



A STUDY OF ELASTICITY OF DEVELOPMENTAL AND NON-DEVELOPMENTAL EXPENDITURE OF GOVERNMENT OF MAHARASHTRA

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Abstract

From the development point of view it is essential to study the pattern of developmental and non- developmental expenditure. Pattern can be studied with the help of elasticity of expenditure. If elasticity of expenditure is greater than one then state is responsive in its expenditure programme to the growth of the economy which is considered as the Wagnerian hypothesis. The objective of the paper is to study the elasticity of developmental and non-developmental expenditure to Net State Domestic Product and to study the elasticity of per capita developmental and non-developmental expenditure to Per capita income of the state of Maharashtra. For the study, the secondary data is collected through RBI and State government publications. The Wagner's law of increasing state activity in developmental and non- developmental expenditure is tested. The results are showing presence of Wagner's law in non-developmental expenditure only. For developmental expenditure, the elasticity is less than one which shows that the state is not responsive in developmental expenditure programmes to the growth of the economy.

Key Words: - *Developmental expenditure, Non- Developmental Expenditure, Wagner's Law, Growth Rate, Per Capita Income, Net State Domestic Product Elasticity of Expenditure .*

1. Introduction

Maharashtra is a leading state in Indian federation as far as efforts of development are concerned. Maharashtra state is considered to be a disciplined state in financial management of the resources. Here, we have to test whether the state is having responsive expenditure programme to the growth of the economy or not. In the classification of public expenditure broadly we are using plan and non-plan expenditure, capital and revenue expenditure and developmental and non-developmental expenditure. Out of this in the present paper we can study the pattern of developmental and non-developmental expenditure of the government of Maharashtra. Elasticity of developmental and non-developmental expenditure is studied for thirty years data from 1975 to 2005. If the elasticity of expenditure to NSDP is higher than one then growth in expenditure is higher than growth in NSDP.

2. Objectives of Study

- I. To study the elasticity of developmental and non-developmental expenditure to Net State Domestic Product.
- II. To study the elasticity of per capita developmental and non-developmental expenditure to Per capita income of the state.

3. Hypothesis of the Study

Hypotheses of the study are as follows;

- I. Elasticity of developmental and non- developmental expenditures to NSDP are more than one.
- II. Elasticity of per capita developmental and non- developmental expenditures to per capita income of the state are more than one.

4. Scope of the Study

The study is restricted to the developmental and non- developmental expenditure of government of Maharashtra only. No consideration of expenditure of central government. At the same time, there is no consideration of private expenditures or the expenditures of public sector undertakings. The study will take into account the period from 1975 to 2005.

5. Data Collection and Methodology of study

Data for study collected through secondary sources only which includes budget documents of the state of Maharashtra. Data also collected from Reserve Bank of India bulletin and state finances: a study of the budgets of the state governments. Economic surveys of Maharashtra were also helpful in providing data on NSDP and Per capita income of the state. Here we use regression method to arrive at the results of elasticity of expenditure to NSDP and per capita income of the state.



Log Linear Model: - The log linear models are being used for to see elasticity of each category of expenditure with Net State Domestic Product of the state. This gives us how much increase in particular category of expenditure occurs because of an increase in NSDP of the state. The model is as follows;

$$\text{Log PE} = A + \text{Log NSDP} + w_1 \text{-----Equation-I}$$

Like this log of each category of expenditure is computed using NSDP and per capita income of the state as the independent variable.

Since, we are using data for thirty years it difficult to compute results manually so we use 'R' software which is available on internet freely.

6. Review of Literature

Empirical study of the state expenditure policy and its impact on the other variables, relationship with national income and other variables was studied by the German economists Adolph Wagner. This law of the Wagner is explanatory rather than prescriptive in character. According to Wiseman and Peacock, "Its aim is to establish generalizations about government expenditure, not from postulates about the logic of choice, but rather by direct inference from historical evidence." Adolph has based his law of increasing state activities on historical facts. Adolph Wagner arguing that government expenditure must increase at an even faster rate than output. According to Wagner, income elasticity of the public expenditure is greater than unity. It means that rate of increase of government expenditure is greater than the rate of increase of the economy. Arthur Mann tries to test this law but has got contradictory results. Here we test this law for developmental and non- developmental expenditures of the government of Maharashtra.

7- Developmental and Non-Developmental Expenditure

It is a third type of accounting classification of expenditure in India. In Maharashtra also government divides its total expenditure in developmental expenditure, non-developmental expenditure and other expenditure. We now turn to see the elasticity of developmental and non- developmental expenditure to NSDP and per capita developmental and per capita non developmental expenditure with that of per capita income of the state..

