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AN EMPIRICAL ANALYSIS OF MACRO ECONOMIC VARIABLES ON AGGREGATE DEMAND ON INDIAN ECONOMY

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ABSTRACT:

After the great depression 1930, Keynes popularised and emphasized more on the aggregate demand. According to him creation of demand is indispensable to accelerate economic activities. Aggregate demand is prominent factor which determines economic development of a country. Therefore, the authors formulated a model to examine the determinants of aggregate demand in India. The model concludes that the macro economic variables such as whole sale price index, credit availability, GDP and population have influenced the aggregate demand more effectively.

Keywords: Consumption Expenditure, GDP, Population, Credit availability, Whole sale price index

Introduction :

The classical economics is based on the concept of J.B.Say's law of market that is Supply creates its own demand. On other hand, after the great depression of 1930, Keynes pointed out that demand creates its own supply. Increase in the level of overall demand will induce the entrepreneur to provide more goods and services and thus it increases the level of the supply if goods and services. Keynesian concepts have replaced the supply side concept of classical economists. Public finance plays a prominent role in economic development.

Objectives :

Author in his paper made an attempt to analyse and examine the factors which determine the level of aggregate demand in India. As the Keynesian economics put more emphasise on the demand, the authors have attempted to analyse the impact of selected factors which determine the level of demand in India since 1994.

Methodology :

It is a known fact that the level of demand is determined by general price level and there is inverse relationship between the quantity demand and pricelevel. In addition to that variables such as GDP, Credit availability, whole sale price index and population have been selected to examine the factors determining the level of demand. As per the study the level of demand is represented by the level of total consumption expenditure. The following equation is used to estimate the level of demand in India since 1994

$Q_c = a + b_1X_1 + b_2x_2 + b_3x_3 + b_4x_4$

Where Qc = Consumption Expenditure

a = Intercept

x_1 = Credit availability

x_2 = population

x_3 = whole sale price index

x_4 = GDP

b_1, b_2, b_3 and b_4 are the co-efficient of independent variables

c = consumption expenditure

In the above equation Qc is dependent variable and x_1, x_2, x_3 and x_4 are the independent variables. Total Consumption expenditure, the dependent variable may be considered as the overall demand of Indian economy. Theoretically the total demand for an economy depends upon the general price, credit availability, population, GDP at constant prices.

Among these variables, level of expenditure and price index may be inversely related and all other independent variables are directly related.

Credit availability plays major role in determining the overall consumption of an economy. Infact, if there is easy money policy, the level of consumption expenditure may go up and it may come down if there is tight money policy. Population also may have significant impact on over all consumption

expenditure. Greater the size of population, larger will be the size of consumption expenditure and vice versa. Economic development, improved standard of living and technological advancement also may positively influence the level of demand.

Theoretical Background :

According to Keynesian economic development is mostly depends up on the aggregate demand which in turn depends upon the level of many macro-economic variables such as population, general price, credit policy and credit availability in an economy and many other variables, increase in the level of demand that is the level of consumption expenditure will induce the entrepreneur to produce more goods and service that will encourage and increase the level of investment in any economy.

Increased investment will generate more employment opportunities as well as generate more income and there by the economy get into the process of economic development and growth. Thus, according to Keynes growth and development may be accelerated by increasing the level of aggregate demand. As the economy narrows down the gap between the level of total expenditure and total income, there will be equilibrium in the economy.

Regression Analysis :

The authors use multiple regression analysis and explains the impact of independent variable which influence the dependent variable viz. Consumption expenditure we used log values in the regression model as certain values are larger than the bulk of the data, that is to transform skewed data to approximately conform to normality.

Table – Regression Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.990[a]	.980	.976	619974.671

a. Predictors: (Constant), Population_in_crores, Wholesale_price_index, Credit_of_Scheduled_Bank, GDP

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	430360534416255.800	4	107590133604063.950	279.914	.000[b]
	Residual	8840477633446.389	23	384368592758.539		
	Total	439201012049702.200	27			

a. Dependent Variable: Consumption_expenditure

b. Predictors: (Constant), Population_in_crores, Wholesale_price_index, Credit_of_Scheduled_Bank, GDP

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3368498.619	2456277.709		1.371	.183		
	Credit_of_Scheduled_Bank	.915	.243	.816	3.766	.001	.019	53.630
	Wholesale_price_index	13915.827	5976.793	.077	2.328	.029	.799	1.251
	GDP	.326	.195	.367	1.671	.108	.018	55.238
	Population_in_crores	-.005	.002	-.179	-2.295	.031	.143	6.986

a. Dependent Variable: Consumption_expenditure

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-21.438	13.425		-1.597	.124		
	Log_creditavail	.010	.150	.014	.065	.949	.007	143.480

	Log_popul	2.249	1.592	.276	1.412	.171	.008	120.319
	Log_WPI	.397	.139	.066	2.862	.009	.606	1.650
	Log_GDP	.984	.116	.735	8.446	.000	.042	23.844

a. Dependent Variable: Log_Consumptionexpen

As per the regression results the influence of price and population is significant on the total consumption expenditure as we compare with other variables viz., credit availability and population. The result real that one percent increase in the credit availability will increase the total consumption expenditure only by 0.01 percent which is not significant on the estimated t value is less than the table value, one percent increase in the population will increase the total consumption expenditure by 0.28 percent which is also not significant on the estimated 't' value is smaller than the table rates one percent within the price index will increase the consumption expenditure by 0.067 percent which is significant as the estimated 't' value is greater than the table value and one percent increase in the GDP will increase the total consumption expenditure by 0.74 percent which is significant as the estimated 't' value is greater than the table value which is visible in the above table. The regression analysis results reveal that the independent variable whole sale price index and GDP have significant impact on the total consumption expenditure whereas the influence of credit availability and population is significant.

Discussion :

As per the regression analysis report, change in the money supply especially the credit availability in India has no significant impact on the total consumption expenditure. Similarly, change in the population also has no significant impact on the total consumption expenditure in India. On the other hand, change in the price as well as the level of GDP have significant impact on the level of consumption in India. The result makes us to go for further analysis to examine and find out the effectiveness of money supply on the total consumption expenditure in Indian economy.

Conclusion :

It is to conclude that the regression analysis results indicate that the influence of whole sale price index and GDP on the total consumption expenditure is significant whereas the influence of credit availability and the population is insignificant. Therefore, it is to infer that the aggregate demand in India may be by reducing the whole sale price and increasing the GDP and thereby we can accelerate the growth and development of Indian economy. It is also pertinent to analyse and examine further to understand the effectiveness of monetary policy in India.

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