Public revenue in India: Trend and effect

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Abstract
Public revenue is a major component of budget shows the manner in which revenue is collected during a financial year by government to boost economic growth. The success of government plan for the growth and development of a country depends on the source and size of public revenue. In India Public revenue acts as government's most important economic and fiscal policy tool in controlling money supply and maintaining general price level. It is not only important for the corporate but for individuals from all sections of the society as they look forward to tax exemptions and reliefs. Even though India ranks third in purchasing power parity, only a few percentages of population pay income tax. The government's effort to widen the tax base has resulted in an 80 percent jump in number of IT returns filed. The analysis revealed that Public Revenue and macroeconomic indicators are significantly interlinked and correlated. Tax buoyancy is an indicator to measure efficiency to growth in GDP and Gross tax buoyancy coefficient remained fluctuating during the period 1990-91 to 2016-17.

Keywords: Budget, Revenue, Capital, Tax, GDP, Trend, Effect.

Introduction
Government budget is framed in the shape of a financial plan which is a statement of income and expenditure relating to various economic and other activities that the government intends to perform in the coming period, usually a year. Budget not only shows the public receipt and expenditure but also the attitude of government towards its people, what value it given to the people and priorities given by the country for different sectors of the economy (Sonika Gupta K. S, 2016). The structure of budget frame may be different in different countries. In India, government account of the budget are presented in three parts, viz.,(a) Consolidated fund, (b) Contingency fund and (c) Public account fund. Nearly, 20 percent of public receipt comes from borrowings and other liabilities, and the corporate tax is the major source of revenue after implementing GST. Though, India is third rank in purchasing power parity (Sidhartha, 2020), only a few percentage of people pay income tax. In the last four years, the government's efforts to widen the tax base resulted in an 80 percent jump in number of IT returns filed to 6.85 crore in 2017-18 from 3.31crore in 2013-14. 2.02 crore individuals filed income-tax returns in 2017-18 declaring their income, but paid zero tax since they are not in the taxable income bracket yet; the number of such companies was 3.9 lakh. So it is very essential to analyze the trend, pattern and effects of public revenue in India; more specifically, how India obtains its revenue resource for making development and the impact of such revenue on real macro variables.

Materials and Methods
The specific objectives of the paper are: (a) to analyze the trend, pattern and composition of revenue of the central government of India; and (b) to examine the impact of public revenue on major macroeconomic variables. The study is based on the secondary data collected from various volumes of RBI Bulletin, Central Budget Document in different years mainly 2000 to 2019, Economic Survey, Central Statistical Office Publications, Indian Public Finance Statistical Year Book, Report of Planning Commission and Census of India. For analytical purpose, the period of study (1991-2019) is divided into three: 1990-2000, 2000-10 and 2010-19. For analysis correlation and regression were used.

Results, Analysis and Discussion
Trend and pattern of public revenue
Government raises its fund to finance their activities from various sources like tax and non-tax sources, currency mint, fees, fines, sale of public assets, and so on (Rajan Goyal, J. K, 2004). Adam Smith divided public revenue as revenue from the people and revenue from state property; while Dalton preferred to distinguish between public receipts and public revenue (Seligman, 1892).

Classification of receipts
Budget 1957-58 divided the income of central government into revenue and capital account. Revenue receipts include revenue received in the form of tax and non-tax revenue and capital account composed of market borrowing, small saving, provident fund, special deposit, recovery of loans, disinvestment receipts, and external loan (Devasia M D, Karunakaran N and Vishnu Prathap M, 2020).

Table 1 shows the distribution of revenue and capital receipts. Total receipts continuously increasing since 1990, from Rs. 93951 crore in 1990-91 to 2315113 crore in 2018-19, showing nearly four-fold increase in total receipt (Fig. 1). In the first phase of 1990-99, 60.8 percent of total receipt is from revenue receipts; in the second (62 percent) and third phase (65 percent). The major reason behind this is due to the significant measures taken by government of India for

augmenting revenue such as reduced tax rate and increased coverage of tax system (Odedokun, 2001; Sonika, 2016).