Table no 1- Elasticity of expenditure to NSDP and Elasticity of per capita expenditure to PCI

Category of expenditure	Dev exp	Non-dev exp	PCDE	PCNDE
Intercept	-1.54	-3.38	-1.55	-3.36
Coefficient	0.94	1.03	0.92	1.03
SE I	0.23	0.21	0.22	0.20
SE C	0.02	0.01	0.02	0.02
t-I	-6.47	-16.06	-6.85	-16.60
t-C	43.25	53.90	36.44	45.88
R ²	0.99	0.99	0.97	0.98
R ⁻²	0.98	0.99	0.97	0.98

All intercepts and coefficients are significant at 0.1% level of significance except Cap Exp which is significant at 5%., SE I- Standard error of Intercept, SE C- SE of Coefficient, t-I & t-C stands for t values of intercept and coefficient, R² & R⁻² are Multiple and adjusted R2.

Elasticity of expenditure category to NSDP and PCI

Elasticity of developmental expenditure to NSDP stands at 0.94 and that of per capita developmental expenditure stands at 0.92 indicating again less than one elasticity. It means that the growth of expenditure is less than growth of net state domestic product of the state of Maharashtra. This will reject the Wagnerian hypothesis for the state of Maharashtra in developmental expenditure and per capita developmental expenditure.

Elasticity of non-developmental expenditure to NSDP stands at 1.03 and for per capita component it is again 1.03. This indicates that non-developmental expenditure of the state is elastic or increasing at higher proportion than the growth of the economy. Non-developmental expenditure, though not a wasteful expenditure but can not lead the economy to development



path. But, non- developmental expenditure of Maharashtra state is more responsive to growth of the economy. This type of expenditure is proving the Wagnerian hypothesis in the state of Maharashtra.

8. Conclusion

We are interested in checking whether the state of Maharashtra is responsive in expenditure programme compare to the growth of the economy or not. Here, we elasticity of developmental expenditure and per capita developmental expenditure to NSDP and PCI is less than one which indicates that developmental expenditure programme of the state is less responsive to the growth of the economy.

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Statistical appendix

Table No. 2- Developmental, Per capita developmental expenditures with Growth rates

Year	RADE	CADE	TDE	GRTDE	PCDE	GRPCDE
1975-76	57817	20401	78218		141.3	
1976-77	62887	16693	79580	1.741287	140.8	-0.4
1977-78	71706	20546	92252	15.9236	159.6	13.4
1978-79	88809	25691	114500	24.11655	193.9	21.4
1979-80	107383	28031	135414	18.2655	224.3	15.7
1980-81	127787	34049	161836	19.51202	259.9	15.9
1981-82	143138	37443	180581	11.58271	284	9.28
1982-83	170967	41740	212707	17.79035	327.4	15.3
1983-84	212347	52787	265134	24.64752	399.2	21.9
1984-85	252109	59019	311128	17.34745	458.7	14.9
1985-86	299978	56892	356870	14.70199	515.9	12.5
1986-87	353622	65730	419352	17.50834	589.3	14.2
1987-88	385968	67889	453857	8.228171	623.3	5.78
1988-89	453389	75863	529252	16.61206	710.1	13.9
1989-90	558392	99238	657630	24.2565	861.7	21.4
1990-91	612351	95502	707853	7.636969	905.7	5.11
1991-92	681985	95238	777223	9.800057	973.4	7.47
1992-93	782182	135374	917556	18.05569	1127	15.8
1993-94	900497	164052	1064549	16.02006	1286	14.1
1994-95	998458	374467	1372925	28.96776	1628	26.6
1995-96	1153100	266801	1419901	3.4216	1653	1.53
1996-97	1407578	267522	1675100	17.97301	1884	14
1997-98	1495381	316128	1811509	8.143335	1997	6
1998-99	1487311	311780	1799091	-0.68551	1945	-2.6
1999-00	1643900	368654	2012554	11.86505	2132	9.65
2000-01	2200657	441706	2642363	31.29402	2748	28.9
2001-02	2001252	290973	2292225	-13.2509	2341	-14.8



2002-03	2185360	364430	2549790	11.23646	2566	9.62
2003-04	2187332	815051	3002383	17.75021	2978	16
2004-05	2792981	782895	3575876	19.10126	3486	17.1

RADE- Revenue account developmental expenditure, CADE- Capital account developmental expenditure, TDE- Total developmental expenditure, GRTDE- Growth rate of TDE, PCDE- Per capita DE, GRPCDE- Growth rate of per capita developmental expenditure

Table No. 3. Non-developmental, Per capita non-developmental expenditure with Growth rate

