

Crime in India: A State Level Analysis

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Abstract

The present study attempts to understand the growth of Crime against children, Crime against women and other types of crime over the period 2001-02 to 2014-15. The relative performance with respect to All India as well as the position of the sample states are tried to be found out in terms of all the three crimes. The result suggests that the growth rate of all the crimes considered is highly fluctuating over the entire sample period. For crime against children, Tamil Nadu ranks the first and Uttar Pradesh ranks the least. For crime against women, Assam ranks the first and Tamil Nadu ranks the least. Considering the other crimes, West Bengal ranks the first and Rajasthan ranks the least.

Key words: *Crime, Crime against Women, Crime against Children, Other Crime*

1. Introduction

Crime certainly is widespread everywhere in all countries in heterogeneous form. The occurrence of crime in India is increasing at frightening rate with a devastating distribution of population. It is very significant to mention that according to NCRB data of 2016, total crimes were recorded to be 2.97 million on the other hand crime rates was observed to be 379 crime per lakh population. Specifically, the murder count rose from 53 to 59, kidnapping for money increased from 1 to 3 and the rape cases also moved up from 240 to 243. Talking about, domestic violence as death cases due to dowry, it also felt a lift from 14 to 19.

The current hour call is every citizen of the country should participate and be aware of their functioning in establishing a safe and secure society at large. Thus analysis of crime is very much needed.

The Criminal Procedure Code in India divides crimes into two heads: cognizable and non-cognizable. Cognizable crimes can be again sub-divided as those falling under either the Indian Penal Code (IPC), or under the Special and Local Laws (SLL). The present study is concerned with only IPC crimes.

The survey of literature reveals that there are few empirical studies to assess crime against women, children and other crimes in India. In this connection mention should be made of names like Furnell, Steven & Samantha, Dowling (2019), Hazra, Devika & Zhen Cui (2018), Steven and Philips (2014), Wani (2014), Bhradwaj (2014), Sharma (2013), Kumar (2013), Chaudhary (2013) among others.

In their paper, Furnell, Steven & Samantha, Dowling (2019) reviewed current evidence that cyber crime exists in several dimensions, with costs and harms that can be similarly varied.

There is also a sense that, moving forward, the “cyber” label will become somewhat redundant as many crimes have the potential to have a technology component. Hazra, Devika & Zhen Cui (2018) examined the relationship between crime, inflation, unemployment, and real GDP per capita in India and suggests that macroeconomic indicators, especially unemployment, can significantly affect crime in India. Steven and Philips (2014) discussed the impact of Economic crisis on crime within the context of the United Nations. It presents the result of a unique cross national analysis that aims to investigate the possible effect of economic stress on crime. Wani (2014) concluded with some recommendation for the government of India advising to facilitate child-friendly system for juveniles in conflict with law and children in need have care and protection. Bharadwaj (2014) concluded that theoretical and empirical evidence on the nexus between crime and socio economic indicators. He also empirically inspects the role of economic growth, unemployment, urbanization and quality of legal system play in including property related crimes. Sharma (2013) displayed crime against the historically marginalized scheduled castes and Schedule tribes (SC/ST) by the upper castes in India. Using the official district level crime data for the period 2001-10 a positive association between crimes and expenditure of SC/ST vis-à-vis the upper castes of the economic gap between in caste based crime is found. Kumar (2013) empirically examined the causality between crimes rates and economic growth using state level data in India. He observed that there is a negative and statistically significant relationship between the violent crimes and growth rate of per capital income. The result shows that crime has an important effect on economic performance. Chaudhary (2013) displayed domestic violence as one of the most common crime against women which is inextricably linked to the perpetuation of patriarchy. As concluded by Chaudhary that domestic violence may have a wider and deeper impact in life of the victims. A proper societal legal environment has to be built to make the houses safe and secure for the women.

The literature review on crime in India suggests that some work has been done on taking specific crime and also crime as a whole. But all the studies mainly focused on all India. Therefore study using state level data and analyzing the states separately is practically lacking in the literature.

