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Financial Development & Income Inequality in India: An Analysis

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ABSTRACT
Objective: The objectives of the paper are: (i) to test whether financial development has increased the incidence of income inequality in India over the period of time and (ii) to help the policymakers to design and implement programs to resolve the incidence of income inequality in the country.
Methods/Statistical Analysis: Techniques such as correlation and regression analysis are used to examine the impact of financial development on income inequality since 1990-91 to 2018-19. The analysis is done using the SPSS software.
Findings: Among various factors, only two factors such as Financial Development (M3/GDP) and Unemployment Rate (UR) are more influencing income inequality in India.

Application/ Improvements: Special financial institution like '**Education Bank'** be set up to provide education loans and other incentives. These banks should have tie up with quality education institutions and corporate world. Various scheme of 'financial accessibility' be innovated and implemented effectively to reduce the incidence of inequality. There is a need to bring the unbanked-weaker segment of population in the mainstream of the economy. An attempt should be made to increase the tax revenue by simplifying the tax structure, extending the tax net and reducing the tax rates. An effective combination of fiscal stimulus and financial inclusion may help to reduce the incidence of income inequality by helping up-till-now ignored people to come in mainstream of development and by increasing their participation rate.

Keywords: Income, Income Inequality, Financial Development, Unemployment.

I. INTRODUCTION:

Financial system, consisting of financial institutions, financial instruments, financial markets and financial services, together help to transfer financial resources from savers to various sub sectors across the regions. Hence, finance is considered as an essential condition for economic development (Kunjukunju & Mohanan, 2012).

The relative importance of each of the financial institution, financial instrument and the financial market in the financial system as a whole is referred to as '**financial structure'.** This relative importance keeps on changing with the introduction of new players in the financial system. Thus, financial structure of the country changes overtime. This change in financial structure of the country overtime is referred to as '**financial development'**.

The unequal distribution of income of the household or an individual across the various participants in an economy is called as '**income inequality'**. It shows how income is distributed unequally among individuals in a group, among groups in population or among countries (Berger & Ostry, 2011).

Income inequality is a difference in economic position of individuals within the country. It depends on earning capacity (income), consumption expenditure and wealth governed by level of income. Hence, inequality can be estimated through income, consumption expenditure and wealth. While consumption and income measure a flow of resources over time, wealth refers to a stock of resources at a given point in time (generally measured as net worth) (Himanshu, 2019).

Obtaining precise estimates of household incomes is complicated issue because, first, only few households have regular sources of income. And, there is tendency on part of people not to disclose their true income and wealth. Second, incomes are irregular in agriculture and in small businesses. Hence, considerable efforts are required to obtain estimates of revenue and expenditure before net income can be calculated. Third, measurement errors are generally large in agricultural incomes. Fourth, seasonal variations are much greater in agricultural incomes than in other incomes (Desai, 2010).

Between consumption and income, consumption is considered a more accurate reflection of living standard as household tend to smooth consumption flows over time. As consumption data is also easier to collect in economies with large informal sectors (Himanshu, 2019).

Income Inequality is measured in Gini Coefficient based on consumption expenditure.

The beneficial role of financial development in economic development has been well documented in economic literature. However, theories on the effect of financial development on income distribution give conflicting predictions. Accordingly, there are two different hypotheses i.e. one is '**finance-inequality widening hypothesis'** and the other is '**finance-inequality narrowing hypothesis'**.

The **finance-inequality widening hypothesis** reveals a positive association between financial development and income inequality. That is, income inequality increases with financial development. This hypothesis suggests that financial development benefits more to the rich due to their credit-worthiness to the banks and financial institutions (Clarke et al, 2006); On the other hand, the socially and economically backward poor individuals lack credit-worthiness due to insufficient collateral at their disposal. Hence, the poor find it difficult to access the financial services from the financial institutions. This makes the institutional quality weak. As a result, their opportunity of investment and improving income prospects suffers. This, in turn, gives rise to income inequality. This indicates an increase in income inequality along with financial development of the economy (Ahmed, 2017).

The **finance-inequality narrowing hypothesis** shows negative association between financial development and income inequality. It was put forward by Galor and Zeira (1993), Galor & Moav (2004) and Banerjee and Newman (1993). These authors propose that as the economy expands, financial market develops to support the growing economy with broader credit services. With this, the poor have opportunity to borrow for their human capital (the skills, knowledge and experience possessed by an individual) and upgrade their earning potentials. Hence, income inequality starts declining in the economy with financial development (Ahmed, 2017).

One can see different trends regarding level of income inequality across countries in the world. Almost all Latin American and Caribbean countries show very high levels of inequality, but considerable declines from 1990-2015. Conversely, advanced industrial economies show lower levels of inequality but rises in most, though not all. In six countries of Middle East and North Africa region, mostly falling trend is seen. In Sub-Saharan Africa, East Asia and the Pacific, the trends are more mixed. However, one can see rising trend in income inequality in some of the world's most populous countries including China, India, USA and Indonesia (together accounting for around 45% of world population) (Hasell, 2018). Widespread poverty and excessive inequality have remained as major challenges to the process of globalization, which has been underway during the last two decades (IDEA, 2002).

Income inequality (Gini Coefficient) in India has increased from 29.6 percent in 1991 to 38.1 percent in 2018 indicating that the income inequality is an important problem that needs to be tackled.

Financial development was expected to attain the objective of reduction in disparity in income among the poor and the rich. As, income inequality is one of the major challenges faced by many countries including India, possibly this study will help to improve an understanding of the problem and suggesting some effective measures, based on the study, to tackle this issue.

With this backdrop, the study attempts to examine the impact of financial development on distribution of income in India. For this purpose, we have taken various factors along with financial development to examine their impact on income distribution in India.

An Analysis:

The **aim of this study** is to examine the relationship between financial development and income inequality in India during the period of 1990-2018. This time period is chosen as India embarked on a process of economic and financial liberalization of the economy on a larger scale since 1990-91.

To examine the impact of financial development and other factors on income inequality, quantitative techniques such as correlation and regression are used.

The data required for the study is collected from secondary sources such as RBI (various issues), Handbook of Statistics on Indian Economy; UNDP (various issues); World Bank (various issues); UNESCO (2019); Govt of India (various issues), Planning Commission; Government of India (various issues), Economic Survey.

Initially, we have considered three indicators for measuring financial development in India. They are namely the Ratio of Bank Credit to Commercial sector to GDP, the Ratio of M3 to GDP and the Ratio of Bank Deposits to GDP (Table No.1).

However, the estimated correlation between these three indicators of financial development found to be very high. The estimated correlation coefficient between the Ratio of Bank Credit to Commercial Sector to GDP and the ratio of M3 to GDP was (r=0.96); between the Ratio of Bank Credit to Commercial sector to GDP and the Ratio of Bank Deposits to GDP was (r=0.98); and between the ratio of M3 to GDP and the ratio of Bank Deposits to GDP was (r=0.99).

Table No.2: Correlation Matrix

	Bank Credit / GDP (%)	M3/GDP (%)	Bank Deposits / GDP (%)
Bank Credit / GDP (%)	1	0.96	0.98
M3 / GDP (%)	0.96	1	0.99
Bank Deposits / GDP (%)	0.98	0.99	1

Hence, out of these three indicators, we can use any one of them for the further analysis. We use the Ratio of M3 to GDP as an indicator of financial development (Beck et al, 2000; Samargandi et al, 2015). This ratio highlights the role of intermediation played by banks in economic development (RBI,1998).

The technique of regression is used to examine how income inequality is influenced by various factors in the economy values of Gini coefficients which reflect income inequality, are based on the consumption expenditure (World Bank, 2016; UNDP {various issues}; Himanshu & Murgai, 2016; Himanshu, 2019).

Altogether there are twelve variables used in this analysis. They are Gini coefficient (GINI) for income inequality is based on the consumption expenditure, Ratio of Broad Money to GDP (M3/GDP) for financial development, Industrial Growth (IG), Service Sector Growth (SSG), Ratio of Tax to GDP (TR), Population Growth Rate (PGR), Age Dependency Ratio (ADR), Unemployment Rate (UR), Secondary School Enrollment (SSE), Inflation Rate (INF), Foreign Direct Investment (FDI) and Exports (EXP).(Table No.3).

The Gini Coefficient (GINI) is dependent variable and the rest of the variables are independent variables. The technique of regression is used to examine how income inequality is influenced by various factors in the economy.

Table No.1: Indicators of Financial Development in India
[Amt in Rs Billion]

Year (1)	GDP at Factor Cost (Amt) (2)	Bank Credit to Comm Sector (Amt) (3)	M3 (Broad Money) (Amt) (4)	Bank Deposit (Amt) (5)	Ratio of Bank Credit to GDP (%) (6)	Ratio of M3 to GDP (%) (7)	Ratio of Bank Deposit to GDP (%) (8)
I990-91	5318.13	1717.69	2494.93	1593.49	32.29	46.914	29.96
1991-92	6135.28	1879.93	2924.03	1856.70	30.64	47.659	30.26
1992-93	7037.23	2201.35	3442.38	2221.11	31.28	48.917	31.56
1993-94	8179.61	2377.74	3990.48	2585.60	29.06	48.786	31.61
1994-95	9553.85	2927.23	4781.96	3099.56	30.63	50.053	32.44
1995-96	11185.86	3446.48	5529.53	3532.05	30.81	49.433	31.57
1996-97	13017.88	3763.07	6426.31	4149.89	28.9	49.365	31.87
1997-98	14476.13	4333.1	7520.28	4959.72	29.93	51.950	34.26
1998-99	16687.39	4959.9	9012.94	5966.02	29.72	54.010	35.75
1999-00	18582.05	5865.64	10560.25	6859.78	31.56	56.830	36.91
2000-01	20007.43	6792.18	12240.87	8200.66	33.94	61.182	40.98
2001-02	21752.6	7596.47	14200.07	9503.12	34.92	65.280	43.68
2002-03	23438.64	8989.81	16479.54	11105.64	38.35	70.309	47.38
2003-04	26258.19	10161.51	18615.80	12793.94	38.69	70.895	48.72

