TERM PAPER SUMMARY: -

"HOW CRIME RATES ARE AFFECTED BY THE FINANCIAL DEVELOPMENT AND INEQUALITY IN INDIA – A CASE STUDY"

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ABSTRACT

This study attempts to understand how crime rates are affected by Financial development and Inequality in India. The study uses cross-section data of all States and UT's for the year 2011. The ordinary least square method was used to study 2 Models that may affect India's crime rate, which is Financial Development and Inequality. It has been found that both Financial Development and inequality increase the Crime rate in the Economy. The study is consistent in proving that Good Economic Condition leads to people committing more Crime, and a higher Income gap acts as a pull factor for committing a crime. Thus, the government should implement such policies that increase people's inclusivity in the system, which will increase the opportunity cost of committing a crime.

INTRODUCTION

India is a highly diverse country with people from different backgrounds, education, and income levels. These differences in their income and socio-economic level make them more prone to committing a crime as they want to equalize themselves with the higher income class. Crime in a country happens due to a lot of reasons which are either Solely based on Income level or due to differences in opportunities between different groups in terms of Social Class, family organization, Education level, etc. It has been argued and assumed that as this Inequality in terms of Income and Opportunities increases, the opportunity cost of Committing a crime falls, and the Crime rate in an Economy, whether Violent crime or Non-Violent Crime, Increases. Financial development of a nation measured by the banking sector acts as a Cushion and make people less vulnerable to Losses in the future, which should increase their opportunity cost of committing a crime, but this may or may not be true, as increasing access to income, credit implies more money in hand for committing a crime which may lead to increasing crime rate in the economy. However, the effect may be different for different crimes.

DATA AND METHODOLOGY

The data has been collected from Census Data, Planning Commission, EPW Research Foundation, etc. for all states and UT's for the year 2011 except Telangana due to missing data. The study uses a cross-section analysis to study the impact of Financial development on Crime rates and the impact of Inequality on Crime Rates in India.

The variables used in the analysis are as follows: -

1. Violent crime rate in India. 2. Non-Violent crime rate in India. 3. Number of Bank Branches of all Scheduled Commercial banks. 4.Credit outstanding by all scheduled Commercial banks per 1,00,000. 5.Deposits in all Scheduled Commercial banks per 1,00,000. 6.GINI Coefficient. 7.Urban Population. 8. Workforce Participation rate. 9. Police Force (Civil Policemen) 10. The number of literates. 11. Poverty rate. 12. Power (Electricity) Availability in all States.

Ordinary least square method with control variables is used in the study. Tests for Heteroscedasticity, Multicollinearity, and Normality are done to ensure that data does not give any faulty results and satisfy the assumptions required to run the regression.

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To check the skewness in the data, whether left skewed or right-skewed, the Gladder command was used, and the variables were changed to Log format, square or cubic to correct the skewness in the variables.

To test whether Control variables were necessary to be used in the analysis correlation matrix between the variables used in Model 1 and 2-

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. corr VIO CRED DEPOSIT OFF POLICE URB LIT
(obs=35)

                VIO      CRED   DEPOSIT      OFF    POLICE      URB      LIT

      VIO    1.0000
     CRED    0.0543    1.0000
  DEPOSIT   -0.4919    0.0530    1.0000
      OFF    0.8630   -0.0051   -0.3252    1.0000
   POLICE    0.9029   -0.0713   -0.3323    0.9457    1.0000
      URB   -0.4284   -0.3277    0.3908   -0.1945   -0.2436    1.0000
      LIT   -0.0519    0.1463    0.0619   -0.0270   -0.0690   -0.1101    1.0000
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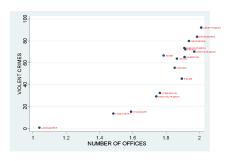
ANALYSIS

Model 1&2:- Overall effect of Financial Development on Violent and Non-Violent Crime Rate in India

$$Ln\,VIO = \beta o + \beta1 lnCRED + \beta2 lnDEPOSIT + \beta3 lnOFF + \beta4 lnPOLICE + \beta5 lnURB + \beta6 lnLIT + e$$