Table 1: Total receipts of the Central Government of India

Year	Revenue Receipts		Capital Receipts		Total Receipts	
	(percent)	*(Rs. Crore)*	*(percent)*	*(Rs. Crore)*	*(percent)*	*(Rs. Crore)*
1990-91	58.49	54954	41.51	38997	100	93951
1991-92	63.15	66030	36.85	38528	100	104558
1992-93	67.20	74128	32.80	36178	100	110306
1993-94	57.64	75453	42.36	55440	100	130893
1994-95	57.01	91083	42.99	68695	100	159778
1995-96	65.36	110103	34.63	58338	100	168468
1996-97	67.23	126279	32.77	61544	100	187823
1997-98	57.47	133886	42.53	99077	100	232963
1998-99	53.47	149485	46.53	130064	100	279549
1999-00	61.07	181482	38.93	115707	100	297189
Average	*60.81*	*106288.3*	*39.19*	*70256.8*	*100*	*176547.8*
2000-01	58.94	192605	41.06	134184	100	326789
2001-02	55.33	201306	44.67	162500	100	363806
2002-03	56.11	230834	43.89	180531	100	411365
2003-04	55.52	263813	44.48	211333	100	475146
2004-05	60.43	305991	39.57	200391	100	506382
2005-06	65.91	347077	34.09	179549	100	526626
2006-07	75.04	434387	24.96	144482	100	578869
2007-08	73.24	541864	26.76	197978	100	739842
2008-09	64.31	540259	35.69	299863	100	840122
2009-10	55.84	572811	44.16	453063	100	1025874
Average	*62.07*	*363094.7*	*37.93*	*216387.4*	*100*	*579482.1*
2010-11	66.21	788471	33.79	402428	100	1190899
2011-12	56.91	751437	43.09	568918	100	1320355
2012-13	59.35	879232	39.30	582152	100	1481383
2013-14	64.28	1014724	35.72	563894	100	1578618
2014-15	69.45	1101381	30.55	484448	100	1585829
2015-16	66.73	1195025	33.27	595748	100	1790783
2016-17	69.57	1374203	30.43	600991	100	1975194
2017-18	67.01	1435233	32.99	706740	100	2141973
2018-19	67.08	1552916	32.92	762197	100	2315113
Average	*65.18*	*1121402*	*34.67*	*585279.6*	*100*	*1708905*

Source: Handbook of Statistics on Indian Economy, RBI, 2016-17 & Budget document 2020-21

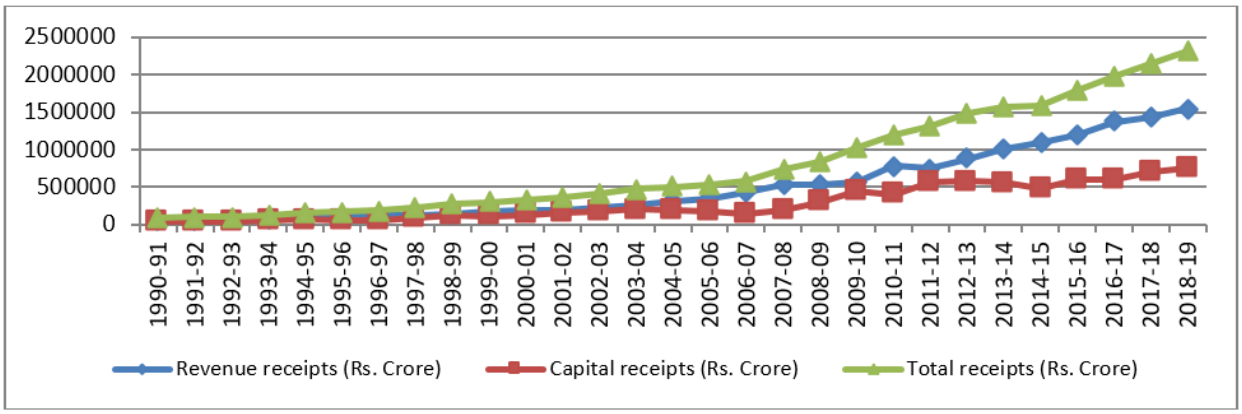

Fig. 1: Trend of Governments Receipts (1990-2019)

Components of revenue receipt

Total revenue receipts are classified into two heads; Tax revenue and Non-tax revenue. The tax revenue includes income tax, corporation tax, excise duty and custom duty. The principal sources of non-tax revenue are interest receipts, net contribution of public sector undertaking, fiscal services, general services, social and community services, economic services and external grants (Brown J. L and Howard L. R, 2002).