2004-05	29714.64	12759.12	21214.59	14521.71	42.93	71.394	48.87
2005-06	33905.03	16886.81	24589.25	17444.09	49.8	72.524	51.44
2006-07	39532.76	21288.62	29501.86	21822.03	53.85	74.626	55.19
2007-08	45820.86	25789.9	36034.44	26726.30	56.28	78.642	58.32
2008-09	53035.67	30148.93	43436.64	33110.25	56.84	81.901	62.43
2009-10	61089.03	34914.09	51778.82	38472.16	57.15	84.760	62.97
2010-11	72488.6	42366.76	60151.65	45662.64	58.44	82.981	62.99
2011-12	83916.91	49923.38	69688.05	52837.52	59.49	83.044	62.96
2012-13	92026.92	56678.67	79089.42	60881.55	61.58	85.942	66.15
2013-14	103631.53	64452.96	89822.14	69916.39	62.19	86.675	67.46
2014-15	115042.79	70497.24	100517.56	77392.56	61.27	87.374	67.27
2015-16	125744.99	78030.69	111303.63	84382.94	62.05	88.515	67.1
2016-17	139359.17	84114.92	121612.85	94762.17	60.35	87.266	67.99
2017-18	154827.15	92137.16	131054.39	100557.67	59.5	84.645	64.94
2018-19	171998.15	103801.8	144468.38	110624.84	60.35	83.994	64.31

Source: (RBI 2018), Handbook of Statistics on Indian Economy

<u>Table No.3</u>: [Year, Gini Coefficient, M3 (Broad Money), GDP at Factor Cost etc.]

year	GINI	M3	GDPFC	M3/GDP	IG	GSS	TR	PGR	ADR	UR	SSE	INF	FDI	EXP
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1990-91	29.50	2494.93	5318.13	46.91	16.34	16.50	10.17	2.04	71.31	5.45	38.33	13.88	0.03	9.20
1991-92	29.60	2924.03	6135.28	47.66	10.61	17.41	9.81	2.00	70.80	5.50	39.36	11.88	0.10	-1.50
1992-93	29.70	3442.38	7037.23	48.92	16.37	15.38	8.54	1.97	70.20	5.61	45.34	6.31	0.20	3.80
1993-94	30.00	3990.48	8179.61	48.79	15.01	17.13	8.99	1.94	69.46	5.63	45.65	10.24	0.30	20.00
1994-95	30.20	4781.96	9553.85	50.05	20.96	15.42	9.23	1.92	68.59	5.64	45.35	10.22	0.59	18.40
1995-96	30.40	5529.53	11185.86	49.43	21.50	19.74	9.23	1.90	67.88	5.65	45.28	8.98	0.62	20.80
1996-97	30.80	6426.31	13017.88	49.37	12.97	16.13	9.00	1.87	67.06	5.64	45.83	7.25	0.86	5.30
1997-98	31.00	7520.28	14476.13	51.95	10.41	14.82	8.11	1.84	66.15	5.63	46.05	13.17	0.63	4.60
1998-99	31.20	9012.94	16687.39	54.01	12.35	17.23	8.64	1.81	65.18	5.68	43.04	4.84	0.47	-5.10
1999-00	31.50	10560.25	18582.05	56.83	9.12	16.01	8.81	1.77	64.18	5.66	44.87	4.02	0.77	10.50
2000-01	32.00	12240.87	20007.43	61.18	10.98	9.18	8.08	1.73	63.43	5.66	45.15	3.77	1.06	20.00
2001-02	32.50	14200.07	21752.60	65.28	4.89	10.89	8.68	1.69	62.60	5.72	47.07	4.31	1.01	-0.60
2002-03	33.00	16479.54	23438.64	70.31	12.42	10.11	9.11	1.65	61.73	5.72	49.63	3.81	0.61	20.30
2003-04	33.50	18615.80	26258.19	70.90	11.34	12.27	9.57	1.62	60.84	5.67	51.37	3.77	0.77	21.10
2004-05	34.70	21214.59	29714.64	71.39	21.50	12.74	10.08	1.58	59.94	5.60	53.97	4.25	0.89	30.80
2005-06	34.90	24589.25	33905.03	72.52	14.95	14.12	11.13	1.55	59.21	5.45	54.88	5.79	2.13	23.40
2006-07	35.00	29501.86	39532.76	74.63	19.53	16.19	12.11	1.51	58.47	5.32	57.28	6.39	2.07	22.60
2007-08	35.20	36034.44	45820.86	78.64	16.67	15.56	10.98	1.46	57.71	5.28	60.36	8.32	3.62	29.00
2008-09	35.30	43436.64	53035.67	81.90	12.78	18.42	9.81	1.41	56.88	5.57	59.61	10.83	2.65	13.60
2009-10	35.40	51778.82	61089.03	84.76	13.03	16.41	10.39	1.35	55.99	5.64	63.12	12.11	1.64	-3.50
2010-11	35.60	60151.65	72488.60	82.98	16.08	18.96	10.18	1.29	55.21	5.64	66.25	8.87	2.00	39.80
2011-12	35.70	69688.05	83916.91	83.04	16.05	16.35	10.84	1.23	54.31	5.65	69.01	9.30	1.31	22.50
2012-13	36.00	79089.42	92026.92	85.94	7.71	14.65	11.00	1.18	53.35	5.67	68.76	10.92	1.52	-1.80
2013-14*	36.80	89822.14	103631.53	86.67	5.44	13.04	9.98	1.15	52.45	5.61	74.14	6.37	1.70	4.70
2014-15*	37.20	100517.56	115042.79	87.37	5.90	10.60	10.57	1.12	51.64	5.57	73.87	5.88	2.09	-1.30
2015-16*	37.50	111303.63	125744.99	88.52	8.80	9.70	11.06	1.09	50.89	5.51	75.09	4.97	1.94	-15.50
2016-17*	37.80	121612.85	139359.17	87.27	5.60	7.70	11.18	1.06	50.29	5.42	73.47	2.49	1.51	5.20
2017-18	38.00	131054.39	154827.15	84.65	4.40	8.10	11.20	1.04	49.78	5.33	74.01	4.85	1.55	10.00
2018-19	38.12	144468.38	171998.15	83.99	6.90	7.50	10.90	1.02	49.25	5.36	75.16	7.66	1.76	9.60

Note: GDP at factor cost not measured after 2011-2012, therefore we have mentioned GVA at current price from 2013-14 onwards in the same column (RBI, 2018).

1- Year
2- Gini Coefficient (GINI)
3- Broad Money (M3)
4- GDP at Factor Cost (GDPFC)
5- Ratio of Broad Money (M3) to GDP-% (M3/GDP)
6- Industrial Growth- % of GDP (IG)
7- Service Sector Growth- % of GDP (SSG)
8- Ratio of Tax to GDP -% of GDP (TR)
9- Population Growth Rate- % (PGR)
10- Age Dependency Ratio - % of working population (ADR)
11- Unemployment Rate - % of labour force (UR)
12- Secondary School Enrolment - % of population (SSE)
13- Inflation – consumer price index (%) (INF)
14- Foreign Direct Investment -% of GDP (FDI)
15- Exports - % of GDP (EXP)

Sources:-
1) World Bank Indicators (2016); Himanshu & Murgai (2016); UNDP (2003, 2005, 2009 & 2016); UNESCO (2019); World Development Indicators (2019); Planning Commission (2014) & Economic Survey (2016-17; 2019-2020); Indexmundi (2019); World Data Atlas (2017); Inflation.eu (2018; 2020) World Bank, 2019; RBI Handbook of Statistics on the Indian economy 2018-19.

The multiple linear regression equation is as follows:

$$\mathbf{GINI = a + b_1 *M3/GDP + b_2*IG + b_3* SSG + b_4* TR + b_5*PGR + b_6*ADR + b_7*UR + b_8*SSE + b_9*INF + b_{10}*FDI + b_{11}*EXP + \varepsilon}$$

where,

GINI = Gini Coefficient
M3/GDP = Ratio of Broad Money to GDP
IG = Industrial Growth
SSG= Service Sector Growth
TR= Ratio of Tax to GDP
PG= Population Growth Rate
ADR= Age Dependency Ratio of working-age population
UR= Unemployment Rate of labour force`
SSE= Secondary School Enrollment
INF= Inflation (CPI)
FDI= Foreign Direct Investment as percentage of GDP
EXP= Export as percentage of GDP
ε = error term

When in the model there are multiple factors (predictors) , there is high possibility that they are highly correlated. This is referred to as multicollinearity among independent variables. Presence of multi-collinearity in the model gives furious results. Therefore, to tackle the problem of multi-collinearity among the independent variables, Variance Inflation Factor (VIF) method is used.

VIF measures how much the behaviour (variance) of an independent variable is influenced by its interaction/correlation with the other independent variables. The numerical value for VIF tells us (in decimal form) what percentage the variance (i.e., the standard error squared) is inflated for each coefficient. The value of VIF can be classified as 1= not correlated, between 1 and 5= moderately correlated and greater than 5 = highly correlated. Some papers argue that a VIF less than 10 is acceptable (Hair et al, 1995) but others say that the limit value is 5 (Everitt & Skrondal, 2010).

Enter Method:

In order to check the problem of multicollinearity among the independent variables and to adjust the regression model accordingly, we have used the 'Enter' method. This method is there in SPSS package by default.

In Enter Method, all variables in a block are entered in a single step. All the independent variables are given equal importance in the model. The model is not making any presumption that one of these variables is more important as compared to other variables that typically happen in the case of theory building. This is an appropriate analysis when dealing with a small set of predictors and when the researcher does not know which independent variables will create the best prediction equation (IBM, 2016).

