Socio-Economic Determinants of Robbery: Evidence from Prisoners in the Punjab, Pakistan

Syed Yasir Mahmood Gillani[*]
Muhammad Wasif Siddqi[**]

Abstract

The present study explores the socio-economic determinants of robbery through conducting survey of prisoners arrested against robbery in 30 prisons of the Punjab, Pakistan. A sample of 198 prisoners was selected through stratified random sampling technique. Binary logistic regression is applied to find out the results. The main findings reveal that unemployment, age, residential background, and residential status have significant association with robbery. However, no significant association is found between marital status and robbery.

Keywords: Crime, Unemployment, Prisoners, Binary Logistic Regression

Introduction

The genesis of wrongdoing is linked with the birth of mankind. According to the religious scriptures, Satan was the first who laid foundation of sinful behavior when he refused to obey the divine direction to bow down to Adam; the first human being of the universe (Al-Quran Chapter 1). Every country in the world desires sustainable economic development. But the success, to achieve development, is depending upon the smooth socio-economic political, religious, administrative, environmental, demographic and psychological environment. However, presence of crimes disturbs harmony and coherence among factors promoting development in a country. Crimes affect almost every segment of society which is in the sphere of promoting development.

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[*] Syed Yasir Mahmood Gillani is a student of PhD Economics in GC University, Lahore and working as Director, Planning & Development, GC University, Lahore. His research interests include economics of crime and development economics. He can be reached at syasirm@hotmail.com

[**] Dr. Muhammad Wasif Siddiqi is a senior visiting faculty member in Department of Economics, GC University Lahore. His area of interest is Development Economics and International Trade. He can be reached at mwsiddiqi@hotmail.com

It is observed that "crime affects large segments of society and creates a climate of fear and insecurity that impairs the quality of human life, impedes harmonious development and disrupts public peace and tranquility" (Anwar et al, 2015 p 817). Crime is like an ailment which ultimately leads to insecurity and depression. The growth in crimes imposes enormous financial damage to the inhabitants of a country. There is generally a disagreement with regard to the definition of crime because it varies from society to society, culture to culture and economy to economy (Ghani, 2017). However, crime is considered to be an act contrary to the governed laws of a country. Crime is defined as a "Behavior, when it crosses normal limits and comes to the official notice, becomes crime."(Aulakh, 2009).

The increase in thefts, robberies and dacoities has become a global issue and upsets everyone in a society. Crime stories in print and electronic media have not only taken away the peaceful state of mind of individuals but also put them in a state of panic. On the other hand, various socio-economic and demographic factors such as unemployment, age, illiteracy, poverty, urbanization, residential status, income and religion provide individuals a stimulus to commit crime. (Mehlum et al., 2004, Gillani et al., 2009, Bindler et al., 2017, Ghani,2017,Fajnzylber, Lederman, and Loayza 2002, Freeman 1999 and Grogger 1998, Levitt and Venkatesh 1998).

The rise in crime has resulted in increase in prison population throughout the world. According to Eleventh World Prison Population List, total prison population exceeded 10.35 million in 2015. The total prison population list includes both under- trial and convicted prisoners.[3] The world prison population rate per one hundred thousand populations is 144. There has been an overall increase of 20 percent in the world prison population whereas the world population has shown a rise of 18 percent since 2000.[4]The aim of this study is to identify socio-economic and demographic determinants of robbery through conducting survey and interview of prisoners arrested against the charge of robbery.

Review of Literature

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[3]Walmsley R (2016) World Prison Population List, International Centre for Prison Studies, Kings College, London

[4] Ibid

The publication of Becker (1968) led to the development of "Economics of Crime". He developed the first economic model of criminal behavior. He stressed that "some individuals become criminals because of the financial and other rewards from crime compared to legal work, taking account of the likelihood of apprehension and conviction, and the severity of punishment".

Shamim et al (2009) highlighted the significance of juvenile crimes by identifying social and economic factors which seduce children to participate in criminal activities. A sample of 90 juveniles of age range of 10-18 years was selected from BorstalJail, Faisalabad. Juveniles involved in murder, robbery, dacoity, narcotics, sodomy, violence, fraud and kidnapping were interviewed randomly. The descriptive results of juvenile offenders showed that illiteracy, belonging to rural areas, and living in joint family set up were the factors instigating juveniles to participate in criminal activities. The study concluded that weak economic conditions along with persistent multidimensional poverty were the root causes of juvenile delinquency in the Punjab.

Jalil et al (2010) conducted a study to find out the link between urbanization and crime in Pakistan covering the period from 1964 to 2008. The authors had included major macroeconomic and demographic variables; urbanization, unemployment rate, consumer price index, income inequality and secondary and higher secondary enrollment in the study. The total number of reported crime was included as dependent variable in the study. The main findings showed the existence of long run relationship between urbanization and crimes in Pakistan. Similarly, crime had positive association with education, inflation, income inequality and unemployment.

