \dots 8$; shows time period (number of years) used in study

Where

MAOWPER^*_{it} = Fitted value of MAOWPER for bank i^{th} at time t^{th} (obtain from Eq. (1))

LogF.P_{it} = log of firm performance of bank i^{th} at time t^{th} (where measured by ROA)

SIZE_{it} = size of bank i^{th} at time t^{th}

BLOCKDUM_{it} = presence /absence of block holder for bank i^{th} at time t^{th} (dummy variable)

$\text{LogLIQUIDITYRISK}_{it}$ = log of liquidity risk for bank i^{th} at time t^{th}

$\text{LogCREDITRISK}_{it}$ = log of credit risk for bank i^{th} at time t^{th}

MAOWPERsq_{it} = square of MAOWPER for bank i^{th} at time t^{th}

μ_{2it} = error term for bank i^{th} at time t^{th} measuring the effect of excluded variables

β_1 = intercept term

[$\beta_2, \beta_3, \beta_4, \beta_5, \beta_6, \beta_7$ are slop coefficients measuring percentage change (elasticity) where expected signs are $\beta_2 > 0, \beta_3 > 0, \beta_4 > 0, \beta_5 > 0, \beta_6 > 0, \beta_7 < 0$]

Model-2

Dummy variables model compares the expected mean performance over three groups, where two dummy variables are used DM1 and DM2. DM1 is dummy that takes the value 1 if managerial ownership is between 5% to 25% otherwise it takes the 0. DM2 takes 1 if managerial ownership is above 25% otherwise it takes 0. Intercept takes the value as reference group where managerial ownership is between 0 to 5% (Park & Jang, 2010). Idea to make 5% as turning point is that SECP requires the proper disclosure if ownership holding exceeds the 5%. 25% point is introduced as beyond 20-30% hostile takeover become impossible and management becomes entrenched after this point (Morck, et al., 1988).

$$\begin{aligned} \text{LogF.P}_{it} = & \partial_1 + \partial_2 \text{SIZE}_{it} + \partial_3 \text{BLOCKDUM}_{it} + \\ & \partial_4 \text{LogLIQUIDITYRISK}_{it} + \partial_5 \text{LogCREDITRISK}_{it} + \partial_6 \\ & \text{MAOWPER}^*_{it} + \partial_7 \text{DM1}_{it} + \partial_8 \text{DM2}_{it} + \mu_{3it} \end{aligned} \quad (2)$$

Model-3

Third model uses three variables for managerial ownership that suppose the continuous relationship over three ranges MO1, MO2 and MO3. As this research is assuming non-linear relationship between managerial ownership and firm performance so positive relationship is expected for MO1 and MO2 and negative relationship for MO3. We take three independent variables one by one which are created by using Linear SPLINES (piecewise linear regression). Linear SPLINES allow estimating the relationship between y and x as a piecewise linear function, which is a function composed of linear segments —straight lines. One linear segment represents the function for values of x below x₀; another linear segment handles values between x₀ and x₁, and so on. The linear segments are arranged so that they join at x₀, x₁ and so on...which are called the knots. Here knots are introduced at 5% and 25% as explained in model 2 (Din & Javid, 2011; Himmelberg, et al., 1999; McConnell & Servaes, 1990; Morck, et al., 1988; Park & Jang, 2010).

$$\text{LogF.P}_{it} = p_1 + p_2\text{SIZE}_{it} + p_3\text{LogLIQUIDITYRISK}_{it} + p_4\text{LogCREDITRISK}_{it} + p_5\text{MAOWPER}^*_{it} + p_6\text{MO1}_{it} + p_7\text{MO2}_{it} + p_8\text{MO3}_{it} + \mu_{4it} \quad (3)$$

5. Data and Methodology

This study uses data of 23 banks¹ listed on KSE for time period 2006 to 2013 (179 obs.). Relationship between managerial ownership and firm performance is assumed to be endogenous which is due to Simultaneity. This exists when two variables are determined by each other simultaneously as performance is determined by managerial ownership and managerial ownership is determined by performance. Literature review suggests this type of endogenous relationship (Demsetz & Villalonga, 2001; Drakos & Bekiris, 2010; Park & Jang, 2010; Schultz, et al., 2010).

Endogeneity test is performed in order to find whether endogenously treaded regressors in the models are actually exogenous or correlating with residual. Wooldridge's (1995) robust score test and robust regression-based test score are used in this study. Statistically significant results in both test indicate that variable is endogenous and least square would not provide consistent results so one should go for using instrument variables (2sls etc). Here managerial ownership is considered as endogenous with bank performance and is instrumented with number of insiders (number of persons who held shares including directors, management and their minor & children) and lag values all independent variables (managerial ownership, size, liquidity risk, credit risk at 2nd lag).

This study reports Wooldridge's (1995) robust score test to check validity of instruments. Statistically insignificant results indicate instruments are valid. Relevance of instruments has been checked by first stage regression with null hypothesis as 'instruments are weak.' Size,

¹ See appendix 2 for list of banks included in study

liquidity risk, credit risk and block holder dummy is used as control variables.²

6. Results and Interpretation

Table 1 reports the results of models with ROA as a measure of firm's performance.

Table 1: Models with ROA as a measure of firm's performance.

| Variables | Model-1 | Model-2 | Model-3 |
|-----------|---------------------------------------|------------------------------------|--------------------------------------|
| MAOWPER | 0.00087*** [0.0004] (0.071) | | |
| MAOWSQPER | -0.000017*** [9.81e-06] (0.068) | | |
| DM1 | | 0.01638 [0.0107] (0.128) | |
| DM2 | | 0.06539*** [0.0366] (0.075) | |
| MO1 | | | 0. .00217 * [0. .0007] (0.002) |
| MO2 | | | -0.00276* [0 .0009] (0.003) |
| MO3 | | | 0.00071 ** [0 .0003] (0.026) |
| SIZE | 0.00927 * [0.00149] (0.000) | 0.00878* [0.00209] (0.000) | 0.00809 * [0. 0013] (0.000) |

² See appendix 1 for detail of variables

| | | | |
|----------------------------------|---|--|---|
| LOGCREDITRISK | -0.03827* [0.0121] (0.002) | -0.00544 [0.0126] (0.667) | -0.0288 ** [0.011] (0.013) |
| LOGLIQUIDITYRISK | 0.02064** [0.0111] (0.063) | -.01737 [0.0118] (0.141) | 0.0087 [0.010] (0.388) |
| BLOCKDUM | 0.00060 [0.00187] (0.746) | 0.00654* [0.0019] (0.001) | |
| Constant | -0.05575* [0.014] (0.000) | -0.0508* [0.0184] (0.006) | -0.0451* [0.0124] (0.000) |
| R ² | 16% | Not reported ³ | 25% |
| First stage F-stat | 3.916* (0.001) | 1.65 (0.1495) | 12.98* (0.000) |
| Over identification test(chi-sq) | 10.288 ⁴ (0.0675) | 6.88 ⁵ (0.1426) | 12.07 ⁶ (0.0603) |
| Endogeneity test chi-sq | 3.488*** (0.0618) | 6.31** (0.0120) | 4.62** (0.0315) |
| Instrumental variables | 1)No. of insider 2)Size-sq 3)2 nd lag of all independent variables | 1)No. of insider 2)2 nd lag of all independent variables | 1)No. of insider 2)Size-sq 3)2 nd lag of all independent variables |

Source: Authors's own

Endogeneity test was performed to test the endogeneity between managerial ownership and bank performance. The results identified that managerial ownership and bank performance was having significant endogeneity problem as value of chi-square was 3.488***,

³ Because these instruments appear to be weak in model 2

⁴ It is insignificant at 5% level

⁵ It is insignificant at 10% level

⁶ It is insignificant at 5% level

Where **, ***, *** show significance level at 1%, 5% and 10% respectively

Values in [] and () represent standard errors and probability respectively

6.31*, 4.62** respectively in all three models. So 2SLS (two-stage least square regression) was an effective analysis tool for these models. Secondly, the selected instrument variables were tested for their relevance and validity. To check relevance, first stage regression was considered. Null hypothesis H_0 , that all instruments are irrelevant was rejected even at 1% level of significance for model 1 and model 3. However it could not be rejected for model 2 showing that Instruments were weak in model 2.

For all 3 models, over identifying restriction test was insignificant at 5%, 10% and 5% respectively, which means that instruments were valid in all three models.

Results for Model 1 confirm inverted u-shape relationship between managerial ownership and bank performance as both linear term and quadratic terms are significant at 10% level with positive and negative signs respectively. This model confirms the entrenchment effect in banking sector of Pakistan. Model 2 and model 3 explore this relationship at various ranges of managerial ownership. Model 2 uses dummy variables to compare managerial ownership and firm performance relationship at various level of managerial ownership (<5, 5-25, >25). Here DM1 is positive but insignificant where DM2 is significant with positive sign. Positive sign at DM2 indicate that after 25% of managerial shareholding this relationship becomes positive. These results are not consistent with model 1 which indicated inverted U-shape relationship between managerial ownership and firm performance. However these results are consistent with model 3 where MO3 is significant at 10 % with positive sign showing that after 25% of managerial shareholding this relationship becomes positive. This discrepancy between model 1 and model 2 & 3 can be well explained by magnitude of coefficients in model 3. Absolute value of MO2 is higher than MO3 [0.00276] > [0.000715] that's why MO2 force over MO3 and ultimately overall negative sign appears in model 1 with quadratic term. Another reason might be that very

few observations falls in MO3 category that's why there effect fades away in model 1 that is quadratic model. However MO1 is significant with positive sign confirming linear term of model 1.

Significant positive relationship has been found between size (control variable) and profitability. This sign is according to expectations as assets are things that generate/earn cash flows for business. Size also brings economies of scale. It also reduces funding costs for banks and they become too big to fail (government strategy). This study finds negative relationship between credit risk and bank profitability. Negative relation may be due to an increasing number of potentially default borrowers (unpaid loans) which can ultimately decrease profitability so making negative relationship with bank performance. Liquidity risk shows positive relationship with bank performance that can be explained as higher risk-higher return.

7. Conclusion and Policy Recommendations

The present study tries to explore impact of managerial ownership on bank performance in order to determine whether it could be a good internal corporate governance tool or not? Jensen and Macklin (1976) proposed linear positive relationship between managerial ownership and firm performance. However management entrenchment theory (Shleifer & Vishny, 1989; Stulz, 1988) proposed that this relationship would become negative after some point.

So this study uses quadratic model that includes both linear and nonlinear terms (model 1). Besides this, dummy variable model (model 2) and piecewise linear model (model 3) have been used to testify this relationship over various ranges of managerial ownership.

Results for model 1 confirm the presence of entrenchment effect in banking sector of Pakistan suggesting that when managers own small fraction of shares, probability for successful takeover increases, so threat of this takeover disciplines the management and ultimately firm

performance increases. However when managers own large fraction of shares, probability for successful takeover decreases, managers become free in determining firm policies and ultimately firm performance decreases. So based on model 1, managerial ownership is good governance tool which brings convergence of interest so managers should be awarded with stock option but up to certain threshold because much giving way of stock options could wane firm performance due to entrenchment effect.

However model 2 & 3 explore this relationship at various levels of managerial shareholding suggesting that this relationship is significantly positive beyond 25% levels of managerial shareholding. This contradiction in results with model 1 can be well explained by small magnitude of coefficients and small number of observation beyond 25% level due to which this positive relationship has been cancelled by negative effect leaving net negative effect in model 1 showed by quadratic term. This discrepancy suggests that natural knots of data should be determined to find exact relationship over various ranges of managerial ownership.

Negative relationship between credit risk and bank profitability suggests that there is need to improve quality of loans which can be possible by more tight screening of borrowers.

Future areas for research are as follow: 1) Relationship between managerial ownership on bank performance could be examined while controlling for macroeconomic variables. 2) Relationship between managerial ownership and firm performance may differ in different industries, so it could be examined in other industries separately.3) Relationship of managerial equity holding and firm performance in banking sector of Pakistan should be analyzed differently under different identity of ownership such as foreign, state owned, institutional etc.

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Appendix 1

Table 2: Variables and Their Expected Signs

| S.n | Variable | Explanation |
|-----|----------|--|
| 1 | ROA | Net income to total assets ratio, performance measure |
| 2 | ROE | Net income to total equity ratio, also performance measure |

| Independent variables (Managerial ownership is endogenous variable) | | |
|---|--|--|
| Variable | Explanation | |
| MAOWPER | Percentage of shares held by managers and directors | + |
| MAOWPERsq | Square of MAOWPER | + with linear term , - with quadratic term |
| MO1 | Managerial shareholding < 5% | + |
| MO2 | 5% <= Managerial shareholding < 25% | + |
| MO3 | Managerial shareholding >=25% | - |
| DM1 | =1, if 5% <= Managerial shareholding <25% =0, otherwise | + |
| DM2 | =1, if Managerial shareholding >=25% =0, otherwise | - |

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| Control variables | | | |
|-------------------|------------------|--|---|
| 1 | SIZE | Log to total assets to measure size | + |
| 2 | LogCREDITRISK | Log of Ratio of loans to total assets | + |
| 3 | LogLIQUIDITYRISK | Log of Ratio of loans to deposits | + |
| 4 | BLOCKDUM | = ["1', if legal or natural person shareholding g ['0'otherwise] | + |

| Instrumental variables | | | |
|------------------------|--|--|--|
| 1 | INSIDERSNUM | Number of insiders(no. of directors & shareholders who have shares) | |
| 2 | Size-sq | Square of size in model 2 & 4 in order to introduce non-linearity | |
| 3 | 2 nd lag of independent variables | tMAOWPERlag, SIZElagt, LOGCREDITRISKlagt, LOGLIQUIDITYRISKlagt, BLOCKDUM | |

Appendix 2

Table 3: List of Banks Included In Study

| S. NO | BANK NAME | S. NO | BANK NAME | S. NO | BANK NAME | S. NO | BANK NAME | S. NO | BANK NAME |
|-------|---------------|-------|-------------------------|-------|--------------|-------|----------------------|-------|-------------------------|
| 1 | ALLIED BANK | 6 | BANK OF PUNJAB | 11 | MCB | 16 | UBL | 21 | BANK OF KYBAR |
| 2 | ASKARI BANK | 7 | FAYSAL BANK | 12 | MEEZAN BANK | 17 | SILK BANK | 22 | STANDARD CHARTERED BANK |
| 3 | BANK ALFA LAH | 8 | HABIB BANK | 13 | NIB | 18 | MY BANK ⁷ | | |
| 4 | BANK AL-HABIB | 9 | JS BANK | 14 | SAMBA BANK | 19 | SONERI BANK | 23 | HABIB METROPOLITAN BANK |
| 5 | BANK ISLAMIC | 10 | KASAB BANK ⁸ | 15 | SSUMMIT BANK | 20 | NATIONAL BANK | | |

⁷ My bank has been delisted from KSE in 2010-11, however prior financial statements are available making data unbalanced due to not full record of annual reports.