Year	RANDE	CANDE	TNDE	GRTNDE	PCNDE	GRPNDE
1975-76	33742	296	34038		61.5	
1976-77	39499	283	39782	16.87526	70.36	14.4
1977-78	40437	363	40800	2.558946	70.61	0.35
1978-79	51257	505	51762	26.86765	87.64	24.1
1979-80	51882	665	52547	1.516557	87.05	-0.7
1980-81	63096	809	63905	21.61494	102.6	17.9
1981-82	79828	1691	81519	27.56279	128.2	24.9
1982-83	90987	1318	92305	13.23127	142.1	10.8
1983-84	104674	1658	106332	15.19636	160.1	12.7
1984-85	134811	1690	136501	28.37246	201.2	25.7
1985-86	147731	1295	149026	9.175757	215.4	7.05
1986-87	139896	1667	141563	-5.00785	198.9	-7.7
1987-88	159997	1876	161873	14.34697	222.3	11.8
1988-89	195959	1905	197864	22.2341	265.5	19.4
1989-90	229307	1681	230988	16.74079	302.7	14
1990-91	259809	1892	261701	13.29636	334.9	10.6
1991-92	318140	2076	320216	22.35949	401	19.8
1992-93	366584	2627	369211	15.30061	453.4	13.1
1993-94	406007	3410	409417	10.88971	494.4	9.04
1994-95	478212	5103	483315	18.04957	573	15.9
1995-96	559045	3547	562592	16.40276	654.8	14.3
1996-97	668308	4463	672771	19.58417	756.5	15.5
1997-98	779767	5051	784818	16.65455	865	14.3
1998-99	1061412	7471	1068883	36.19502	1155	33.6
1999-00	1253873	7478	1261351	18.00646	1336	15.7
2000-01	1470213	4595	1474808	16.92289	1534	14.8
2001-02	1773054	3814	1776868	20.48131	1815	18.3
2002-03	1794682	3938	1798620	1.224176	1810	-0.2
2003-04	1982008	4863	1986871	10.46641	1970	8.87
2004-05	2227116	4802	2231918	12.33331	2176	10.4

RANDE- Revenue account non-developmental expenditure, CANDE- Capital account non-developmental expenditure, TNDE- Total NDE, GRTNDE- Growth rate of TNDE PCNDE- Per capita NDE, GRPNDE- Growth rate of per capita non-development expenditure.



Table no. 4 Total expenditure, per capita expenditure, NSDP and per capita income of Maharashtra with growth rates.

Year	TE(Lac)	GR TE	PCE(Rs)	GR PCE	NSDP(Cr.)	PCSI(Rs.)	GR NSDP	%TE/NSDP
1975-76	135851		245.448		7676.8	1387		17.7
1976-77	149915	10.35	265.152	8.03	8573.6	1516.4	10.46	17.49
1977-78	165857	10.63	287.02	8.25	9624.8	1665.6	10.92	17.23
1978-79	208066	25.45	352.275	22.7	10658	1804.5	9.694	19.52
1979-80	228940	10.03	379.251	7.66	12145.7	2012	12.25	18.85
1980-81	261278	14.13	419.63	10.6	15113.3	2427.3	19.64	17.29
1981-82	308786	18.18	485.68	15.7	16965.8	2668.5	10.92	18.2
1982-83	358518	16.11	551.8	13.6	18277.4	2813.1	7.176	19.62
1983-84	424397	18.38	639.035	15.8	21151.6	3184.9	13.59	20.06
1984-85	506309	19.3	746.419	16.8	22628	3335.9	6.525	22.38
1985-86	573148	13.2	828.528	11	26467	3826	14.5	21.66
1986-87	641185	11.87	900.965	8.74	28431	3995	6.908	22.55
1987-88	692892	8.064	951.624	5.62	33770	4638	15.81	20.52
1988-89	810163	16.92	1086.97	14.2	40472	5430	16.56	20.02
1989-90	973707	20.19	1275.9	17.4	50139	6570	19.28	19.42
1990-91	1077226	10.63	1378.38	8.03	58137	7439	13.76	18.53
1991-92	1205156	11.88	1509.38	9.5	65808	8242	11.66	18.31
1992-93	1401356	16.28	1721.05	14	82076	10080	19.82	17.07
1993-94	1698312	21.19	2050.98	19.2	101767	12290	19.35	16.69
1994-95	2002633	17.92	2374.31	15.8	116507	13813	12.65	17.19
1995-96	2137646	6.742	2487.92	4.79	140730	16379	17.21	15.19
1996-97	2500495	16.97	2811.84	13	158682	17844	11.31	15.76
1997-98	2767514	10.68	3050.29	8.48	195168	21511	18.69	14.18
1998-99	3031719	9.547	3276.92	7.43	214557	23191	9.037	14.13
1999-00	3824361	26.14	4051.82	23.6	247830	26257	13.43	15.43
2000-01	4220819	10.37	4389.08	8.32	252283	26234	1.765	16.73
2001-02	4247958	0.643	4337.95	-1.2	274113	27992	7.964	15.5
2002-03	4721738	11.15	4751.66	9.54	300476	30238	8.774	15.71
2003-04	5387818	14.11	5343.41	12.5	341424	33861	11.99	29.63
2004-05	7086432	31.53	6909.18	29.3	387390	37770	11.87	30.58

TE- Total expenditure, GRTE- Growth rate of total expenditure, PCE- per capita expenditure, GRPCE- Growth rate of PCE, NSDP- Net state domestic product, PCSI- Per capita state income, GRNSDP- Growth rate of NSDP, %TE/NSDP- Percentage of total expenditure to NSDP.