This method makes use of regression analysis. Initially, all the independent variables are entered simultaneously for the analysis in the Enter Method (Dependent variable is specified at bottom of table). After running the regression with the help of software, it removes variable at each step which has highest value of Variance Inflation Factor (VIF) in the model. Such steps are then repeated till we get variables having VIF value less than 5. Then, significant variables are chosen based on p-values for the model (SAS, 2016).

Step 1:

For Step 1, multiple linear regression equation specified is as follows:

GINI = M3/GDP + IG + SSG + TR + PGR + ADR + UR + SSE + INF + FDI + EXP + e

SPSS regression output gives four tables. They are Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients.

The first table is 'Variables Entered/Removed' (Table No.4).

Table No.4:
Variables Entered/Removed

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	EXP, M3/GDP, INF, UR, SSG, IG, FDI, TR, SSE, ADR, PGR	------.	Enter

a. All requested variables entered.

First column depicts number of model, as we have only one model for the analysis, Number One (1) is written in the first column.

Second column is Variables Entered, where all independent variables (predictors) are entered in the model. These variables are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment, Ratio of Tax to GDP, Secondary School Enrolment, Age Dependency Ratio and Population Growth Rate.

Third column is Variables Removed. At the beginning we do not remove any variable from the model, so it is kept blank.

Fourth column is name of the method used i.e. Enter Method. So, name 'Enter' is specified.

The next output table is Model Summary (Table No.5).

Table No.5: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R-square (4)	Std. Error of the Estimate (5)
1	.998[a]	.997	.995	.21288

This table shows multiple regression model summary and overall fit statistics.
The value of R (correlation coefficient value) shows the correlation between the observed and predicted values of dependent variable. It is 99.8 percent.

Third column shows the value of R-square. It is the proportion of variance in the dependent variable (GINI) which can be predicted from the independent variables. It is also called the coefficient of determination. Note that this is an overall measure of the strength of association and does not reflect the extent to which any particular independent variable is associated with the dependent variable. It is 99.7 percent.

R-square computed on sample data tends to overestimate R-square for the entire population. Therefore, we prefer to report adjusted R-square, which is an unbiased estimator for the population R-square. The value of the Adjusted R-square (Fourth Column) is 0.995. This tells us that independent variables in our model accounts for 99.5% variance in the dependent variable.

Fifth column shows Standard Error of the estimate. It is a measure of accuracy of prediction. It represents average distance that observed value fall from regression line. Thus, it reflects the average error of regression model. It shows how wrong you could be if you use regression model to make predictions. As the standard error reflects how wrong you could be, we want standard error to be as small as possible (SAS, 2016).

Really speaking, in this table, values of R and Adjusted R-square are more useful for our purpose. Hence, from Step 2 of this analysis we shall focus on them only.

The SPSS does not include confidence interval for Adjusted R-square. However, the p-value found in Analysis of Variance (ANOVA) Table (Table No.13) applies to R and R-square. The p-value are used to decide whether results are significant enough to reject null hypothesis.

Table No.6: Analysis of Variance (ANOVA)

Model (1)	Sum of Squares (2)	DF (3)	Mean Square (4)	F-value (5)	p-value (6)
Regression	234.003	11	21.273	469.433	.000[a]
Residual	.770	17	.045		
Total	234.773	28			

In Table No.6 First column in this model states Regression, Residual and Total. Regression is the proportion of variation explained by the independent variables, called Explained Variation. Residual is the proportion of variation which is not explained by the independent variables, called Unexplained Variation. It measures discrepancy (error) between actual values and estimated values of dependent variables by regression equation. Total is adding up of Regression and Residual.

Second column is Sum of Squares (SS). It measures the total variability in the observations. It measures deviation from the mean. The smaller the value of residuals sum of square relative to Explained Sum of Square (through regression), the better the regression line fits or explains the relationship between dependent and independent variables.

Third column is Degree of Freedom (DF). It is the number of independent pieces of information (11) that went into calculating the estimate. The residual error of the observations are (17). Thus, the total observation in the study are 28 (11+17).

Fourth column is Mean Square. It is an estimate of the population variance. It is computed by dividing a sum of square value by the corresponding degrees of freedom (SS/DF= MS).

Fifth column is F-value. The F-value is the Mean Square Regression divided by the Mean Square Residual, yielding F=469.43. It is a value we get when we run an ANOVA. An ANOVA is used to find out whether means between two population are significantly different. The F-value should always be used along with the p-value in deciding whether results are significant enough to reject the null hypothesis.

Sixth column is p-value. P-value shows level of significance of the model. If the p-value is small (less than our alpha level 0.05), we can reject the null hypothesis (Chatterjee & Hadi, 2012). It means that the independent variables reliably predict the dependent variable. If the p-value were greater than 0.05, it means that the group of independent variables in the model does not show a statistically significant relationship with the dependent variable or that the group of independent variables does not reliably predict the dependent variable (SAS, 2016). In our model, p-value is 0.00 which is less than alpha level 0.05. It means that overall, the model is significant. It is rejecting the null hypothesis.

From the ANOVA Table, values given in Column No.2 i.e. Sum of Squares and values given in column no.6 i.e. p-values are important for our purpose. Hence, Step No.2 onwards we shall concentrate on them only.

The next output table is 'Coefficients' (Table No.7). It shows multiple regression estimates (column no.2) including the intercept and significance level (column no.4). The information in this table also allows us to check for multicollinearity (column no.5 & 6) in our multiple linear regression model.

Table No.7: Coefficients

Model (1)	Unstandardized Coefficients (2)		Standardized Coefficients (3)	(4)		Collinearity Statistics (5)	Collinearity Statistics (6)
	B	Std. Error	Beta	t-value	p-value	Tolerance	VIF
1(Constant)	58.080	5.968		9.732	.000		
M3/GDP	.045	.016	.240	2.755	.014	.025	39.48
IG	.001	.018	.001	.047	.963	.192	5.20
SSG	-.017	.024	-.020	-.707	.489	.234	4.27
TR	.087	.116	.032	.748	.465	.105	9.50
PGR	9.616	3.690	1.107	2.606	.018	.001	**935.80**
ADR	-.627	.132	-1.524	-4.736	.000	.002	536.19
UR	-1.675	.827	-.073	-2.027	.059	.149	6.71
SSE	.076	.032	.326	2.378	.029	.010	97.49
INF	.002	.020	.002	.111	.913	.406	2.46
FDI	-.164	.134	-.047	-1.228	.236	.129	7.73
EXP	.002	.005	.011	.527	.605	.455	2.19

a. Dependent Variable: GINI Coefficient

The B coefficients of our estimated regression model are:

GINI = 58.080 + 0.45 M3/GDP + 0.001 IG – 0.17 SSG + 0.87 TR + 9.616 PGR -0.627 ADR – 1.675 UR +0.76 SSE + 0.002INF – 0.164 FDI + 0.002 EXP

Each B coefficients indicate the average increase in income inequality (GINI) associated with a unit increase in predictor. The B coefficient is statistically significant is its p-value (given in Column No.4) is less than 0.05 (p-value is < 0.05).

B coefficients (Column No.2) don't tell us relative strength of our predictors. This is because these have different scales. One way to deal with this is to compare the Standardised Regression Coefficients. Beta coefficients (Standardized Regression Coefficient) are useful in comparing the relative strength of predictors. The standardization of variables (dependents and independent) means all variables are put on same scale and magnitude of coefficients are compared to see which one has more effect (SAS, 2016).
For model building what is important to us in this table is Collinearity Statistics (given in Column No. 5 & 6).

Fifth column shows Tolerance values. Tolerance is used in regression analysis for diagnosing multicollinearity, which happens when variables are too closely related. It is associated with each independent variable and ranges from 0 to 1. It is calculated as we regress each independent variable on all of the other independent variables. So, subtract each R2 value from 1. Allison (1999) notes that there isn't a strict cut off for tolerance but suggests a tolerance of below 0.40 is cause for concern. Weisburd & Britt (2013) state that anything under 0.20 suggests serious multicollinearity in a model. High tolerance means low multicollinearity (above 0.40) and Low tolerance is high multicollinearity (below 0.40) (Allison, 1999).

Sixth column shows Variance Inflation Factor (VIF). VIF measures how much the behaviour (variance) of an independent variable is influenced (or inflated) by its interaction/correlation with the other independent variables. The numerical value for VIF tells us (in decimal form) what percentage the variance (i.e., the standard error squared) is inflated for each coefficient. The value of VIF can be classified as 1= not correlated, between 1 and 5= moderately correlated and greater than 5 = highly correlated. Some papers argue that a VIF less than 10 is acceptable (Hair et al, 1995) but others say that the limit value is 5 (Everitt & Skrondal, 2010). So, we have maintained the VIF limit value as 5.

At this stage, the variable Population Growth Rate (PGR) is eliminated from the model due to its high Variance Inflation Factor (VIF). Its value is equal to **935.80**.

Step 2:

For Step 2, multiple linear regression equation specified is as follows:

GINI = M3/GDP + IG + SSG + TR + ADR + UR + SSE + INF + FDI + EXP + e

Regression Output Tables, viz., Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients for Step 2 are given in Tables No. 8, 9, 10 and 11 respectively.

Table No.8:

Variables Entered/Removed

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	EXP, M3/GDP, INF, UR, SSG, IG, FDI, TR, SSE, ADR	. PGR	Enter

a. All requested variables entered.

At this stage, ten variables are entered in the model (Column No.2). They are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment, Ratio of Tax to GDP, Secondary School Enrolment and Age Dependency Ratio.

One variable i.e. Population Growth Rate (PGR) is removed from the model (Column No.3).

Table No.9: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R-square (4)	Std. Error of the Estimate (5)
1	.998[a]	.995	.993	.24473

Table No.10: Analysis of Variance (ANOVA)

Model (1)		Sum of Squares (2)	DF (3)	Mean Square (4)	F-value (5)	p-value (6).
1	Regression	233.695	10	23.370	390.191	.000[a]
	Residual	1.078	18	.060		
	Total	234.773	28			

The value of multiple correlation coefficient (R) is 99.8 percent. The value of R-square is 99.5 percent. And the value of Adjusted R-square is 99.3 percent. Thus, the value of Adjusted R-square indicating that 99.3 percent variation in dependent variable GINI, on an average, is due to all the independent variables now entered in the model (Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment, Ratio of Tax to GDP, Secondary School Enrolment and Age Dependency Ratio).