⁸ Kasab bank has been amalgamated with Bank Islami due to not fulfilling minimum capital requirement on May 8th, 2015 (Friday)

<http://www.kasbank.com/bank/Contact.aspx>, <http://www.dawn.com/news/1180621>

Job Satisfaction and Emotional Exhaustion of Emergency Services (Rescue 1122) Employees in Pakistan

Khizra Safdar Khan* and Shehroze Asif**

Abstract: The purpose of this study was to check the affective commitment of the employees of Rescue 1122. In addition, the study aimed to explore the satisfaction as well as the level of emotional exhaustion among employees in reference with their jobs. The study was carried an employees working in Rescue 1122. Total 170 questionnaires were distributed among the employees of the company out of which 140 were recovered. Furthermore, Pearson Correlation analysis was conducted to check the relationship between emotional exhaustion and affective commitment and between job satisfaction and affective commitment. The results suggest that employees perceptions of affective commitment is positively related to their perceptions of job satisfaction while employees perception of affective commitment is negatively related to their perceptions of emotional exhaustion.

Keywords: Job Satisfaction, Emotional Exhaustion, Affective, correlation, Statistical estimation, Normality, Qualitative analysis

JEL Classification: J28, C13, C25

1. Introduction

The most important thing for the organization in today's world is to retain the motivated people in the organization (Sonia, 2010). A well-managed organization sees worker as the root cause of quality and productivity. An effective organization will always promote a sense of commitment and satisfaction among its employees. The significance of the concept of affective commitment in terms of desirable outcomes such as increased productivity, reducing absenteeism and turnover has already been documented in many studies such as Porter *et al.*, (1974).

Medical Service sector is an important and crucial sector in any country either developed or developing particularly the Emergency Service Units. World has changed rapidly in the last decade as the bloodshed became the daily talk of the news. Pakistan has effected severely in this era after 9/11.

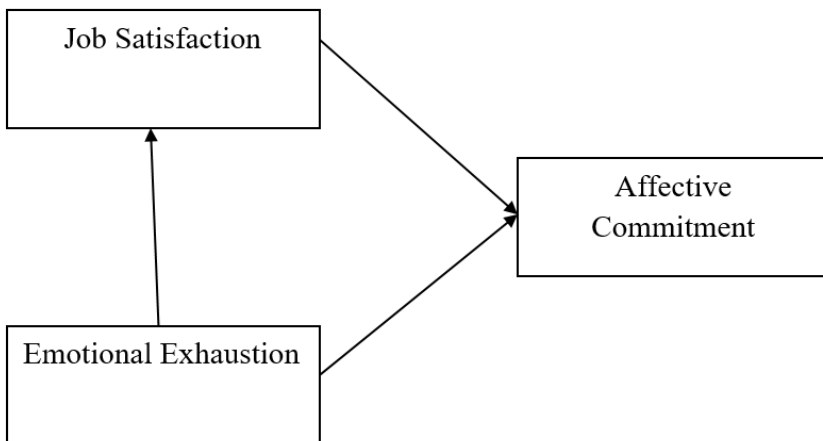
*.** The author are affiliated with GIFT Business School, GIFT University Gujranwala-52250, Pakistan. Email: khizra.safdar@gift.edu.pk

Bomb Blasts, suicide bombings, target killings are all the stories we are now much familiar with it. In this case, the emergency services employees has to face different situations daily which can affect them emotionally as well as can vary their satisfaction and commitment towards the job.

The concepts of these two variables have extensively examined in organization behavior literature, however, relationships between job satisfaction and emotional exhaustion on affective commitment have received scarce attention for emergency services employees particularly in Pakistan. Therefore, it is important to have some research on job satisfaction and emotional exhaustion along with their effect on affective commitment of the employees of the employees of Rescue 1122. The objective of the study is to identify the relationship between affective commitment, job satisfaction, and emotional exhaustion and to check the impact of Burnout on job satisfaction.

2. Theoretical Framework

Figure 1: Relationship of Job Satisfaction, Affective Commitment and Emotional Exhaustion



Source: Author's own compilation

3. Literature Review

Job satisfaction has remained a remarkable area of discussion in the field of management, psychology and especially in the organizational behavior and human resource management, for a long period (Rizwan, 2010). For an organization to be successful, it is mandatory that those people who are working in your firm must be satisfied with their work because satisfied worker is the efficient worker (Tenkorang, 2012). What are those factors or elements, which is to be proved vital in satisfaction and dissatisfaction of workers? Now in today's world when we talk about labor in a place of work it does not mean individual functioning for income or for remuneration. For any company to flourish its business it is compulsory that those people who are functioning in your corporation must be pleased with their job because satisfied employee is the competent employee (Tenkorang, 2012).

Organizational commitments allow the workers to work more efficiently and competently for the company. As a result, organizations repeatedly try to encourage commitment in their staff in order to attain permanence and decrease turnover. As an attitude, organizational commitment can be considered as willingness, intention or positive feeling to just remain the member or part of any particular organization. Moreover, a feeling or desire to be in the same workplace environment as in they are now. There are three mindsets, which can be characterized an employee's commitment to the organization. Normative Commitment involves the workers mindset of responsibility to keep continue with the company. Our focus will be an affective commitment.

4. Data and Methodology

4.1 Research Design

The study is been conducted to have an apparent and understandable view about the level of satisfaction and commitment among the employees of rescue 1122. In this study, affective commitment is being analyzed through the levels of satisfaction and emotional exhaustion at work. The research was conducted on rescue 1122 in Gujranwala, Lahore, and

Rawalpindi. The respondents were the employees working in Rescue 1122. The data was collected from person to person, which means that the unit of analysis is based on individuals.

4.2 Instrument Development

The data was collected through questionnaire, which was adopted, and for the measurement of responses, we use Likert Scale. The responses were measured by the given options i.e. 1 which was denoting Strongly Disagree, 2 used to denote Disagree, 3 was denoting Neutral, 4 was representing Agree and 5 was used for Strongly Agree).

4.3 Data Collection Procedure

The data was collected through questionnaires from the employees of Rescue 1122. Total 170 questionnaires have been distributed among the employees out of whom 140 were recovered and useable.

4.4 Data Analysis Techniques

For the analysis of the data, Pearson Correlation Analysis and Regression Analysis are used. The Pearson correlation is used when you have two variables that are normal/scale. Correlation matrix indicates the association among all the pairs of the variables. Correlation tells about the strength of the relationship along with direction of relationship. To check the impact of IV on DV Regression analysis is conducted. It is also used to predict the dependent variable through independent variable(s).

5. Results and Analysis

5.1 Demographics

Out of 100, 95% of the respondents were male who had filled the questionnaire and the remaining respondents were female which are 5% of the population. The respondents, which have age bracket of less than 25 years those are 1.4 % while respondents lying in the age of 25-35 are 98.6

%, of the total population. Out of 100, 47.1% of the respondents are married, 52.9% respondents are single. 7.1% of our population is working as SVO (Specialized Vehicle Operator), 15% as fire rescuer, 48.6% are either rescuer or Dirt rescuer and the remaining 29.3% of the respondents are from admin. While looking at the number of years served, 16.4% of the respondents are working in the organization since 2 to 4 years and 83.63% of our population is working in the company for more than 5 years. Data is collected from three cities. 22.1% from Gujranwala, 45.7% form Lahore and the remaining 32.1% of the data is being collected form Rawalpindi and Islamabad. While looking at the income group 13.6% of the population is working on less than Rs.22000 per month, a vast majority of our sample i.e. 79.3% is working between the incomes groups of Rs.22000 to Rs.25000 per month while 7.1% is earning between Rs. 25001 to Rs. 35000. Of our population 24.3% is having either 1 or 2 children, 3.6% of the total population has either 3 or 4 children, 6.4% of our population have more than 4 children while the rest of 65.7% has no children.

Table 1: Demographic Analysis

| Variable | Category | Percent | Variable | Category | Percent |
|----------------|----------|---------|----------|------------|---------|
| Gender | Male | 95 | City | 5 - 8 | 83.6 |
| | Female | 5 | | Gujranwala | 22.1 |
| Age | Below 25 | 1.4 | | Lahore | 45.7 |
| | 25-35 | 98.6 | | Rawalpindi | 32.1 |
| Marital Status | Married | 47.1 | Income | Below 22K | 13.6 |
| | Single | 52.9 | | 22 - 25 K | 79.3 |
| Position | SVO | 7.1 | Children | 25 - 35 K | 7.1 |
| | FR | 15 | | 1 - 2 | 24.3 |
| | DR/R | 48.6 | | 3 - 4 | 3.6 |
| | Admin | 29.3 | | Above 4 | 6.4 |
| Years | 2 - 4 | 16.4 | | No Child | 65.7 |

Source: Author's own compilation.

5.2 Data Screening and Cleaning

There are four purposes of data screening and cleaning which are:

- (a) To check if the data have some values that is out of range.
- (b) To check if there exist some missing value or not.
- (c) To check the outliers in the data.
- (d) To check the normality of the data.

5.2.1 Out of range

Run descriptive statistics on the data and the results clearly shows that there is no out of range value exists in the data.

5.2.2 Missing Values

After running the EDA the results do not show any missing value present in the data.

5.2.3 Outliers

Outliers are farthest values as put side by side to the rest of the data. The determination of values as “outliers” is skewed. Outliers can be of two forms, the one is Mild which can be identified as a circle in the results. Mild outliers mean that the outlier is not too far away from the data. The second type of outlier is Extreme, which can be identified as a star in the results. Extreme outliers show the result is far away from the data.

It is possible the outlier is due to a data entry mistake. Maybe the question is poorly worded or constructed. There exist some outliers in our data, which is removed by two methods:

- The mild outliers are replaced by taking the average of that particular item or variable.

- The extreme outliers are removed by taking the previous value and subtracting 1 from it and if it is at lower end than take next value and add 1 to it.

5.3 Normality

By running the EDA the results of skewness and kurtosis should be zero for normality but it can never be at zero. Our data results for skewness and kurtosis are close to zero in some cases and in some cases, it exists far from zero. The value of skewness and kurtosis must lie within +1 and -1. Therefore, we rely on the results of Skewness and kurtosis. Table 2 shows the results of skewness and kurtosis.

Table 2: Normality

| Items | Skewness | Kurtosis | Items | Skewness | Kurtosis | Items | Skewness | Kurtosis |
|------------------|----------|----------|------------------|----------|----------|------------------|----------|----------|
| JS1 | .181 | -1.252 | EE1 | -.678 | .022 | EE1 ₃ | -.350 | -1.505 |
| JS2 | -.513 | 1.865 | EE2 | .555 | -.824 | AC ₁ | -.133 | -1.080 |
| JS3 | .019 | -.931 | EE3 | -.469 | -.808 | AC ₂ | -.826 | -.810 |
| JS4 | -.300 | -1.010 | EE4 | -.961 | 2.017 | AC ₃ | .009 | -1.256 |
| JS5 | .180 | -.753 | EE5 | -.077 | -.347 | AC ₄ | -.536 | -.164 |
| JS6 | .065 | -.408 | EE6 | .307 | -1.401 | AC ₅ | .374 | -.797 |
| JS7 | -.137 | -.712 | EE7 | -.959 | .603 | AC ₆ | -.023 | -1.234 |
| JS8 | .176 | -1.325 | EE8 | -.645 | -.309 | AC ₇ | -.476 | -.400 |
| JS9 | -.316 | -.738 | EE9 | -.085 | -.884 | AC ₈ | -.878 | 1.016 |
| JS1 ₀ | -.297 | -1.086 | EE1 ₀ | -.291 | .002 | AC ₉ | -.848 | 1.495 |

| | | | | | | | | |
|----------|-------|-------|----------|-------|-------|----------|--------|------|
| JS1 1 | -.657 | -.600 | EE1 1 | -.880 | -.053 | AC 10 | -1.168 | .692 |
| JS1 2 | .449 | -.348 | EE1 2 | .106 | -.141 | AC 11 | -.485 | .535 |
| JS1 3 | -.213 | -.896 | | | | | | |

Source: Author's own compilation.

5.4 Reliability

Reliability is run to check the connection between all proportions of a particular variable. It checks that all the objects or items in a variable are hand together and describe a single conception from different perspective It also relate the internal consistency between the items. For that intention we use the value of Chronback Alpha. The condition for reliability is that the value of chronback alpha should be greater than 0.60. Table 3 shows the reliability of all independent variables.

Table 3: Reliability Analysis (Inter Item Consistency)

| Serial name | Variable name | Cronbach's alpha | no of items |
|-------------|---------------|------------------|-------------|
| 1 | JS | 0.606 | 5 |
| 2 | EE | 0.649 | 9 |
| 3 | AC | 0.676 | 11 |

Source: Author's own compilation.

5.5 Factor Analysis

Factor analysis is permutation of methods, which is used to examine how our construct scales influence the response of related variables.

Many scientific studies are supported by the reality that different variables are used to distinguish objects. Even though the use of these variables the study turns out to be complex but it is a good way to measure the different aspect of same underling variable.

Factor Analysis and most Principle Components Analysis both are used to contract the enormous data of objects to smaller form of scope and components. These practices are used when questionnaire is used in study to investigate the relationship between the items. It is furthermore used in general to minimize a larger set of variables to a smaller set of variables that clarify the important degree of inconsistency.