Tahir et al (2011) analyzed crime trends among young males of age between 15 year and 29 year at District Gujarat. A survey of 252 offenders involved in theft, robbery, dacoity, murder, weapon related offence and drugs related offence was conducted. The descriptive analysis revealed that young men of age between 25 and 29 years were involved more in theft, robbery, murder, firing and other drug related offences. The majority of them belonged to "Jatt" caste and daily wage earners. The study highlighted the significance of age, caste, residential background and nature of job in decision making of undertaking criminal participation.

Jabbar et al (2013) attempted to identify how economic, social, demographic and preventive factors influence the decision making of an individual in committing property related offences in the Punjab. The study had incorporated number of police absconders in the model besides socio-economic and demographic variables. The data covered the period between 1978 and 2012. The empirical results showed trade-off between unemployment and property crimes in the Punjab. However, it was further found that increase in number of police force could reduce crimes. The inability of law enforcing agencies to arrest absconders could increase occurrence of property crimes. The role of education helped in decreasing property crimes in the Punjab as supported by empirical analysis. Furthermore, population density came out to be an important determinant in explaining growth in property crimes in the Punjab.

Ghani (2017) analyzed trends in crimes through a comparative study of Malaysia and Nigeria with focus on urbanization. It was found that increased urbanization resulted in poverty, unemployment and flaws in law enforcement which in turn promote urban delinquency. The comparative analysis based on recorded number of crimes, both property and violent crimes, concluded that urbanization could increase criminal participation due to prevailing urban poverty and unemployment in both countries. However, his analysis showed that geography played an important role in determining the onset of property crimes and violent crimes.

Crime, Prison and Prisoner Scene in Punjab

Crime scene in the Punjab has been showing gloomy picture since independence. The statistics tells that in 1951 population of Punjab was 20.55 million which increased to 101.39 million in 2015 showing an addition of 80.84 million during 65 years period. On the other hand, in 1951 the total number of reported crime was 50006 and it reached to 383055 in 2015 showing an addition of 333049 in reported crimes. Population grew at an annual rate of 2.49 percent and crime increased at an annual rate of 3.18 percent during 1951 and 2015. However, between 1951 and 2015, annual growth rate in crime is higher than the annual population growth rate.

There are 32 prisons in the Punjab which include 9 central prisons, 19 district prisons, 2 juvenile prisons, 1 women prison and

1 sub-prison. These prisons can accommodate 21527 prisoners. But unfortunately, due to increase in crimes, the number of prisoners, both under trials and convicted, has also increased leaving the sanctioned accommodation capacity completely redundant. In 2015, 46450 prisoners were held in 32 different prisons in the Punjab showing 116 percent more prisoners as against the designated accommodation capacity.

Data and Methodology

The study has been carried out in 30 prisons of the Punjab to explore the socio-economic and demographic determinants of robbery through conducting survey and interviews of prisoners arrested against the charge of robbery. The Inspector General of Prisons, Punjab accorded permission to visit prisons for research purpose. The stratified random sampling technique was used to draw sample from the prison population of 47815. A sample of 956 prisoners arrested against the charge of theft, robbery, dacoity and financial fraud was derived. A well-structured survey questionnaire was developed for conducting interviews of these prisoners. However, the present study is based on the socio-economic and demographic characteristics of 198 prisoners detained against the charge of robbery.

Table 1 illustrates the total number of reported robberies in the Punjab from 1990 to 2015. In 1990, the total number of reported robberies was 888which increased to 16388 in 2015 showing an annual growth of 11.87 percent between 1990 and 2015.
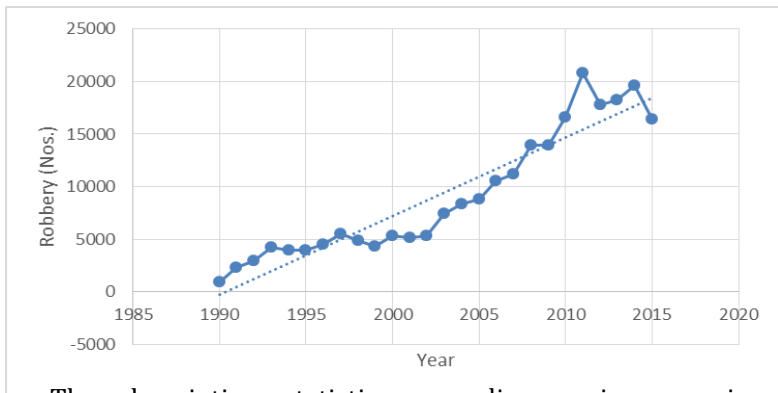
Table 1: Total Number of Reported Robberies in the Punjab (1990-2015)

Year	No of Reported Robberies	Year	No of Reported Robberies
1990	888	2003	7472
1991	2302	2004	8311
1992	2957	2005	8786
1993	4232	2006	10567
1994	3964	2007	11225
1995	3964	2008	13949
1996	4530	2009	13968
1997	5508	2010	16604
1998	4829	2011	20790
1999	4324	2012	17833
2000	5361	2013	18289
2001	5136	2014	19610
2002	5334	2015	16388

Source: Punjab Development Statistics (Various issues)

Figure 1 shows the line graph of total number of reported robberies in the Punjab from 1990 to 2015. The graph exhibits an increasing trend of reported robberies in the Punjab.