In Table No.10 (Column No.2), the value of Residual Sum of Square (1.078) is far smaller to Regression (Explained) Sum of Square (233.695), indicating that the regression line explains better relationship between dependent and independent variables.

The p-value is 0.00, which is less than alpha level 0.005, thus rejecting the null hypothesis. Hence, the overall model is significant.

Table No.11: Coefficients

Model (1)		Unstandardized Coefficients (2)		Standardized Coefficients (3)	(4)		Collinearity Statistics (5)	Collinearity Statistics (6)
		B	Std. Error	Beta	t-value	p-value	Tolerance	VIF
1	(Constant)	58.144	6.861		8.475	.000		
	M3/GDP	.041	.019	.218	2.181	.043	.026	39.097
	IG	.024	.018	.042	1.305	.208	.251	3.977
	SSG	-.025	.027	-.031	-.936	.362	.239	4.190
	TR	.051	.132	.019	.386	.704	.107	9.375
	ADR	-.302	.050	-.732	-5.992	.000	.017	**58.565**
	UR	-1.715	.950	-.075	-1.805	.088	.149	6.708
	SSE	.002	.017	.010	.134	.895	.047	21.080
	INF	-.016	.021	-.018	-.752	.462	.464	2.155
	FDI	-.007	.137	-.002	-.051	.960	.162	6.157
	EXP	.001	.005	.003	.136	.893	.465	2.152

a. Dependent Variable: Gini_Coeff

The B coefficients of our estimated regression model (Table No.11) are:

GINI = 58.144 + 0.41 M3/GDP + 0.024 IG – 0.025 SSG + 0.051 TR -0.302 ADR – 1.715 UR +0.002 SSE - 0.16 INF – 0.007 FDI + 0.001 EXP

Each B coefficients indicate the average increase in income inequality (GINI) associated with a unit increase in predictor. The B coefficient is statistically significant is its p-value (given in Column No.4) is less than 0.05 (p-value is < 0.05).

At this stage, the Variance Inflation Factor (VIF) of variable Age Dependency Ratio (ADR) is highest (VIF = 58.565) among all the independent variables. Hence, the variable ADR is eliminated from the model.

Step No.3:

For Step 3, multiple linear regression equation specified is as follows:

GINI = M3/GDP + IG + SSG + TR + UR + SSE + INF + FDI + EXP + e

Regression Output Tables, viz., Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients for Step 3 are given in Tables No. 12, 13, 14 and 15 respectively.

Table No.12:
Variables Entered/Removed

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	EXP, M3/GDP, INF, UR, SSG, IG, FDI, TR, SSE[a]	PGR & ADR.	Enter

a. All requested variables entered.

At this stage, nine variables are entered in the model (Column No.2). They are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment, Ratio of Tax to GDP and Secondary School Enrolment.

Two variables viz. Population Growth Rate (PGR) and Age Dependency Ratio (ADR) are removed from the model (Column No.3) due to their high VIF.

Table No. 13: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R- square (4)	Std. Error of the Estimate (5)
1	.993[a]	.986	.980	.41220

Table No. 14: Analysis of Variance (ANOVA)

Model (1)		Sum of Squares (2)	DF (3)	Mean Square (4)	F-value (5)	p-value (6)
1	Regression	231.545	9	25.727	151.415	.000[a]
	Residual	3.228	19	.170		
	Total	234.773	28			

The value of multiple correlation coefficient (R) is 99.3 percent. The value of R-square is 98.6 percent. And the value of Adjusted R-square is 98.0 percent. Thus, the value of Adjusted R-square indicating that 98 percent variation in dependent variable GINI, on an average, is due to all the independent variables now entered in the model (Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment, Ratio of Tax to GDP and Secondary School Enrolment).

In Table No.14 (Column No.2), value of Residual Sum of Squares (3.228) is far smaller to Regression (Explained) Sum of Squares (231.545), indicating that the regression line explains better relationship between dependent and independent variables.

The p-value is 0.00, which is less than alpha level 0.005, thus rejecting the null hypothesis. Hence, the overall model is significant.

Table No. 15: Coefficients

Model (1)		Unstandardized Coefficients (2)		Standardized Coefficients (3)	(4)		Collinearity Statistics (5)	Collinearity Statistics (6)
		B	Std. Error	Beta	t-value	p-value.	Tolerance	VIF
1	(Constant)	35.111	9.571		3.668	.002		
	M3/GDP	.108	.025	.579	4.315	.000	.040	24.867
	IG	-.009	.029	-.016	-.309	.761	.276	3.618
	SSG	-.040	.045	-.049	-.891	.384	.241	4.153
	TR	.039	.223	.014	.174	.864	.107	9.373
	UR	-2.253	1.593	-.098	-1.414	.173	.150	6.648
	SSE	.076	.020	.328	3.849	.001	.100	**10.030**
	INF	-.057	.034	-.063	-1.699	.106	.519	1.926
	FDI	.021	.231	.006	.090	.929	.163	6.150
	EXP	.005	.009	.023	.590	.562	.474	2.109

The B coefficients of our estimated regression model (Table No.15) are:

GINI = 35.111 + 0.108 M3/GDP - 0.009 IG – 0.040 SSG + 0.039 TR – 2.253 UR +0.076 SSE -0.57 INF – 0.021 FDI + 0.005 EXP

Each B coefficients indicate the average increase in income inequality (GINI) associated with a unit increase in predictor. The B coefficient is statistically significant is its p-value (given in Column No.4) is less than 0.05 (p-value is < 0.05).

At this stage, the Variance Inflation Factor (VIF) of Ratio of M3 to GDP (M3/GDP) is high (VIF = 24.867), but it is our main variable of study. So, we remove the variable Secondary School Enrolment (SSE), which has next high VIF value (VIF = 10.030). Hence, the variable SSE is eliminated from the model.

Step No.4:

For Step 4, multiple linear regression equation specified is as follows:

GINI = M3/GDP + IG + SSG + TR + UR + INF + FDI + EXP + e

Regression Output Tables, viz., Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients for Step 4 are given in Tables No. 16, 17, 18 and 19 respectively.

Table No. 16:
Variables Entered/Removed

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	EXP, M3/GDP, INF, UR, SSG, IG, FDI, TR	PGR , ADR & SSE	Enter

a. All requested variables entered.

At this stage, eight variables are entered in the model (Column No.2). They are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment and Ratio of Tax to GDP.

Three variables viz. Population Growth Rate (PGR), Age Dependency Ratio (ADR) and Secondary School Enrolment (SSE) are removed from the model (Column No.3) due to their high VIF.

Table No. 17: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R-square (4)	Std. Error of the Estimate (5)
1	.988[a]	.976	.966	.53600

Table No. 18: Analysis of Variance (ANOVA)

Model (1)		Sum of Squares (2)	DF (3)	Mean Square (4)	F-value (5)	p-value (6)
1	Regression	229.027	8	28.628	99.649	.000[a]
	Residual	5.746	20	.287		
	Total	234.773	28			

The value of multiple correlation coefficient (R) is 98.8 percent. The value of R-square is 97.6 percent. And the value of Adjusted R-square is 96.6 percent. Thus, the value of Adjusted R-square indicating that 96.6 percent variation in dependent variable GINI, on an average, is due to all the independent variables entered in the model (Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth, Foreign Direct Investment and Ratio of Tax to GDP).

In Table No.18 (Column No.2), value of Residual Sum of Squares (5.746) is far smaller to Regression (Explained) Sum of Squares (229.027), indicating that the regression line explains better relationship between dependent and independent variables.

The p-value is 0.00, which is less than alpha level 0.005, thus rejecting the null hypothesis. Hence, the overall model is significant

Table No. 19: Coefficients

Model (1)		Unstandardized Coefficients (2)		Standardized Coefficients (3)	(4)		Collinearity Statistics (5)	Collinearity Statistics (6)
		B	Std. Error	Beta	t-value	p-value	Tolerance	VIF
1	(Constant)	42.301	12.206		3.465	.002		

M3/GDP	.172	.025	.917	6.946	.000	.070	14.229
IG	-.012	.038	-.021	-.316	.755	.277	3.615
SSG	-.043	.059	-.052	-.731	.473	.241	4.152
TR	.007	.289	.003	.024	.981	.107	**9.360**
UR	-3.465	2.031	-.151	-1.706	.103	.157	6.388
INF	-.039	.043	-.043	-.896	.381	.530	1.887
FDI	-.151	.295	-.043	-.510	.615	.169	5.922
EXP	.001	.012	.003	.059	.953	.483	2.071

a. Dependent Variable: Gini Coefficient

The B coefficients of our estimated regression model (Table No.19) are:

GINI = 42.301 + 0.172 M3/GDP - 0.012 IG – 0.043 SSG + 0.007 TR – 3.465 UR - 0.39 INF – 1.51 FDI + 0.001 EXP

Each B coefficients indicate an average increase in income inequality (GINI) associated with a unit increase in predictor. The B coefficient is statistically significant is its p-value (given in Column No.4) is less than 0.05 (p-value is < 0.05).

At this stage, the Variance Inflation Factor (VIF) of Ratio of M3 to GDP (M3/GDP) is highest (VIF = 14.229), but it is our main variable of the study. So, we do not remove this variable. Instead, we remove the variable Ratio of Tax to GDP (TR), which has next highest VIF value (VIF = 9.360). Hence, the variable TR is eliminated from the model.

<u>Step No.5:</u>

For Step 5, multiple linear regression equation specified is as follows:

GINI = M3/GDP + IG + SSG + UR + INF + FDI + EXP + e

Regression Output Tables, viz., Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients for Step 5 are given in Tables No. 20, 21, 22 and 23 respectively.