Table 2: Share of tax and non-tax revenue in total revenue receipts

Year	Tax Revenue		Non tax Revenue		Total Revenue Receipts	
	(percent)	*(Rs. crore)*	*(percent)*	*(Rs .crore)*	*(percent)*	*(Rs. crore)*
1990-91	78.21	42978	21.79	11976	100	54954
1991-92	75.83	50069	24.17	15961	100	66030
1992-93	72.91	54044	27.09	20084	100	74128
1993-94	70.84	53449	29.16	22004	100	75453
1994-95	74.06	67454	25.94	23629	100	91083
1995-96	74.42	81939	25.60	28191	100	110103
1996-97	74.20	93701	25.80	32578	100	126279
1997-98	71.46	95672	28.54	38214	100	133886
1998-99	70.01	104652	29.99	44833	100	149485
1999-00	70.68	128271	29.32	53211	100	181482
Average	*73.26*	*77222.9*	*26.74*	*29068.1*	*100*	*106288.3*
2000-01	70.95	136658	29.05	55947	100	192605
2001-02	66.33	133532	33.67	67774	100	201306
2002-03	68.68	158544	31.32	72290	100	230834
2003-04	70.88	186982	29.12	76831	100	263813
2004-05	73.47	224798	26.53	81193	100	305991
2005-06	77.87	270264	22.13	76813	100	347077
2006-07	80.85	351182	19.15	83205	100	434387
2007-08	81.12	439547	18.88	102317	100	541864
2008-09	82.06	443319	17.94	96940	100	540259
2009-10	79.70	456536	20.30	116275	100	572811
Average	*75.19*	*280136*	*24.81*	*82958.5*	*100*	*363094.7*
2010-11	72.28	569868	27.72	218602	100	788471
2011-12	83.81	629764	16.19	121672	100	751437
2012-13	84.38	741877	15.62	137354	100	879232
2013-14	80.40	815854	19.60	198870	100	1014724
2014-15	82.04	903615	17.96	197766	100	1101381
2015-16	78.97	943765	21.03	251260	100	1195025
2016-17	80.15	1101372	19.85	272831	100	1374203
2017-18	86.57	1242488	13.43	192745	100	1435233
2018-19	84.82	1317211	15.18	235705	100	1552916
Average	*81.49*	*918423.8*	*18.51*	*202978*	*100*	*1121402.4*

Source: Handbook of Statistics on Indian Economy, RBI, 2016-17 and Budget document 2020-21

Table 2 shows a rapid increase in the share of tax revenue of central government from Rs. 42978 crore in 1990 to Rs. 918423 crore in 2018-19. During the first phase (1990-1999), 73 percent of it is contributed by tax revenue, though a slight decline in its percentage is visible, the trend has maintained in the second and third phase too (Fig. 2).

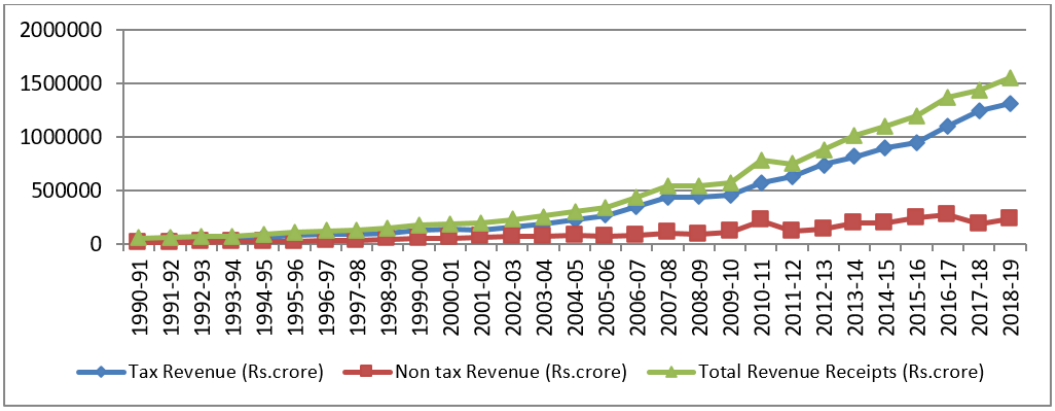

Fig. 2: Trend of govt's revenue receipts 1990-2019

Major component of capital receipts

Those receipts of central government which create liability and reduce financial asset are called capital receipts (Barry Bosworth S. M, 2008). These include loans raised by the government from public which are called market loans, borrowing by the government from Reserve Bank of India and others through sale of Treasury Bills, loans received from foreign governments and bodies and recoveries of loans granted by the central government to state and union territory governments and others (Odedokun M. O, 2001). It also included proceeds from disinvestment of government equity in public enterprises. Capital receipt also show an increase from time to time; from Rs. 38997 crore in 1990-91 to Rs. 618120 crore (Table 3).