The EFA has two assumptions, which have to fulfill for rendering of further analysis:

- i. The value of KMO should be greater than 0.6.
 - ii. The score of Bartley's test significance should be less than 0.05.
- EFA shows that the reflection of items on the variable. Table 4 shows the loading score and the values of KMO and Bartley's test.

Table 4: Exploratory factor analysis

| Serial no | JS | EE | AC |
|--------------------|-------|-------|-------|
| 1 | .544 | .032 | .247 |
| 2 | .822 | .381 | .353 |
| 3 | .704 | .772 | -.148 |
| 4 | .530 | .235 | .400 |
| 5 | .492 | -.021 | .707 |
| 6 | | -.193 | .772 |
| 7 | | -.482 | -.047 |
| 8 | | .138 | -.295 |
| 9 | | -.437 | -.262 |
| 10 | | | .003 |
| 11 | | | -.183 |
| Variance explained | 40.00 | 57.98 | 60.03 |
| KMO | 0.600 | 0.600 | 0.627 |
| Barttlet | .000 | .000 | .000 |

Source: Author's own compilation.

In the above results, the value of KMO in all the cases is either greater than .60 or equal to .60. In the first case, only KMO was slightly less than .60 at .585 by rounding off the figure it came closer to .60. It means that

all the variables are fulfilling the assumption and the value of Bartlett test is significant in all cases.

5.6 Descriptive Analysis

The study is a quantitative type so the data collected from questionnaires and run all analysis on the basis of that collection of data. Sample size was 105. Mean represents the average level. It is calculated by summing or adding up all values and dividing it by total number of respondents. Standard deviation interprets about the spread of the data. It is the square root of average of squared deviations from mean. Minimum and maximum shows responses of majority of the respondents of questionnaires. It also helps to check the minimum response and the maximum response given by the respondent. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution.

Average level of achievement in the work for employees is 3.57 with a standard deviation of .5586. It means that the average response of the respondent trend in the first variable is going towards 'agree', which is according to likert scale and its variation is below than 1 and its minimum value is 2.00 while the maximum value is 4.80. Data is normal because if the value of skewness is between +1 to -1 then it considered being a normal data.

Table 5: Descriptive Analysis

| Variables | N | Mean | Std. Deviation | Minimum | Maximum | Skewness | Kurtosis |
|-----------|-----|------|----------------|---------|---------|----------|----------|
| JS | 140 | 3.21 | .5875 | 2.20 | 4.60 | .543 | -.358 |
| EE | 140 | 3.39 | .4586 | 2.22 | 4.22 | -.852 | .399 |
| AC | 140 | 3.61 | .4577 | 2.36 | 4.55 | -.260 | -.796 |

Source: Author's own compilation.

5.7 Correlation

The Pearson correlation is used when two variables that is normal/scale. Correlation matrix indicates the association among all the pairs of

variables. Correlation expresses about the strength of the relationship along with direction of relationship. Strength of the relationship can be check from its value and the direction of the relationship can be found from its sign, which is either positive or negative. Direction means positively correlated or negatively correlated. The correlation matrix shows how other independent variables and dependent variable are strongly correlated with each other. Secondly, to check the strength and direction of the variable.

99% and 95% is the confidence level that the data had collected truly correlated. The given table gives the data of three variables. The first variable Job Satisfaction shows a weakly negative relationship with emotional exhaustion i.e. -.331. It shows those independent variables are not correlated with each other.

Table 6: Correlation

| Variables | JS | EE | AC |
|-----------|---------|---------|----|
| JS | 1 | | |
| EE | -.331** | 1 | |
| AC | .454** | -.218** | 1 |

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Source: Author’s own compilation.

5.8 Regression

To check the impact of IV on DV Regression analysis is conducted. It is also used to predict the dependent variable through independent variable(s). It also indicates that how much the dependent variable will change by changing one unit of independent variable(s). If the value of all IV remains zero, then DV will remain at constant. It is also used to test hypothesis to determine the existence of significant relationship between X and Y by testing β (slope of population) is equal to zero. To apply regression to test the hypothesis of the study i.e. rejected or accepted. Significance means that the p value must be less than .05. If the p value is

significant than our hypothesis is accepted otherwise it will be rejected. The table gives the results of our independent variable that affect our predicted variable i.e. Affective Commitment of employees of Rescue. If the change is one unit of job satisfaction the dependent variable or affective commitment will be changed by .334 units. R square represents the fitness of the model and in cross sectional data, the r square value should not be less .20 as well as it should not be higher than .50.

Table 7: Regression Analysis

| variables | B | S.E | t-value | p-value | Hypothesis |
|-----------|-------|------|---------|---------|------------|
| Constant | 2.798 | .390 | 7.167 | .000 | |
| JS | .334 | .063 | 5.330 | .000 | Supported |
| EE | -.076 | .080 | -.951 | .000 | Supported |

Note: $R^2=.211$, $f(1, 103)=2.780$, $P \text{ value} < .05$

| variables | B | S.E | t-value | p-value | Hypothesis |
|-----------|-------|------|---------|---------|------------|
| Constant | 4.657 | .353 | 13.205 | .000 | |
| EE | -.424 | .1.3 | -4.115 | .000 | Supported |

Note: $R^2=.109$, $f(1, 103)=5.246$, $P \text{ value} < .05$

Source: Author's own compilation.

5.8.1 Discussion

The results show that the first hypothesis is not rejected. The study depicts that there is a positive relationship between the employees' perceptions of job satisfaction and affective commitment as suggested in hypothesis 1. The second hypothesis is also not rejected as results show that there is a negative relationship between employee's perceptions of emotional exhaustion and affective commitment. Likewise, the third hypothesis is also not rejected; there is an effect of job satisfaction and emotional exhaustion on affective commitment. Perceptions of the employee's affective commitment depend on their perceptions of job satisfaction and emotional exhaustion. Similarly, Fourth hypothesis is not rejected too; there exists a high level of job satisfaction and emotional exhaustion in employees working in Lahore as compared to Gujranwala and Rawalpindi. Therefore, job satisfaction and emotional exhaustion are primary antecedents of affective commitment.

5.9 Demographics Based Analysis

To investigate further and through more detailed and elaborative view of study analysis based on the demographics are conducted. In Table 8 analysis was conducted on City basis to compare the three cities. After analysis, the results showed that the employees of the city, which has seen less bloodshed, are not emotionally exhausted but they are less satisfied with their jobs. Moreover, in case of Lahore the most struck city from the start of bloodshed era, its employees are satisfied with jobs as well as they are not emotionally exhausted with their jobs. On the other hand, employees working in Rawalpindi are emotionally exhausted as well as they are not satisfied with their jobs.

Table 8: City Wise Analysis

| City | Model | Variables | B | S.E | t value | p value |
|------------|-------|-----------|-------|-------|---------|---------|
| Gujranwala | 1 | Constant | 3.612 | 1.278 | 2.826 | .009 |
| | | JS | .298 | .202 | 1.473 | .152 |
| | | EE | -.325 | .244 | -1.333 | .193 |
| Lahore | 1 | Constant | 1.993 | .499 | 3.994 | .000 |
| | | JS | .450 | .087 | 5.171 | .000 |
| | | EE | .043 | .096 | .448 | .656 |
| Rawalpindi | 1 | Constant | 5.166 | .689 | 7.496 | .000 |
| | | JS | .033 | .096 | .344 | .733 |
| | | EE | -.485 | .152 | -3.188 | .003 |

Source: Author’s own compilation.

In the Table 9 analysis was conducted on Marital Status wise to compare the level of Job Satisfaction and Emotional Exhaustion. After analysis, the results shown that the Married Employees are less satisfied with their jobs but they are not emotionally exhausted. On the other hand, employees who are single has satisfied with their jobs as well as they are not emotionally exhausted.

Table 9: Marital Status

| Status | Model | Variables | B | S.E | t value | p value |
|---------|-------|-----------|-------|------|---------|---------|
| Married | 1 | Constant | 3.258 | .762 | 4.275 | .000 |
| | | JS | .281 | .113 | 2.488 | .016 |
| | | EE | -.174 | .141 | -1.233 | .222 |
| Single | 1 | Constant | 2.708 | .487 | 5.559 | .000 |
| | | JS | .337 | .087 | 3.881 | .000 |
| | | EE | -.045 | .124 | -.364 | .717 |

Source: Author’s own compilation.

In table 10 analysis conducted, that is based on number of years with the organization to check the level of Job Satisfaction and Emotional Exhaustion. After conducting analysis the results shown that the employees working between 2 - 4 years are satisfied with their jobs as well as they are not exhausted with their jobs. On the other hand, the employees working between 5-8 years are satisfied with their jobs as well as they are not emotionally exhausted.

Table 10: Year Wise

| No. Of Years | Model | Variables | B | S.E | t value | p value |
|--------------|-------|-----------|-------|------|---------|---------|
| 2-4 Years | 1 | Constant | 2.195 | .417 | 5.257 | .000 |
| | | JS | .686 | .080 | 8.598 | .000 |
| | | EE | -.182 | .094 | -1.946 | .066 |
| 5-8 Years | 1 | Constant | 3.281 | .473 | 6.940 | .000 |
| | | JS | .229 | .073 | 3.145 | .002 |
| | | EE | -.131 | .095 | -1.375 | .172 |

Source: Author’s own compilation.

In table 11 analysis conducted, that is based on income to check the level of Job Satisfaction and Emotional Exhaustion. After conducting analysis

the results shown that the employees having income less than Rs. 22000 are satisfied with their jobs but they are emotionally exhausted with their jobs. On the other hand, the employees having income within 22000-25000 range are satisfied with their jobs as well as they are not emotionally exhausted. While on the other hand employees having income within 25000-35000 range are not satisfied with jobs as well as they are not emotionally exhausted.

Table 11: Income Wise

| Income | Model | Variables | B | S.E | t value | p value |
|-------------|-------|-----------|--------|-------|---------|---------|
| <22000 | 1 | Constant | -1.848 | .899 | -2.056 | .057 |
| | | JS | .658 | .146 | 4.516 | .000 |
| | | EE | .866 | .211 | 4.106 | .001 |
| 22001-25000 | 1 | Constant | 3.230 | .480 | 6.725 | .000 |
| | | JS | .259 | .079 | 3.277 | .001 |
| | | EE | -.139 | .098 | -1.421 | .158 |
| 25001-35000 | 1 | Constant | 10.074 | 5.474 | 1.840 | .108 |
| | | JS | -.670 | .734 | -.913 | .391 |
| | | EE | -1.274 | .982 | -1.298 | .236 |

Source: Author’s own compilation.

6. Conclusion and Recommendations

Working conditions at emergency services are not only intense but also stressful. Investigation of job satisfaction, emotional exhaustion, and affective commitment, and the relationships among them are important research subjects in emergency services. Job satisfaction, emotional exhaustion, and affective commitment are effective factors to enhance organizational performance. Increasing job satisfaction and decreasing emotional exhaustion of emergency services employees would enhance affective commitment of their organizations. Employees with affective commitment demonstrate a willingness to exert considerable effort to serve the organization. The success of organizations is closely related to

the perceptions of employees' job satisfaction and emotional exhaustion and their affective commitment of the organization. This study endeavors to make both a theoretical and practical contribution to existing literature. It enhances the understanding about the antecedents of affective commitment for the emergency services employees. In particular, this is the first study scrutinizing the relationship between the employees' perceptions of job satisfaction, emotional exhaustion and affective commitment at emergency services in public hospitals. According to the findings of this study, perceptions of job satisfaction and emotional exhaustion play an imperative and antecedent role in the formation of affective commitment. Perceptions of the employees' affective commitment are correlated with job satisfaction. Perceptions of the employees' emotional exhaustion have negative correlation with their perceptions of employees' affective commitment. In addition, there is a positive effect of job satisfaction and emotional exhaustion on affective commitment. It has been shown that higher levels of affective commitment were experienced only when employees had higher levels of perceived job satisfaction and lower levels of emotional exhaustion. This study is focused only on Rescue 1122 employees in Pakistan and it cannot be generalized. There is need of a study involving all branches of emergency services units in Pakistan.

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Appendix

| Items | Measurement |
|----------------------|---|
| Job Satisfaction | <p>Do you have enough liberty to treat your patients as you consider better?</p> <p>Do you have enough amount of time for each patient?</p> <p>Do you enjoy good association with your patients?</p> <p>The compensation I receive is enough against the work requirement.</p> <p>There exists harmony of relationships among my colleagues and staff associates.</p> |
| | <p>I receive enough encouragement from my colleagues.</p> |
| Emotional Exhaustion | <p>There exists ample learning opportunities for increasing my knowledge.</p> <p>There exists good chances of promotion and career development.</p> <p>Do you ever treat critically ill patients without sympathy?</p> <p>Do you ever feel that, If there is benefit of your job?</p> <p>Do you think that most unpleasant aspect of your job is night shift?</p> <p>Relatives of some victims think that we are not able to provide optimal medical care for patients</p> <p>I receive too little acknowledgement from my superiors</p> <p>There are days when I feel tired before I arrive at work.</p> <p>It happens more and more often that I talk</p> |

| | |
|-----------------------------|--|
| | <p>about my work in a negative way. After work, I tend to need more time than in the past in order to relax and feel better I can tolerate the pressure of my work very well. I find my work to be a positive challenge.</p> |
| <p>Affective Commitment</p> | <p>During my work, I often feel emotionally drained. Over time, one should leave this type of job When I work, I usually feel energized I have experienced long periods of stress that have affected my family life as well I have had one or more severely stressful events that have affected my well being Do you ever work for long time without leave or days of relaxation? Sometimes I feel sickened by my work tasks After my work, I usually feel worn out and weary</p> <p>I would be very happy to spend the rest of my career with this organization I really feel as if this organizations problems are my own I do not think I could become as attached to another organization as I am to this one My life would be disrupted if I decide to leave my organization now I would be happy to work at my organization until I retire Help is available from my organization whenever I need it. Jumping from organization to organization seems unethical to me I feel a strong sense of belonging to my organization I feel personally attached to my work</p> |

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(Rescue 1122) Employees in Pakistan

| | |
|--|---|
| | organization I am proud to tell others that I work at my organization Working at my organization has a great deal of personal meaning to me |
|--|---|

Exploration of Socio-Economic Lives of Occult Female Domestic Workers (Informal Sector): A Case Study of Lahore

Rukhsar Naeem* and Hania Shabbir**

Abstract: Study was conducted in the area of Lahore and primary data was collected of 40 observations. Qualitative variables were included in the study to highlight two main concerns of the study. Research explored the causes, which urged female domestic workers to choose this profession. Semi structured interviews helped to narrate the journeys of domestic workers and the hurdles they face during their work. Moreover, the emphasis was given on the contributions of these female domestic workers in their household development. First part of study checked the causes of women who were compelled to work in informal sector and second part checked the before and after conditions of domestic workers when they started contributing in the budget. In first part male employment, social security benefits, number of dependent members, inflation and debt burden, all the variables showed their vital impact on working of women. In second part number of children going to school, debt situation, happiness, electricity bills, were taken as variables and they all observed significant changes in before and after condition of the domestic workers. Hence, overall development was experienced in the household and this point was proved in the study. Hindrances faced by domestic workers and the socio-economic aspects of their lives were discussed in detail in this study. Policy recommendations were provided after examining the current situation.