<u>Table No. 20:</u>

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	EXP, M3/GDP, INF, UR, SSG, IG, FDI	PGR, ADR, SSE, TR.	Enter

a. All requested variables entered.

At this stage, seven variables are entered in the model (Column No.2). They are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth and Foreign Direct Investment.

The variable Population Growth Rate (PGR), Age Dependency Ratio (ADR), Secondary School Enrolment (SSE) and Ratio of Tax to GDP (TR) are removed from the model (Column No.3) due to their high VIF.

Table No. 21: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R-square (4)	Std. Error of the Estimate (5)
1	.988[a]	.976	.967	.52309

Table No. 22: Analysis of Variance (ANOVA)

Model (1)		Sum of Squares (2)	Df (3)	Mean Square (4)	F-value (5)	p-value (6)
1	Regression	229.027	7	32.718	119.575	.000[a]
	Residual	5.746	21	.274		
	Total	234.773	28			

The value of multiple correlation coefficient (R) is 98.8 percent. The value of R-square is 97.6 percent. And the value of Adjusted R-square is 96.7 percent. Thus, the value of Adjusted R-square indicating that 96.7 percent variation in dependent variable GINI, on an average, is due to all the independent variables entered in the model. These variables are Exports, Ratio of M3 to GDP, Inflation, Unemployment Rate, Service Sector Growth, Industrial Growth and Foreign Direct Investment.

In Table No.22 (Column No.2), value of Residual Sum of Squares (5.746) is far smaller to Regression (Explained) Sum of Squares (229.027), indicating that the regression line explains better relationship between dependent and independent variables.

The p-value is 0.00, which is less than alpha level 0.005, thus rejecting the null hypothesis. Hence, the overall model is significant

Table No. 23: Coefficients

Model (1)		Unstandardized Coefficients (2)		Standardized Coefficients (3)	(4)		Collinearity Statistics (5)	
		B	Std. Error	Beta	t-value	p-value	Tolerance	VIF
1	(Constant)	42.563	5.626		7.565	.000		
	M3/GDP	.172	.013	.919	13.561	.000	.254	3.943
	IG	-.012	.034	-.020	-.345	.734	.334	2.996
	SSG	-.042	.052	-.051	-.809	.427	.289	3.464
	UR	-3.507	1.044	-.153	-3.358	.003	.564	1.774
	INF	-.039	.042	-.043	-.924	.366	.534	1.872
	FDI	-.154	.241	-.045	-.642	.528	.242	4.138
	EXP	.001	.011	.003	.056	.956	.513	1.948

a. Dependent Variable: Gini_Coeff

The B coefficients of our estimated regression model (Table No.23) are:

GINI = 42.563 + 0.172 M3/GDP - 0.012 IG – 0.042 SSG – 3.507 UR - 0.039 INF – 1.54 FDI + 0.001 EXP

Each B coefficients indicate the average increase in income inequality (GINI) associated with a unit increase in predictor. The B coefficient is statistically significant is its p-value (given in Column No.4) is less than 0.05 (p-value is < 0.05).

At this stage, all seven independent variables in the model having VIF value less than 5 (a prescribed limit), indicating that there is no multicollinearity exist among them as well as in the model. Hence, all these variables are retained in the model.

However, it is to be noted that, out of these seven variables, only two variables are significant as their p-value is less than 0.05. These two variables are Ratio of M3 to GDP (M3/GDP) and Unemployment Rate (UR). It means that these two variables influencing the dependent variable (GINI) in our model.

Thus, we identified two significant variables - M3/GDP and UR - on the basis of Enter Method for our model.

As we are using multiple linear regression model for our analysis, there is a need to see, at this stage of the analysis, whether our model is satisfying the basic assumptions of multiple linear regression model.

The assumptions are:
1) Independent Observations.
2) Normality. The regression residuals must be normally distributed in the population;
3) Homoscedasticity. The population variance of the residuals should not fluctuate in any systematic way;
4) Linearity. Each predictor must have a linear relation with the dependent variable.

Test for normality of data**:**
Normality assumption is that regression residuals must be normally distributed in the population. To test this assumption, we have applied Kolmogorov-Smirnov test (Table No.24). Observed p-value = 0.101 > level of significance (alpha level) = 0.05. It proves that Normality assumption is satisfied by our model.

Table No.24:

Test of Normality

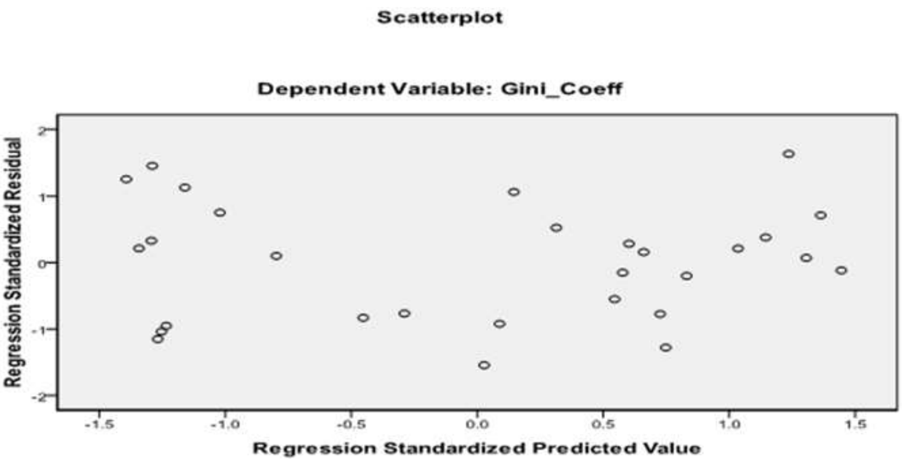
	Kolmogorov-Smirnov[a]		
	Statistic	df	p-value
GINI	.149	29	.101

a. Lilliefors Significance Correction

Homoscedasticity assumption is that population variance of the residuals should not fluctuate in any systematic way i.e. the variation in the residuals is similar at each point across the model. In other words, the spread of the residuals should be fairly constant at each point of the predictor variables (or across the linear model).

A special scatterplot (produced by SPSS software) for our whole model (Graph No.1) proves that variance of the residual is constant and the values of residual are normally distributed.

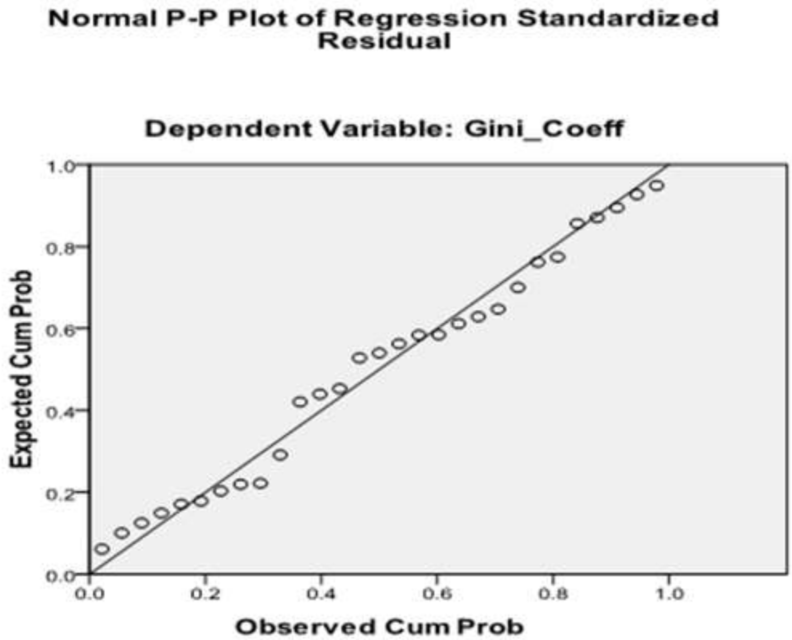
Graph No.1:



In Graph No.1, on X-axis we measure regression standardized predicted values and on Y-axis measure regression standardized residuals. The values of these residuals lie between -2 and +2. So, we can conclude that the variance of the residual is constant. The values of the residuals are normally distributed.

This assumption can also be tested by looking at the distribution of residuals in the **Normal Probability Plot** (Graph No.2).

Graph No.2:



In Graph No.2, a Normal Probability Plot shows that the points generally follow normal (diagonal) line with no strong deviations. This indicates that the residuals are normally distributed.

In the Normal Probability Plot, almost all the points lie on the normal (diagonal) line. This shows that there is a linear relationship between dependent variable (Gini) and independent variables in our model.

Under this model, we can observe that all variables for VIF is coming less than 5. Hence, multicollinearity does not exist in our data. Hence, we will check remaining assumptions of multiple linear regression model.

Step No.6:

For Step 6, multiple linear regression equation specified is as follows:

GINI = M3/GDP + UR + e

Regression Output Tables, viz., Variables Entered/Removed, Model Summary, Analysis of Variance (ANOVA) and Coefficients for Step 6 are given in Tables No. 25, 26, 27 and 28 respectively.

Table No.25:

Variables Entered/Removed

Model (1)	Variables Entered (2)	Variables Removed (3)	Method (4)
1	M3/GDP UR	PGR, ADR, SSE,TR, EXP, INF, SSG, IG, FDI	Enter

a. All requested variables entered.

At this stage, two variables are entered in the model (Column No.2). They are Ratio of M3 to GDP and Unemployment Rate.

The variables Population Growth Rate (PGR), Age Dependency Ratio (ADR), Secondary School Enrolment (SSE) and Ratio of Tax to GDP (TR) are removed from the model (Column No.3) due to their high VIF. And the variables Exports, Inflation, Service Sector Growth, Industrial Growth and Foreign Direct Investment are removed from the model (Column No.3) due to their insignificant p-value.