Table 3: Major component of Capital Receipts (*As a percent of Total)*

Year	Market Loans (net)	External Debt(net)	Small Saving	Other Receipts	Capital Receipts (crore)
1990-91	20.52	8.16	21.31	50.02	38997
1991-92	19.49	14.07	14.68	51.76	38528
1992-93	10.16	14.70	12.09	63.05	36178
1993-94	52.18	9.15	12.91	25.76	55440
1994-95	29.59	5.21	21.03	44.17	68695
1995-96	58.28	0.55	17.32	23.85	58338
1996-97	31.02	4.85	19.78	44.34	61544
1997-98	32.80	1.10	20.65	45.44	99077
1998-99	53.04	1.48	25.40	20.08	130064
1999-00	53.65	1.02	7.76	37.57	115707
Average	*36.1*	*6*	*17.3*	*40.6*	*70256.8*
2000-01	54.72	5.59	6.20	33.49	13414
2001-02	55.88	3.45	5.39	35.28	162500
2002-03	57.68	-6.61	3.73	45.20	180531
2003-04	42.05	-6.38	-2.67	67.00	211333
2004-05	25.42	7.36	22.38	44.84	200391
2005-06	59.17	4.16	-6.26	42.92	179549
2006-07	72.54	5.86	-9.57	31.17	144482
2007-08	65.97	4.71	-5.71	35.04	197978
2008-09	82.36	3.67	-0.43	14.40	299863
2009-10	87.05	2.44	2.93	7.59	453063
Average	*60.28*	*2.42*	*1.6*	*35.69*	*216387.4*
2010-11	81.11	5.85	2.79	10.25	402428
2011-12	85.09	2.19	-1.81	14.53	568918
2012-13	87.17	1.24	1.48	10.11	582152
2013-14	84.35	1.29	2.19	12.17	563894
2014-15	94.46	2.67	6.65	-3.78	484448
2015-16	77.50	2.19	9.01	11.31	582579
2016-17	73.86	2.70	16.41	7.02	550617
2017-18	56.34	2.55	16.20	24.91	618120
Average	*77.80*	*2.57*	*6.06*	*13.58*	*507727.04*
Source: Handbook of Statistics on Indian Economy, RBI, 2016-17					

During the first phase its average share was 36 percent, increased sharply to 60.28 percent in second phase and to 77.8 percent in third phase; showing, market loans as one of the important revenue source of central government. In the case of small savings, an up-down movement, similarly, the share of other capital receipts like provident fund, special deposit, etc. has shown a decreasing at speedy rate (Fig. 3).

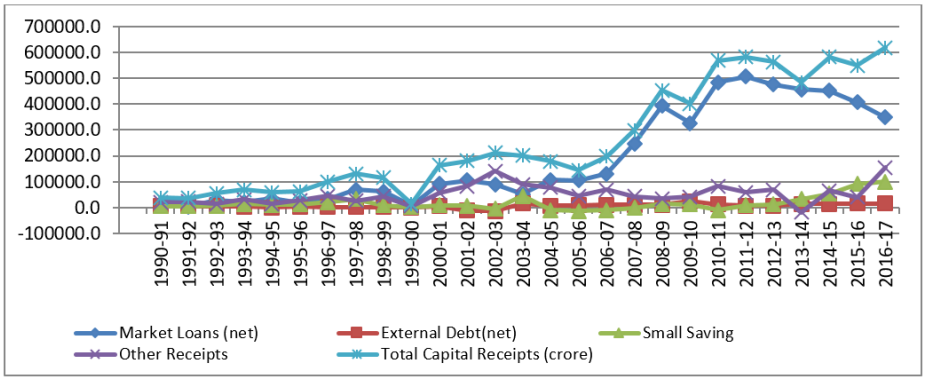

Fig. 3: Trend of governments capital receipts 1990 - 2019 (Rs. in Crore)

Major components of direct taxes

Direct tax is a type of tax where the incidence and impact of taxation fall on the same entity and tax burden can't be shifted by taxpayer to someone else. These are largely taxes on income or wealth, corporation tax, property tax, inheritance tax and gift tax. It is observed that there is a rapid increase in the share of direct taxes in total tax revenue. From 1990 to 2017, the share of personal income tax in direct tax increased (Table 4); in the first phase it was 17.78 percent, increased to 37.2 percent and 38.24 percent in second and third phase, respectively.