Keywords: Informal sector, debt, social security, household development

JEL Classification: O17, F34, H55, D10

1. Introduction

According to World Bank estimates (2016), around 10.7 percent of world's population lives under dollar 1.90 per day and grapples to meet even the necessities of life. Pakistan is also plagued by poverty and almost 39 percent of its population lives in multidimensional poverty (UNDP Pakistan, 2016). It exists in various forms and hampers the capability of individuals to pursue their objectives. Poverty is injustice

*The Author is a Research Assistant at the Department of Economics, GC University Lahore.

** Graduate, Department of Economics, GC University Lahore.

with those who are born with it, as it transmits across generations and perpetuates inequalities. According to World Bank in 2013, female participation rate of labour force is 25% in the formal sector whereas figures are not the right depiction of the reality (World Bank, 2013). Most of the women who are considered unemployed are in reality, the occult workers, who are working in the informal sector. The informal sector plays a significant role in Pakistan by solving the problem of unemployment, poverty etc. The informally employed women have increased the labour force participation rate but the question arises how much they have contributed in their houses and helped to increase their living standards. GDP does not acknowledge their contributions and hence their capabilities are always underestimated.

Women around the Globe are playing a vital role in formation of a new world where the concepts of poverty, illiteracy, crime, hunger and all the evils present in the society do not exist or if not purely perished then limited to an extent. Women with their softhearted nature take all the pains in the society and devote their selves in uplifting the society both socially and economically but sometimes all their efforts are just in vain as no one takes accounts of them.

This paper is just a little contribution in highlighting that ‘little’ part of our society which according to many is *little* but for us, it accounts for the major part of our labour force. Concept of house cleaners is practiced in Pakistan ever since its establishment and even before that. Reasons for this practice are many including, the social stigmas or help required by the literate women in doing chores of their households but the focus of the study is confined to the women who are always ignored in the policy making despite of their immense contribution in uplifting of the economy. We acknowledge these women as extraordinary women who not only look after the chores of their household but also earn for their families putting all their comforts and desires aside.

Due to recent rural urban migrations, concept of domestic workers has achieved heights, mainly because the women coming from villages are illiterate and this job suits them the best. We can surely not go back 65

years and change our dark history of ignorance but what we can surely do is, we can make some policies which ensure better working conditions and wage rate for domestic workers ;securing not only their future but the future of our coming generations as well. Variables, models and techniques used in the study are carefully selected to highlight the role of domestic workers in development of a household.

Two main concepts which will be brought under the light of discussion would be the socio-economic causes which compel women to enter the informal sector to earn their livelihood. Various variables can reflect these causes and empirically can be tested with the help of econometric techniques. In this part their lives would be explored, revealing all the secrets behind their success stories and the stories behind their scars. Second point of exploration would be the after effects of the contributions made by these women. Dilemma of Pakistan is that it is stuck in vicious cycle of poverty hence coming out of it becomes a challenge this study will focus on the point that have these women achieved the targets they set before entering this field? In addition, can in coming future they can pull their families from the vicious cycle of poverty? Both these aspects somehow the other will cover the untold story of these house cleaners and can help in formulating the required laws and amendments in the constitutions so that this particular labor can rightly claim their share of growth in the economy. The more visible this share would be the less discrimination they will face.

Depiction of women as weak, emotional, victimized creature is not the aim of the study whereas proving these domestic workers, as bringing up the tipping point in their economic conditions of their families, despite of all their pure womanly features, is the focus of the study. In India and other developing countries many research papers have been written to highlight the role of women in economic development, but in country Pakistan where Islam emphasis on the respect and importance of women, they are still discriminated in informal sector. Hence, the study was required on urgent basis to fulfil the need of the hour.

Informal sector employment is generally a large source of employment for women than for men in the developing world. Women working in the

informal sector are poor they struggle for their family survival. This study explores the occult females who work domestically. The women labor force participation rate in the formal and informal sector has been examined in the number of studies but no one has yet studied the contribution of female domestic workers in development of their households. In this study we have used primary data of these occult women and analyzed their contributions in the perspective of improvement in standard of living; this is the marginal point of this research.

Consider the current economic conditions of Pakistan at both micro and macro level, it becomes the need of the hour that both men and women work together for better future. Our society is male dominated society, which formulates rules and regulations for men, cushions their earnings, deliberately ignoring 48.63 percent (2013) of our population, which consists of women (World Bank Indicators, 2013). Literature tell us that mostly women are working in informal sectors due to credit issues, family responsibilities, for providing education to their children etc. but still their contributions towards economy have never been brought to lime light.). Various studies have proven women's immense contribution in the human capital formation and poverty alleviation in poor households (Siddique, 1998). Recent rural-urban migration, inflation, lack of education and many other socio economic factors urge these domestic workers to enter the stream of informal sector. To formulate policies for this sector, detailed study is urgently required, which covers all the aspects both social and economic of the lives of these domestic workers.

2. Literature Review

Mumtaz (1995) did a micro study on the trends in women labor force participation in past decades in Pakistan. Study was done on the data already available to the researcher, a sample of 2000 in the area of Punjab. It was secondary data in nature and many past studies were incorporated in the data. Variables used for assessing the cultural values and social norms of working women include income and their contribution in the household budget. Conclusion was made with the help of the study that

increase in the literacy rate of women leads towards more social and economic stability of the household. It was recommended in the study that employment organizations for working women in informal sector should be initiated on urgent basis.

Peter and Ghosh (1998) in India conducted the research. The aim of the study was economic liberalization, which will create investment opportunities for foreign investment and multinational organizations. The study also focused on the status of the women with regard to the change in industrial policy effect, wage equity, health and working condition. It also focused on the factors such as literacy level and social status and they affect women involvement in industry. The study is based on secondary data collected from the census report of India 1991. The study concluded that in India, women worker's problems in informal sector are not homogenous. Region, caste, class and religious issues affect women employment. The women reliance is improving the status of women by top to down strategies and welfare programs by promoting education, literacy, wage equity and safe working condition. The only fair and equitable development in India is to balance the current top down strategy, which gives positive effect on lines of women and emphasis development at grass roots level.

Chen (2001) examined the evidence on the linkages between gender, informality, poverty and growth postulates. Some possible explanations of these linkages and the desirable global movement of women in the informal sector, during the 1980s various trade unions, grassroots organizations, and nongovernmental organization working with home based workers and street vendors in both north and south began to establish linkages, in 1990s at two separate meetings in Europe. In the meetings of two international alliances of women in informal economy were studied, one was home based workers called home net and the other was street vendors called street net.

Naqvi and Shahbaz (2002) studied on the topic of how women decide to work in Pakistan. It explored the problems relating their household's setups and other socio-economic reasons, which compelled them to seek work in informal sector. Strong relation was found between age, marital

status and education of male members in their home. Number of children and employment status of male members was checked. Cross-sectional data from Pakistan integrated household survey 1989 to 1999 was taken with the application of Probit model on it and Multinomial Logit model. Rural and urban stratification was done for making the data representing both these areas respectively. This secondary data showed that more dependent male members and number of children would result in more number of the females of those households to work.

Khan and Khan (2005) studied the struggle of women for family survival in informal sector. 937 observations were taken and OLS model was used to find the relation between different variables including women's education, ownership of assets and the contributions made by those women in their household. Education had positive effect on the working of women where as if the numbers of male working from their homes increase; their representation in labour force was decreased. Data was collected through cluster sampling technique in city of Bahawalpur, door to door surveys were made for the precision purpose. In policy recommendations, it was advised that credit should be provided to these women working in informal sector for their betterment in future.

Kausar (2006) explored the topic of women contributions in their family budget and their working in informal sector in Pakistan. Variables taken were the health of women their marital status and number of dependent people in their families. Through the technique of cluster sampling 1780 households were surveyed and it was found that 80 percent of the households were having contributions from their females in family budget. OLS technique was used with dummy variables. In policy recommendations it was suggested that legal interventions were required and proper organization for dealing the issues of women working in informal sector is the need of the hour.

Javed (2009) explored labour reforms. All laws and acts regarding informal sector were analysed and weaknesses among them were highlighted. Special attention to women working in informal sector was given. It was concluded that current laws lack implementation and are not

enough to cater the needs of women working in informal sector hence more policy recommendations were given for facilitating the women.

Muhammad, Askar and Javed (2010) studied the socio-economic impacts of women empowerment in city of Peshawar Pakistan. Study explores the consequences of women empowerment at family level in urban areas, sample size of 80 was taken randomly. Purposive sampling was done mainly from two posh areas and the results showed that that the empowered women had major role in formulating their family budget and they were open minded with no gender discrimination. Improved standard of living in those households where women worked and they had a very positive impact on their children as they sent them to schools and treated male and female child equally.

Nazir (2011) studied the socio economic conditions of female domestic workers in Faisalabad city. A particular town was selected and in that town a small locality was chosen from which through random sampling, 120 respondents were interviewed. Findings from the data are that there was a strong relation between internal migration and economic status with the working of women in informal sector. Many women who migrated and had larger number of children started working in informal sector to improve their economic conditions. Poor conditions of domestic workers and their problems were analyzed. Many laws regarding migration particularly rural urban were proposed for the ease of domestic female workers.

Yin and Alese (2011) in Nigeria conducted a research. The aim of research study was a desire to advance whether concerted effort would enhance the creativity and innovation of women towards empowerment. The other objective was establishing the level of empowerment towards attaining good growth in building the informal sector and enhancing the status of women in Oke Ogun zone of Nigeria determining the problems faced by the women in improving their knowledge and skill through training. The study adopted the descriptive survey research design, which enhanced the collection of data from sample of women from selected entrepreneurial skills programs. The policy recommendation was that the government would assist in providing good market and information to

enhance creative and innovative abilities. It is the opinion of the researcher that women's social group and business organization should be geared towards pulling labour and resources together.

Mohapatra (2012) conducted a survey over a period of six months in the following carefully selected Municipalities and Notified area Council of Odisha that are amongst the poorest areas in India. The method for collection of information was semi structured interview method. The study concluded that the poverty is multidimensional concept, which implies not only lack of assets, insecurity and social exclusion but other factors as well. The study conflicts that highly visible percentage of women workers continues to live a life full of subsistence compromises and most of their own access in term of right to life is subsidized.

Sharma (2012) investigated the role of informal sector in income and employment generation after globalization in India and brought focus on contribution of women in the agriculture and non-agriculture sector. This study is based on secondary data collected by the National Sample Survey Organization (NSSO) for 2004-05, 2009-10 through survey of employment, unemployment and research paper articles etc. The policy recommendation of the study is for small-scale enterprises to provide the informal sector generally and women in particular wide opportunities to earn income they need economic and political support from government.

Islam and Aisran (2012) formulated a paper on the topic of low female labor participation in Pakistan its causes and consequences. It was found that women feel independent and there self-confidence is boosted after they are employed. Their economic position is strengthened and standard of living is greatly improved. Social and cultural norms are however the basic hindrance in their work. Women working in informal sector are paid low as compared to men and a lot of discrimination is seen. Moreover, credit social security net benefits are also not available to them.

Lone and Mohiyuddin (2013) published the paper in Academic Research International, which revolves around the topic of rising inflation and women adoption of domestic work. Paper mainly targeted the house

cleaners working in informal sector and the causes of choosing this profession, which includes migration, inflation and the ease of working in informal sector with no formalities and legal requirements. Data methodology used was qualitative anthropological research method, which included personal questioning and interviews. Technique used was snowball and purposive sampling which targeted 36 respondents. Their living standards and marital status were explored in which it was revealed that married women tend to work more in informal sector and they are mainly uneducated. In policy recommendations, it was suggested that the procedure of their recruitment in this sector should be improved so that it can be brought under formal sector and their children should be provided with better health and education as they receive less attention from their mothers.

3. Data and Methodology

3.1 Snow Ball Sampling

The data from the entire population could not be taken because actual population of domestic workers is unknown and no statistically inference be made from the whole sample so the study used non-probability sampling. It must be likely that the sample is representative but in this study, there is uncertainty that the data will be representative, the purpose of the study is exploratory and individuals are difficult to identify then the most appropriate sampling technique is “snow balling”. Snow balling is the non-probability sampling, because the actual population of domestic workers was unknown. In this study, we found one domestic worker (woman) at our homes and asked her to recommend several other domestic workers for the survey purpose. Then these women recommend additional domestic women and so on thus building up a sample like a snowball rolling down a hill. We collected the data of 40 observations because saturation point came and same answers were observed.

3.2 Variables

3.2.1 Male Employment (MEMP)

It is taken as the number of male members working in the houses of domestic workers. Answers were recorded in yes or no if their male members were employed or not. This variable is a dummy variable.

3.2.2 Debt Burden (DBUR)

It is taken as the dummy variable showing if the domestic workers had the burden of debt or not. Burden of debt is described by them as mental fatigue, which they have due to the liability of debt on them. Amount of debt was not asked to them but they just reported if they had the burden of debt or not on them.