Table No. 26: Model Summary

Model (1)	R (2)	R-square (3)	Adjusted R Square (4)	Std. Error of the Estimate (5)	Durbin-Watson (6)
1	.983[a]	.966	.963	.55623	.481

Table No. 27: Analysis of Variance (ANOVA)

Model (1)		Sum of Squares (2)	Df (3)	Mean Square (4)	F-value (5)	p-value (6)
1	Regression	226.729	2	113.365	366.414	.000[a]
	Residual	8.044	26	.309		
	Total	234.773	28			

The value of multiple correlation coefficient (R) is 98.3 percent. The value of R-square is 96.6 percent. And the value of Adjusted R-square is 96.3 percent. Thus, the value of Adjusted R-square indicating that 96.3 percent variation in dependent variable (GINI), on an average, is due to the two independent variables namely Ratio of M3 to GDP and Unemployment Rate.

In Table No.27 (Column No.2), value of Residual Sum of Squares (8.044) is far smaller to Regression (Explained) Sum of Squares (226.729), indicating that the regression line explains better relationship between dependent and independent variables.

The p-value is 0.00, which is less than alpha level 0.005, thus rejecting the null hypothesis. Hence, the overall model is significant.

Table No.28: Coefficients

Model (1)		Unstandardized Coefficients (2)		Standardized Coefficients (3)	t-value (4)	p-value (5)	Collinearity Statistics (6)	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	39.453	5.044		7.822	.000		
	M3/GDP	.174	.007	.932	24.458	.000	.908	1.101
	UR	-3.195	.875	-.139	-3.652	.001	.908	1.101

a. Dependent Variable: Gini Coefficient

The B coefficients of our estimated regression model (Table No.28) are:

GINI = 39.453+ 0.174 M3/GDP – 3.195 UR

In the model, a unit increase in the Ratio of M3/GDP (financial development) increases the GINI (income inequality), on an average 0.174 units. And a unit increase in Unemployment Rate (UR) decreases the GINI (income inequality) by 3.195 units. Both these variables are statistically significant as their p-values are less than 0.05.

Thus, the stated regression equation is:

$$\mathbf{GINI = a + b_1\ M3/GDP + b_2\ UR + e}$$

where,

GINI= Gini Coefficient
a= constant
M3/GDP = Ratio of M3 to GDP
UR = Unemployment Rate
e= error term

The estimated regression equation is:

GINI = 39.453+ 0.174 M3/GDP - 3.195UR

Regression Statistics	
R-square	96.6 %
Adjusted R-square	96.3 %
Standard Error	0.55623
Observations	29

Regression Statistics shows that nearly 96.3 percent of variation in dependent variable (GINI) is explained by these two independent variables i.e. M3/GDP and UR.

The model shows that the one unit increment in the ratio of M3 to GDP, increases the Gini Coefficient (income inequality) by **0.17 units**. And the one unit increment in Unemployment Rate, decreases the Gini Coefficient (income inequality) by **3.19 units**.

An increment in the ratio of M3 to GDP, (financial development) increases the Gini Coefficient (income inequality). This is because in India, economic and financial liberalization have a harmful effect on income distribution. It is seen that financial sector reforms benefited only small elites (Ang, 2008). It further led to regional imbalance and skewed investment patterns which affected livelihoods and employment generation (Pal & Ghosh, 2007). Hence, income inequality has increased along with financial development in India.

An increment in Unemployment Rate, decreases the Gini Coefficient (income inequality). It is seen that economic reforms in India have been associated with a drop in the rate of labour absorption, giving rise to unemployment. Although unemployment rate is increasing, one can see a shift in pattern of employment towards self-employment in urban-rural and men-women. Much of the employment growth has been in informal sector, which is manifest in high growth in self employment. Changing character of informal sector and its linkages with formal economic activities have given income earning opportunities as a result income inequality may show downward trend (Kundu & Mohanan, 2009).

II. CONCLUSION:

Quality Education has a long-term consequence for health, cognitive development and employment prospects (UNDP, 2019). Hence, attempts should be made to provide quality education.

Through education, by raising awareness or by changing incentives, government can change unequal power relationships among individuals within a community and also challenge deeply rooted gender roles in society. The three dimensions i.e., education, awareness and incentives often reinforce each other (UNDP, 2019). This will help women and the backward caste, the weaker sections of India to get education and employment opportunities to have better standard of living. This may help to reduce income inequality in the country. To attain this objective special financial institution like '**Education Bank'** be set up to provide education loans and other incentives. These banks should have tie up with quality education institutions and corporate world. These three entities should design the syllabi, at regular interval, to meet the market requirements on one hand and to provide army of required skilled people on other hand.

In case of India, attempt should be made to increase the tax revenue by simplifying the tax structure, extending the tax net and reducing the tax rates. This will help the government to raise more tax revenue which they can spend more on the welfare of the weaker sections of the community and their skill development. This skill development will create self-employment and raise income opportunities which in turn will reduce income inequality in the country.

To reduce the incidence of inequality, there is need to bring the unbanked- weaker segment of population in the mainstream of the economy. For this purpose, we have to increase the 'financial accessibility' of up-till-now ignored population. So, various scheme of 'financial accessibility' be innovated and implemented effectively. Scheme should be devised in such a manner that banks would reach to such population. For this purpose, Post Offices, which have made their appearances in almost all villages, be asked to provide banking services in their vicinity; mobile (van) banking should be introduced. Such 'banking vehicles' should visit at least two days in a week to provide banking services to needy people.

An effective combination of fiscal stimulus and financial inclusion may help to reduce the incidence of income inequality by helping up-till-now ignored people to come in mainstream of development and by increasing their participation rate.

This study shows that in India income inequality has increased along with financial development. So, more in-depth study is required to see how financial development can reach the grass root level to provide more income opportunities to the unemployed and the poor.

India has a high level of horizontal inequalities based on caste, class, religion, race, gender, and location. Horizontal inequalities are embedded in social and political structures and affect citizen's access to basic services such as education, health nutrition, sanitation and opportunities (Himanshu, 2019). One can work in depth each of the aspects of horizontal equity. This may help the policy makers to take more effective measures to correct the problem of income inequality in the country.

REFERENCES:-

[1]. Afonso H., Lafleur M. & Alarcon D. (2015), 'Inequality Measurement: Development Issue No.2, Development Policy and Analysis Division, Department of Economic and Social Affairs, United Nations, New York.

[2]. Aghion P. and Bolton P. (1997), 'A Theory of Trickle-Down Growth and Development', Review of Economic Studies, Vol. 64 (2), pp. 151-172, Oxford University Press, UK.

[3]. Ahluwalia M. S. (1974) 'Income Inequality: Some Dimensions of the Problem,' in Chenery et al., Pg. No.3-37, The Johns Hopkins University Press.

[4]. Ahmed, Azleen, Mashih & Mansur (2017), 'What is the Link between Financial Development and Income Inequality: Evidence from Malaysia', MPRA Paper No. 79416, Munich Personal RePec Archive, Munich University Library, Germany.

[5]. Ahuja R. (2017), 'FDI & Income Inequality: A Literature Survey', International Journal of Multi-disciplinary Research and Development, Vol. No. 4 (6), June, Pg. No. 158-160, ISSN No. 2349-5979, Society of Education and Research, Delhi.

[6]. Albanesi S. (2001), 'Inflation and Inequality', Luxembourg Income Study Working Paper No. 323, LIS, Luxembourg

[7]. Alesina A. & Perotti R. (1993), 'Income Distribution, Political Instability & Investment', NBER Working Paper No. 4486 (October), National Bureau of Economic Research, Cambridge.

[8]. Allison P.D. (1978), 'Measures of Inequality', American Sociological Review, Vol. No. 43 (December), Pg. 865-880, American Sociological Association, US.

[9]. Allison P. (1999), 'Multiple Regression: A Primer', Pine Forge Press.

[10]. Ang James (2008), 'Finance and Inequality: The Case of India', Journal of Economics Literature, Monash University, Monash.

[11]. Atkinson A.B. (1970), 'On the Measurement of Inequality', Journal of Economic Theory, Vol. No. 2, Pg.244-263, Elsevier B.V., Washington D.C.

[12]. Ayyagari M., Beck T. & Hoseini M. (2013), 'Finance & Poverty: Evidence from India', CEPR Discussion Paper No. DP 9497, Elsevier, UK.

[13]. Banerjee & Newman (1993), 'Occupational Choice & the Process of Development', Journal of Political Economy, Vol. No.101, Pg. No.274-298, University of Chicago Press, Chicago.

[14]. Batuo M., Guidi F. & Miambo K. (2010), 'Financial Development and Income Inequality: Evidence from African Countries', Journal of Economic Literature, American Economic Association, USA.

[15]. Beck T., Demirguc-Kunt, Levine R. & Maksimovic U (2000), 'Financial Structure and Economic Development: Firm, Industry & Country Evidence', http//pdf.semanticscholar.org/35d7/163614, World Bank.

[16]. Beck T., Demirguc-Kunt A. & Levine R. (2007), 'Finance Inequality & the Poor', Journal of Economic Growth, Springer Publication, USA.

[17]. Berg Andrew & Ostry Jonathan (2011), 'Equality and Efficiency', Finance and Development Vol. No. 48 (3), International Monetary Fund, Sept. 2011, Washington D.C.

[18]. Boundless (2016), ''Defining and Measuring Income Inequality', Boundless Economics, www.boundless.com.

[19]. Bulter John (2019), 'Youth Unemployment Income Inequality Keep Rising', Inter Press Service News Agency, www.ipsnews.net .

[20]. Calderon C. and Liu (2002), 'The Direction of Causality between Financial Development and Economic Growth', Working Papers of Central Bank of Chile No.184, October, Central Bank of Chile, Chile.

[21]. Cardoso E., Paes de Barros R. and Urani A. (1995), 'Inflation and Unemployment as Determinants of Inequality in Brazil: The 1980s', Reform, Recovery and Growth: Latin America and the Middle East, Pg. No.151-176, University of Chicago Press, Chicago.

[22]. Chatterjee S. & Haldi A. (2012), 'Regression Analysis By Example', Wiley & Sons INC Publications, New Jersey.