Table 4: Major components of direct taxes

	Personal Income Tax		Corporation Tax		Other Direct Taxes		
Year	**%**	**Rs. Crore**	**Percent**	**Rs. Crore**	**Percent**	**Rs. Crore**	**Direct Tax (crore)**
1990-91	18.11	1250	77.29	5335	4.61	318	6903
1991-92	16.10	1627	77.73	7853	6.17	623	10103
1992-93	15.16	1831	73.70	8899	11.14	1345	12075
1993-94	10.82	1355	80.34	10060	8.84	1107	12522
1994-95	18.84	3468	75.08	13822	6.08	1119	18409
1995-96	19.37	4318	73.98	16487	6.65	1482	22287
1996-97	18.58	4715	73.17	18567	8.24	2092	25374
1997-98	13.21	3589	73.66	20016	13.13	3567	27172
1998-99	17.93	5760	76.37	24529	5.70	1831	32120
1999-00	22.04	9131	74.07	30692	3.89	1613	41436
Average	*17.78*	*3704.4*	*74.98*	*15626*	*7.24*	*1510.1*	*20840.1*
2000-01	47.87	23766	50.71	25177	1.43	708	49651
2001-02	46.34	22106	52.69	25133	0.97	464	47703
2002-03	36.97	22779	55.01	33893	8.02	4940	61612
2003-04	40.17	30765	59.68	45706	0.16	119	76590
2004-05	36.94	35443	62.84	60289	0.22	212	95944
2005-06	37.48	45238	62.30	75187	0.22	267	120692
2006-07	36.94	62707	62.86	106701	0.19	330	169738
2007-08	37.38	86563	62.47	144660	0.15	351	231574
2008-09	35.05	86985	64.80	160797	0.15	370	248152
2009-10	34.80	94532	65.09	176797	0.11	294	271623
Average	*37.20*	*51088.4*	*62.21*	*85434*	*.59*	*805.5*	*137327.9*
2010-11	32.68	102441	66.70	209115	0.62	1945	313501
2011-12	34.44	118224	66.24	227411	-0.68	-2325	343310
2012-13	35.41	140438	64.44	255570	0.15	577	396585
2013-14	37.16	169408	62.69	285742	0.15	679	455829
2014-15	37.63	188336	62.22	311453	0.15	742	500531
2015-16	38.45	172748	61.41	275917	0.14	631	449296
2016-17	40.87	215016	59.13	311131	0.00	6	526153
2017-18	44.03	266937	55.97	339355	0.00	6	606298
Average	*38.24*	*171693.5*	*61.69*	*276962*	*0.07*	*282.5*	*448938*
Source: Hand book of Statistics on Indian Economy, RBI, Various Volumes							

Trend of major components of indirect taxes

Indirect taxes are basically taxes/burden that can be shifted on to another entity or ultimate buyer, viz; sales tax (CGST/SGST), excise duty, custom duty, etc. Table 5 shows the share of Excise duty and Custom duty in total Indirect Tax. There is a rapid increase in the share of indirect taxes in total tax revenue from Rs. 36075 crore in 1990-91 to Rs. 620716 crore in 2017-18. Compared to direct taxes, the share of indirect tax has shown a speedy rise.

Table 5: Share of excise duty and custom duty in total indirect tax

	Excise duty		Custom duty		Indirect Tax	
Year	**Percent**	**Rs. Crore**	**Percent**	**Rs. Crore**	**Percent**	**Rs. Crore**
1990-91	39.09	14100	57.23	20644	100	36075
1991-92	40.08	16017	55.69	22257	100	39966
1992-93	39.00	16367	56.65	23776	100	41969
1993-94	42.08	17224	54.23	22193	100	40927
1994-95	42.95	21064	54.62	26789	100	49045
1995-96	37.18	22176	59.94	35757	100	59652
1996-97	34.34	23463	62.72	42851	100	68326
1997-98	37.25	25516	58.68	40193	100	68500
1998-99	39.40	28581	56.07	40668	100	72532
1999-00	40.24	34944	55.76	48419	100	86836
Average	*39.16*	*21945.2*	*57.16*	*32354.7*	*100*	*56382.8*
2000-01	57.19	49758	39.26	34163	100	87007
2001-02	63.46	54469	33.02	28340	100	85828
2002-03	64.36	62388	32.91	31898	100	96939
2003-04	63.63	70245	31.33	34586	100	110392
2004-05	59.94	77241	32.45	41811	100	128854
2005-06	57.93	86642	31.19	46645	100	149572
2006-07	51.06	92651	34.62	62819	100	181444
2007-08	46.25	96178	36.25	75382	100	207972
2008-09	41.95	81872	35.47	69217	100	195169
2009-10	45.63	84383	32.57	60223	100	184913
Average	*55.14*	*75582.7*	*33.91*	*48508.4*	*100*	*142809*
2010-11	42.99	110222	36.12	92598	100	256367
2011-12	40.57	116226	36.87	105614	100	286454
2012-13	40.91	141245	33.56	115890	100	345292
2013-14	38.32	137975	33.63	121059	100	360025
2014-15	38.13	153709	31.75	127994	100	403085
2015-16	44.59	220474	26.05	128829	100	494470
2016-17	52.22	293824	23.63	132933	100	562639
2017-18	49.53	307423	24.14	149832	100	620716
Average	*43.41*	*185137.3*	*30.72*	*121843.6*	*100*	*416131*
Source: Handbook of Statistics on Indian Economy, RBI, 2016-17						

Data also shows that the major contributors in the indirect taxes are excise duty and customs duty. After implementing GST its role is shifted to Goods and Service Tax (Brown and Howard, 2002; Sidhartha, 2020) and the share of custom duty moved downwards. In the case of excise duty, its average share has shown an up-down movement. The major reason behind this downward movement was the trade liberalization (Rajan, 2004; Barry, 2008), via, lifting trade barriers in the form of reducing the tariff and quota restrictions.