$$Ln\,NONVIOL = \beta o + \beta1 lnCRED + \beta2 lnDEPOSIT + \beta3 lnOFF + \beta4 lnPOLICE + \beta5 lnURB + \beta6 lnLIT + e$$

```
. regress VIO CRED DEPOSIT OFF POLICE URB LIT, robust

Linear regression                               Number of obs   =        35
                                                F(6, 28)        =     41.29
                                                Prob > F        =    0.0000
                                                R-squared       =    0.8865
                                                Root MSE        =     .1065

                      Robust
       VIO    Coef.   Std. Err.      t    P>|t|   [95% Conf. Interval]

      CRED  .1349723  .1180365    1.14   0.263   -.1068145   .3767591
   DEPOSIT -.0366294  .0185882   -1.97   0.059   -.0747055   .0014468
       OFF  .0011529  .0028286    0.41   0.687   -.0046412   .0069469
    POLICE  .0060138  .001623     3.71   0.001    .0026892   .0093384
       URB -.0761381  .0372567   -2.04   0.051   -.152455    .0001788
       LIT -.0179954  .0273341   -0.66   0.516   -.0739868   .037996
     _cons  1.287449  .1154382   11.15   0.000    1.050985   1.523914
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. regress NONVIOL CRED DEPOSIT OFF POLICE URB LIT, robust

Linear regression                               Number of obs   =        35
                                                F(6, 28)        =     41.96
                                                Prob > F        =    0.0000
                                                R-squared       =    0.8773
                                                Root MSE        =    .10794

                      Robust
   NONVIOL    Coef.   Std. Err.      t    P>|t|   [95% Conf. Interval]

      CRED  .0977859  .079131     1.24   0.227   -.0643067   .2598785
   DEPOSIT -.0175375  .0091616   -1.91   0.066   -.0363042   .0012293
       OFF  .0023283  .0023229    1.00   0.325   -.00243     .0070865
    POLICE  .0057532  .0015775    3.65   0.001    .0025219   .0089845
       URB -.0281847  .0395291   -0.71   0.482   -.1091565   .052787
       LIT -.0562843  .0362065   -1.55   0.131   -.13045     .0178814
     _cons  1.458116  .1410783   10.34   0.000    1.169131   1.747102
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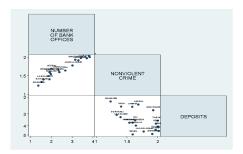
The results for Table 1and 2 indicate that increasing deposit has a significant effect on declining Violent Crime and Non-Violent Crime. However, the effect is more for Non-Violent Crime, proving the economic theory that as people achieve a particular Income class, they start to save money and the presence of Formal Institutions acts as safe storage for their money, and the Crimes committed by them falls. The Relationship between Urban Population and the crime rate is negative. It is significant for violent Crime, not for Non-Violent, indicating that as more and more people move to urban areas, their income level increases, making them less vulnerable to Commit Violent Crime. Other variables that significantly affect Violent and non-Violent Crimes are the Number of Civil Police forces in the opposite direction, which contradicts Economic Theory.

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Left graph shows the relationship for Violent crimes and number of offices for **High Inequality states** and Right Graph shows the scatterplot matrix for relationship between Non-Violent crimes, Bank offices and deposit in **Low Inequality States.**

Model 3&4:- Effect of Inequality on Violent Crime rate and Non-Violent Crime Rate in India.

$$Ln\,VIO\ =\ \beta 0 + \beta 1\,lnGINIC + \beta 2\,lnPOVERTY + \beta 3\,ln\,POW + \beta 4\,lnWORK + \beta 5\,lnURB + e$$

$$Ln\,NONVIOL\ =\ \beta 0 + \beta 1\,lnGINIC + \beta 2\,lnPOVERTY + \beta 3\,ln\,POW + \beta 4\,lnWORK + \beta 5\,lnURB + e$$

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regress VIO GINIC POVERTY POW WORK URB

     Source |       SS           df       MS      Number of obs   =        35
------------+------------------------------       F(5, 29)        =      4.96
      Model | 1.28979065          5   .25795813   Prob > F        =    0.0021
   Residual | 1.5078631          29  .051995279   R-squared       =    0.4610
------------+------------------------------       Adj R-squared   =    0.3681
      Total | 2.79765375         34  .082283934   Root MSE        =    .22802

        VIO |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+----------------------------------------------------------------
      GINIC |   .5643551   .2384203     2.37   0.025     .0767308    1.051979
    POVERTY |   .0008091    .000394     2.05   0.049    3.22e-06     .001615
        POW |   .0249171   .3765443     0.07   0.948    -.7452024    .7950367
       WORK |  -.4856882   .8563158    -0.57   0.575    -2.237051    1.265674
        URB |  -.1692909   .0972821    -1.74   0.092     -.368255    .0296732
      _cons |   2.263547   .5344307     4.24   0.000     1.170513     3.35658
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```
. regress NONVIOL GINIC POVERTY POW WORK URB

     Source |       SS           df       MS      Number of obs   =        35
------------+------------------------------       F(5, 29)        =      2.72
      Model | .849246416          5  .169849283   Prob > F        =    0.0391
   Residual | 1.81037545         29   .06242674   R-squared       =    0.3193
------------+------------------------------       Adj R-squared   =    0.2020
      Total | 2.65962187         34  .078224173   Root MSE        =    .24985

    NONVIOL |      Coef.   Std. Err.      t    P>|t|     [95% Conf. Interval]
------------+----------------------------------------------------------------
      GINIC |   .6036288   .2612442     2.31   0.028     .0693245    1.137933
    POVERTY |   .0006254   .0004317     1.45   0.158    -.0002576    .0015085
        POW |  -.1064439   .4125907    -0.26   0.798    -.9502866    .7373989
       WORK |   .2219323   .9382905     0.24   0.815    -1.697087    2.140952
        URB |  -.0852338   .1065948    -0.80   0.430    -.3032447    .1327771
      _cons |   2.281188   .5855915     3.90   0.001     1.083519    3.478857
```

Tables 3 and 4 indicate that increasing income inequality measured by the Gini Coefficient has a positive influence on both Violent and Non-Violent Crime rate through the effect is more on Non-Violent Crime. Poverty level affects Violent Crime more, indicating that poverty-stricken states have higher cases of violent crimes. Increasing Urban Population affects violent Crime more than Non-Violent Crime at a 10% level of Significance as people's income tends to equalize.

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CONCLUSION

The results indicate that financial development led to an increase in violent and non-violent Crime in Indian states. There is a positive effect on both violent and non-violent crimes. The impact on violent crime is higher than the effect on Non-violent Crime. This may be because economic development occurs, financial development occurs, which leads to more opportunities to commit Crime.

The second channel that may be responsible is inequality. Inequality in terms of Income, Education level, availability, and opportunities is one of the foremost factors that incite criminal behavior, and a positive relation is well supported, theoretically, and empirically. It is found that states with high levels of inequality witnessed an increase in violent and non-violent crime rates than states with low inequality.

One of the main reasons why the crime rate increased despite Increased Economic Development and Financial development is due to the reason that the Inclusivity of more and more people in the system is still a question. Though many schemes and policies have been introduced, such as Pradhan Mantri Jan Dhan Yojna, Insurance Schemes, the penetration of these schemes for all individuals needs to be looked at more carefully by strengthening the existing policy schemes.

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