The present study is in the footsteps of earlier studies in India. It is different from earlier studies in the sense that it covers all the major states and tried to analyze the trend in crime rate for all the states separately. Thus the present study is an attempt to fill the gap in the existing literature.

The major objectives of the present study are to understand the trend in growth of different crimes like Crime against children, Crime against women and Other crimes in the 17 major selected states of India. Side by side it will be interesting to find out the relative performance as well as the position of 17 major selected states w.r.t. All India in terms of Crime against children, Crime against women and other crimes.

The rest of the paper is structured in the following manner:

Section 2 outlines the data source and the methodology of measuring the growth rate of each of the variables like crime against women, children and other crimes. The results of estimation are reported in section 3. Section 4 concludes.

2. Methodology and the data

This section presents the methodology and the data used in the analysis.

2.1 Methodology

For measuring the growth rate of each of the variables like crime against women, crime against children and other crimes, the following specifications have been used:

Year to Year Growth rate which is obtained from $(Y_t - Y_{t-1})/Y_{t-1}$

Y_t is the magnitude of the variable in period t, Y_{t-1} is the magnitude of the variable in period t-1, $Y_t - Y_{t-1}$ is the difference in the magnitude of the variable in period t and t-1.

Compound Annual Growth Rate is defined as $(Y_n/Y_o)^{(1/n)} - 1$

Where Y_n is the magnitude of the variable in period n and Y_o is the magnitude of the variables in base period 0 and n denotes number of periods.

2.2 Data

Secondary data from the period 2001-02 to 2014-15 on Crime against women which includes Rape, Kidnapping & abduction, Dowry Death & cruelty by husband or his relatives, Other crimes like assault on women with intent to outrage her modesty, insult to the modesty of women, importation of girls from foreign country, Crime against children which includes Rape of Children, Kidnapping and Abduction of Children and Other crimes against children like infanticide, feticide, murder of children, abetment of suicide, exposure and abandonment, procurement of minor girls, buying of girls for prostitution and also Other Violent Crimes like Murder, Theft & Robbery, Cyber crime and Human Trafficking have been used.

Major seventeen states of India considered in the present study are Andhra Pradesh (AP), Assam (AS), Bihar (BI), Gujarat (GU), Haryana (HA), Himachal Pradesh (HP), Jammu & Kashmir (J&K), Karnataka (KA), Kerala (KE), Madhya Pradesh (M.P), Maharashtra (MA), Odisha (OD), Punjab (PU), Rajasthan (RA), Tamil Nadu (TN), Uttar Pradesh (UP) and West Bengal (WB). The sources of data are The National Crime Record Bureau (NCRB), Ministry of Home Affairs [<http://ncrb.nic.in/>], Crime- statistical year book India by National sample survey Office (NSSO) and various issues of crime in India [data.gov.in]

3. Results of analysis

The results of estimation of the growth rate of crime against women, crime against children and other crime for the different states in India using year to year growth rate are discussed in Tables 1, 2 and 3. Also the relative performance of the 17 major selected states with respect to (w.r.t.) All India in terms of Crime against children, Crime against women and other crimes are presented in Table 4. Ranking of the states in terms of Crime against Children, Crime against Women and Other Crime are made in Table 5. The results of compound annual growth rate are presented in Table 6.

3.1. Results of Year to year growth rate

The results of estimation of the growth rate of crime against women, crime against children

and other crime for the different states in India using year to year growth rate are presented in Table 1, Table 2 and Table 3 respectively.