Trend of non-tax revenue

Income of the government from sources other than taxes is non-tax revenue. Non-tax revenue become payable only when services offered are availed of, viz; fine, fees, interest receipts, etc.

Table 6: Trend of non-tax revenue

Year	Interest receipts		Non tax revenue	
	Percentage	**Rs. Crore**	**Percentage**	**Rs. Crore**
1990-91	72.90	8730	100	11976
1991-92	68.50	10933	100	15961
1992-93	62.17	12487	100	20084
1993-94	68.52	15078	100	22004
1994-95	66.85	15797	100	23629
1995-96	65.34	18419	100	28191
1996-97	67.86	22106	100	32578
1997-98	66.27	25323	100	38214
1998-99	67.08	30076	100	44833
1999-00	63.70	33895	100	53211
Average	*66.92*	*19284.4*	*100*	*29068.1*
2000-01	58.65	32811	100	55947
2001-02	52.44	35538	100	67774
2002-03	52.04	37622	100	72290
2003-04	50.16	38538	100	76831
2004-05	39.89	32387	100	81193
2005-06	28.68	22032	100	76813
2006-07	27.07	22524	100	83205
2007-08	20.58	21060	100	102317
2008-09	21.37	20717	100	96940
2009-10	18.73	21784	100	116275
Average	36.96	28501.3	100	82958.5
2010-11	9.03	19734	100	218602
2011-12	16.64	20252	100	121672
2012-13	15.11	20761	100	137354
2013-14	11.00	21868	100	198870
2014-15	12.00	23734	100	197766
2015-16	10.10	25378	100	251260
2016-17	5.42	18149	100	334770
2017-18	6.59	19021	100	288757
Average	*10.74*	*21112.13*	*100*	*218631.38*
Source: Hand book of Statistics on Indian Economy, RBI, 2016-17.				

In 1990-91 the contribution of non-tax revenue was Rs. 11976 crore and it increased to Rs. 288757 crore in 2017-18. Up to 2003-04, its contribution to non-tax revenue is greater than 50 percent but after that, it is found decreasing at a higher rate (Table 5).

Public revenue and macro variables in India

The effect of public revenue on selected macroeconomic variables and its effect on public revenue of the central government are attempted, and a two-way analysis is conducted. In the first instance public revenue is chosen as dependent variable and other variables as independent variables. In the second case, macro variable are chosen as dependent variable and public revenue as independent variables, based on the data given in Table 7.

Table 7: Macro economic indicators

Year	Public Revenue (Rs. in Crore)	GDP at Current Price (Rs. in Crore)	Per Capita Income (or GNI Per Capita)	Organized Sector Employment (in Crore)
1990-91	93951	531813	367.56	2.674
1991-92	104558	613528	303.06	2.706
1992-93	110306	703723	316.95	2.718
1993-94	130893	817961	301.16	2.738
1994-95	159778	955385	346.1	2.753
1995-96	168468	1118586	373.77	2.794
1996-97	187823	1301788	399.95	2.825
1997-98	232963	1447613	415.49	2.817

1998-99	279549	1668739	413.3	2.811
1999-00	297189	1858205	442	2.796
2000-01	326789	2000743	443.31	2.779
2001-02	363806	2175260	451.57	2.72
2002-03	411365	2343864	470.99	2.7
2003-04	475146	2625819	546.73	2.645
2004-05	506382	2971464	627.77	2.646
2005-06	526626	3390503	714.86	2.7
2006-07	578869	3953276	806.75	2.727
2007-08	739842	4582086	1028.33	2.755
2008-09	840122	5303567	998.52	2.818
2009-10	1025874	6108903	1101.96	2.871
2010-11	1190899	7248860	1357.56	2.9
2011-12	1320355	8391691	1458.1	2.958
2012-13	1481383	9388876	1443.88	2.89
2013-14	1578618	10472807	1449.61	2.9
2014-15	1585829	10527674	1573.88	2.87
2015-16	1790783	11369493	1605.61	2.81
2016-17	1975194	12308193	1732.56	2.86
Source: Computed from Hand book of Statistics on Indian Economy, RBI, 2016-17				

Table 8: Two-way analysis (Model 1)