Figure 1: Number of Reported Robberies in the Punjab (1990-2015)

The descriptive statistics regarding socio-economic and demographic characteristics of 198 prisoners arrested against the

charge of robbery in 30 different prisons in the Punjab is discussed in Table 2 and Table 3.

Table 2: Distribution of the Respondents according to Age, Residential Background and Residential Status. Marital Status and Educational Status

Age(in years)	Frequency	Percentage
17-Dec	24	12
18-23	65	33
24-29	59	30
30-35	30	15
36-41	10	5
42-47	6	3
48-53	1	1
Above 53	3	2
Total	198	
Residential Background		
Rural	145	73
Urban	53	27
Total	198	
Residential Status		
Permanent	160	81
Temporary	38	19
Total	198	
Marital Status		
Married	82	41
Unmarried	113	57
Others	3	2
Total	198	
Educational Status		
Literate	71	36
Illiterate	127	64
Total	198	

Source: Author's Survey Findings

Table 2 provides data regarding age, residential background, residential status, marital status and educational profile of the respondents. The survey findings of interviews revealed that 12 percent belonged to age group of 12-17 years, 33 percent in the age range of 18-23 years and 30 percent in age group of 24-29 years. The remaining 35 percent of the respondents were in the age group of 30-53 years.

Residential background of the respondents showed that 73 percent robbers belonged to rural area and 27 percent was living in urban areas. Residential status of the respondents showed that 81 percent were living permanently in their respective areas while 19 percent residing temporarily. Marital status of the respondents indicated that 41 percent were married and 57 percent unmarried.

The remaining 2 percent of them were either widowers or divorcees. Educational status of the respondents revealed that 64 percent were illiterate and 36 percent literate.

Table 3: Distribution of the Respondents according to Employment Status, Reasons of Committing Robbery and Daily Earned Income

	Frequency	Percentage
Employment Status		
Employed	166	84
Unemployed	32	16
Total	**198**	
Reason of Committing Robbery		
Unemployment	32	16
Poverty	62	31
Family Issues	13	7
Other reasons	91	46
Total	**198**	
Daily Income (InRs.)		
20-100	17	9
101-200	27	14
201-300	49	25
301-400	36	18
401-500	22	11
Above 500	34	17
No Income	13	7
Total	**185**	

Source: Author's Survey Findings

Table 3 shows that out of 198 respondents, 84 percent were employed and 16 percent unemployed at the time of detention. The respondents had committed robbery due to different reasons. The descriptive statistics showed that 16 percent prisoners were involved in robbery due to unemployment. 31 percent held poverty responsible for their involvement in robbery and 7 percent committed robbery due to family issues, The remaining 46 percent respondents stated that use of drugs, demand of wages from the employer, marriage issue, change of job, fight with the relative, purchase of stolen mobile phone, kidnapping of a girl, fight with police informer etc. were the factors of their arrest against the charge of robbery.

Respondents were also asked to state about their daily income. It was transpired that 9 percent were earning income between Rs. 20 and Rs.100, 14 percent between Rs. 101 and Rs. 200 and 20 percent up to Rs. 300and 28 percent were earning income between Rs. 401 and above. However, remaining 7 percent respondents stated that they had no source of income.

Results and Discussion of the Study

Binary logistic regression model is used to find out the association of robbery with socio-economic and demographic variables. The following statistical model (yes and no) is built:

$$y = \begin{cases} 1 & \text{If individual commits robbery} \\ 0 & \text{If individual does not commit robbery} \end{cases}$$

To calculate the probabilities of individuals who commit robbery, the following binary logistic model is used:

$$\log\left[P_{robbery}/(1 - P_{robbery}) \right] = \beta o + \beta i U i$$

Where $P_{robbery}$ is the probability of those prisoners, who commit robbery, $1 - P_{robbery}$ is the probability of those who do not commit robbery while $P_{robbery}/(1 - P_{robbery})$ shows the odds ratio.In above equation $\log\left[P_{robbery}/(1 - P_{robbery}) \right]$ indicates log odd or logit and βo shows constant and βi indicates the logistic coefficients of independent variables. The parameters of βi give the log odds of those prisoners who commit robbery due to unemployment, age, residential area, residential status and marital status.