Table 1: Year to Year Growth Rate of Crime against Women

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
AP	0.15	-0.03	0.03	0.10	0.03	0.15	-0.03	0.06	0.07	0.04	0.00	0.16	-0.50	-0.04
AS	0.20	0.04	0.07	0.06	0.13	0.01	0.19	0.20	0.19	0.00	0.18	0.29	0.10	0.22
BI	0.07	0.03	0.37	-0.26	0.12	0.12	0.15	0.02	-0.04	0.21	0.10	0.21	0.13	-0.10
GU	-0.07	0.07	0.08	0.02	0.15	0.13	0.04	-0.07	0.02	0.08	0.08	0.28	-0.12	-0.28
HA	0.29	-0.05	0.03	-0.03	0.11	0.01	0.11	0.03	0.05	-0.01	0.09	0.51	-0.01	0.05
HP	-0.06	-0.13	0.13	-0.04	0.00	0.29	-0.04	-0.03	0.08	-0.03	-0.09	0.62	0.03	-0.15
J&K	0.22	0.07	0.02	-0.03	0.13	0.04	-0.09	0.14	0.00	0.20	0.06	0.05	-0.05	0.01
KA	0.03	-0.05	-0.07	0.12	0.00	0.08	0.05	0.14	0.12	0.09	0.08	0.16	0.16	-0.09
KE	0.07	-0.03	0.15	0.04	0.12	0.04	0.04	-0.01	0.18	0.19	-0.03	0.03	0.01	-0.15
MP	0.05	-0.05	0.05	-0.04	-0.01	0.07	-0.03	0.06	0.04	0.01	0.01	0.31	0.30	-0.16
MA	-0.10	0.00	0.08	0.10	0.08	0.03	0.06	-0.05	0.05	0.00	0.04	0.52	0.07	0.17
OD	-0.11	0.03	0.06	0.19	0.09	0.07	0.14	-0.02	0.05	0.11	0.27	0.18	0.03	0.17
PU	-0.03	0.03	-0.18	0.01	0.14	0.20	-0.02	0.00	0.08	-0.07	0.23	0.54	0.09	-0.02
RA	-0.01	-0.02	0.11	-0.11	0.11	0.10	0.02	0.19	0.05	0.09	0.06	0.32	0.12	-0.10
TN	-0.03	-0.09	0.05	-0.07	-0.25	0.20	-0.08	-0.16	0.11	0.03	0.04	0.04	-0.15	-0.08
UP	-0.23	-0.18	0.21	-0.04	0.10	0.28	0.12	-0.01	-0.13	0.12	0.04	0.38	0.18	-0.08
WB	0.04	0.24	0.30	0.08	0.08	0.29	0.26	0.11	0.12	0.12	0.06	-0.04	0.28	-0.13

Source: Authors calculations from the data of Crime in India (The National Crime Record Bureau (NCRB))

Table 1 shows the year to year growth rate of crime against women. The table reveals that for all the major states considered there are negative values in some of the financial years. It can be revealed that the growth rate for all the states showed a fluctuating pattern during the sample period 2001-02 to 2014-15. It can be noted that the growth rates are not only fluctuating over the entire period but also showed negative values in some of the financial years.

Table 2: Year to Year Growth Rate of Crime against Children

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
AP	0.23	3.39	-0.09	-0.28	0.46	0.08	-0.12	0.30	0.06	0.21	0.03	0.13	-0.20	-0.03
AS	-0.22	0.36	0.11	8.48	0.27	-0.34	0.10	-0.76	3.48	0.20	0.66	0.32	1.67	1.05
BI	-0.31	-0.02	0.05	0.95	-0.43	9.23	0.13	0.33	0.81	0.21	0.30	-0.45	0.43	-0.15
GU	0.24	-0.06	0.20	0.05	0.17	0.14	-0.03	-0.10	0.04	0.12	0.17	0.56	0.55	0.13