[23]. Chen J. (2019), 'Inflation', Investopedia, Dotdash Publishing Family.

[24]. Chen J. (2019), 'Growth Industry', Investopedia, Dotdash Publishing Family.

[25]. Chen J. (2019), 'Foreign Direct Investment', Investopedia, Dotdash Publishing Family.

[26]. Chenery H. (1960), 'Pattern of Industrial Growth', The American Economic Review, Vol. No. 50 (4), Pg. No. 624-654, American Economic Association, New York.

[27]. Claessens S. & Perotti E. (2007), 'Finance and Inequality: Channels and Evidence', Journal of Comparative Economics Vol. No.35 (4), Pg No. 748–73, Elsevier B.V., Washington D.C.

[28]. Clarke G., Colin Xu & Zou Hengu-Fu (2003), 'Finance and Income Inequality: Test of Alternative Theories', Policy Research Working Paper No. 2984, The World Bank, Washington D.C.

[29]. Cornia G.A. (2003), 'The Impact of Liberalization & Globalization on Within- Country Income Inequality', CESifo Economic Studies, CESifo Vol. No.49(4), Pg. No. 581-616, Oxford University Press, Oxford.

[30]. Dandekar V.M. (1988), 'Agriculture, Employment and Poverty' in Robert E.A.Lucas and G.F.Papanek (eds.), The Indian Economy: Recent Development and Future Prospects, Oxford University Press, Delhi.

[31]. Das S. (2019), 'Raising the Tax to GDP Ratio', Economic and Political Weekly Vol. No. 54 (28), Sameeksha Trust, Mumbai.

[32]. Datt G. and Ravaillion M. (1998), 'Farm Productivity and Rural Poverty in India', Journal of Development Studies, Vol. No. 34, Pg. No.62-85, Taylor and Francis, UK.

[33]. Davis R.D. (1996), 'Trade Liberalization and Income Distribution', NBER Dalton H (1920), 'The measurement of inequality of incomes', The Economic Journal Vol. No.30, Pg. No. 349-361, Blackwell Publishing, U.K.

[34]. Diepietro W.R. (2012), 'Poverty and the Kuznets Hypothesis: A Cross Country Analysis', International Review of Social Sciences and Humanities, Vol.No.3 (1), Pg. No.176-181, Barpeta, India

[35]. Desai S.B. et al (2010), 'Income, Poverty and Inequality', Human Development in India; Challenges for Society in Transition, Oxford University Press, New Delhi.

[36]. Dollar D. (2001), 'Globalization, Inequality & Poverty since 1980', World Bank, Mimeo.

[37]. Easterly W. and Fischer S. (2000), 'Inflation and the Poor', NBER Working Paper No. 2335, National Bureau of Economic Research, Cambridge.

[38]. Economic Survey (2005-2012), Department of Economic Affairs, Ministry of Finance, New Delhi, www.indiabudget.gov.in.economic survey.

[39]. Economic Survey (2016-17; 2019-2020), 'Service Sector', Vol. No.2, Department of Economic Affairs, Ministry of Finance, New Delhi, www.indiabudget.gov.in.economic survey.

[40]. Economic Survey (2016-17; 2019-2020), 'India's Industrial Growth', Vol. No.2, Department of Economic Affairs, Ministry of Finance, New Delhi, www.indiabudget.gov.in.economic survey.

[41]. Economywatch (2010), 'Unemployment and Inequality', Economywatch.com.

[42]. Encyclopedia.com (2002), 'Population Growth', Macmillian Encyclopedia of Death and Dying, Gale Inc.

[43]. Everitt B. & Skrondal A. (2010), 'The Cambridge Dictionary of Statistics', Cambridge University Press, Cambridge.

[44]. Fields G.S. (1980b), 'Poverty, Inequality and Development', Pg. No.116-120, Cambridge University Press, Cambridge.

[45]. Figini P. & Görg H. (2011), 'Does Foreign Direct Investment Affect Wage Inequality? An Empirical Investigation', The World Economy Vol. No. 34 (9), Pg. No.1455–75, Wiley & Sons, Oxford.
[46]. Firstpost (2014), 'Is the worst over for India's economy?', Dec 20, www.firstpost.com>economy, Network18media, Mumbai.
[47]. Francisco H. F., Leite P.G. & Litchfield J.A. (2006), 'The Rise and Fall of Brazilian Inequality: 1981-2004', World Bank Policy Research Working Paper No.3867 (March), World Bank, Washington D.C.
[48]. Galor O. & Zeira J. (1993), 'Income Distribution & Macroeconomics', The Review of Economic Studies, Vol. No. 60 (1), Pg. No.35-52, Review of Economic Studies Limited, Oxford University Press, USA.
[49]. Galor O. and Moav O. (2004), 'From Physical to Human Capital Accumulation: Inequality and the Process of Development', Review of Economic Studies No. 71, Pg. No. 1001-1026, Oxford University Press, USA.
[50]. Gujarati D. and Porter D. (2009), 'Basic Econometrics', The Mc-Graw Hill Arwin, New York.
[51]. Gurley J. and Shaw E. (1970), 'Money in a Theory of Finance', The Bookings Institution,
[52]. Hair J.F.Jr, Anderson R.E., Tatham R.L. & Black W.C. (1995), 'Multivariate Data Analysis', (3rd ed), Macmillan, New York.
[53]. Handbook of Statistics on the Indian Economy (2016-17, 2017-18 & 2018-19), RBI. https//dbie.rbi.org.in, RBI.
[54]. Harbison F.H. & Myers A.C. (1964), 'Education, Manpower and Economic Growth', McGraw-Hill, New York.
[55]. Hartmann P., Heider F., Papaioannou E. & Duca M. (2007), 'The Role of Financial Markets and Innovation in Productivity and Growth in Europe', www.researchgate.net publication, 4886878.
[56]. Hasell J. (2018), 'Is Income-Inequality Rising Around the World', Our World in Data, Global Change Data Lab, England.
[57]. Hazama Y. (2017), 'The Impact of Exports on Income Inequality in Developing Countries', IDE Discussion Paper, Vol. No.650 (3), Institute of Developing Economies, Japan's External Trade Organisation, Japan.
[58]. Himanshu & Murgai (2016), 'Inequality in India: Dimensions & Trends', https://www.wider.unuedu.slides.Himanshu-Murgai-Inequality in India.
[59]. Himanshu (2019), 'Inequality in India: A Review of Levels and Trends', WIDER Working Paper, No. 2019/42, ISBN 978-92-9256-676-0, The United Nations University World Institute for Development Economics Research (UNU-WIDER), Helsinki.
[60]. Hoffman J. (2019), 'Linear Regression', Basic Biostatistics for Medical and Biomedical Practitioners (Second Edition), Pg. No. 445-490, Science Direct, Academic Press.
[61]. Indian Brand Equity Foundation (2019), Ministry of Commerce and Industry, Govt. of India
[62]. IBM (2016), 'Linear Regression Variable Selection Methods', www.ibm.com>knowledgecenter>SSLVMB_24.0.0>spss>base.
[63]. International Development Economic Associates (2002), 'Globalisation and Income Inequality: A Survey', https://www.networkideas.org
[64]. Investopedia(2019),'UnemploymentDefinition',https:/www.investopedia.com.
[65]. IMF (2001), 'Global Trade Liberalization & the Developing Countries', IMF Staff, November, Washington D.C.
[66]. Indexmundi (2019), India-Country Profile, 'Age Dependency Ratio and Unemployment Rate', www.indexmundi.com, Miguel Founders.
[67]. Indexmundi (2019), India-Country Profile: 'FDI & Export Rate', www.indexmundi.com, Miguel Founders.
[68]. Inflation.eu (2018; 2020), 'Inflation (CPI)', Worldwide Inflation data.
[69]. Jauch S. & Watzka S. (2016), 'Financial Development & Income Inequality: A Panel Data Approach', Empirical Economics, Vol. No.51(1), August, Pg. No.291-334, Springer Nature, Switzerland.
[70]. Kagan J. (2019), 'Tax to GDP Ratio Definition-Investopedia', www.investopedia.com.
[71]. Kniivila M. (2007), 'Industrial Development and Economic Growth: Implications for Poverty Reduction and Income Inequality', Industrial Development for 21st Century, https://pdfs.semnaticscholar.org/.
[72]. Kniivila M. (2007), 'Industrial Development and Economic Growth: Implications for Poverty Reduction and Income Inequality', Industrial Development for 21st Century, https://pdfs.semnaticscholar.org/.
[73]. Krishna P. & Sethupathy G. (2011), 'Trade & Inequality in India', National Bureau of Economic Research, NBER Working Paper No. 17257, Cambridge.

[74]. Kundu A. & Mohanan P. (2009), 'Employment and Inequality Outcomes in India', Jawaharlal Nehru University/Indian Statistical Service, New Delhi.

[75]. Kunjunkunju B. & Mohanan S. (2012), 'Financial System and Financial Institutions in India', New Century Publications, New Delhi.

[76]. Kuznets Simon (1995), 'Economic Growth and Income Inequality', The American Economic Review No. 45 (March), Pg. 1-28, American Economic Association, Washington D.C.

[77]. Ladusingh L. & Narayana R. (2011), 'Demographic Dividends for India: Evidence and Implications Based on National Transfer Accounts', ADB Economics Working Paper Series No. 292, Asian Development Bank, Philippines.

[78]. Lal K. (2015), 'Growth of Service Sector in the Indian National Economy', Merit Research Journal of Accounting, Auditing, Economics and Finance, Vol. No. 3 (2), Pg. No.22-31, Nigeria.

[79]. Lanjouw J. and Lanjouw P. (2001), 'The Rural Non-Farm Sector: Issues And Evidence From Developing Countries', Agricultural Economics, Vol. No. 26(1), Pg. No.1-23, Wiley Online Library.

[80]. Lashmi P. & Kumar S. (2012), 'Economic Growth and Impact of Service Sector in India', International Journal of Business Management and Economic Resource, Vol. No. 3 (5), Pg. No. 627-632, ISSN: 2229-6247, Techscience Publication, US.