Dependent Variable: G = *f* (PR), where, G= GDP, PR = Public Revenue				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-83370.46	62254.55	-1.339187	0.1926
PR	6.407462	0.069540	92.14033	0.0000
R-squared	0.997064	Mean dependent var		4302979.
Adjusted R-squared	0.996947	S.D. dependent var		3772361.
S.E. of regression	208454.7	Akaike info criterion		27.40402
Sum squared resid	1.09E+12	Schwarz criterion		27.50001
Log likelihood	-367.9542	Hannan-Quinn criter.		27.43256
F-statistic	8489.840	Durbin-Watson stat		1.074335
Prob(F-statistic)	0.000000			
Dependent Variable: P = *f* (PR), where, P= Per Capita Income, PR = Public Revenue				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	233.5697	24.11518	9.685590	0.0000
PR	0.000822	2.69E-05	30.49841	0.0000
R-squared	0.973826	Mean dependent var		795.9758
Adjusted R-squared	0.972779	S.D. dependent var		489.4191
S.E. of regression	80.74787	Akaike info criterion		11.69173
Sum squared resid	163005.4	Schwarz criterion		11.78772
Log likelihood	-155.8383	Hannan-Quinn criter.		11.72027
F-statistic	930.1532	Durbin-Watson stat		0.735268
Prob(F-statistic)	0.000000			
Dependent Variable: M = *f* (PR), where, M= Employment, PR = Public Revenue				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	2.719999	0.019048	142.8008	0.0000
PR	9.41E-08	2.13E-08	4.422482	0.0002
R-squared	0.438938	Mean dependent var		2.784414
Adjusted R-squared	0.416495	S.D. dependent var		0.083494
S.E. of regression	0.063779	Akaike info criterion		-2.595593
Sum squared resid	0.101695	Schwarz criterion		-2.499605
Log likelihood	37.04051	Hannan-Quinn criter.		-2.567051
F-statistic	19.55835	Durbin-Watson stat		0.391954
Prob(F-statistic)	0.000166			

Model 2

Dependent Variable: PR = *f* (G), where, PR = Public Revenue,G= GDP				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	14983.19	9586.169	1.563001	0.1306
G	0.155610	0.001689	92.14033	0.0000
R-squared	0.997064	Mean dependent var		684568.9
Adjusted R-squared	0.996947	S.D. dependent var		587880.1
S.E. of regression	32485.32	Akaike info criterion		23.68615
Sum squared resid	2.64E+10	Schwarz criterion		23.78214
Log likelihood	-317.7630	Hannan-Quinn criter.		23.71469
F-statistic	8489.840	Durbin-Watson stat		1.077502
Prob(F-statistic)	0.000000			
Dependent Variable: PR = *f* (P), where, PR = Public Revenue, P= Per Capita Income				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-258945.3	36131.65	-7.166718	0.0000
P	1185.355	38.86613	30.49841	0.0000
R-squared	0.973826	Mean dependent var		684568.9
Adjusted R-squared	0.972779	S.D. dependent var		587880.1
S.E. of regression	96992.67	Akaike info criterion		25.87385
Sum squared resid	2.35E+11	Schwarz criterion		25.96983
Log likelihood	-347.2969	Hannan-Quinn criter.		25.90239
F-statistic	930.1532	Durbin-Watson stat		0.729316
Prob(F-statistic)	0.000000			
Dependent Variable: PR = *f* (M), where, PR = Public Revenue,M= Employment				
Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	-12304183	2938254.	-4.187584	0.0003
M	4664806.	1054794.	4.422482	0.0002
R-squared	0.438938	Mean dependent var		684568.9
Adjusted R-squared	0.416495	S.D. dependent var		587880.1
S.E. of regression	449066.7	Akaike info criterion		28.93892
Sum squared resid	5.04E+12	Schwarz criterion		29.03491
Log likelihood	-388.6754	Hannan-Quinn criter.		28.96746
F-statistic	19.55835	Durbin-Watson stat		0.194186
Prob(F-statistic)	0.000166			

Model 3

Dependent Variable: PR= f (G,P,M)				
Method: Least Squares				
Included observations: 27				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	252976.9	303336.1	0.833982	0.4133
G	0.129582	0.029748	4.356002	0.0003
P	119.3622	85.60578	1.394324	0.1771
M	-97635.11	112324.8	-0.869222	0.3941
R-squared	0.997379	Mean dependent var		684568.9
Adjusted R-squared	0.996903	S.D. dependent var		587880.1
S.E. of regression	32717.53	Akaike info criterion		23.79479
Sum squared resid	2.35E+10	Schwarz criterion		24.03476
Log likelihood	-316.2296	Hannan-Quinn criter.		23.86614
F-statistic	2093.101	Durbin-Watson stat		1.089759
Prob(F-statistic)	0.000000			

Tax buoyancy is an indicator to measure efficiency to growth in GDP. If tax buoyancy is high, it indicates more than proportionate response of tax revenue to rise in GDP. It is computed by dividing the percentages in tax revenue by the percentage changes in GDP over period (Sonika Gupta K. S, 2016). Gross tax buoyancy coefficient remained fluctuating during the period 1990-91 to 2016-17. It was 1.1 in 1991-92 indicate positive response to growth in GDP. Then it increased

to 2.45 in 2002-03, again reduced to 0.07 in 2008-09. Obviously, the highest buoyancy coefficient of 2.45 was in 2002-03 and lowest coefficient in 2001-02 with a value of -0.27, indicating negative response to growth in GDP (Table 9). The figures also reveal that the direct tax is showing more response to GDP than indirect tax.