HA	-0.35	0.22	-0.43	1.28	0.24	-0.30	-0.17	0.31	-0.14	-0.08	2.63	0.62	0.55	0.28
HP	0.11	0.20	-0.16	0.42	0.04	0.11	0.36	0.08	0.11	0.06	0.02	0.61	0.09	0.02
J&K	0.50	0.17	-0.29	0.63	0.49	-0.69	-0.62	0.80	-0.06	0.47	0.60	0.88	1.81	0.46
KA	0.58	0.02	0.63	0.01	0.45	-0.04	0.46	-0.21	0.33	-0.18	1.62	0.55	1.52	0.16
KE	0.64	-0.56	1.02	0.07	0.43	-0.12	0.13	0.07	0.02	1.44	-0.09	0.42	0.27	0.00
MP	0.63	0.14	0.37	0.02	0.06	0.09	-0.01	0.09	0.06	-0.11	0.18	0.60	0.83	-0.15
MA	0.15	0.08	0.14	0.01	0.23	-0.05	0.00	0.07	0.13	0.03	0.03	0.85	0.27	0.72
OD	-0.18	1.50	-0.08	-0.33	0.79	0.31	-0.30	0.38	0.00	0.62	0.33	1.69	0.96	0.17
PU	0.31	0.14	0.05	0.09	0.56	0.60	-0.26	0.87	-0.14	-0.01	0.41	0.52	0.32	0.04
RA	-0.06	0.18	0.68	0.44	0.64	0.32	-0.02	0.15	-0.06	0.13	0.21	0.60	0.34	-0.05
TN	1.21	0.31	1.22	-0.27	0.23	0.25	0.51	-0.05	0.28	0.14	0.12	0.15	0.98	0.11
UP	-0.51	-0.07	0.13	-0.06	-0.02	0.27	0.81	-0.24	-0.24	1.36	0.10	0.63	-0.96	-0.31
WB	0.05	-0.15	0.39	0.15	0.83	-0.16	0.42	-0.06	0.82	0.65	0.18	0.48	-0.81	0.30

Source: Authors calculations from the data of Crime in India (The National Crime Bureau Record (NCRB))

The year to year growth rate of crime against Children is presented in Table 2. The table reveals that for all the major states considered the growth rates are not only fluctuating over the sample period 2001-02 to 2014-15 but also showed negatives values in some of the financial years.

Table 3: Year to Year Growth Rate of Other Crime

	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
AP	-0.08	0.05	0.02	-0.03	0.11	-0.09	-0.02	-0.01	0.01	0.08	-0.05	-0.01	-0.45	-0.02
AS	-0.03	0.07	-0.03	-0.12	-0.02	0.00	0.03	-0.15	0.05	0.11	0.92	-0.43	0.15	-0.07
BI	0.03	-0.03	0.10	-0.13	0.00	-0.08	-0.01	0.02	0.02	0.06	0.18	-0.02	0.09	0.04
GU	0.76	-0.43	-0.08	-0.08	0.01	0.05	0.07	-0.08	0.01	0.02	0.06	0.02	-0.09	0.08
HA	-0.04	-0.10	-0.02	0.21	0.19	0.07	0.02	0.07	0.12	-0.02	0.02	-0.02	0.14	0.01
HP	0.03	-0.06	-0.07	-0.01	0.04	0.09	-0.04	-0.02	0.02	-0.14	-0.03	0.03	-0.04	-0.15
J&K	-0.09	-0.02	-0.08	-0.10	-0.09	-0.13	0.15	-0.12	0.33	-0.30	-0.03	0.17	-0.10	-0.19
KA	0.04	-0.14	0.06	0.02	0.04	-0.07	0.10	0.06	0.15	-0.02	0.05	-0.04	0.00	-0.03
KE	-0.02	-0.12	-0.04	-0.02	-0.01	0.14	0.08	0.01	0.02	0.22	0.02	-0.06	-0.34	-0.01
MP	-0.01	-0.13	0.00	0.00	-0.03	0.06	0.04	-0.05	-0.01	-0.03	-0.03	-0.06	0.07	0.04
MA	-0.03	-0.06	0.04	0.07	0.07	0.06	0.11	-0.07	0.06	0.05	0.15	0.15	-0.07	-0.02
OD	0.10	-0.08	0.00	0.05	-0.03	0.18	0.28	-0.18	0.05	0.04	0.15	0.00	0.02	0.03
PU	-0.04	-0.03	0.06	0.02	0.15	-0.01	0.04	0.06	0.07	-0.05	0.03	-0.17	0.01	0.00