3.2.3 Inflation (INF)

It is taken as the increase in the general price level and is a Qualitative variable. Responses were recorded in yes or no. They were enquired if they were urged to work outside due to the rise in general price level. Domestic workers describe inflation as the increase in the prices of things they purchase.

3.2.4 Number of dependents (NDEP)

It is taken as the number of dependent people in the household who do not earn any income or contribute in the household budget. Children and any unemployed members are taken into consideration in this variable and this is a Quantitative variable.

3.2.5 Income Support Program (INSUP)

It is taken as the initiatives taken by the government for providing ease to the poor in the country. This is also taken as dummy variable. Domestic

workers were asked if they take benefit from government in any form and their responses were recorded in yes or no.

3.2.6 Children going to school (BCHS, ACHS) [before and after]

This variable indicates the total number of children who are sent to schools by their parents before women started earning and after women started earning.

3.2.7 Debt Situation (BDSIT, ADSIT) [before and after]

Debt situation is referred to the overall situation of debt, which is analyzed before women started working, and after they worked, taken as qualitative variable it was analyzed as debt situation being either good or bad.

3.2.8 Happiness (BHAP, AHAP) [before and after]

Happiness is taken as Qualitative variable both before and after women started; working and their answers were recorded in yes or no. Happiness is taken as the measure of mental satisfaction and happiness for the domestic workers is described as the mental satisfaction, which they get after fulfilling their necessities and at the standard of living where they could afford some luxuries as well.

3.2.9 Electricity Bills (BELE, AELE) [before and after]

Amount of approximate electricity bills was recorded and added in the model. This is Quantitative variable in the model.

3.2.10 Clothes (BCLOTH, ACLOTH) [before and after]

Clothes were takes as first hand or second hand clothes .This is a Qualitative variable and answers were recorded in they either made new cloths or bought second hand clothes before and after they stared working.

3.2.11 Male Income (MINC)

Male income is recorded numerically where as it is that part of income which is spent on the household by the male member.

3.2.12 Household Income (HINC)

Household income is the total amount of income which is spent on the household budget. It is the sum of income of male and the female working in the house.

4. Results

In the thematic analysis of the semi, structured interviews some variables were noted down, which were push factors for the domestic workers.

4.1 Causes of Women Entering the Informal Sector (Domestic Work)

Moe (2003) explains the concept in her book that women tend to spend more on children and household budget when they earn as compared to men hence their income brings improvement in the condition of household. Women these days are taking the economic challenges seriously and striving hard to contribute as much as they can for the increase in per capita income of household. Women tend to worry more for the economic situation of the household (Moe, 2003). Hence, various causes, which compel the women to seek employment in the informal sector of domestic work, are discussed below.

Male employment variable explains us that whether the male members (husbands) in the house are being employed or not. If they are not employed then there is a perplexed situation, the first is; they are either unemployed portraying that they are not earning or working but they are looking for a job, the second situation is they are out of the labor force means they are not working and not looking for a job. Most of the times in the survey of study it was found that even when the male worked due

to the factor of inflation and large number of families women still had to work to fulfill the household needs.

Mostly domestic workers borrow money and make their situation so worse that they are pressed under the burden of massive debt. In many of the cases, they bought things on installments and pay installments with interest, which created massive burden of debt on them. Domestic females borrow money from whom they work. There is no other source for the repayment so they decided to work throughout their lifetime until they repay through providing their services to the people who have given them the loans. They most of the times borrow money from the family friends, relatives but they do not get loan from the bank because they seldom meet the formal legal requirements there. Vicious cycle of debt continues because once a large amount of debt is taken then it becomes very difficult to pay back it fully, every month only the installment of interest is paid and the full amount of debt remains the same. The family is vulnerable financially and hence females are urged to work because they are forced to pay the monthly installments.

The variable of inflation is brought in the study making it the most important cause of women entering the domestic work. As we know that the number of children in the lower income group is greater than the higher income group; they give birth to their children without knowing how they can manage such large families financially. Due to continuous increase in prices of things, head of the house cannot provide them food, clothes, shelter so women start working out of their houses for the survival of their families. Inflation is a very important factor, which urges these women to work because in the race of economic survival incomes should be raised to the level, which can fulfill the basic requirements of the family.

Per capita income also called income per person is the share of income for each person in the household. Household per capita income refers us that the combined accumulated income of all the individuals who are working of each household divided into total number of individuals in each household

$$\text{HIN} = \frac{\text{total income of each household}}{\text{total number of individuals in each household}} \quad (1)$$

When the household per capita income would be less to the poverty line of dollar 2 per day (World Bank international standards) then it means that children would not be sent to schools and will never get proper nourishment as well. To raise the per capita household income women are urged to work and fulfill the required needs of their children.

Child labor in the houses of these house cleaners is common because even when they work it is difficult to cope up with the inflation and fulfilling the bread and butter needs for the family size 10. Hence, mostly at the age of 10 or sometimes even below that their children start working and hence it gets more than difficult for the parents to afford their education. Both demand and supply side of child labor is closely related with the conditions of a household. When income of household is less and if mothers are not working then definitely they will be sending their children to earn the livelihood moreover without proper schooling and at such small age they only find jobs in informal sector. Reasons behind having such high demand of child labor and its supply are easy to understand.

4.2 Hurdles Faced By the Domestic Workers

While asking the domestic workers about the problems they encounter when they come out for work various issues were discussed which were both social and economic.

Finding the appropriate job is a much difficult task because many times suitable jobs do not provide with the desired income and there comes a trade-off between either to find a job with more working hours or to forgo the money for spending time at home looking after the random chores. Due to non-availability of day care centres these women have to neglect their children and house for earning livelihood for their families.

Many women complained about the lack of decency in men when they walk on roads or in local transports while going for work. Many times

women face allegations of theft and robbery in the respective places where they work and then they have to go through scrutiny and all the legal procedures (because of the humiliation factor many respondents felt nervous telling this problem hence it was not brought under the study much).

When women were asked about the question if they faced any disrespect in the society or their children faced any insult in moving in their circles then a large number of women replied that they were respected but a few said that their children feel humiliation telling their friends that their mothers are domestic workers.

Women do not get their desired incomes and work for long working hours. If these working hours are compared with those of formal sector, they might have earned much more. Women do not get formal credit facilities easily through proper channel. Women pay high transportation bills, which lowers their earned income.

4.3 Development of Household through the Labor Market Entry as Domestic Workers

The income before and now is a clear indication of what change did these working people made in the nominal aspect. An increase in the nominal income will reflect the growth in household system in nominal terms. Other variables will also be studied because pure concept of standards of living is never depicted alone with the income where as it is a combination of various other factors. Income after the contribution of women was higher as compared to that of only male income hence this becomes the first step towards development of a household.

Gas facility is considered as a luxury item in the households of workingwomen and standard of living is considered high if they can afford it. Amount of gas bills was recorded in rupees from their Sui Northern gas bills (they reported the accurate values). Many women said that earlier they used wooden logs but after they started earning, they were able to afford the gas bill ranging from 400 to 500 per month and they felt

ease in cooking at their own households. Hence, improvement in their life style was seen.

Time for leisure is the strong indication of the improvement in the standard of living. Variable of time also shows that these domestic workers are still left with the spark of life in which like all other normal human beings they enjoy their lives other than supporting and raising the standard of living of their families. The trade-off between labor and leisure is discussed in the section of hurdles but here the positive aspect is considered which tells that these women still find time for their children and household.

Safety measure variable, which is taken in the study, tells that how safe a domestic worker felt in the place she lives with the income she has. It is the reflection of the area where she resides, the polluted areas are mainly under the threat of mischief makers and people who rob or use weapons illegally hence this variable tells how protected these women feel in the areas where they lived with the current income they earn. Security is considered as the basic provision by the government hence here the role of government was checked and the standard of living was reflected as more secure environment means better standard of living. In many of the cases safety increased with the increase in the income of household.

Concept of economic development is vast and is not at all limited to the few variables, which are discussed in the study, but these all are prominent variables in measuring the standard of living and development. Overall development of all the houses of domestic workers, which comprises a large part of our society, will eventually result in the overall development of the poor and vulnerable community in developing country Pakistan

4.4 Development in Mental and Physical Well Being

Variable of happiness will describe how much improvement has been seen in the environment of the household. This question whenever was asked in the survey, domestic workers gave a pleasant smile telling the

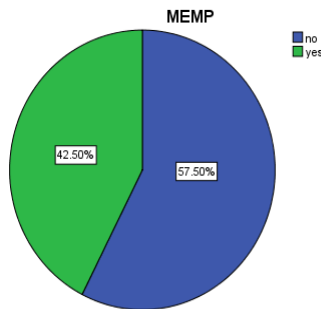
tale behind their struggle for life. Happiness variable tells that when they (domestic workers) started working along with improvement in income and due to various other factors their psychological states improved and their contribution increased not only the happiness of their own souls but in the overall environment of the house as well. Concept of development is incomplete without the measure of happiness because at the end of the day its only happiness that matters in both the physical and mental wellbeing.

5. Description and Analysis

5.1 Factors

All graphs are based on authors own compilation of the data.

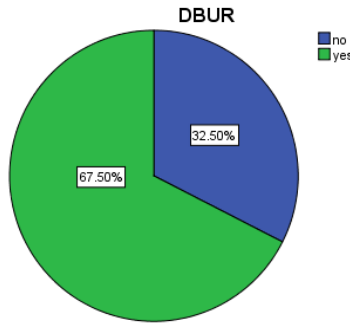
Figure 5.1: Male Employment



Source: Author's own compilation

The survey shows us that 57.50% male members in the household of domestic workers are not employed; there is only 42.50% of male employment in their houses. The green area shows us employment of male and blue area shows us unemployment of male. Hence, we conclude that the frequency is high for unemployment so that is why women work domestically for the family survival. One of the respondents said “*Ghar admi nahi aurat chalati hai hmare masher mai*”.

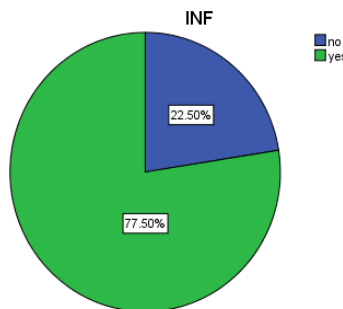
Figure 5.2: Debt Burden



Source: Author’s own compilation

The survey shows that 67.50% of household face the burden of debt on their head and only 32.50% of the household are free from debt burden. Hence, we conclude that the major cause, which compels domestic workers to earn, is debt burden. To overcome the debt burden they work day and night. One of the respondents said “*Zindagi majburi ka nam hai or qarz majburi ka aik hissa*”

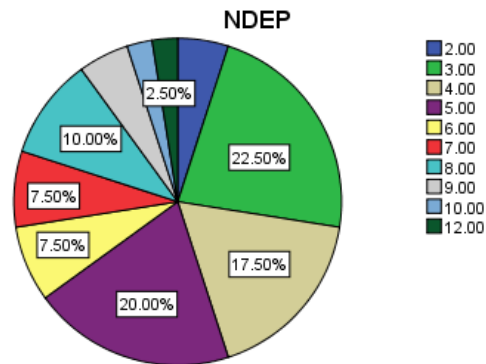
Figure 5.3: Inflation Factors



Source: Author’s own compilation

The survey shows us that due to high inflation 77.50% women reported that they are compelled to work and the remaining 22.50% women said that they have other issues. Hence, inflation is another major cause of women working domestically. One of the respondents said “*Mhngaei nae humae iase choos lia hai jaise machar khoon chusta*”.

Figure 5.4: Number of Dependent



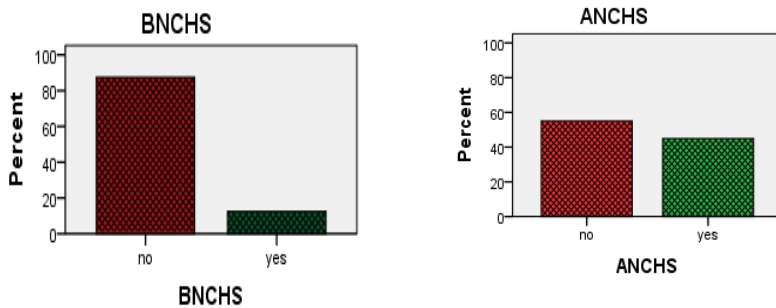
Source: Author’s own compilation

Number of dependents varied from 2 to 12 where highest percentage of dependent members in the household was 5. Number of dependents provided the amount of people in the household who did not earn and a lot of variation was seen in this variable. One of the respondents said “*Aik kamanae wali or das khane wale*”.

Education of children has close link with the employment of domestic workers because the expanse of their education has be borne by the parents and if the income of male member is not enough to meet the basic demands of the children then educating them becomes impossible for the parents. Study has focused on the education of children primarily because of its immense importance as discussed in the section of child labor. Women in many of the cases reported to have send their children to schools when they stared affording the school fee and other expenses of the children after they started working as domestic workers.

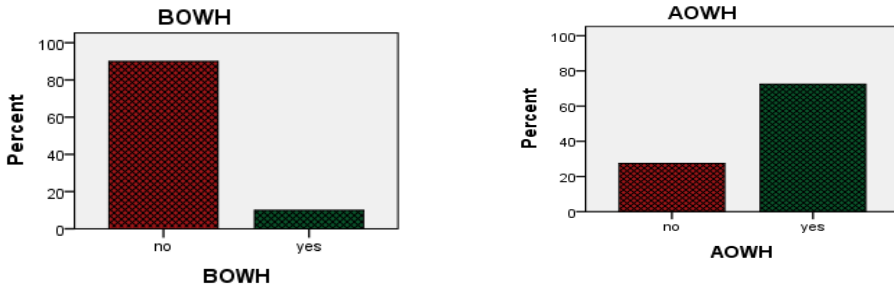
5.2 Overall Development

Figure 5.5: Children going to School



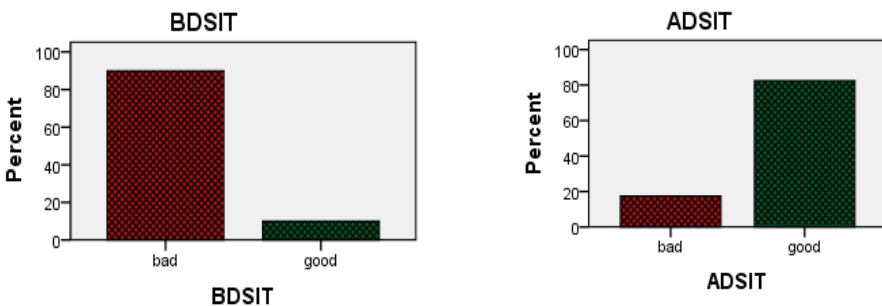
Source: Author's own compilation

In this chart, the survey tells that when women were not working in the informal sector there were only 12.2% children who were sent to schools and 85.4 % were not going to school there was a worse situation before as can be seen in the bar chart the percentage of NO is high as compared to YES. When women started working as of the present situation, improvement was seen as compared to the previous situation. The percentage of children going to school has risen from 12.2% to 49.3% and the percentage of not going to school has fallen from 85.4% to 53.7 %. After mothers of these children started working, there is a lot of improvement seen in the situation of children going to school. This is the important variable for the development of domestic worker household because education is very important for the better future of any society.