Table 9: Buoyancy coefficient of Major taxes of Central government (with respect to GDP)

	Buoyancy Coefficient		
Year	**Direct Tax**	**Indirect Tax**	**Gross Tax**
1990-91	-	-	-
1991-92	3.10	0.72	1.10
1992-93	1.31	0.34	0.53
1993-94	0.25	-0.16	-0.07
1994-95	2.72	1.15	1.51
1995-96	1.22	1.25	1.24
1996-97	0.88	0.93	0.91
1997-98	0.66	0.02	0.20
1998-99	1.24	0.40	0.64
1999-00	2.38	1.62	1.85
2000-01	2.69	0.03	0.89
2001-02	-0.46	-0.16	-0.27
2002-03	3.81	1.69	2.45
2003-04	2.02	1.15	1.49
2004-05	1.79	1.19	1.43
2005-06	1.85	1.16	1.45
2006-07	2.50	1.31	1.84
2007-08	2.26	0.91	1.56
2008-09	0.56	-0.48	0.07
2009-10	0.63	-0.35	0.20
2010-11	0.76	1.92	1.23
2011-12	0.60	0.75	0.67
2012-13	1.50	1.98	1.72
2013-14	1.15	0.33	0.77
2014-15	0.91	1.11	1.00
2015-16	-1.03	2.28	0.45
2016-17	1.56	1.26	1.40
Source: Computed on the basis of Hand book of Statistics on Indian Economy, RBI, 2016-17			

Conclusion

Total public revenue of the central government had been continuously increasing since 1990, especially the revenue receipts. There was a rapid increase in the total receipt from Rs. 93951 crore in 1990-91 to 2315113 crore in 2018-19, registering 24 times growth. Similarly, the share of tax revenue increased from Rs. 42978 crore in 1990 to Rs. 918423 crore in 2018-19. There is a rapid increase in the share of direct taxes in total tax revenue compared to indirect taxes. This is due to the increasing share of personal income tax. The corporation tax contributed a higher share in total direct taxes with 74.98 percent; 62.21 percent and 61 percent in the first, second and third phase, respectively. The share of indirect taxes also shows a rapid increase in the total tax revenue from Rs. 36075 crore in 1990-91 to Rs. 620716 crore in 2017-18. In the first phase the average contribution on indirect taxes to total tax revenue was Rs. 56382 crore, which is greater than the average share of direct taxes in the same phase and this trend continued in the consecutive two time phases also. After implementing GST its role is shifted to Goods and Service Tax. The capital receipt shows an increase from time to time. The average amount of capital receipt in the first phase was Rs. 70256 crore and it increased to 261387 crore in second and it again increased to Rs. 507727 crore in third phase but compared to revenue receipt, the share of capital receipt decreased over time. The two-way regression analysis reveals that Public Revenue and macroeconomic indicators are significantly interlinked and correlated. Gross tax buoyancy coefficient remained fluctuating during the period 1990-91 to 2016-17. Obviously, the highest buoyancy coefficient of 2.45 was in 2002-03 and lowest in 2001-02 with a value of -0.27, indicating negative response to growth in GDP, revealed direct tax more response to GDP than indirect tax.

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Conflict of Interest

The authors declare no conflict of interest.

References

1. Barry Bosworth, S. M. Accounting for Growth: Comparing China and India. *J Econ Perspect.* 2008;22:45-66.
2. Brown JL, Howard LR. (2002), Principles and Practice of Management Accountancy. Macdonald and Evans Ltd, London.
3. Devasia MD, Karunakaran N, Prathap MV. Public Expenditure of India: Trend and Effects. *J Manag Res Anal.* 2020;7(3):114-21.
4. Odedokun MO. (2001) Public Finance and Economic Growth, Discussion Paper", World Institute for Development Economic Research.
5. Goyal R, Khundrakpam J, Ray P. Is India's Public Finance Unsustainable? Or, are the Claims Exaggerated. *J Policy Modeling*. 2004;26(3)401-420.
6. Seligman ER. Bastable's Public Finance. Political Science Quarterly. 1892;708-720
7. Sidhartha (2020), *Why Number of Income Tax Payers Halved in Just one Year in India.*
8. Gupta S, Singh K. Fiscal Deficit and its Trend in India. *Int J Business Manag Invention.* 2016;5(11):63-75.

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