[81]. Maio F. (2007), 'Income Inequality Measures', Journal of Epidemiology & Community Health, Vol. No. 61, Pg. No.849–852, BMJ Publishing, UK.

[82]. Malhotra B. (2014), 'Foreign Direct Investment: Impact on Indian Economy', Global Journal of Business Management and Information Technology, ISSN 2278-3679 Volume 4, Number 1 (2014), Pg. No.17-23, Research India Publication, Delhi.

[83]. Marwa N. & Zhanje S. (2015), 'A Review of Finance-Growth Nexus Theories: How does Development Finance Fits In?', Studies in Business and Economics, Vol. No.10 (1), 'Sciendo, Romania.

[84]. McConnell C. et al (2013), 'Economics: Principles, Problems & Policies, McGraw Hill Education (India) Private Limited, New Delhi.

[85]. Mehta Pooja (2002), 'Role of Industrial Development in Economic Growth', www.economicsdiscussion.net

[86]. Meschi E. & Vivarelli M. (2007), 'Trade and Income Inequality in Developing Countries', World Development, Vol. No. 37 (2), Pg. No. 287-302, Elsevier B.V.

[87]. Mini Thomas P. (2015), 'Tax Contribution of service sector: An Empirical Study of Service Taxation in India', Working Paper No. 344, ISBN No. 978-81-7791-200-5, The Institute for Social & Economic Change, Bangalore, www.isec.ac.in.

[88]. Mukherjee A., Baja P. & Gulati S. (2019), 'Demographic Changes and their Macroeconomics Ramifications in India', RBI Bulletin (July), RBI, Mumbai.

[89]. Mushtaq M., Ahmad K., Ahmed S. & Muhammad K. (2014), 'Impact of FDI on Income Distribution in Selected SAARC Countries', Journal of Applied Environmental And Biological Sciences', Vol. No. 4(7-S), Pg. No. 1-10, Textroad Publication.

[90]. National Academies Press (1986), 'Will Slower Population Growth Decrease the Degree of Income Inequality in the Distribution of Income?', Chpt. No.7, www.nap.edu/read/620/chapter/9#65.

[91]. NCSS (2018), 'Ridge Regression', Chapter No.335, NCSS Statistical Software, NCSS.com.

[92]. Neri M. (1995), 'Income Policies, Income Distribution and the Distribution of Opportunities of Brazil', Brooking Institutions Press, Washington D.C.

[93]. Nolan B. & Marx I. (2009), 'Economic Inequality, Poverty and Social Exclusion', The Oxford Handbook of Economic Inequality, Pg. 315-341, Oxford University Press, New York.

[94]. Norris Dabla Era et al (2015), 'Causes and Consequences of Income Inequality: A Global Perspective', IMF Staff Discussion Note, IMF, Washington.

[95]. OECD (2015), 'How Does Income Inequality Affects our Lives?', OECD Insights-Income Inequality, www.oecd.library.org.

[96]. Osborne J. & Waters E. (2002), 'Four Assumptions of Multiple Regression that Researchers Should Always Test', Practical Assessment, Research and Evaluation, Vol. No.8, Article No.2, Scholarworks.

[97]. Pal Parthapratim & Ghosh Jayati (2007), 'Inequality in India: A Survey of Recent Trends', DESA Working Paper No.45, United Nations, New York.

[98]. Papanek G.F. & Lucas E.B. (1988), 'Technical Change and Income Distribution in Indian Agriculture', Oxford University Press, Delhi.

[99]. Piketty T. (2019), 'Capital and Ideology', Harvard University Press, USA.

[100]. Planning Commission, Government of India (2009), 'Report of the expert group to review the methodology for estimation of poverty', Government of India, New Delhi.

[101]. Planning Commission, Government of India (2013), 'Press notes on poverty estimates', 2011–12, Government of India, New Delhi.
[102]. Ravinthirakumaran K. & Ravinthirakumaran N. (2018), 'The Impact of Foreign Direct Investment on Income Inequality', Asia-Pacific Sustainable Development Journal, Vol. No. 25 (1), United Nations Economic and Social Commission for Asia and Pacific, Bangkok.
[103]. Ray S. (2013), 'Does Financial Development Promote Economic Growth in India?', International Journal of Economic Practices and Theories, Vol. No.3(3), Pg. No.140-151.
[104]. RBI (1998), 'Monetary Statistics', Manual on Financial and Banking Statistics, RBI Press, Mumbai.
[105]. RBI (2001), 'Financial Development and Economic Growth in India', RBI Press, Mumbai.
[106]. RBI Annual Report (2018), 'Economic Reviews for year 2018-19', RBI Press, Mumbai.
[107]. RBI Annual Report (2019), Economic Review & Prospects, 2019-20', RBI Press, Mumbai.
[108]. RBI Bulletin (2014), 'Flow of Funds Accounts of the Indian Economy: 2012-13', RBI Press, Mumbai.
[109]. RBI Bulletin (2016), 'Flow of Funds Account of the Indian Economy (2014-15)', RBI Press, Mumbai.
[110]. RBI Bulletin (2019), 'Financial Stocks and Flows of the Indian Economy 2011-12 to 2017-18', RBI Press, Mumbai.
[111]. Report on Currency and Finance (2001), 'Financial Development and Economic Growth in India', RBI Press, Mumbai.
[112]. Romer C.D. & Romer H.D. (1999), 'Monetary Policy and the Well-Being of the Poor', NBER Working Paper No.6793, National Bureau of Economic Research, Cambridge.
[113]. Salvi P. (1998), 'Developmental Banks, Infrastructure and Industrial Output: A Case Study of India, Himalaya, Mumbai.
[114]. Samargandi N, Fidrmuc J, Ghosh S. (2015), 'Is the Relationship Between Financial Development and Economic Growth Monotonic? : Evidence from a Sample of Middle-Income Countries', World Development Vol. No. 68(C), Pg. No. 66-81. Elsevier, UK.
[115]. SAS (2016),' Regression Analysis/ SPSS Annotated Output', https://stats.idre.ucla.edu/sas/modules/sas-learning-moduleintroduction-to-the-features-of-sas.
[116]. Sen A.K. (1999), 'Development as Freedom', First Edition, Alfred A. Knopf, Oxford University Press, New York.
[117]. Singh S. (2019), 'Foreign Direct Investment (FDI) Inflows in India: A Review', Journal of General Management Research, Vol. No. 6 (1), January, Pg. No. 41-53, Symbiosis Centre for Management Studies, Noida.
[118]. Smith P. (2018), 'Getting the Tax-GDP Ratio Right', ACCA Think Ahead, www.accaglobal.com.
[119]. Statistics Times (2019), 'Sector-wise Contribution of GDP of India', Ministry of Statistics and Programme Implementation (2018-19), Statistics Times.com.
[120]. Sundrum R.M. (1987), 'Growth and Income Distribution in India: Policy and Performance since Independence', Sage Publications, New Delhi.
[121]. Tilak J. (1989), 'Education And Its Relation To Economic Growth, Poverty, And Income Distribution - Past Evidence And Further Analysis', World Bank Discussion Papers No. 46, World Bank, Washington D.C.
[122]. Thakur Dilip (1985), 'Poverty, Inequality and Unemployment in Rural India', B.R.Publishing, New Delhi.
[123]. United Nations Development Programme (2003, 2005, 2009 & 2016), United Nations, New York.
[124]. United Nations (2015), 'Inequality Measurement and Development', Issue No.2, Oct, dsp_policy_02, www.un.org.
[125]. UNDP (2019), 'Policies for Reducing Inequalities in Human Development in the 21st Century: We have a Choice', www.hdr.undp.org.
[126]. UNEP (1998), 'Industry and Environment', United Nations Environment Programme, July-September, 3-7, United Nations, Elsevier.
[127]. United Nations Population Fund (UNPF) (2016), 'Demographic Dividend', http://www.unfpa.org/demographic dividend.
[128]. United Nations Educational, Scientific and Cultural Organization (2019), 'Secondary School Enrolment Rate', UNESCO, Global Economy.com.
[129]. Voitchovsky S. (2009), 'Inequality and Economic Growth', The Oxford Handbook of Economic Inequality', Pg. 549-574, Oxford University Press, New York.
[130]. Walsh J. & Yu, J. (2012), 'Inflation and Income Inequality: Is Food Inflation Different?', IMF Working Paper No. 12/147, SSRN, Elsevier.
[131]. Watsham T. and Parramore (1997), 'Quantitative Methods in Finance', International Thomson Business Press, London.

[132]. Weisburd D. & Britt C. (2013), 'Statistics in Criminal Justice', Springer Science & Business Media, Switzerland.
[133]. Wilkinson and Pickett (2009), 'The Spirit Level: Why More Equal Societies Almost Always Do Better', Bloomsbury Press, US.
[134]. World Bank (2008), 'Finance for All?: Policies and Pitfalls in Expanding Access', World Bank Policy Research Report, World Bank, Washington D.C.
[135]. World Bank (2016), 'Financial Depth', Global Financial Development Report, World Bank Publication, Washington D.C.
[136]. World Bank (2016 & 2019), 'World Development Indicators Database', World Bank Group, Washington D.C.
[137]. World Data Atlas: Country Statistics and Information- The EdTech (2017), 'Expected Year of Schooling and Annual Population Growth Rate', Knoema.
[138]. World Bank Data (2019), 'India Data', World Bank Group, Washington D.C.
[139]. World Economic Forum (2012), 'The Financial Development Report, 2012', World Economic Forum US Inc, Geneva, Switzerland.
[140]. Wu S. (2020), 'Multicollinearity in Regression', https://towardsdatascience.com
[141]. Young-Park C. & Mercado R. (2015), 'Financial Inclusion, Poverty and Income Inequality in Developing Asia', Asian Development Bank Economics W orking Paper Series No.426, Asian Development Bank, Philippines.

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