Figure 5.6: Ownership of House

Source: Author's own compilation

The survey shows that when the women were not working they did not have their own houses they lived on rented houses because they migrated from rural to urban areas. The percentage of ownership before they started working is 9.8% and of not ownership of house is 87.8%.

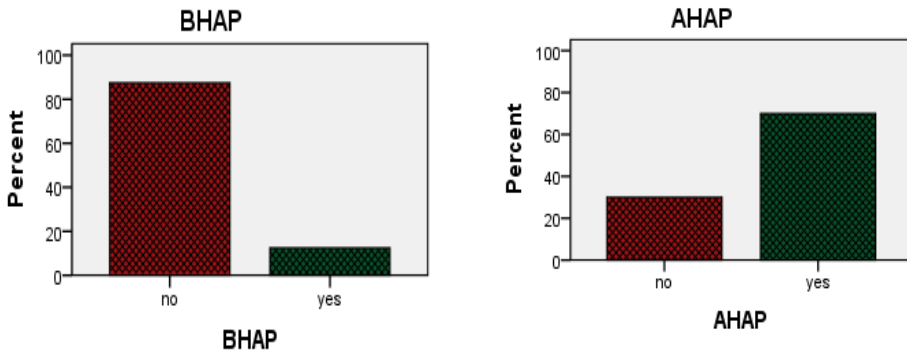
Figure 5.7: Debt Situation

Source: Author's own compilation

The survey shows the debt situation when women were not working it was bad as depicted in the bar chart the percentage of bad is high as compared to that of good. The percentage of bad is 87.8% and for good is 9.8% this is worse situation due to this women started working in the informal sector with the intention of reducing the burden of debt. When

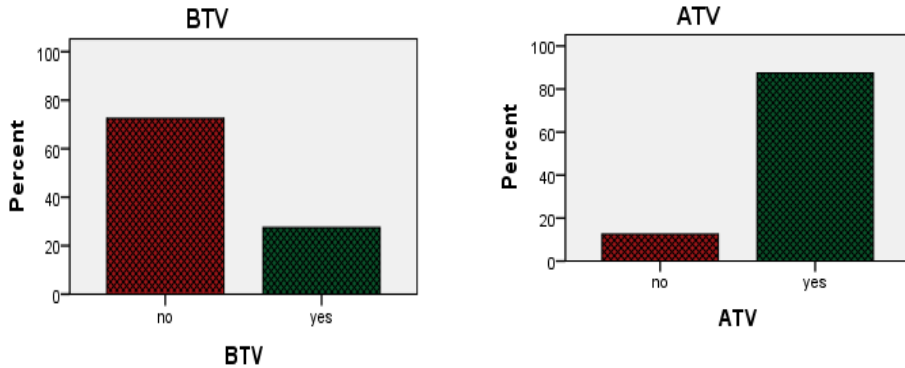
women started working, they helped their males to reduce the burden of debt now the situation is improved and have risen from 9.8% to 80.6% and the bad situation has fallen from 87.8% to 17.1%.

Figure 5.8: Happiness



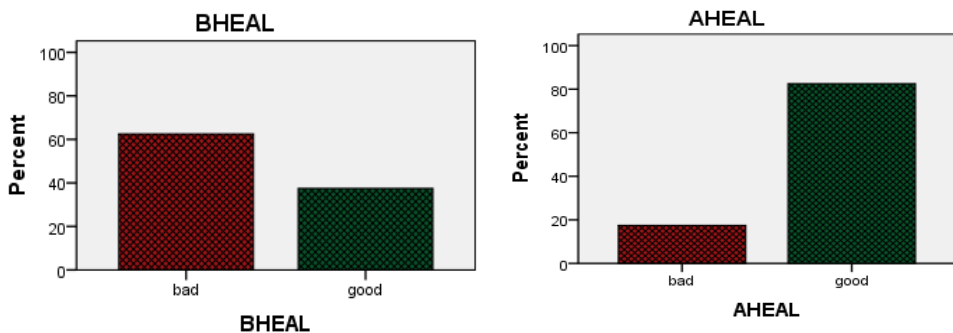
Source: Author's own compilation

The survey shows us that when women were not working there were only 12.2% households, which were happy, and the remaining 85.4% felt unhappy. In the above figure, red area shows the unhappiness and the green area shows the happiness. However, when women started working then they increased their happiness from 12.2% to 68.3% it means they are in better situation as compared to the situation before. They said that now they feel satisfied. A respondent said “*Khushali bunyadi zaruratun k bad daikhi jati hai*”

Figure 5.9: Television

Source: Author's own compilation

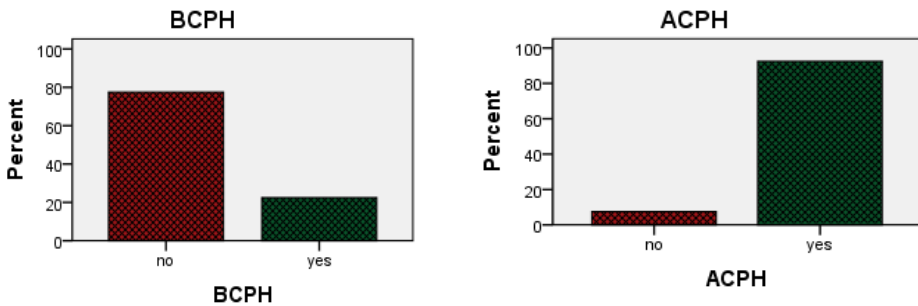
As we know that television is now available in every house but when looking towards the condition of these women before they started working, there is only 26.8% households, which had this luxury item of TV, and the remaining 70.7% did not have this facility. When they started working, they bought this luxury good for their entertainment and now the situation is different 85.4% households have television facility which means they moved towards the better standard of living after women started working.

Figure 5.10: Health Situation

Source: Author's own compilation

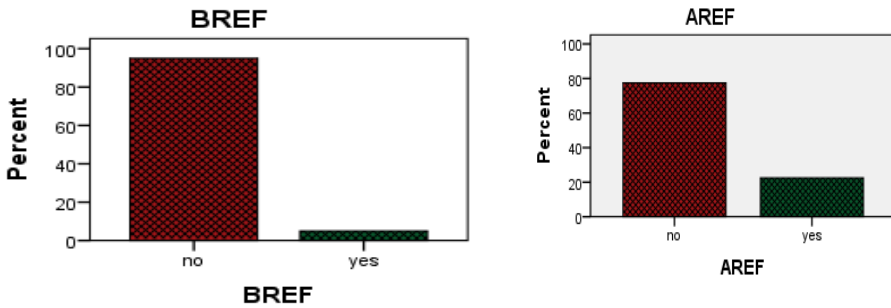
The survey tells that before working the health situation in their house was bad due to under nourishment or the non-availability of medicines. They suffered from diseases like depression, heart attack and many other because they didn't have clean water to drink and their environment quality was also low hence they suffered from various diseases and they lacked enough money for the treatment of those diseases. 61% households suffered from bad health but when we the women started working, they improved the health situation of their household to 80.1% because their income increased and they started treatment of the diseased. Environment quality of their surroundings also became better.

Figure 5.11: Access of Cell Phones



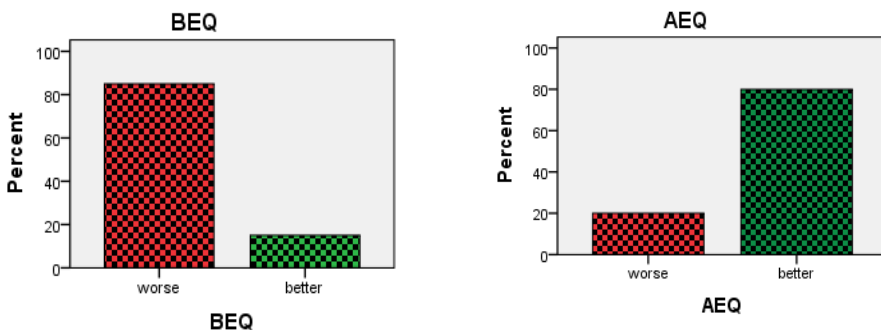
Source: Author's own compilation

The survey shows us that 75.6% of households did not have more than one cell phones but now when the women started working percentage of more than one cell phone increased to 90.2 % in the households of domestic workers. One of the respondents said “*Kam shuru karnaee k bad sabsae phle mobile kharida*”

Figure 5.12: Ownership of Refrigerator

Source: Author's own compilation

Refrigerator is a luxury good when income was low before women started working, only 4.9% households had refrigerator and the remaining had not. However, after women started working 22% household bought refrigerators but the remaining could not afford this facility, reason being it is an expensive good for domestic workers.

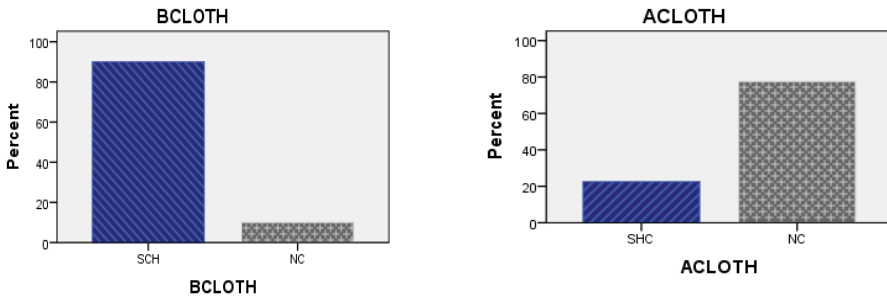
Figure 5.13: Environment Quality

Source: Author's own compilation

The survey shows that before women started working environment quality was worse. Shown in the above left figure, red shaded area shows the worse environment quality and its percentage is 82.9%, which indicates the worse situation. After women started working, they steadily improved

their environment through plantation or changing their residential areas etc. Hence, now, the 78.0% households have better environmental quality.

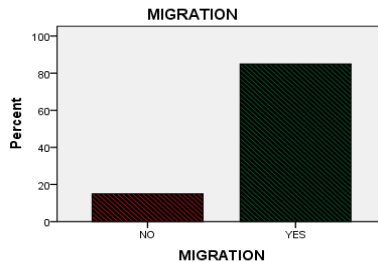
Figure 5.14: Clothing



Source: Author’s own compilation

The survey shows that when income was low before women started working they used second hand clothes. Household used 87.6% of second hand clothes and only 9.8% newly bought clothes. When women started working, they upgraded their living standard and now 75.6% of them buy new clothes used in their households. One of the respondents said “*Khud nab hi khareedun bachun ko ab nae kapre khareed hi daite hun*”.

Figure 5.15: Migration



Source: Author’s own compilation

56 When the domestic workers were surveyed most important and common observation, which was found, depicted that almost 85.5% migrated from rural areas and were planning to settle in the urban areas. After migration, they reported to have said that they started their lives from scratch after migration.

6. Conclusion and Policy Recommendations

Role of men and women is vital in the development of the household and this respective study explained briefly that when they both strive for economic survival, change in standard of living becomes inevitable. Study highlighted the contributions of domestic workers primarily because this neglected informal sector contributes immensely in the smooth running of household budget and providing necessities to its members in the lower income group. Variables used, developed a cause and effect relationship with the desire to work as domestic workers describing the role of government transfer payments, employment of men, inflation, number of dependent members in the household and debt burden. All variables were significant except the variables of dependent members and social security benefits. The market expectation of the characteristics of labour is depicted in the study by observing the similarities between child labor and domestic workers both fulfilling the requirements of informal sector and hence are perfect substitutes in the study. When women tend to work they send their children to schools this important observation was recorded in the surveys whereas when empirically tested it gave the same result. Women entering this profession are compelled due to all these reasons to work in this informal sector despite of facing the socio- economic hindrances discussed in the theoretical framework.

To evaluate if the additional income of women played a central role in the development of household and not all their efforts went vain, several variables were checked. This part of the study separates it from all other researches made on the domestic workers previously as because it is the only study of its kind evaluating and relating the contributions of women with the overall development of household. In city Lahore according to the researcher's knowledge, it is the first study regarding domestic

workers and the acknowledgement of their sheer services in uplifting the standard of living of their households.

Households enjoy better living standards when the income of domestic workers is added in the budget because all the variables proved to be significant and were according to the prior theory except the consumption of electricity variable. Necessity needs that of better health, education and shelter are met and future generations or youth of Pakistan (children of domestic workers) are given consideration by their mothers when they built human capital formation after providing them education and better nourishment.

Consumption of durables for instance Television, Refrigerator and Cell phones was analyzed which enhanced after the domestic workers started contributing in the household budget. Measures for the mental wellbeing of the members of household were taken as safety, environmental quality and happiness. All these variables showed improvement after the contribution of domestic workers was added in the household budget as depicted in the graphical representation section.

Economic progress of the country is the result of overall devolvement in the living standard of its people and this paper provides a glimpse of the contributions of one important labor sector of the economy (domestic workers). Exploration of the lives of domestic workers revealed that they are neglected members of the society with no provision of transfer payments; information asymmetry is seen, as they are unaware of the social safety nets and micro financing schemes initiated for them. Despite of all the challenges they face these women still manage to earn a decent and respectable income without sacrificing their dignity and honor. Further exploration of their lives can reveal various other social and economic aspects, which will help in making several policies for this vulnerable group of community.