RA	-0.24	-0.29	-0.09	-0.15	-0.11	0.05	-0.06	-0.02	-0.05	-0.07	-0.02	0.09	0.09	-0.08
TN	-0.10	-0.13	-0.08	-0.15	-0.14	0.27	0.13	0.00	0.17	0.10	0.01	-0.02	-0.02	-0.04
UP	-0.21	-0.33	0.31	-0.04	-0.06	0.00	-0.06	0.00	-0.01	0.18	0.03	0.07	0.02	-0.03
WB	-0.11	0.05	0.01	0.02	0.00	0.24	0.35	0.21	0.01	-0.06	0.11	0.01	0.19	0.08

Source: Authors calculations from the data of Crime in India (The National Crime Bureau Record (NCRB))

Table 3 shows the year to year growth rate of Other Crime. The table reveals that for all the major states considered the growth rate showed a fluctuating pattern during the sample period 2001-02 to 2014-15. It can be noted that the growth rate are not only fluctuating over the entire period but also showed negatives values in some of the financial years.

As the results of estimation of year to year growth rate of crime against women, children and other crimes for the different sample states are fluctuating over the entire period and also showed negatives values in some of the financial years, simple arithmetic mean (AM), standard deviation (SD) and coefficient of variation (CV) for the entire sample period are calculated to have an idea about the actual situation of these variables.

3.1.1 Relative performance of the sample states with respect to All India in terms of Crime against children, Crime against women and other crime

The relative performance of the 17 major selected states w.r.t. All India in terms of Crime against children, Crime against women and other crimes can be understood from Table 4. The criteria for Good Performing states, Medium Performing states and Bad Performing states have been defined as under:

Good performer	Medium Performer	Bad Performer
<ul style="list-style-type: none"> • AM-low, SD-low, CV-low 	<ul style="list-style-type: none"> • AM-high a) SD-high, CV high b) SD-high, CV-low c) SD-low, CV-high • AM-low a) SD-high, CV high b) SD-high, CV-low c) SD-low, CV-high 	<ul style="list-style-type: none"> • AM-high, SD-low, CV-low

Table 4: Relative performance of the sample states with respect to All India in terms of Crime against children, Crime against women and other crime

Variables	Good Performing	Medium Performing	Bad Performing
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	states	states	states
Crime against Women	AP,GU,HP,MP and UP	AS, J&K, KA, MA, RA and WB	BI, HA, KE, OD, PU and TN
Crime against Children	AP, J&K, and UP	KA, OD, PU, TN, RA and WB	AS, BI, GU, HA, HP, KE, MP and MA
Other crime	AS, GU, KA and TN	HA, J&K, OD and PU	AP, BI, HP, KE, MP, MA, RA, UP and WB

In case of Crime against Women, the Good Performing states are AP, GU, HP, MP and UP. The performance of AS, J&K, KA, MA, RA and WB are medium. The maximum crime can be found in BI, HA, KE, OD, PU and TN.

For Crime against Children, least crime is found in AP, J&K, and UP. The performance of KA, OD, PU, TN, RA and WB are medium. The maximum crime can be found in AS, BI, GU, HA, HP, KE, MP and MA.

In case of Other crime, maximum crime can be seen in AP, BI, HP, KE, MP, MA, RA, UP and WB. The good performing states are AS, GU, KA and TN. HA, J&K, OD and PU are the medium performing states.

3.1.2 Relative position of the sample states in terms of Crime against Women, Crime against Children and Other Crime

The different crimes for the major states are arranged in a series of descending order from highest crime rates to lowest crime rates based on the arithmetic mean values of year to year growth rate. This is done to reveal the position of the states w.r.t. All India accordingly which state ranks the first and is most crime prone and which state is less crime oriented.