The description of variables is explained below:

Variable	Description
Robbery	1 if respondent commit robbery; 0 otherwise
Unemployment	1 if unemployment is a cause of robbery; 0

	otherwise
Age	Age in years
Residential Area	1 if respondent has rural background; 0 otherwise
Residential Status	1 if respondent is a permanent resident; 0 otherwise
Marital Status	1 if respondent is bachelor; 0 otherwise

Five different logit regression models are estimated by adding explanatory variables such as age, residential background, residential status and marital status one by one with unemployment to capture their effect on robbery. The results are given in Table 5 and Table 6. Table 5 provides results of coefficients and p-values and Table 6 gives the estimates of odd ratios and marginal effects.

Table 5: Results of Binary Logit Coefficients and P-Values

Binary Logit Regression Model	Unemployment	Age	Residential Background	Residential Status	Marital Status
I	0.896 (0.003)	-	-	-	-
II	0.7715 (0.011)	-0.0453 (0.000)	-	-	-
III	0.5977 (0.52)	-0.0479 (0.000)	1.0175 (0.000)	-	-
IV	0.6300 (0.40)	-0.0487 (0.000)	0.9012 (0.000)	0.6107 (0.008)	-
V	05419 (0.083)	-0.0403 (0.001)	0.8917 (0.000)	0.5918 (0.011)	0.3035 (0.148)

*The values in parenthesis are P-vales

Table 6: Results of Odd Ratios and Marginal Effects

Binary Logit Regression Model	Unemployment	Age	Residential Background	Residential Status	Marital Status
I	2.451 (0.1219)	-	-	-	-

II	2.1631 (0.1028)	0.9556 (-0.060)	-	-	-
III	1.8179 (0.7715)	0.9531 (-0.0061)	2.7665 (0.1313)	-	-
IV	1.8777 (0.0807)	0.9524 (-0.0062)	2.4626 (0.1150)	1.8418 (0.7827)	-
V	1.7193 (0.0692)	0.9604 (-0.0051)	2.4394 (0.1139)	1.8073 (0.0756)	1.3547 (0.0387)

*The values in parenthesis are Marginal effects

Binary logit regression model I explains the association between robbery and unemployment. Unemployment shows significant relationship with robbery (p=0.003). The value of odd ratio for unemployment is 2.451 which indicate that unemployed individuals have more odd of committing robbery than employed individuals, while value of marginal effect (0.1219) shows positive association between robbery and unemployment.

Age has been included in Binary logit regression model II. The results reveal that age has significant relationship (P=0.000) with robbery. The value of odd ratio is 0.9556 showing that increase in age is associated with lower odds of committing robbery. The marginal effect (-0.060) shows inverse association between robbery and age. Residential background has been included in Binary logit regression model III and it has significant relationship with robbery (p=0.000). The value of odd ratio is 2.7665 which show that individuals with rural background have more odds of committing robbery than those who belong to urban areas. The marginal effect (0.1313) states positive association between involvement in robbery and individual having rural background.

Residential status has been included in Binary logit regression model IV. The p-value (0.008) confirms that residential status has significant relationship with robbery. The value of odd ratio is 1.8841 which tells that individuals with permanent residency status have higher odds of committing robbery than those who live temporarily. The marginal effect (0.7827) shows the existence of positive association between robbery and resident status. Binary logit regression model V has included marital status but due to higher p-value (0.148) the relationship becomes insignificant. It is evident from the analysis that inclusion of explanatory variables, one by one, resulted in decreasing odd ratio values of unemployment, age, residential background, and residential status.

This indicates that addition of these independent variables lead to lower odds of committing robbery.

Conclusion

The main purpose of this study is to identify socio-economic and demographic determinants of robbery by conducting survey and interviews of 198 robbersheld in 30 prisons of the Punjab, Pakistan. The descriptive analysis shows that 75 percent of the robbers belong to age group of 12-29 years. Residential background tells that 73 percent belong to rural areas. Residential status of robbers reveals that 81 percent have permanent residential status. Marital status of robbers shows that 57 percent are married. Educational profile of robber prisoners tells that 64 percent are illiterate. Employment status tells that 84 percent are employed and 16 percent unemployed at the time of arrest. Income status of robbers states that 66 percent are earning income between Rs. 20 and Rs. 400 per day.

On the other hand, the findings of the binary logistic regression show that unemployment has significant association with robbery. The results are consistent with Raphael and Ebmer (2001).Similarly, age has significant association with robbery and these findings are consistent with Ghani (2017).Both residential background and residential status have significant association with robbery and these results are in line with the studies by Tahir et al (2011) and Shamim et al (2009). However, marital status has insignificant association with robbery. The study concludes that unemployment, age, residential background and residential status are the main determinants of robbery in the Punjab, Pakistan.

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