In the study, it was found that due to lack of skill and education women have to enter the informal sector of domestic work hence provision of education should not be gender discriminatory and government should

have parental role in providing education to women so that they can raise their wages by entering formal sector.

Families, which have higher contribution of female income in their budgets, should be provided with social security nets to facilitate them. These domestic workers should be given awareness of all the programs initiated by the government in lowering the income inequality in the higher and lower income groups. Role of Department of Labor and Social Welfare is important in this regard.

Credit facilities should be provided to the domestic workers to lower their burden of debt, which they have taken from informal sources, and legal obligations should be relaxed so that they can apply for government provided loans. The micro-credit institutions present in the country for instance the micro-finance bank, Khushhali Bank along with the first woman bank can possibly play an important role in this regard. These micro-credit banks can ensure these women to establish their own small enterprises for earning a decent income.

Recruitment procedure of these domestic works is a big hurdle in recording their share of income in the GDP. Different organizations should be started with the aim to register and provide employment to the domestic workers after tracking all their records so that their incomes are taken in consideration in GDP and are provided with ease in finding new jobs. Through this channel they should be informed about their rights and a complain cell should be initiated so that if they face any disrespected or are maltreated then swerve action can be taken against the other party.

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Debt - Defense Relationship in South Asian Economies

Seerat Sultan* and Saima Sarwar**

Abstract: This study examines the debt-defense association in South Asian economies, for the panel data of six South Asian Economies: Pakistan, Bangladesh, Sri Lanka, Nepal, India and Afghanistan over the time period 1990 to 2013. Using panel data technique of co-integration and sequentially Fully Modified Ordinary Least Squares (FMOLS) and Dynamic Ordinary Least Squares (DOLS) estimators, this study finds that the military expenditure has negative relationship with external debt in this region.

Keywords: Public Expenditures, Security & War, Debt, Panel Data.

JEL Classification: E62, H56, H63, C23

1. Introduction

A number of studies focus on the association among defense expenditure and economic growth while only some studies give attention on the association among defense expenditure and external debt. This is important point to examine the nature of relationship between defense expenditure and external debt because external debt is considered a solution for those countries whose income is low but their defense expenditure is very high.

“One of the most difficult and complex problems in political science and economics is to try to calculate the costs of modern war.” Joseph C. Farah.

Asia is the main continent in the world. This region is divided in the areas like: Southern Asia, Western Asia, and Central Asia. More than one fifth world population lives in South Asia and the 2011 data shows that 1678 million population lived in this region. Poverty is the main issue in South Asia on the one side and other is war. India and Pakistan is nuclear power and it makes this region unstable and risky.

The history of South Asia regime also plays a major role in the high defense expenditure. There are shortages of capital, bad governance,

*Mphil Graduate, Department of Economics, GC University Lahore.

** Assistant Professor, Department of Economics, GC University Lahore.

corruption in accountability sector, uneducated people so, they do not understand things in better way, religious problems, and security problems and so on. These are the issues which force these countries to increase the defense expenditure. But through defense expenditure the human capital getting benefit somehow like military industries give them skill, development in the infrastructure, increase R&D, Defense expenditure delivers security to the country people, that increase the confidence of domestic as well as foreign investors which leads to enhance the trade and investment climate in country.

However, external debt itself doesn't lead to bad impact on economic progress but huge external debt can harm the domestic currency, terms of trade, and economic progress. Brzoska (1983) explained in his study that external debt for defense expenditure leaves bad impact on development. Dunne and Freeman (2001) discovered that use foreign exchange reserve on defense expenditure will decrease capital to import intermediate goods which leads to long-run impact on economic growth.

These are the main six South Asian economies: Afghanistan, Bangladesh, Pakistan, India, Sri Lanka and Nepal who spend large amount on defense expenditure. In this region major growing in defense sector happened after the 9/11 attack and war in Afghanistan. In South Asia India and Pakistan are nuclear power and both Pakistan and India have miserable positions on the United Nations Development Program and Human Development Index: India is on 128 number and Pakistan on number 136. This situation shows that defense expenses cannot increase the social welfare. The major issue between these two countries is Kashmir. The data shows in terms of Military expenditure (% of GDP), 3% in the case of Pakistan; 2.5% in the case of India (SIPRI data on military expenditures 2013).

Afghanistan government is supported by the US and it controls only Kabul, other area of Afghanistan is controlled by Taliban. Taliban is a brutal terror organization with no economic or social agenda. Taliban are the major issue in South Asia and reason of increasing the defense expenditure. Sri Lanka is small country but due to Liberation Tigers of Tamil they increase defense spending in 80's and now has large military power. In terms of military expenditure as percentage of GDP: in Sri

Lanka 2.8%; in Afghanistan 6.3% (SIPRI data on military expenditures 2013).

Bangladesh is facing the problem of religious extremism and all minorities spend their life under the fear of harassment. Nepal increased major defense expenditure in 90's due to the monarchy's struggles to crush the democratic and Maoist forces within the country. Nepal has no issues with neighbor but due to internal issues its defense expenditure is high. The data shows that military expenditure (% of GDP), 1.3% in the case of Nepal; 1.2% in the case of Bangladesh (SIPRI data on military expenditures 2013).

External Debt is the most important issue for the South Asia. In the view of political researcher and economists that external debt is problem for the under developing economies. In South Asia, Pakistan, India and Bangladesh are the main debtors from IMF (International Monetary Fund). There are many external reasons that force country for external debt like: the Oil Shock, global Wars, International Inflation, export Deficit, the Policies of the Developing Economies, policy of Industrialized Countries.

In 1990's Sri Lanka data showed that the debt to GNP ratio was beyond than critical level (>50) and debt to export rate was lower than the 170%. In case of Pakistan debt to GNP ratio and debt to export rate was more than critical level and has increasing trend. In India the debt to export rate was more than critical level and debt to output rate was lower than critical level but India shows the decreasing trend.

Pakistan is among the top 12 debtor countries of the World Bank. In Pakistan, India and Bangladesh the repayment of external debt is the major problem now-a-days. And the current economic policies are not able to fill the gap between budget deficits, balance of payment and poverty also increases day by day.

The above debate explains that defense expenditure has a connection with external debt somehow. In literature we find that the majority of the countries spend a lot on defense expenditure and they also use external

debt to fulfill their required needs. Some studies show positive impact of defense expenditure on external debt like: Karagol (2006), Narayan and Narayan (2008) and Smyth and Narayan (2009), and some studies show there is negative influence among defense expenditure and external debt like: Karagol and Sezgin (2004). Hence this study aims to explore this nexus in case of South Asian nations which are prone to both types of economic ills.

The objective of this study, keeping in view the problem statement i.e. to investigate the nature of long run relationship between defense expenditure and external debt for South Asian economies.

2. Literature Review

Here is a brief review of past studies indicating the nature of relationship between these two variables in various regions of the World.

Brzoska (1983) investigated that credit payments are the major cause of arms imports in Third world countries. Round about the second part of seventh decade of the last century data showed that these countries fulfilled their half arms import through credit payments. The analysis of the data showed that defense credits in the seventies of the last century increased 20% to 30% in 3rd world countries. In 1979 credit amount rate was between 20% to 30% but interest on old debt amount was doubled. This increase made huge burden on the third world countries every year and this is important element in the third world countries in arms import situation.

Dunne *et al.*, (2004) investigated the relationship between military expenditure and debt of 11 small industrializing economics by panel data. In this paper they used techniques like fixed effects, Random effects and Dynamic models. The result displayed that the military expenditure has a progressive influence on the external debt.

Narayan and Narayan (2008) investigated Fiji's debt burden using the data from 1970-2005 and observed that military expenditure has a share to increase the debt level in Fiji's. This study showed that defense

expenditure has a positive impact on external and internal debt rate in long run and income has positive influence on internal debt and negative effect on external debt, using co integration test and vector error-correction

Georgantopoulos and Tsamis (2011) described the relationship among military spending and external debt for Northern Africa nations. In this paper they used data of four Northern Africa nations (Egypt, Morocco, Algeria and Tunisia) and they used time period of 1988-2009. The co-integration test found that there is long run relationship but VAR and Error Correction found there is no relationship among military spending and external debt in these three countries.

Muhanji and Ojah (2014) explored that the Heavily Indebted Poor Countries (HIPCs) in Africa have positive relationship among military spending and external debt. The external debt increases in HIPCs when military expenditure increases and HIPCs are crazy about war and the external debt increase with the passage of time. This paper used the panel data and the result showed that military expenditure has rising pressure on external indebtedness through pre-war, war and post war times.

Through this study we find the relationship status between debt-defense in the South Asian economy because some studies claim that defense expenditure is important to explain the debt situation. This paper makes a further contribution to the literature. It considers impact of defense expenditure on debt in South Asian economy by using panel data.

3. Methodology

Our research covers annual data from 1990 to 2013 using panel data with log-linear model estimation. We use data of six South Asia Economies. To estimate the Model we use these techniques: panel unit root test and panel co-integration test and to see the long run relationship among variables we use, Fully Modified OLS and Dynamic OLS estimators. The panel unit root test and panel co-integration both test first study the integration order between variables and if the result shows the variables are non-stationary than test variables are co-integrated. The panel co-integration allows us to check that there is long run or short run influences

of defense expenditure on external debt. The fully modifies OLS and dynamic OLS methods are used to estimate the long run relationship among variables. The panel unit root and panel co-integration method includes three stages. Firstly, we observe that the panel unit root problem has present in variables or not and if the panel unit root problem presents in variables than we apply the panel co-integration. If panel co-integration is present than we move to FMOLS, and DOLS.

4. Variables and Data Sources

The data is collected from World Development Indicator (WDI), Stockholm International Peace Research Institution (SIPRI) and International Monetary Fund (IMF).

External debt is used as the dependent variable. Principal repayments on external debt, long term (AMT, current US \$) is being used as a proxy for measuring this variable. The data is available in form of current U.S dollars. Military expenditure (% of GDP) contains all current and capital military expenditure like: peacekeeping force, Govt. agencies on defense mission, defense ministries, military research and development, military space activities, retirement allowance for military person, military operation and maintenance.

The official exchange rate (LCU per U.S \$, period Average) is used to measure exchange rate. It is calculated as an annual average which is based on monthly averages in local currency relative to the U.S. dollar. Inflation is measured by GDP deflator (annual %) which can be defined by the annual growth of GDP implicit deflator. It displays how much price change in entire economy. The variable population (total) includes all residents which have legal citizenship and does not include the refugees who do not permanently live in the country The adjusted net national Income (current US \$) is used as an Indicator which reports that adjusted net national income is GNI minus consumption of fixed capital and natural resources depletion.

5. Model

In this study we use one model that is actually log-log model. We convert the dependent variable and independent in to log form because there is a possibility of non-linear relationship among the dependent variable and independent variables.

$$\log PR_{i,t} = \beta_{0,i} + \beta LER_{i,t} + \beta LME_{i,t} + \beta LP_{i,t} + \beta LINF_{i,t} + \beta LNNI_{i,t} + e_{i,t} \quad (1)$$

Here natural log of the variable represents:

PR = External debt,

ER = Exchange rate,

MEGDP = Military expenditure,

P = Population,

INF = Inflation,

NNI = Net national income,

$e_{i,t}$ = Error term.

Before applying these two techniques, we have to see that the following series are stationary or non-stationary so we apply unit root test to see the data is stationary or not. After this we applied panel co-integration to observe that variable are integrated with each other or not than we moved further to see the nature of relationship between variables.

5.1 Panel unit root test

Lin *et al.*, (2002) described the panel unit root test with the help of null hypothesis of the unit root test along with the homogeneous stationary hypothesis and the model is:

$$\Delta Y_{it-1} = \delta_i Y_{it-1} + \sum_{L=1}^{p_i} \theta_{iL} \Delta Y_{it-L} + \alpha_{mi} d_{mt} + \varepsilon_{it} \quad (2)$$

m

= 1,2,3

The model describes three things 1. $d_{1t} = \emptyset$ that no individual effect, 2. $d_{2t} = (1)$ and series is Y_{it} , it contains individual-specific mean but not have time trend, 3. $d_{3t} = (1, t)$ and the series is Y_{it} , it contains individual-specific mean, linear and also have individual-specific time trend.

$$H_0: \delta = 0$$

$$H_1: \delta < 0$$

As a first step, all five variables in level and first difference are verified for the unit root test by using the Augmented Dickey Fuller (ADF) test and the Philips Perron (PP) test, table 5.1 & 5.2 presents the ADF test results and PP test results are shown for the log at levels and first difference. The logs of variable are used *LMEGDP*, *LINF*, *LER*, *LP* and *LNNI*. The panel unit root method that account for individual unit root and common unit root is used. The Dickey Fuller test is used for error terms and explains that error term is independently and identically distributed. The ADF test adjusts the Dickey Fuller test to take care of possible serial association in the error terms by adding the lagged difference terms of the regression. Phillips and Perron use non parametric statistical methods to take care of the serial relationship in the error terms without adding lagged difference terms.

5.2 Panel Co-integration Test

Panel co-integration means that the residuals from a panel long-run model are stationary in that the mean, variance, and covariance are constant for the panel residual series. The reason of the co-integration test is to define whether sets of non-stationary series are co-integrated or not. Engle and Granger (1987) pointed out that a linear grouping of two or more non-stationary series may be stationary. Thus, if such a stationary linear grouping occurs, the non-stationary time series can be co-integrated. The stationary linear grouping is called the co-integrating equation and may be interpreted as a long-run equilibrium relationship among variables. To check there is long-run relationship present in the model we use a panel co integration test. Pedroni (2004) found different tests to check the null of panel co-integration. We used within-dimension and between-dimension. The ‘within dimension’ examines the collective time period and it allows heterogeneity in across countries. The within-dimension covers four tests:

panel rho-statistics, panel v-statistics, panel ADF-statistics, and panel PP-statistics. The ‘between dimensions’ tests display the group mean co-integration and it allows for heterogeneity in parameters across nations. The between-dimension covers group PP-Statistic, group rho-statistic, and Group ADF-Statistic. In the situation of power the panel ADF statistics which based on within-dimension tests and between-dimension Pedroni (2004) explained that ADF tests are better than others tests.