Table 5: Rank of the sample states in terms of Crime against Children, Crime against Women and Other Crime

States	Ranks (Crime against Children)	Ranks (Crime against Women)	Ranks (Other Crime)
Andhra Pradesh	8	16	15
Assam	2	1	5
Bihar	3	5	7
Gujarat	15	15	6
Haryana	7	4	2
Himachal Pradesh	16	14	14
Jammu & Kashmir	6	10	16
Karnataka	4	9	8
Kerala	9	12	11
Madhya Pradesh	13	1	13
Maharashtra	14	13	4

Odisha	5	3	3
Punjab	10	7	9
Rajasthan	11	8	17
Tamil Nadu	1	17	10
Uttar Pradesh	17	11	12
West Bengal	12	2	1

Source: Authors calculations form the data of Crime in India. National Crime Record Bureau (NCRB)

To have an idea about the actual situation of the major states in terms of different crimes, ranking of each state according to the mean is done.

For crime against children, the top most crime prone states are Tamil Nadu, Assam and Bihar whereas Tamil Nadu ranks the first followed by other states. On the other hand, the least crime prone states are Uttar Pradesh, Himachal Pradesh and Gujarat among which ranks Uttar Pradesh the least respectively.

In case of crime against women, the most crime prone states are Assam, West Bengal and Odisha whereas, Assam ranks the first followed by others on the other hand the least crime prone states are Tamil Nadu, Andhra Pradesh, Gujarat, and Himachal Pradesh. Whereas, Tamil Nadu ranks the least among these states.

Considering other crime, the most crime prone states are West Bengal, Haryana and Odisha whereas, West Bengal ranks the first followed by others on the other hand the least crime prone states are Rajasthan, Jammu & Kashmir, Andhra Pradesh and Himachal Pradesh whereas, Rajasthan ranks the least among these states.

3.2 The Results of Compound Annual Growth Rate (CAGR)

The results of compound annual growth rate for crime against women, crime against children and other crimes are presented in Table 6

Table 6: CAGR of Crime against Children, Crime against Women and Other Crime

	AP	AS	BI	GU	HA	HP	J&K	KA	KE	MP	MA	OD	PU	RA	TN	UP	WB
Crime against Children	0.15	0.01	0.05	0.18	0.13	0.19	0.11	0.02	0.12	0.13	0.13	0.03	0.08	0.07	0.03	0.35	0.04
Crime against Women	1.03	0.20	0.41	0.76	0.38	0.71	0.52	0.50	0.58	0.62	0.43	0.34	0.47	0.46	1.67	0.59	0.22
Other Crime	1.86	0.95	0.81	1.03	0.57	1.44	2.06	0.83	1.27	1.15	0.65	0.62	0.92	2.77	1.08	1.31	0.40

Source: Authors calculations form the data of Crime in India. National Crime Record Bureau (NCRB)

The result of Compound annual growth rate of all the different crime i.e. crime against women, children and other crimes have been calculated for the major states. The major states have been compared with each other in terms of different crimes considered which reveals the following:

For crime against Children, Uttar Pradesh shows highest growth and Assam shows least growth and West Bengal is in 13th position.

Considering crime against women, Tamil Nadu shows highest growth and Assam shows least growth and West Bengal is in 16th position.

In case of other crime, Rajasthan shows highest growth and West Bengal shows least growth.

4. Summary and Conclusion

The present study deals with the measurement of growth rate of Crime against children, Crime against women and other crime during the period of 2001-02 to 2014- 2015.

The results of estimation of year to year growth rate for all the variables considered like crime against women, crime against children and other crime in different major states in India reveals that the growth rate of all these variables showed a fluctuating pattern during the period 2001-02 to 2014- 2015. It can be noted that the growth rate are not only fluctuating over the entire period but also showed negatives values in some of the financial years.

The relative performance of the major sample states in terms of crime against women, crime against children and other crime w.r.t. All India are tried to be understood. Also the different sample states are ranked on the basis of crime against women, crime against children and other crime. In case of crime against children, it is revealed that among the seventeen major states, Tamil Nadu ranks the first and Uttar Pradesh ranks the least. In case of crime against women, it is revealed that among the major seventeen states, Assam ranks the first and Tamil Nadu ranks the least. In case of other crime, it is revealed that among the major seventeen states, West Bengal ranks the first and Rajasthan ranks the least. It is also found that West Bengal is having high rates of crime in case of crime against women and other crime compared to the other sample states.

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