After evaluating whether the series are stationary of one order, the next step is to analyze whether variables are integrated with each other or not so that we could move on to observe the nature of relationship among these as well. For this purpose we have applied Pedroni co-integration test. Basically Panel co-integration has seven statistics. In this test we have null hypothesis i.e.

H_0 : Series have no co integration

H_1 : Series have co integration

The results given below shows various test statistics i.e. within a dimension and between the dimensions.

5.3 Panel Long-Run Estimators

The fully modified OLS and dynamic OLS methods are used to check the long run association among variables. To check the long-run influence of military spending on external debt we apply FMOLS and DOLS. Pedroni (2000) suggested Fully Modified OLS and, Watson and Stock (1993) and Chiang and Kao (2000) suggested Dynamic OLS. According to Monte Carlo the DOLS test is better. The Chiang and Kao (2000) study restricted properties of OLS, Fully Modified OLS and Dynamic OLS. The study displayed that OLS significant bias presents in panel data where number of observation and time series is equal to sixty, the FMOLS cannot increase significant level over OLS. The DOLS is better from OLS and FMOLS.

6. Estimation of Results

In the first step, we applied panel unit root tests to notice that the variables are stationary or the variables are not stationary. In order to find out that whether data is stationary or not, we incorporated two tests in to our analysis of how variables affect external debt within a sample of six countries. Augmented Dickey Fuller ADF is applied over here in order to find the presence of unit root problem in a data. At level as shown in the Table 1, the common unit root test and individual unit root test and individual unit root test further uses ADF and PP test. The results of both test show that military expenditure and inflation are stationary at level.

Table 1: Panel Unit Root Tests at Level

| Variable | Common Unit Root | Individual Unit Root | |
|----------|-------------------------|-----------------------|----------------------|
| | | ADF-Fisher Chi-Square | PP-Fisher Chi-Square |
| LMEGDP | -2.46656 (0.0068)*** | 15.1680 (0.2324) | 17.5001 (0.1317) |
| LINF | -1.57775 (0.0573)** | 11.6038 (0.4780) | 12.3476 (0.4182) |
| LER | 3.90765 (1.0000) | 4.21726 (0.9792) | 4.01633 (0.9831) |
| LP | -0.70513 (0.2404) | 18.7779 (0.0940)* | 0.00034 (1.0000) |
| LNNI | 5.37833 (1.0000) | 0.17856 (1.0000) | 0.01525 (1.0000) |

***, **, * are significance level at 1%, 5% and 10% respectively. p-value is given in parenthesis.

The ADF and PP tests show that exchange rate, population and net national income are non-stationary at level. The results show that

exchange rate, population and net national income is non-stationary ($p=1$) and the non-stationary results are not reliable because the non-stationary result are unpredictable and cannot be modeled or forecasted. That why, we move toward the panel unit root test at the first difference.

Table 2: Panel Unit Root test at first difference

| Variable | Common Unit Root | Individual Unit Root | |
|----------|-------------------------|------------------------|------------------------|
| | | ADF-Fisher Chi-Square | PP-Fisher Chi-Square |
| LMEGDP | -3.66167 (0.0001)*** | 34.5472 (0.0006)*** | 57.5190 (0.0000)*** |
| LINF | -11.0551 (0.0000)*** | 114.570 (0.0000)*** | 165.379 (0.0000)*** |
| LER | -5.67389 (0.0000)*** | 50.6640 (0.0000)*** | 76.8828 (0.0000)*** |
| LP | -3.05130 (0.0011)*** | 23.5301 (0.0235)*** | 26.4034 (0.0094)*** |
| LNNI | -3.65723 (0.0001)*** | 28.5164 (0.0046)*** | 58.3534 (0.0000)*** |

***, **, * are significance level at 1%, 5% and 10% respectively. p-value is given in parenthesis.

The first difference test indicates that the data becomes stationary as p-values indicate. The military expenditure, exchange rate, population, net national income and inflation data p-values are now stationary in both ADF and PP test.

6.1 Panel Co-integration

We used panel co-integration within-dimension and between-dimension. The 'within dimension' examines the collective time period and it allows heterogeneity in across countries. The within-dimension contains four tests: panel v-statistics, panel rho-statistics, panel PP-statistics and panel ADF-statistics. The 'between dimensions' tests show the group mean co-

integration are present and it allows for heterogeneity in parameters across countries. The between-dimension has group rho-statistic, group PP-Statistic and Group ADF-Statistic. The panel ADF statistics which based on within-dimension tests and between ADF tests is better (Pedroni, 2004). The Table 3 shows that within-dimension results show first two tests; panel v-statistic and panel rho-statistic are showing the insignificant results and panel PP-statistic and panel ADF-statistic are showing significant results. The results of between-dimension show that group rho-statistic are insignificant and group PP-statistic and group ADF-statistic are significant.

Table 3: Panel Co-integration Statistic

| (Within-Dimension) | Statistic | Prob. | (Between-Dimension) | Statistic | Prob. |
|---------------------|-----------|----------|---------------------|-----------|-----------|
| Panel v-Statistic | -0.0606 | 0.5242 | Group rho-Statistic | 0.4043 | 0.6570 |
| Panel rho-Statistic | -1.1094 | 0.1336 | Group PP-Statistic | -3.8179 | 0.0001*** |
| Panel PP-Statistic | -4.8710 | 0.000*** | Group ADF-Statistic | -2.4145 | 0.007*** |
| Panel ADF-Statistic | -2.2819 | 0.011*** | | | |

***, **, * shows level of significance at 1%, 5%, 10% respectively.

Table 4: Fully Modified Least Squares (FMOLS)

| Variable | Coefficient | t-Statistic | Prob. |
|----------|-------------|-------------|-----------|
| LMEGDP | -0.519981 | -2.719813 | 0.0074*** |
| LINF | -0.441394 | -2.851099 | 0.0050*** |
| LER | 0.128065 | 0.639995 | 0.5233 |
| LP | 1.169871 | 4.757370 | 0.0000*** |
| LNNI | 0.353584 | 1.777929 | 0.0777* |
| C | -12.10190 | -7.203192 | 0.0000*** |

***, **, *, shows level of significance at 1%, 5%, 10% respectively.

This is the model specified for external debt as dependent and other five variables as independent. The p-value of military expenditure is significant at 1%. The military expenditure is showing the negative relationship with external debt. The 1% increase in military expenditure will decrease external debt by .5%. The p-value results show that inflation is significant at 1%. The inflation is revealed negative relationship with external debt. The 1% increase in inflation will decrease external debt by .4%. The p-value results show that exchange rate is insignificant and positive relationship with the external debt. The 1% increase in exchange rate will increase external debt by 12%. The above table has shown that the p-value of population is significant at 1%. The population shows positive relationship with external debt. The 1% increase in population will increase external debt by 1.2%. The table results explain that the p-value results show that net national income is significant at 10%. The net national income is revealed positive relationship with external debt. The 1% increase in net national income will increase external debt by 35%. The above results are for all variables used in this study i.e. external debt, military expenditure, inflation, exchange rate, population, net national income. All of the above results display that military expenditure and

inflation have negative relationship with external debt while population exchange rate and net national income have a positive relationship with external debt. Same model specifications were used while analyzing the relationship among the variables with DOLS.

Table 5: Dynamic Least Square (DOLS)

| Variable | Coefficient | t-Statistic | Prob. |
|----------|-------------|-------------|-----------|
| LMEGDP | -0.414100 | -2.132130 | 0.0351** |
| LINF | -0.719507 | -3.624457 | 0.0004*** |
| LER | -0.071186 | -0.325052 | 0.7457 |
| LP | 0.958087 | 3.934786 | 0.0001*** |
| LNNI | 0.478684 | 2.443927 | 0.0160*** |
| C | -9.853771 | -5.739405 | 0.0000*** |

***, **, * shows level of significance at 1%, 5%, 10% respectively.

This is the model specified for external debt as dependent and other five variables military expenditure, inflation, exchange rate, population and net national income as independent. The p-value of military expenditure is significant at 5%. The military expenditure shows the negative relationship with external debt. The 1% increase in military expenditure will decrease external debt by 0.4%. The p-value result shows that inflation is significant at 1%. The inflation shows negative association with external debt. The 1% increase in inflation will decrease external debt by 0.7%. The above table had shown that the p-value result shows that exchange rate is insignificant and has negative association with external debt. The 1% increase in exchange rate will decrease external debt by 0.07%. The p-value of population is significant at 1%. The population shows positive relationship with external debt. The 1% increase in population will increase external debt by 0.9%. The p-value

result shows that net national income is significant at 1%. The net national income shows positive relationship with external debt. The 1% increase in net national income will increase external debt by .4%. In the dynamic OLS method the exchange rate relationship changes with external debt and other variable have the same nature of relationship.

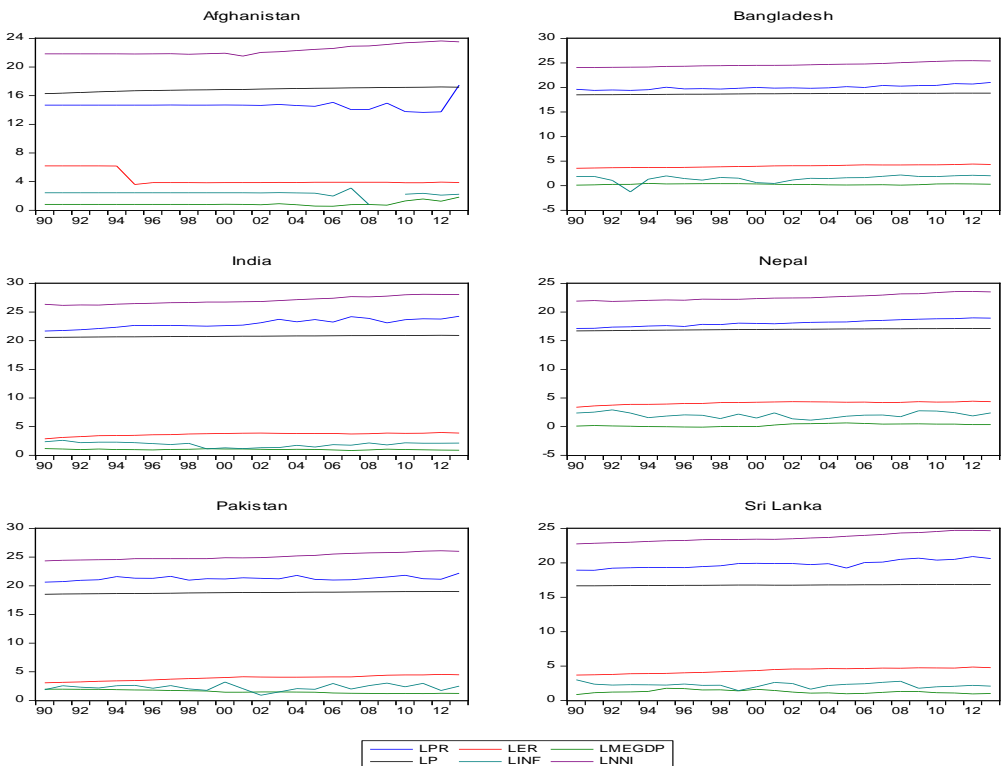
The above results are for all variables used in this study i.e. external debt, military expenditure, inflation, exchange rate, population, net national income. All of the above results display that military expenditure, exchange rate and inflation have negative relationship on external debt while population and net national income have shown the positive influence on external debt.

6.2 Countries Trend Analysis

The above graphs show the countries trend: Afghanistan graph shows that net national income and external debt showing the increasing trend but external debt increases faster in recent years. Exchange rate, population and inflation remain constant but inflation shows fluctuation after 2005. The military expenditure shows increasing trend in recent years. Afghanistan faces the Taliban issue that's why its economy is not in stable position. Bangladesh has religious extremism problem all minorities live under the fear that is the reason of rise the defense budget. The graph shows that in Bangladesh net national income and external debt show the slow increasing trend. The population, exchange rate and military expenditure are remaining constant and inflation shows the fluctuation. Nepal rises the defense expenditure due to monarchy struggles to crush the democratic in the country and Sri Lanka is facing the problem of liberation tigers of Tamil the both countries are showing the increasing trend in net national income and external debt. The defense expenditure, population and exchange rate are almost constant but inflation shows the fluctuation trend. Pakistan and India both are enemies of each other due to Kashmir issue. Both countries show the increasing trend in net national income, military expenditure and external debt, the exchange rate and population increase at constant rate. The inflation shows the fluctuation. Zamam *et al.*, (2012) found that in Bangladesh there is two-way statistical relationship present in real military spending and real external debt. The

unidirectional causality relationship presents between military expenditure and external debt. Afghanistan government is supported by the US and the Taliban are the problem in the country and it also effects the relationship with other countries. The region relationship between debt-defense is negative but previous studies showed that Pakistan and India have positive relationship between debt-defense. But other countries in this region like Afghanistan, Bangladesh, Nepal, Sri Lanka show that their military expenditure almost remains constant but external debt increases. So, the majority of the countries have negative relationship between debt-defense relationships.

Figure1: Countries Trend Analysis over a period of 1990-2013



Source: SIPRI and World Bank

7. Conclusion and Policy Recommendations

In this study, we have observed the defense-debt relationship among the six South Asian Economies: Pakistan, Bangladesh, Sri Lanka, Nepal, India and Afghanistan for the panel data of the time period 1990 to 2013. In our study we specified external debt as dependent variable and military expenditure, inflation, population, exchange rate and net national income as independent variables. In panel unit root tests, we used ADF and PP test at first difference the result shows that military expenditure, exchange rate, population, net national income and inflation are stationary. The panel co-integration test (panel ADF-statistic and group ADF-statistic) shows that there exists long run relationship between the desired variables. By employing Fully Modified OLS, and Dynamic OLS, the findings reported that military expenditure has negative relationship with external debt.

Military expenditure are the part of government expenditure so when gap between expenditure and income will reduce than military expenditure does not lead to increase in external debt.

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